# Land East of Showell Farm, Chippenham

## Environmental Statement
## Volume 1: Main Text

**PREPARED ON BEHALF OF HALLAM LAND**

BY DAVID LOCK ASSOCIATES
IN ASSOCIATION WITH BROOKBANKS, EDP, RIDGE, MONTAGU EVANS & ORION

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## 1.1 INTRODUCTION

1.1.1 Hallam Land (the "Applicant"), is submitting an Outline Planning Application (OPA) for a residential-led form of development (the "Proposed Development") on land east of Showell Farm, Chippenham (the "Application Site" or "Site").

1.1.2 The formal description of the Proposed Development is set out in Chapter 2.

1.1.3 The Application Site lies within the administrative boundary of Wiltshire Council (WC). The location of the Site and alignment of the OPA boundary is shown in Appendix 1.1.

1.1.4 This Environmental Statement (ES) reports the findings of an Environmental Impact Assessment (EIA) of the Proposed Development. EIA is a process whereby the likely significant environmental effects of a proposed development are rigorously assessed. It enables potentially "significant" environmental effects to be identified and appropriate mitigation measures to be proposed, removing or minimising potential adverse effects.

1.1.5 This Environmental Statement (ES) has been prepared by David Lock Associates with input from Ridge and Partners LLP, Brookbanks Consulting Limited, the Environmental Dimension Partnership Ltd, Montagu Evans LLP and Orion Heritage.

1.1.6 The purpose of this opening chapter of the ES is to outline the background to the proposals, explain the scope of the ES and set out its structure.

## 1.2 BACKGROUND

### Outline Planning Application

1.2.1 This ES forms part of the OPA for the Proposed Development, which includes the following items:

Formal Documents

- Application form and ownership certificates;
- Formal Drawings:
  - Site Location Plan
  - Parameter Plan
  - Access Plan

Supporting Documents

- Covering Letter
- Design and Access Statement
- Planning Statement (including Draft Heads of Terms and Statement of Community Involvement)
- Environmental Statement to include
  - Non-Technical Summary
  - Transport Assessment
  - Air Quality Assessment
  - Landscape and Visual Impact Assessment
  - Ecological Assessment and Biodiversity Net Gain
  - Arboricultural Assessment
  - Cultural and Built Heritage Assessment
  - Archaeological Assessment
  - Flood Risk Assessment
- Noise Assessment
- Odour Assessment
- Agricultural Land Assessment
- Phase 1 Geo-environmental Desk Study
- Sustainability, Energy and Waste Statement

### Summary Policy Context

1.2.2 The OPA is submitted in the context of the Government's commitment to growth and development, contained in the National Planning Policy Framework (NPPF, 2024). The NPPF contains a presumption in favour of sustainable development at the heart of the Framework **(Paragraph 11).**

1.2.3 A fundamental element of sustainable development is the Government's objective to significantly boost the supply of housing (Section 5). It is an overarching objective "…ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations." (Paragraph 8). The NPPF also sets out the need to deliver a wide choice of new homes including homes to meet affordable housing needs.

1.2.4 Paragraph 11 provides guidance on how the presumption in favour of sustainable development should apply to decision making on planning applications.

1.2.5 The Wiltshire Core Strategy was adopted in 2015 and sets out the strategic planning policy for Wiltshire covering the period up to 2026. Wiltshire are using their current Local Housing Need figure (3,525 dwellings per annum) to inform their 5-year land supply calculation. The Council's most recent Housing Land Supply Statement (HLSS) published June 2025, states a land supply of 2.42-year supply using a base date of 1st April 2024.

1.2.6 The Wiltshire Local Plan 2020-2038 was submitted to the Secretary of State for Housing Communities and Local Government for independent examination on 28 November 2024. Following the Stage 1 examination, however, the Planning Inspectors advised the Council either to withdraw the Plan from examination or to request the Inspectors' report, which would recommend that the Plan not be adopted. Full Council has now endorsed the decision to withdraw the Local Plan from examination and that a new Local Plan be prepared under the new system.

1.2.7 Further details of the planning policy context for the Proposed Development are set out in Chapter 3.

**Timing of This Application**

1.2.8 The submission of the outline application is made at this time for the following reasons:

- In February 2026, the Council received a letter from the Local Plan Inspectors advising that the submitted new Local Plan is unlikely to be found sound. Full Council has now approved the withdrawal of the Local Plan from examination. The Council will need to recommence the plan-making process under the new plan-making system.
- The Council is unable to demonstrate a five-year housing land supply, with the most recent Housing Land Supply Statement identifying only a 2.42-year supply. In this context, and given the current position without an adoptable new Local Plan, the proposal represents a sustainable form of development in accordance with the NPPF.
- The Proposed Development has been informed by stakeholder and public consultation over a number of years, the outcomes of which have been incorporated into the Parameter Plan and other application documents.

## 1.3 THE NEED FOR EIA, METHODOLOGY AND SCOPE

### Rationale for the EIA

1.3.1 The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the "EIA Regulations") require that any proposed development falling within the description of a "Schedule 2 development" within the meaning of the Regulations will be required to be subject to EIA where such development is likely to have "significant" effects on the environment, by virtue of factors such as its nature, size or location (as screened under Schedule 3).

1.3.2 Projects listed in Schedule 2 are deemed to be EIA development under part 10(b) of Schedule 2 of the EIA Regulations and falls within the "urban development projects" category. Projects listed in Schedule 2 which exceed the thresholds in the supporting column may be screened to determine if EIA is required. This OPA exceeds the threshold set out in Schedule 2 of the EIA Regulations. The applicants have determined that the OPA should be the subject of an EIA process. This ES has therefore been prepared and is submitted on a voluntary basis with the planning application.

**Table 1.1 – ES Information as required by 2017 EIA Regulations Schedule 4**

| Specified Information | Location within this ES |
|---|---|
| 1. Description of the development, including in particular – | |
| (a) a description of the location of the development; | Chapter 2 (Site and Proposed Development) |
| (b) a description of the physical characteristics of the whole development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases; | Chapter 2 (Site and Proposed Development)<br>All topic chapters (4-11) where applicable |
| (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: | Chapter 2 (Site and Proposed Development)<br>All topic chapters (4-11) where applicable |
| (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. | All topic chapters (4 – 11) where applicable |

| Specified Information | Location within this ES |
|---|---|
| 2. A description of the reasonable alternatives (for example in terms of development, design, technology, location, size and scale) studied by the applicant which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects. | Chapter 2 (Site and Proposed Development) |
| 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 without reasonable effort on the basis of the availability of environmental information and scientific knowledge. | Chapter 2 (Site and Proposed Development)<br><br>All topic chapters (4-11) |
| 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 adaption), material assets, cultural heritage, including architectural and archaeological aspects, and landscape. | All topic chapters (4 – 11) |
| 5. A description of the likely significant effect of the development on the environment, which should cover the direct effects, and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects resulting from inter alia: | All topic chapters (4-11) |
| (a) the construction and existence of the development, including where relevant, demolition works; | All topic chapters (4-11) |
| (b) the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources; | Chapter 7 (Landscape and Visual), 8 (Ecology) and 11 (Water Resources). |
| (c) the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste; | Chapter 5 (Transport), Chapter 6 (Air Quality), Chapter 7 (Landscape and Visual) and 11 (Water Resources). |
| (d) the risks to human health, cultural heritage or the environment (for example due to accidents or disasters); | Chapter 6 (Air Quality), 9 (Cultural and Built Heritage) 10 (Archaeology), and 12 (Conclusion) |

| Specified Information | Location within this ES |
|---|---|
| (e) 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; | Chapters 2 (The Site and the Proposed Development), all topic chapters (4-11), and 12 (Conclusion) |
| (f) 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; | Chapter 6 (Air Quality), 11 (Water Resources), and 12 (Conclusion) |
| (g) the technologies and the substances used. | All topic chapters (4-11) |
| 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 the technical deficiencies or lack of knowledge) encountered compiling the required information and the main uncertainties involved. | Chapter 2 (The Site and the Proposed Development), all topic chapters (4-11), and 12(Conclusion) |
| 7. A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant 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 constriction and operational phases. | Chapter 2 (The Site and the Proposed Development) and all topic chapters (4-11) |
| 8. A description of the expect 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. | Paragraph 1.3.6 |
| 9. A non-technical summary of the information provided under points 1-8 above. | ES – Non-Technical Summary |
| 10. A reference list detailing the sources used for the descriptions and assessments included in the environmental statement. | All chapters where applicable. |
| 11. A statement outlining the relevant expertise or qualification of such experts. | Chapter 1 (Introduction) and all topic chapters (4-11) |

**Competence**

1.3.3 DLA is the editor of this ES and the author of specific chapters, as identified below. DLA is a member of the Institute of Sustainability and Environmental Professionals (ISEP). This is an organisation established to promote best practice in environmental management, auditing and assessment. This ES has been prepared in accordance with best practice guidelines issued by ISEP

**Approach**

1.3.4 In line with IEMA best practice, the EIA has been an integral part of the design of the Proposed Development, with the principal aim to reduce the severity of significant adverse environmental effects or even, wherever possible, to remove them through the design process. Such mitigation is referred to as 'embedded' or 'design mitigation'. In assessing the environmental impacts of the Proposed Development, full account has been taken of both the construction and operational/post completion stages.

1.3.5 The outline application and EIA process has included:

- an initial data trawl for site designations;
- environmental work conducted during the selection process of the land uses within the proposal;
- discussions with the landowners;
- study of the relevant Ordnance Survey mapping;
- baseline identification of sensitive receptors and resources;
- liaison with utility providers;
- liaison with the Environment Agency;
- liaison with statutory consultees;
- site visits;
- impact identification;
- liaison with Wiltshire Council;
- liaison with non statutory consultees;
- liaison with stakeholders as defined by the Statement of Community Involvement that forms part of this application;
- revising mitigation proposals; and
- the identification and reporting of any residual significant effects.

**Consultation and Engagement**

1.3.6 Hallam Land has undertaken consultation and engagement in developing the proposals. An online public consultation was undertaken in April 2026 advertised through the local press, with a consultation leaflet sent to addresses in Chippenham to inform local stakeholders of the proposals and invite feedback. Feedback was invited via the completion of a questionnaire. Further details are set out in the SCI.

**Information as Required by the EIA Regulations**

***Vulnerability to risks of major accidents of disasters***

1.3.7 Consideration has been given to any adverse effects of the development arising from its vulnerability to risks of major accidents and or disasters. No such major risks have been identified that are considered likely to cause any significant adverse effects for the topics considered in this ES. No 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 proposed development concerned are anticipated.

***Risks to Human Health***

1.3.8 No major risks have been identified by the consultant team nor statutory consultees which are considered likely to cause significant adverse effects on human health. Nevertheless, potential effects in relation to health have been considered through the technical disciplines as an integral part of the assessment, and where relevant is reported within individual topic chapters.

***Format of the Assessment***

1.3.9 The format of the Environmental Statement is set out below:

(a) *Non-Technical Summary*: published separately and free of charge, providing a concise non-technical explanation of the contents and conclusions of the Environmental Statement;

(b) *Environmental Statement Volume 1: Main Text (this document)*: setting out the assessment methodology and likely impacts for each topic and setting out proposed mitigation for any impacts identified;

(c) *Environmental Statement Volume 2: Figures and Appendices*: comprising the plans and technical appendices comprising baseline material and technical data that are associated with the relevant chapters and specialist information detailed in Volume 1.

**EIA Methodology and Terminology**

1.3.10 The significance of particular effects of the Proposed Development is determined by the interaction between the magnitude of those effects and the sensitivity of the receptors affected. Four levels of significance are identified across the ES: "**major**", "**moderate**", "**minor**" and "**negligible**". Any beneficial effects are noted, as well as adverse ones. Where any temporary, short or medium-term, indirect, secondary or interactive effects are predicted, these too are recorded. All assessments of the significance of effects take account of proposed mitigation measures, although any significant potential effects in the absence of such measures are also identified. The terms "effect" and "impact" are used interchangeably.

**Study Area**

1.3.11 Study Areas for EIA testing purposes are bespoke to the geographical coverage required for each technical discipline and for most EIA topics are wider than the application site. The extent and nature of study areas is set out in the relevant technical chapters.

**Assumptions, Uncertainties and Limitations**

***Assumptions***

1.3.12 There are a number of elements which form part of - or are related to - the Proposed Development where certain assumptions have been made for environmental assessment purposes. These are set out in each topic chapter where relevant.

***Uncertainties and Limitations***

1.3.13 The EIA considers the likely effects of the Proposed Development using a combination of current knowledge of the Site and its context; and desktop and survey investigations. Requests for information have been made to other parties who may hold relevant data pertinent to the assessment. Appropriate regard has been had to relevant national and local planning policy; and relevant legislation, guidance and best practice.

1.3.14 Every reasonable effort has been made to obtain data concerning the existing baseline conditions and to accurately predict the effects of the Proposed Development. Known deficiencies, or where it has been necessary to make assumptions, are documented within individual topic chapters. For some topics, there are no commonly accepted methodologies for assessing impacts. In these cases, professional judgement and experience have been applied to inform the EIA.

1.3.15 Assumptions adopted are often of importance to environmental assessments. Typically, these assumptions are implicit, being largely dependent upon expert judgement. The approach adopted in the EIA is one of making assumptions explicit wherever possible in order that they may be understood and critically evaluated by external parties. This is particularly true of construction impacts, where assessments are based on broad assumptions made in advance of agreement and approval of specific construction programmes and methods. In such cases, the worst-case scenario has generally been tested.

**Parameter Plans**

1.3.16 **Appendix 1.1** identifies the location of the Application Site. The Site is some 30 hectares in extent. References to the Site area within topic chapters and appendices, as well as depictions of the Site on appended plans, may reflect a slight variation from the actual application area. However, the assessments within this EIA are not affected by the slight revisions to the Site boundary that have been made during the pre-application stage.

1.3.17 The spatial elements of the Proposed Development are set out in the Parameter Plan along with detailed access drawings which are the formal plans submitted for approval as part of the OPA. The purpose of the drawings is to provide sufficient spatial information to fix key 'parameters' for an outline application and to provide sufficient detail to allow full consideration of the proposals in their context and is the basis upon which the environmental assessment work has been undertaken.

1.3.18 The plans have evolved over the preparatory period of the application as a result of the following:

(a) Design evolution in response to more detailed technical knowledge of the site and its surroundings;
(b) Results, feedback and suggested mitigation measures arising from the environmental assessments undertaken by the consultant team; and
(c) Results and feedback from stakeholder and public engagement activity.

1.3.19 The environmental assessment has been undertaken based on the:

- Parameter Plan (*Ref edp2272_d024ab)* and
- Site Access Plan (*Ref B14133_SK_T_018 (P5))*

1.3.20 These plans are reproduced at **Appendix 2.1.**

## 1.4 STRUCTURE OF THE ES

1.4.1 As noted above, this ES has been compiled by David Lock Associates, drawing together contributions from a number of specialist consultancies as relevant to each topic chapter.

1.4.2 Volume 1 of the ES (this document) is structured as set out below:

| Chapter | Topic | Author |
|---|---|---|
| Chapter 1 | Introduction | David Lock Associates |
| Chapter 2 | The Site and the proposed development | David Lock Associates |
| Chapter 2 | Planning Policy Context | David Lock Associates |
| Chapter 4 | Socio-Economic | David Lock Associates |
| Chapter 5 | Transport | Ridge and Partners LLP |
| Chapter 6 | Air quality | Brookbanks Consulting Limited |
| Chapter 7 | Landscape and Visual | The Environmental Dimension Partnership Ltd |
| Chapter 8 | Ecology | The Environmental Dimension Partnership Ltd |
| Chapter 9 | Cultural and Built Heritage | Montagu Evans LLP |
| Chapter 10 | Archaeology | Orion Heritage Limited |
| Chapter 11 | Water Resources | Brookbanks Consulting Limited |
| Chapter 12 | Conclusion | David Lock Associates |

1.4.3 The individual topic chapters in Volume 1 (chapters 4 to 12 specifically) are structured as follows:

- **Introduction** – identifying the topic under consideration and setting out the competency of the assessor/author;
- **Relevant Policy** – summarising policy, legislation and guidance relating specifically to the topic under consideration;
- **Assessment Methodology** – description of the scope and method of the assessment with reference too best practice. Description of the extent of the Study Area and data sources. Explanation of the significance criteria including how these have been derived with reference to the interaction between "magnitude" of "impacts" and the "sensitivity" of "receptors" for the purposes of assessing the significance of the effects of the Proposed Development. Including Assumptions, Uncertainties and Limitations - records these for each topic and state how they have been addressed within the assessment;
- **Baseline Conditions** – providing a description of the baseline conditions pertinent to that topic for both the current baseline and projected future baseline conditions;

- **Potential Effects** – identifying likely significant effects in the absence of mitigation measures, during both the construction and post-completion stages of the Proposed Development;
- **Mitigation Measures** – proposing any measures which are necessary beyond the measures inherent within the Proposed Development - either 'inbuilt' during the design process, during construction or post-completion - to avoid or reduce any significant potential adverse effects; and
- **Residual Effects** – identifying any residual effects of the Proposed Development either during construction or post-completion, taking account of the mitigation measures proposed and assessing the significance of those residual effects. This section includes a table summarising the assessed effects;
- **Cumulative Effects** – identification of any likely significant cumulative
- effects arising from the Proposed Development in combination with other defined development proposals.

## 1.5 AVAILABILITY OF THE DOCUMENT

1.5.1 The timetable for statutory consultation on the OPA including the ES will be determined by Wiltshire Council. Further information on that consultation can be obtained from Wilstshire Council.

1.5.2 The ES will be available to view on the Planning section of the Wiltshire Council website (www.wiltshire.gov.uk).

1.5.3 Digital copies of the ES can be requested from David Lock Associates at the address below:

David Lock Associates

50 North Thirteenth Street

Central Milton Keynes

MK9 3BP

Email: mail@davidlock.com

Tel: 01908 666276

1.5.4 Written comment on the Environmental Statement should be made direct to Wiltshire Council in order that comments can be formally lodged and considered as part of the Council's consideration of the OPA.

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Appendix 2.1 Parameter Plan and Site Access Plan
Appendix 2.2 Cumulative Sites Assessment Plan

## 2.1 INTRODUCTION

2.1.1 This Chapter provides a general description of the Application Site and its immediate context. Where required, more detailed descriptions of the Site, its surroundings and specific features are offered within relevant topic chapters.

2.1.2 The Chapter also provides a description of the Proposed Development, reports construction stage assumptions, the alternatives to the Proposed Development that have been considered and the approach to the assessment of cumulative effects that has been adopted.

2.1.3 The Chapter has been prepared by David Lock Associates.

## 2.2 APPLICATION SITE

### Site Location

2.2.1 In accordance with the 2017 EIA Regulations, the site is identified on the Site Boundary Plan included as **Appendix 1.1**. This is the Application Site.

2.2.2 The site is located east of Showell Farm and the Patterdown Road (B4528) and west of the river Avon and north of the Lackham Roundabout. The site sits adjacent to land subject to significant change through the consenting of new residential-led mixed-use development at Rowden Park, allocated within the Chippenham Site Allocations Plan (2017).

2.2.3 Proximate consented development areas include Rowden Park which was granted outline permission (ref: 14/12118/OUT) for a mixed-use urban extension, comprising of residential, local centre, and primary school which is currently being delivered. The sites northern boundary wraps around the southern and eastern edge of Phase 5 of the Rowden Park development. This is now under construction and homes are occupied.

2.2.4 Further development was approved immediately north of the site at the former Showell Nurseries, for some 120 dwellings (ref: 17/08554/OUT).

2.2.5 West of the site, adjacent to the A350 is Southpoint Business Park. Construction of some 50,000 sqm of employment space was completed in December 2025 and is occupied by Siemens.

### Site Area and Physical Characteristics

2.2.6 The site comprises 5 fields of some 30 hectares of semi-improved grassland and arable land, with hedgerows and trees defining the field boundaries within the site.

2.2.7 Several mature hedgerows with trees form a linear feature running southwest to northeast through the site, culminating in a small copse on the northern boundary. .

2.2.8 The two eastern fields sit adjacent to the river Avon, the eastern most parts of which fall within the floodplain, which is proposed to form an extension of the new riverside park to be delivered as a feature of the Rowden Park development.

2.2.9 To the west, the site is bound by Patterdown Road (B4528), with the Grade II Listed Showell Farm complex located on the opposite side of this road to the north-west of the site.

2.2.10 The site includes a small agricultural shelter shed and boundary wall along the western boundary, adjacent to a farm access. A rectangular enclosure defined by a young hedgerow sits at the site frontage.

2.2.11 The site is generally flat, due to its relationship with the Avon valley. The highest point of the site is in the southwestern corner at 51 AOD, sloping down in a broadly northern eastern direction towards the river Avon at 41 AOD.

2.2.12 There are two public rights of way that cross through the site, centrally and along the river Avon. To the south of the site, Footpath LACO9 terminates at the A350 whilst Footpath LACO39 connects to Lackham College and the wider PRoW network providing access to Lacock village and rural Wiltshire. To the north the footpaths connect with Footpath CHIP1 providing access to Chippenham town centre.

2.2.13 There are two overhead electricity lines that cross the site. A 33kV line that crosses from the southwest corner to the north of the site, and a 132kV line that crosses over the southeast corner.

2.2.14 References to the Site Area within topic chapters and appendices, as well as depictions of the Site on appended plans, may reflect a slight variation from the Site Area as now proposed.

## 2.3 DEVELOPMENT PROPOSALS

### Description of Development

2.3.1 Outline planning approval is sought with detailed design of the proposed highway access points also being submitted for approval. All other matters are reserved.

2.3.2 The description of development comprises:

***Outline Planning Application for up to 400 dwellings (Class C3 use), land for a local centre accommodating commercial business and service uses (Class E use), drinking establishment and hot food takeaway (Sui Generis); and local community uses (Class F2); open space and landscaping to include natural green space, amenity green space, area of formal play, allotments and community orchard, sustainable drainage infrastructure including attenuation basins; cycle and pedestrian routes; parking; utilities infrastructure and ground remodelling. All maters reserved except for the formation of a new vehicular access and cycle and pedestrian access including emergency access, onto B4528.***

### Parameter Plans

2.3.3 As explained in Chapter 1, the spatial elements of the Proposed Development are set out in a Parameter Plan included in **Appendix 2.1**. This plan has evolved over time and have taken account of many of the opportunities and constraints identified through the design evolution, site assessment and public consultation processes.

2.3.4 The Parameter Plan includes:

- **Land Uses** which includes information on the extent of built development, land use and amount of development proposed.
- **Access and Movement** which provides a structure for the movement framework, route hierarchy and access proposals.
- **Open Spaces** setting a structure of the landscape framework within the site to include the use and amount of open space proposed.
- **Building Heights** which provides information on the assumed building heights to fix maximum building height parameters.

2.3.5 A detailed Site Access Plan is included comprising a proposed vehicular, cycle and pedestrian access onto the B4528 and separately a proposed emergency vehicle, pedestrian and cycle access.

2.3.6 It is these plans that are submitted with the Outline Planning application for formal approval. Additional indicative / illustrative supporting material are only supplemented to assist interpretation of the proposal. The detailed design of the Proposed Development will be in accordance with these parameters once any outline permission is determined

positively. The conformity will be secured by appropriate conditions and/or planning obligations attached to any grant of Outline Planning Permission.

**Land Use**

2.3.7 The application proposals comprise residential development, a Local Centre that has the potential to include commercial, food businesses, and/or community uses, and areas of open space. The development concept at Land East of Showell Farm, is one of a sensitively designed scheme which respects the site's existing landscape features, heritage setting, its proximity to the River Avon and its opportunity to comprise a logical extension to a planned area of growth at Chippenham, integrating with development coming forward at Rowden Park, and providing good connections between and onward towards Chippenham town with opportunities to extend the Riverside Park along the Avon, creating an attractive new gateway to southern Chippenham.

**Quantum of Development**

2.3.8 To ensure that the environmental assessment for the Proposed Development is rigorous and robust, the development parameters reflect a "worst case scenario" in terms of the quantum of development tested. The development parameters adopted for the purposes of Environmental Assessment are based on the schedule of accommodation as presented below:

**Table 2.1 Land Use Schedule**

| **Land Use** | **Size (sqm)/Units** | **Area (ha)** |
|---|---|---|
| Residential - C3: | Up to 400 | 10.70 |
| Local Centre (to include the following land uses:) | | |
| *Commercial, business and service – E*<br>*a) Shops (other than for sale of hot food),*<br>*b) Food and drink which is mostly consumed on the premises*<br>*c) the following kinds of services principally to visiting members of the public*<br>*i. financial services*<br>*ii. professional services (other than medical services)*<br>*iii. any other services which it is appropriate to provide in a commercial, business or service locality*<br>*d) Indoor sport, recreation or fitness*<br>*e) Medical services or health services*<br>*f) Non-residential creche, day centre or nursery;* | *Up to 675 sq m (GIA) of which no more than 200 sq m (GIA) shall be used for retail (Class E(a)), drinking establishment and hot food takeaway (Sui Generis)* | 0.2 |

| | | |
|---|---|---|
| *Drinking Establishments and Hot food Takeaway – Sui Generis* | | |
| *F2 (local community uses)- shops under 280 square metres selling essential goods* | | |
| Green Infrastructure | N/A | 18.44 |
| Highway Infrastructure | N/A | 0.63 |
| | **Total** | **29.97** |

**Scale**

2.3.9 The scale of the Proposed Development has regard to the existing context of the Site, its relationship to the local and wider landscape, its topography, views and the nature of existing development.

2.3.10 As shown on the Parameter Plan, the proposed residential development will be up to a maximum of 3 storeys with a ridge height up to 12.5 metres from the proposed ground level excluding point features and 12.5 metres for the local centre. Building height will be measured against AOD across the Site.

**Layout**

2.3.11 The Proposed Development comprises of a walkable neighbourhood. The area will benefit from access to key open space, a parkland extension and local services. The Proposed Development will ensure the provision of clear and accessible links within and to the wider development area and to Chippenham town centre.

2.3.12 The precise layout of the Proposed Development will be determined at Reserved Matters stage. However, the key principles of the layout include:

- The establishment of a high-quality public realm and open space network promoting active and vibrant spaces, opportunity for play space, sustainable drainage features and general amenity;
- Provision of an attractive green setting to the Proposed Development with retention of Public Rights of Way through the site to the wider area, and to improve pedestrian accessibility;
- Layout of housing to overlook streets and public open spaces; and
- Good quality existing landscape features to be retained within a publicly accessible network of open spaces.

**Access Strategy**

2.3.13 The application proposes the creation of a new access onto Patterdown Road (B4528) and will include pedestrian footways which will tie into the footways being delivered by the

development to the north, to create a safe and connected footway north towards Chippenham town.

2.3.14 The access will take the form of a priority junction with a right-turn ghost island taken from the B4528 Patterdown Road. In response to the changing nature of Patterdown Road, the 40mph speed limit has been extended from the frontage of the Rowden Park development southwards to the Lackham Roundabout,

2.3.15 The access will be supported by an emergency access provided via a proposed shared use path to the north of the access.

2.3.16 To the south of the access, it is proposed to provide laybys to accommodate the future and improved bus service(s) that are to come forward through development at Rowden Park.

2.3.17 The two Public Rights of Way that route through the Site will be accommodated on their existing alignment. The western footpath (LAC09) will route within the proposed residential development and will be upgraded to a consolidated surface suitable for use within its future environment. The eastern footpath (LAC039) will be routed through natural green space and will be upgraded to tie into the hoggin gravel path surface found in Rowden Park .

2.3.18 The design of the internal road network will be engineered to meet the standards specified in Manual for Streets guidance and WC guidance, with a particular focus on the creation of safe routes around the site encouraging accessibility for pedestrians and cyclists.

**Green Infrastructure and Open Space**

2.3.19 An inter-connected, multi-functional network of landscape and green infrastructure is proposed. Within this network, environmental enhancement, outdoor recreation, pedestrian and cycle access, surface water attenuation and biodiversity habitats are proposed. The key principles are that both the hard and soft landscaping are designed to define the boundary between the public and private realm.

2.3.20 The retained natural features such as the hedgerows and veteran trees along the site boundary and centrally within the site, create green corridors through which to structure the development parcels incorporating appropriate off-sets. The proposals will improve upon the existing features by creating new areas of open space and new habitat provision.

2.3.21 Open space provision will incorporate children's play space, amenity and natural green space, allotments, and a community orchard. The community orchard is in the northwest corner of the site and provides an appropriate landscape response to the heritage assets at Showell Farm.

2.3.22 The development will be set within an attractive landscape setting, through the establishment of a high-quality public realm that is served by formal and informal open spaces linked by a continuous network of landscaping. Areas at the eastern extent of the site that form part of the River Avon floodplain are to be retained as natural green space, providing an opportunity to extend the Riverside Park, and leisure routes through it, to include the retained PRoW, connecting with that planned to the north of the site as part of the development at Rowden Park.

2.3.23 Surface water attenuation features will also be provided as part of the landscape resource, to manage surface water and provide richer biodiversity habitat.

**Affordable Housing**

2.3.24 Provision will be made for affordable housing, providing a mix of tenure to ensure delivery of a balanced community. The amount, type and tenures of affordable housing will be subject to negotiation and discussions with Wiltshire Council and agreed in the light of the wider requirement for infrastructure delivery and other planning and design objectives.

**"Production Processes"**

2.3.25 The EIA Regulations require the main characteristics of any "production processes" to be described. The Proposed Development includes use class E which under ii) includes the *research and development of products or processes or iii) any industrial process (which can be carried out in any residential area without causing detriment to the amenity of the area).* As an outline application, the final uses proposed are unknown, however, it should be noted that the Use Class Order requires land uses suitable to a residential area. The final mix will be subject of standalone Reserved Matters applications.

**Residues and Emissions**

2.3.26 The Regulations also require any residues and emissions to be identified and quantified. They would be limited to nitrogen dioxide, particulate matter and noise arising from construction of the Proposed Development and from road traffic and other activity it would generate once operational. These matters are assessed in detail in chapters 5 and 6.

**Iterative Process and Built-in Mitigation**

2.3.27 The EIA has been iterative in that particular measures to mitigate significant adverse effects, as identified during the course of the design evolution of the Proposed Development by topic assessors, have been incorporated into the design of the Proposed Development. These are set out in the Table of Mitigation Measures (Table 2.2) and have been taken into account in the assessments of the scheme's potential effects. The assessment of potential impacts of the Proposed Development is based upon the Parameter Plan, which includes mitigation through design.

2.3.28 Further mitigation measures are proposed in topic chapters to avoid, reduce and if possible, remedy particular potential significant adverse effects. The assessments of the residual effects of the Proposed Development take account of those further mitigation measures. Built-in mitigation relevant to each technical discipline is set out as part of the 'Potential Effects' section of each chapter as well as summarised in **Table 2.2** below.

**Table 2.2 – Table of Mitigation Measures**

| Topic | Mitigation Measures | Designed into the scheme | Delivery via condition (outline / REM) | Delivery via legal obligation |
|---|---|---|---|---|
| | | Incorporated into Parameter Plan | | |
| **Chapter 4 Socio-Economic** | Construction Traffic Management Plan (CTMP) | | X | |
| **Chapter 5 Transport** | Framework Travel Plan to encourage the use of sustainable travel modes. | X | X | |
| | Construction Traffic Management Plan (CTMP) | | X | |
| **Chapter 6 Air Quality** | Best Practice Guidance for dust control will be implemented, as appropriate, during the construction phase through the Construction Environmental Management Plan (CEMP) | | X | |
| | Travel Plan measures | | X | |
| **Chapter 7 Landscape and Visual** | CEMP to mitigate construction impacts. | | X | |
| | A Landscape and Ecological Management Plan (LEMP) for the Site and wider green infrastructure will set out various management regimes for all of the green infrastructure (e.g. retained and new habitats) | | X | |
| | Strategic planting and retained green corridors, masterplanned into the development. | X | X | |
| | The use of visual screening, such as hoardings. | | X | |
| **Chapter 8 Ecology** | Retention of the majority of the hedgerow network (with only minor losses required for road and pedestrian access points between parcels); | X | | |
| | Retention of the stream, lowland mixed deciduous woodland, mixed scrub, reedbed and other swamp | X | | |

| Topic | Mitigation Measures | Designed into the scheme | Delivery via condition (outline / REM) | Delivery via legal obligation |
|---|---|---|---|---|
| | | Incorporated into Parameter Plan | | |
| | Retention and protection (including a 40m buffer) to the northern boundary hedgerow | X | | |
| | Retention of the River Avon LWS with Natural Greenspace buffer of at least 100m | X | | |
| | Drainage strategy to utilise the existing ditch running east-west along the northern boundary to ensure any outfall into the River Avon does not remove natural habitats nor impact any protected or notable species associated with this water course | X | | |
| | All pollution control mechanisms, which include engineered (e.g. interceptors) and natural filtration systems (e.g. wetlands/reedbeds) as appropriate, will be included to ensure that any water entering the ditch that leads to the River Avon is clean | | X | |
| | An Ecological Construction Method Statement (ECMS)will be prepared and implemented during the entirety of the construction stage to ensure appropriate management and operational systems are in place to avoid or minimise adverse pollution effects | | X | |
| | Landscape and Ecology Management Plan (LEMP) to secure habitat creation | | X | |
| | Habitat Management and Monitoring Plan created to identify works required to achieve the Biodiversity Net Gain within the site | | X | |
| | Sensitive lighting strategy for construction | | X | |
| **Chapter 9 Cultural and Built Heritage** | Enclosure of the Site with hoardings | | X | |
| | Compliance with the requirements of the CEMPs | | X | |
| | Supervision of construction activities, as well as appropriate environmental monitoring, in accordance with the CEMPs | | X | |

| Topic | Mitigation Measures | Designed into the scheme | Delivery via condition (outline / REM) | Delivery via legal obligation |
|---|---|---|---|---|
| | | Incorporated into Parameter Plan | | |
| | Retained open space and vegetation, orchard planting resulting in low sensitivity to heritage assets | X | | |
| | Masterplan locates development away heritage assets. Open space adjacent to Showell Farm with housing sited to the west and south-west and extensive areas of open green space retained to the east and north-east, closest to the Rowden Conservation Area and the River Avon. | X | | |
| **Chapter 10 Archaeology** | Programme of archaeological recording in the form of trial trenching evaluation, potentially followed by subsequent mitigation | | X | |
| **Chapter 11 Water Resources** | SUDS provides for site run off controlled to the baseline rate | X | X | |
| | The surface water drainage strategy has been designed to reflect the proposed land use within the Site and to accommodate the increased rainfall climate change allowance | X | X | |
| | Provision of CEMP - management of water resources and the storage of fuel and chemicals | | X | |
| | A foul water drainage system will be constructed as part of the Proposed Development | | X | |
| | The proposed layout which locates the Proposed Development outside those areas of the Application Site assessed to be at risk of flooding from River Avon | X | | |

## 2.4 PHASING AND DELIVERY

2.4.1 Following reserved matters applications and discharge of conditions applications, it is likely that construction could begin in 2027. It is assumed that construction would be complete in 2032/33.

2.4.2 The assumed timetable for construction of the Proposed Development is set out below:

**Table 2.4 – Indicative Trajectory**

| Year (Financial) | Number of Units (Built) |
|---|---|
| 2028/29 | 80 |
| 2029/30 | 80 |
| 2030/31 | 80 |
| 2031/32 | 80 |
| 2032/33 | 80 |

2.4.3 The above trajectory tests the 400-dwelling number against an appropriately conservative annual build out rate.

2.4.4 The transport and air quality assessments assume a slightly faster build-out and sooner completion, to enable a worst-case (in transport and AQ terms) to be assessed robustly.

2.4.5 A Construction Environmental Management Plan (CEMP) is proposed to mitigate potential adverse environmental effects during the construction stage. Provision of the CEMP is expected to be secured by a condition on any grant of outline permission, requiring the submission and approval of the CEMP prior to the commencement of development. Relevant details of the prospective CEMP are referred to in pertinent topic chapters. Application of measures in the CEMP is assumed in the assessment of effects in this EIA.

## 2.5 CONSIDERATION OF ALTERNATIVES

2.5.1 The EIA Regulations require that reasonable alternatives studied by the applicant, which are relevant to the Proposed Development and its specific characteristics are set out along with an indication of the main reasons for the option chosen, including a comparison of the environmental effects, taking into account the effects of the Proposed Development on the environment

2.5.2 The Regulations do not require a detailed assessment of the potential environmental effects of all notional alternatives to the Proposed Development, including those that have not been studied by the Applicant.

2.5.3 This section of the ES addresses the main alternatives to the Proposed Development as a whole. Alternatives in relation to particular aspects of the Proposed Development are addressed in relevant topic chapters. The likely effects of these alternatives are described in the topic chapters.

**Alternatives Considered by the Applicant**

2.5.4 The Proposed Development has been planned on an iterative basis taking account of the site information, identified constraints, input from technical stakeholders and engagement with the community.

2.5.5 Land at Showell Farm forms part of the Council's evidence base identified as part of a larger strategic allocation in a submitted Local Plan. As part of that process the site was subject to a sustainability appraisal, which identified the likely significant social, economic and environmental effects of the plan.

2.5.6 The development proposals reflect elements of that evidence and appraisal work. The masterplan retains existing hedgerows and trees, and provides a large area of green space to extend the riverside park and avoid built development within the flood plain. The proposals retain the existing public rights of way, as well as creating new cycle routes, connecting the site to neighbouring developments and further to Chippenham town.

2.5.7 An area of open space is already defined by hedgerow at the site frontage, provides an offset from the listed buildings at Showell Farm and creates an appropriate design response to its setting.

2.5.8 This response also enables the delivery of a modest area for mixed use development along the site frontage, to provide for a local centre, creating local retail, commercial and community opportunities for the development and promoting internalisation of trips, and as such reduction in car journeys.

2.5.9 As set out in the Design Evolution section of the Design and Access Statement submitted with the application, the form, amount and land use of the Proposed Development has evolved through consultation and technical assessment.

2.5.10 Therefore, through this process of engagement and iteration, reasonable alternative options have been considered and discounted. Collectively these design changes are embedded in the development parameters assessed and can therefore be secured through conditions attached to any grant of planning permission.

## 2.6 CUMULATIVE EFFECTS

2.6.1 Interactive effects, in the sense of particular impacts affecting other environmental dimensions/topics, are considered in relevant topic chapters and in the concluding chapter (12) of this ES.

2.6.2 The assessments of cumulative effects generally focus on those arising from the Proposed Development in combination with the planned developments nearby or allocated sites within a close geographical relationship to the site where there are likely to be significant effects. This has taken into account the following (as informed by IEMA guidance):

- Projects benefiting from planning permission but not yet implemented; and
- Projects allocated in an adopted local plan but not yet implemented;

2.6.3 Existing and past developments are not included in the cumulative effects assessment as the view is taken that these are already included within the 'baseline' conditions and should not therefore be 'double counted' in the cumulative assessment.

2.6.4 A list of "reasonably foreseeable" development proposals that have been taken into account in the cumulative assessment in the EIA are listed below, and shown at **Appendix 2.2**, parts of which are currently under construction so are already included within the baseline.

**Table 2.3 – Cumulative Assessment Sites**

| Site Name | Planning Permission | No. of dwellings | Non-resi land uses | Employment (ha) |
|---|---|---|---|---|
| Birds Marsh | N/12/00560/OUT | 750 | A1, B1, B2, B8 | 2.7 |
| Rawlings Green (Policy CH2 in Chippenham Site Allocation Plan 2027) | 15/12351/OUT | 650 | B1, E | 5 |
| Rowden Park (Policy CH1 in Chippenham Site Allocation Plan 2027) | 14/12118/OUT | 1,000 | A1-A5, D1, D2 | - |
| Hunters Moon | 16/12493/FUL | 450 | B1, B2, B8 | 2.41 |
| Langley Park | 16/04269/FUL | 0 | A1 | 0.0174 |
| Langley Park – Additional | 16/03515/OUT | 400 | A1, A3, C1, C3 | 1.3656 |
| Land at Hungerdown Lane | 17/09445/FUL | 35 | A1 | 0.2206 (food store) |

| | | | | |
|---|---|---|---|---|
| Land at Showell Farm | N/13/00308/OUT | 0 | B1 (a), (b) & (c), B2, B8 | 5 |
| Land at Patterdown Road | 16/09277/OUT | 72 | - | - |
| Land at Showell Nurseries | 17/08554/OUT | 120 | - | - |
| Land off the B4069 East of Barrow Farm, Langley Burrell | PL/2022/04681 | 230 | E, Sui Generis | 0.0675 |

2.6.5 These development projects have been identified on the basis of their proximity to or inter-visibility with the site. Whilst geographical relationship to the application site has been taken into account in determining the focus of the cumulative effects assessment as set out above, the various technical disciplines may take into account a wider sphere. For example, the transport assessment has taken account of a wider range of reasonably foreseeable projects included in relevant strategic transport models. Equally, the air quality assessment, insofar as it is underpinned by data arising from the transport assessment, has also taken account of that wider range of projects. Where technical disciplines have taken into account further sites and developments in addition to those listed above, this is set out in their respective chapters.

2.6.6 For the avoidance of doubt and to avoid 'double counting' in terms of cumulative effects, any sites that have been included in the transport modelling work are not re-assessed from a cumulative effects perspective as they have already been taken into account as 'baseline' or 'future baseline' projects.

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## 3.1 INTRODUCTION

3.1.1 This chapter of the ES sets out the planning policy context for the Proposed Development at Land East of Showell Farm, Chippenham. It provides a general overview of relevant policy; and where necessary to support specific assessment areas, is supplemented by a more detailed consideration of applicable policy within those topic chapters themselves (chapter 4-11).

3.1.2 The OPA is submitted in the context of the Government's commitment to growth and development, contained in the National Planning Policy Framework (NPPF, 2024) and Planning Practice Guidance. The development plan comprises the Wiltshire Core Strategy (2015) and the saved policies of the North Wiltshire Local Plan 2011.

## 3.2 NATIONAL PLANNING POLICY FRAMEWORK

3.2.1 The National Planning Policy Framework (NPPF) (December 2024) outlines the purpose and role of the planning system. It is the overarching national tier of planning policy setting out the Government's economic, environmental and social planning policies for England and articulating a vision for sustainable growth.

3.2.2 The NPPF is a material consideration in the determination of planning applications and is supplemented by the Planning Practice Guidance (PPG).

3.2.3 The Framework summarises the purpose of the planning system as being to contribute to the achievement of sustainable development (paragraph 7), which comprises three overarching, inter-dependent realms: economic, social and environmental (paragraph 8). These roles are interdependent and should be pursued in mutually supportive ways.

3.2.4 The NPPF provides a clear decision taking framework and approach (Paragraph 11) to the determination of planning applications. The focus is the Presumption in Favour of Sustainable Development. Decisions must accord with an up-to-date development plan. In the absence of up-to-date development plan policies that are important for determining the application, permission is to be granted unless:

- the application of policies in the NPPF that protect areas and important assets provides a strong reason for refusal; or
- any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the NPPF as a whole, having particular regard to key policies for directing development to sustainable locations, making effective use of land, securing well-designed places and providing affordable homes, individually or in combination.

3.2.5 This means in the context of a time-expired or out of date local plan, consideration needs to be given to the balance of adverse impacts when assessed against the policies of the NPPF as a whole. It is the policies of the entire NPPF, taken collectively, which provide the definition of sustainable development.

3.2.6 Footnote 8 to Paragraph 11d further defines the context within which policies are out of date, which includes "*for applications involving the provision of housing, situations where: the local planning authority cannot demonstrate a five year supply of deliverable housing sites (with the appropriate buffer as set out in paragraph 78); or where the Housing Delivery Test indicates that the delivery of housing was substantially below (less than 75% of) the housing requirement over the previous three years.*"

3.2.7 Wiltshire Council acknowledge that its current housing land supply is 2.42 years in the most recently published Housing Land Supply Assessment (June 2025). As such, the 'presumption in favour of sustainable development' (NPPF Paragraph 11) for housing applications applies in the decision-making for the development proposal.

*Delivering a Sufficient Supply of Homes*

3.2.8 Paragraph 61 outlines the NPPF's intention to support the Government objective to "significantly boost" the supply of homes by ensuring sufficient and varied land can come forward where it is required, that the needs of groups with specific requirements are addressed, and that land with permission is developed as soon as possible.

3.2.9 The NPPF (Paragraph 77) is clear that the supply of large numbers of new homes can often be best achieved through planning for larger scale development, such as new settlements or significant extensions to existing villages and towns, provided they are well located and designed, and supported by the necessary infrastructure and facilities (including a genuine choice of transport modes).

*Promoting healthy and safe communities*

3.2.10 Section 8 of the NPPF sets out how the planning system, including decision-making, is important for promoting healthy, inclusive and safe places that provide the social, recreational and cultural facilities needed by existing and future communities. In order to achieve this, Paragraphs 96 and 98 encourage mixed-use developments with strong neighbourhood centres, street layouts that integrate pedestrian and cycle connections, active frontages to boost natural surveillance, provision of safe and accessible Green Infrastructure and sports facilities, and community facilities within shared spaces to encourage social interaction and community cohesion.

3.2.11 Paragraph 100 stresses the importance of ensuring a sufficient choice of early years, school and post-16 places for the needs of existing and new communities and instructs local planning authorities to afford "great weight to the need to create, expand or alter early years, school and post-16 facilities through the preparation of plans and decisions on applications"; and to "work with early years, school and post-16 promoters, delivery partners and statutory bodies to identify and resolve key planning issues before applications are submitted."

3.2.12 Paragraph 105 requires planning decisions to protect and enhance public rights of way and access and take opportunities for enhancement, such as through adding links to existing networks.

*Promoting Sustainable Transport*

3.2.13 Chapter 9 of the NPPF focuses on sustainable transport. It supports early involvement and consideration of transport in development proposals, and states at Paragraph 110 that significant development should be focused on locations which are, or can be made, sustainable. Paragraph 115 states that in considering specific applications for development, it should be ensured that:

- Sustainable transport modes are prioritised;
- safe and suitable access to the site can be achieved for all users;

- the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and
- any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

3.2.14 Paragraph 116 states that development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.

3.2.15 Paragraph 117 states that development should give priority first to pedestrian and cycle movement and second to facilitating access to high quality public transport. The needs of people with disabilities and reduced mobility should be addressed and any scheme should allow for efficient access by service and emergency vehicles and be designed to enable EV charging in safe, accessible and convenient locations.

*Achieving well-designed places*

3.2.16 The NPPF also recognises that sustainable development means addressing the quality of the built, natural and historic environment, as well as quality of life. Paragraph 131 notes that "the creation of high quality, beautiful and sustainable buildings and places is fundamental to what the planning and development process should achieve", and that "good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities". Effective engagement between applicants, communities, planning authorities and other stakeholders is of paramount importance in achieving this.

*Meeting the Challenge of Climate Change, Flooding and Coastal Change*

3.2.17 The NPPF notes that the planning system should support the transition to a low carbon future in a changing climate, including through supporting renewable and low carbon energy and associated infrastructure (Paragraph 161).

3.2.18 Paragraph 170 states 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).

*Conserving and Enhancing the Natural Environment*

3.2.19 The role of planning in conserving and enhancing the natural environment is considered in Chapter 15 of the NPPF. It states, at Paragraph 187, that planning policies and decisions should protect and enhance valued landscapes, recognise the intrinsic character and beauty of the countryside, minimise impacts and provide net gains in biodiversity, prevent new and existing development from soil, air, water or noise pollution and

remediate and mitigate contaminated and unstable land, where appropriate. Topic chapters of this ES specify further details where relevant.

*Conserving and Enhancing the Historic Environment*

3.2.20 NPPF Chapter 16 focusses on heritage, and states that applicants should describe the significance of any heritage assets potentially affected by proposals, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance.

3.2.21 Paragraph 215 states that where a development proposal will lead to "less than substantial harm" to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal.

## 3.3 PLANNING PRACTICE GUIDANCE

3.3.1 The Planning Practice Guidance (PPG) provides greater policy detail on the provisions of the NPPF, providing detailed guidance in implementing the NPPF policies such as those related to design. The "Design: Process and Tools" PPG also specifically references the following documents, which should inform the development of a scheme;

- National Design Guide (January 2021)
- National Model Design Code (October 2021)

3.3.2 The PPG generally covers a wide range of topics including Environmental Impact Assessments, Housing Supply and Delivery and the Natural Environment. Where relevant, specific references to relevant topic areas are set out within the subsequent chapters of this Environmental Statement.

## 3.4 LOCAL POLICY

### Wiltshire Core Strategy

3.4.1 The Wiltshire Core Strategy was adopted in 2015 and sets out the strategic planning policy for Wiltshire and covers the period up to 2026. It defines three key elements to deliver the most sustainable growth:

- Settlement Strategy – classifies Wiltshire's settlements based upon an understanding of their role and function.
- Delivery Strategy – identifies the level of growth and how Wiltshire's settlements will develop in the most sustainable fashion.
- Infrastructure Requirements – describes how infrastructure will be provided to support future development.

3.4.2 Key policies relevant to the proposal comprise the following:

3.4.3 Core Policy 1 - Settlement Strategy. The settlement strategy identifies the settlements where sustainable development will take place. Principal settlements are strategically important centres and the primary focus for development. Chippenham is a principal settlement and therefore a focus of *"significant levels of jobs and homes, together with supporting community facilities and infrastructure, meeting their economic potential in the most sustainable way to support better self-containment"*.

3.4.4 Core Policy 3 – Infrastructure requirements. Requires that all new developments provide for the necessary on-site and where appropriate, off-site infrastructure requirements arising from the proposal, to be delivered directly by the developer and/or through an appropriate financial contribution prior to, or in conjunction with, new development.

3.4.5 Core Policy 10 sets out the spatial strategy for Chippenham Community Area, directing at least 4,510 dwellings to Chippenham, with at least 2,625 to be identified through the Chippenham Site Allocations Development Plan Document (DPD).

3.4.6 Core Policy 41 – Sustainable construction and low-carbon energy. Encourages new development to incorporate design measures to reduce energy demand and requires major developments to submit a Sustainable Energy Strategy demonstrating how development will meet national standards. The policy acknowledges that in all cases, impact of these requirements on the viability of development will be taken into consideration.

3.4.7 Core Policy 43 – Providing affordable homes. Affordable housing provision of at least 30% (within the 30% affordable housing zone - within which the site sits) will need to be provided on sites of five or more dwellings, noting that the provision of affordable housing may vary on a site-by-site basis considering evidence of local need, mix of affordable

housing proposed and, where appropriate, the viability of the development. All affordable housing will be subject to an appropriate legal agreement with the council.

3.4.8 Core Policy 45 – Meetings Wiltshire's housing needs. New housing will be expected to reflect the demonstrable need for the community within which a site is located. Therefore, incorporating a range of different types, tenures and sizes of homes that will respond to and reflect the demonstrable need for the community within which a site is located, such as that identified within the Strategic Housing Market Assessment. The policy refers to the council's housing register and local needs surveys, in relation to affordable housing.

3.4.9 Core Policy 50 – Biodiversity and geodiversity. Proposals must demonstrate how they will protect features of nature conservation and geological value. Proposals should also seek opportunities to enhance biodiversity.

3.4.10 Core Policy 51 – Landscape. Development should protect, conserve and where possible enhance landscape character, any negative impacts must be mitigated as far as possible through sensitive design and landscape measures.

3.4.11 Core Policy 52 – Green Infrastructure. Development shall make provision for the retention and enhancement of Wiltshire's green infrastructure network and ensure that suitable links to the network are provided and maintained. The provision for accessible open spaces should be in accordance with the requirements of the adopted Wiltshire Open Space Standards.

3.4.12 Core Policy 55 – Air Quality. Developments that are likely to exacerbate existing areas of poor air quality will need to demonstrate that measures can be taken to mitigate emission levels. Mitigation measures should demonstrate how they will make a positive contribution to the aims of the Air Quality Strategy for Wiltshire, such as through traffic management or highway improvements to be agreed with the local authority.

3.4.13 Core Policy 57 – Ensuring high quality design and place shaping. A high standard of design is required, and developments are expected to create a strong sense of place. At master planning stage through drawing on the local context and being complementary to the locality, relating positively to its landscape setting and the existing pattern of development and the retention and enhancement of important landscaping natural features, making efficient use of land whilst taking account of the characteristics of the site and the local context to deliver an appropriate development which relates effectively to the immediate setting and to the wider character of the area.

3.4.14 Core Policy 58 - Ensuring the conservation of the historic environment which states development should protect, conserve and where possible enhance the historic environment in a manner appropriate to their significance.

3.4.15 Core Policy 60 – Sustainable Transport, relates to the Council's role in helping reduce the need to travel by private car and the encouragement of sustainable and safe movement through planning development in sustainable locations and promoting sustainable transport alternatives to the private car.

3.4.16 Core Policy 61 – Transport and new development. New development should be located and designed to encourage the use of sustainable transport and reduce the need to travel by private car. It also refers to the submission of Transport Assessments to demonstrate how this objective has been considered and is delivered including the use of Travel Plans.

3.4.17 Core Policy 62 – Development impacts on the transport network. Developments should provide mitigating measures to offset adverse impacts on the transport network, both at construction and operational stages.

**Saved policies of the North Wiltshire Local Plan 2011 (NWLP)**

3.4.18 Some policies within the North Wiltshire Local Plan (2011) have been saved have relevance to this application.

3.4.19 NE14 – Trees and the Control of New Development to avoid loss and incorporate into development.

3.4.20 CF3 – which sets out the requirement for the provision of open space within new housing development.

**Wiltshire Local Plan – Submission Version**

3.4.21 Wiltshire Council submitted the Wiltshire Local Plan 2020–2038 to the Secretary of State for Housing, Communities and Local Government for independent examination on 28 November 2024. On 26 February 2026, the Inspectors advised the Council either to withdraw the Local Plan from examination or to request that the Inspectors prepare a final report which would recommend non-adoption. Full Council has approved the withdrawl of the Local Plan from examaintion and the Counicl will now begin preparation of a new Local Plan under the new planmaking legislation.

3.4.22 The Local Plan evidence base does nevertheless, provide the most up to date indication of the Council's preferred spatial direction and location of growth at Chippenham. Identifying the application site as part of a larger allocation Policy 7 Land South of Chippenham and east of Showell Farm as part of approximately 347ha for residential and employment land, along with a district and local centre, schools and an extended River Avon country park in this wider location.

**Chippenham Neighbourhood Plan 2023-2038**

3.4.23 Chippenham Town Council has adopted a Chippenham Neighbourhood Plan in May 2024. The site is not within the Neighbourhood Plan boundary, but adjacent to it.

3.4.24 The vision for Chippenham includes relevant objectives including:

- Protecting, enhancing, and extending the 'River-Green Corridor' as a focal point for the town, establishing green links to it from existing parks/green spaces, and connecting surrounding new development to it via green and blue infrastructure.
- Ensuring that green space for public recreational use is incorporated into new housing development and linked to existing and proposed green corridors where possible.
- Ensuring that new housing development contains the right type and mix of housing, including affordable and market housing to meet the identified needs of the whole community.
- Securing a high quality of design for new housing development and encourage selfbuild, use of local materials and innovative housing design.
- Improving current walking and cycling networks and infrastructure throughout the town and into the surrounding countryside.
- Promoting sustainable transport by improving infrastructure and making modal shift easier in favour of public transport, walking and cycling.

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**APPENDICES**

Appendix 4.1 Facilities Map

## 4.1 INTRODUCTION

4.1.1 This chapter has been prepared by David Lock Associates and reports the socio-economic effects of the Proposed Development during the construction stage as well as following its completion. The chapter additionally considers how the Proposed Development will affect the key factors that can influence people's health and wellbeing. Social and economic factors are typically the main determinants of human health, although the provision of health services and environmental factors such as pollution and design can play an important role.

4.1.2 This chapter assesses the effects of the Proposed Development on the following:

- Population
- Housing
- Economy
- Retail
- Social and Community Infrastructure
- Open Space and Physical Activity

**Competency**

4.1.3 This chapter of the ES has been prepared by Anise Chan (Assistant Planner) and Francesca Parmenter MRTPI (Partner & Project Director) at David Lock Associates.

4.1.4 David Lock Associates (DLA) is an independent town planning, urban design and master planning consultancy with over 30 years' experience in the development industry and have wide experience and expertise of the EIA process. DLA is an accredited member of the Institute of Environmental Management and Assessment (IEMA), which is an organisation established to promote best practice in environmental management, auditing and assessment.

4.1.5 In accordance with the Environmental Impact Assessment (EIA) Regulations (2017), this ES chapter has been carried out by competent experts, comprising Members of the Royal Town Planning Institute.

## 4.2 RELEVANT POLICY

4.2.1 A broader review of planning policy and guidance for the Proposed Development is provided within Chapter 3 of this Environmental Statement. However, this section provides a synopsis of the planning policies that are particularly relevant for this socio-economic assessment.

### National Policy

#### *National Planning Policy Framework (December 2024)*

4.2.2 The Government's National Planning Policy Framework (NPPF) outlines the purpose and role of the planning system. The most recent version of the NPPF was published and updated on 12 December 2024, replacing the previous NPPF published in December 2023. Paragraph 8 of the NPPF sets out the principle of sustainable development in terms of three overarching objectives – economic, social and environmental. These roles are interdependent and should be pursued in mutually supportive ways.

4.2.3 Paragraph 61 states that it is important that a sufficient amount and variety of land can come forward to support the Government's objective of significantly boosting the supply of homes. The NPPF is clear that the supply of a large number of new homes can often be best achieved through planning for large scale developments, such as new settlements or significant extensions to existing villages and towns, provided they are well located and designed, and supported by the necessary infrastructure and facilities.

4.2.4 The NPPF expresses the Government's commitment to securing growth and identifies the contribution of the planning system in delivering sustainable development. It notes that significant weight should be placed on the need to support economic growth and productivity, taking account both local business needs and wider opportunities for development (Paragraph 85).

4.2.5 The NPPF recognises the role of good planning in the promotion of healthy, inclusive and safe places, including delivering mixed use developments and strong neighbourhood centres and street layouts that allow for easy pedestrian and cycle connections within and between neighbourhoods. The NPPF is clear that there is a need to enable and support healthy lifestyles, for example through the provision of safe and accessible green infrastructure, allotments and layouts that encourage walking and cycling (Paragraph 96).

4.2.6 The NPPF also highlights the importance of making provision for social, recreational and cultural facilities and services, including the provision of community and other local facilities to enhance the sustainability of communities and residential environments (Paragraph 103). The NPPF recognises the importance of ensuring a sufficient choice of school places is available to meet the needs of new communities and gives great weight to creating schools (Paragraph 100). Access to a network of high-quality open spaces and

opportunities for sport and physical activity is important for the health and well-being of communities (Paragraph 103).

4.2.7 The NPPF highlights that good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities. The NPPF notes that the planning system should support the transition to a low carbon future in a changing climate, including through supporting renewable and low carbon energy and associated infrastructure (Paragraph 157).

***Planning Practice Guidance***

4.2.8 Planning Practice Guidance (PPG) provides further information regarding the importance of the planning system in delivering well-designed places. It highlights the need to take a proactive and collaborative approach, from policy and plan formulation through to the determination of a planning application and the post approval stage.

4.2.9 Particularly in respect of the guidance on "Healthy and safe communities", the design and use of the built and natural environments, including green infrastructure, are major determinants of health and wellbeing. Planning and health need to be considered together in terms of creating environments that support and encourage healthy lifestyles, and in terms of identifying and securing the facilities needed for primary, secondary and tertiary care, and the wider health and care system (taking into account the changing needs of the population) (Reference ID:53-001-20190722).

***National Design Guide (2021)***

4.2.10 The National Design Guide establishes that well-designed places have individual characteristics which work together to create its physical character. The ten characteristics introduced in the National Design Guide help to nurture and sustain a sense of community, they work positively to address environmental issues affecting climate and they all contribute towards the cross-cutting themes of good design set out in the NPPF.

4.2.11 The 10 characteristics are:

- Context – enhances the surroundings;
- Identity – attractive and distinctive;
- Built form – a coherent pattern of development;
- Movement – accessible and easy to move around;
- Nature – enhanced and optimised;
- Public spaces – safe, social and inclusive;
- Uses – mixed and integrated;
- Homes and buildings – functional, healthy and sustainable;
- Resources – efficient and resilient; and
- Lifespan – made to last.

**Local Policy**

***Adopted Local Plan: Wiltshire Core Strategy***

4.2.12 The Wiltshire Core strategy was adopted in January 2015 and sets out the planning framework for the period of 2015 - 2026. Core Policy 1 identifies the settlements where sustainable development will take place and Core Policy 2 of the strategy seeks to deliver development in Wiltshire in the most sustainable manner by making provision for at least 42,000 homes and at least 178 ha of new employment land.

4.2.13 Chippenham is identified as a Principal settlement, making it a strategically important centre and a primary focus for development.

- Core Policy 43 – Providing affordable homes. The Proposed Development will provide a provision of affordable housing, the percentage of which is to be agreed with Wiltshire Council and secured through a legal agreement.
- Core Policy 45 – Meeting Wiltshire's housing needs. The Proposed Development will incorporate a range of different types of tenures and sizes of homes to meet the needs of the community.
- Core Policy 46 – Meeting the needs of Wiltshire's vulnerable and older people. The Proposed Development will consider the specific needs of vulnerable and older people.
- Core Policy 52 – Green Infrastructure. The development will enhance Wiltshire's green infrastructure network. New accessible open spaces will be created and shall be in accordance with the requirements of the adopted Wiltshire Open Space standards.
- Core Policy 57 – Ensuring high quality design and place shaping. The Proposed Development will create a strong sense of place and will meet the high standard of design required.
- Core Policy 61 – Transport and new development. The Proposed Development will be designed to encourage the use of sustainable transport and reduce the need to travel by private car.

**Any other relevant policy, legislation or guidance**

***Supplementary Planning Documents/ Guidance***

4.2.14 The Wiltshire Open Space Assessment Update (2020) is the most recent published study updating the evidence base of earlier assessments and setting out recommended standards for open space provision. The Wiltshire Design Guide, adopted in 2024, confirms that a minimum level of public open space should be provided in accordance with the adopted Wiltshire Open Space Standards (2020).

**Table 4.1 Wiltshire Open Space Standard**

| Open Space Type | Quantity standard (ha/1000 population) for analysing Existing Provision | Quantity standard (ha/1000) for New Provision | Access standard |
|---|---|---|---|
| Allotments | 0.25 | 0.25 | 480m or 10 mins walk |
| Amenity Green Space | 0.9 | 0.9 | 480m or 10 mins walk |
| Parks, Sport and recreation | 1.1 | 1.1 | 600m or 12-13 mins walk |
| Play space (children) | 0.25 | 0.25 | 480m or 10 mins walk |
| Play space (youth) | 0.30 | 0.30 | 600m or 12-13 mins walk |
| Natural Green Space | N/A (use access standards to identify key gaps) | 1.8 (including SUDs) | 720m or 15 mins walk |

***Swindon and Wiltshire Strategic Housing Market Assessment 2017***

4.2.15 The 2017 SHMA provides evidence to support Swindon and Wiltshire on objectively assessing the need for housing and employment.

4.2.16 The 2017 SHMA indicates that there is a calculated objectively assessed need (OAN) for at least 44,000 dwellings over the period of 2016-2036, or 2,200 dwellings per annum. The Chippenham HMA has an OAN for at least 22,250 dwellings over the same period.

4.2.17 The most recent Wiltshire Housing Land Supply Statement was published in June 2025. It stated the current local housing need is 3,525 homes per annum and reports a 2.42-year supply, therefore there is currently a serious shortfall in the housing land supply.

4.2.18 The OAN established for Wiltshire and Swindon helps to determine the size and type of housing needed over the plan period for both market and affordable housing as set out in Table 4.2.

**Table 4.2 OAN Market and Affordable Housing Mix[1]**

| | | Market Housing | Affordable Housing | Total |
|---|---|---|---|---|
| **Flat** | 1 bedroom | 300 | 3,550 | 3,830 |
| | 2+ bedrooms | 890 | 2,810 | 3,670 |
| **House** | 1-2 bedrooms | 5,470 | 7,300 | 12,600 |
| | 3 bedrooms | 30,310 | 8,240 | 37,950 |

[1] Source: ORS Housing Model

| | | | | |
|---|---|---|---|---|
| | 4 bedrooms | 10,510 | 950 | 11,310 |
| | 5+ bedrooms | 2,420 | 250 | 2,640 |
| **Total** | | **48,900** | **23,100** | **73,000** |

## 4.3 ASSESSMENT METHODOLOGY

### Scope

4.3.1 The assessment of the socio-economic effects of the Proposed Development covers the following:

- Population
- Housing
- Economy
- Retail
- Social and community infrastructure
- Open space and physical activity
- Pollution and environmental effects are covered in Chapter 6 (Air quality).

4.3.2 Impacts are assessed across three geographies, depending on the specific receptor. The geographies are:

- The Application Site
- Local area (Corsham Without, Chippenham Lowden & Rowden, Chippenham Pewsham)
- Local Authority area (Wiltshire Council boundary)

4.3.3 The spatial extent of this socio-economic assessment that includes consideration of health covers not only the Application Site itself and the nearby Corsham Without and Chippenham wards but also the wider area of Wiltshire.

4.3.4 The local area of impact will vary between the specific receptors assessed. For those impacts relating to social and community infrastructure, different catchment areas are used:

- Education: nursery, early years and primary schools – a 2-mile (also equals to 3.22-km) catchment is recommended by the Department for Education for children under the age of 8. Some schools may have a smaller catchment due to high demand[2].
- Education: Secondary schools – a 3-mile (also equals to 4.82-km) catchment is recommended by the Department for Education for children aged 8 to 16. Secondary school pupils may travel further to access the school of their choice[2].
- Health: GPs and dentists – there is no formal catchment area for these services at a national scale and each practice can define its own catchment area. For this study a catchment of 3-mile (4.82 km) from the Site has been used.
- Parks and open space and facilities –The Wiltshire Open Space Assessment Update (2020) sets out recommended distances for these amenities.

[2] Department of Education (2024) Home to school travel and transport guidance.

- Retail and Leisure uses – there is no nationally recommended catchment for these facilities. So, the nearest facilities to the Site have been recorded.
- Other community services – there is no nationally recommended catchment for these facilities. So, the nearest facilities to the Site have been recorded.

**Data Sources**

4.3.5 Data sets are obtained from a variety of sources including:

- Online national socio-economic data sets sourced from Nomis and Office for National Statistics. This includes data from the Census, Annual Population Survey and Business Register Employment Survey.

**Assessment Approach**

4.3.6 The core assessment of socio-economic effects is undertaken in the following ways:

- Review of existing and potential future capacity within social and community infrastructure within recommended/applicable distances of the Site. This is based primarily on data analysis and mapping of facilities, with consultations to supplement this evidence. The mapped facilities can be found in appendix 4.1.
- The assessment also draws upon reports submitted in support of the Outline Planning Application.

**Significance Criteria**

4.3.7 To ensure a systematic and rigorous assessment of the socio-economic effects of the Proposed Development, the significance of those effects is analysed with reference to the sensitivity of receptors and the magnitude of impacts. Based on the significance of effects, and whether they are beneficial or adverse, necessary mitigation measures are identified to reduce potential adverse effects. The criteria used for the purposes of this assessment are described in the following three tables:

**Table 4.3: Magnitude**

| Magnitude | Description |
|---|---|
| Large | Large change in baseline conditions which would be noticeable in terms of absolute or % change.<br>Percentage change would be 21% or greater. |
| Moderate | Minor shift away from baseline conditions which would be noticeable in terms of absolute or % change.<br>Percentage change would be 10-20%. |
| Small | Slight change from baseline conditions.<br>Percentage change would be 6-10%. |
| Negligible | No discernible change from baseline conditions.<br>No or small percentage change (<5%). |

**Table 4.4: Sensitivity**

| Sensitivity | Description |
|---|---|
| High | Receptor is identified as a policy priority. Evidence of major socio-economic challenge or underperformance. |
| Medium | Receptor is important in policy. Evidence of under-performance or vulnerability. |
| Low | Receptor is not a policy priority. Evidence that the receptor is resilient and no particular challenges. |
| Negligible | Receptor is not a policy priority. Good overall performance in impact area. |

4.3.8 In establishing significance of effect, it is important to note that the higher the sensitivity of receptor the more likely there will be some significant effect, even if the magnitude of impact is small or negligible. Both beneficial and adverse effects are considered.

**Table 4.5: Significance**

| Magnitude | Sensitivity | | | |
|---|---|---|---|---|
| | High | Medium | Low | Negligible |
| Large | Major | Major | Moderate | Minor |
| Moderate | Major | Moderate | Minor | Negligible |
| Small | Moderate | Minor | Minor | Negligible |
| Negligible | Minor | Negligible | Negligible | Negligible |

**Uncertainties and limitations**

4.3.9 Data used to compile this chapter consists of secondary information derived from a variety of sources. Data has been sourced from official Government datasets or the most reliable alternative, where appropriate, to maximise accuracy. The assumption is made that this data, as well as that derived from other secondary sourced, is accurate. The most recent Census with available data is from 2021.

4.3.10 There are no generally accepted criteria for assessing the significance of socio-economic impacts and, in some cases, it can be difficult to quantify or measure such impacts. This assessment is based on the magnitude of the predicted change to the baseline position, as well as the sensitivity of the socio-economic receptors. Where the effect has been difficult to quantify, qualitative professional judgement has been applied, based on experience.

## 4.4 BASELINE CONDITIONS

### The current baseline

4.4.1 The Application Site is located east of Showell Farm and Patterdown Road (B4643) and west of the river Avon and north of the Lackham Roundabout. The Site sits adjacent to land subject to significant change through the consenting of new residential-led mixed-use development at Rowden Park.

4.4.2 The Site falls within Lacock Parish and the Corsham Without ward, although its northern boundary is contiguous with the administrative town boundary of Chippenham. Chippenham is a strategically important town within the administrative area of Wiltshire, located some 38km east of Bristol and 23km southeast of Swindon and some 10km from M4.

4.4.3 Although the Site lies within the Corsham Without ward, the northern and eastern edge of the site lie on the ward boundaries for Chippenham Lowden & Rowden and Chippenham Pewsham. The scope of the assessment has considered data from these three wards.

***Population***

4.4.4 Wiltshire is approximately 3,485 km$^2$, and as recorded in the 2021 census has a population of 510,400 in 2021. The population has increased by 8.4% from around 471,000 in 2011. This is a greater increase than the overall increase for England (6.6%). Wiltshire's population increase is also higher than the increase for the Southwest region (7.8%).

4.4.5 The population (number of usual residents in households and communal establishments) for Corsham Without in 2021 was 4,934, the population for Chippenham Lowden & Rowden was 3,665, and the population for Chippenham Pewsham was 4,912[3]. The population (usual resident population) in 2011 for Corsham Without and Box Hill was 5,477[4], the apparent decrease in population is accounted for by a change in ward boundaries between the two census dates. Therefore, it is more helpful to use the Wiltshire population figures when comparing population growth.

4.4.6 In 2021 although Corsham Without has the highest population out of the wards it has the lowest population density with 144.2 residents per square kilometre. Whilst Chippenham Lowden & Rowden, and Chippenham Pewsham have 1,354.4 and 1,143.5 residents per km2 respectively[5].

[3] ONS Crown Copyright Reserved (2021) [from Nomis on 31 March 2026]; Number of usual residents in households and communal establishments.
[4] ONS Crown Copyright Reserved (2011) [from Nomis on 31 March 2026]; Usual resident population.
[5] ONS Crown Copyright Reserved (2021) [from Nomis on 31 March 2026]; Population density.

4.4.7 The average age (mean) in Corsham Without in 2021 was 43.5, 41.4 in Chippenham Lowden & Rowden, and 40.9 in Chippenham Pewsham[6]. In 2011 the average age (mean) Corsham Without & Box Hill, Chippenham Lowden & Rowden, and Chippenham Pewsham was 39.2, 38.7, and 35.3[7]. This increase in age profile is also reflected in the wider area of Wiltshire, with the average age (mean) increasing from 40.8[7] in 2011 to 42.9[6] in 2021.

4.4.8 One of the biggest changes to age groups in Wiltshire is the number of people aged 35 and 49 and the people aged 50 to 64. The number of people aged 50 to 64 rose by around 15,000 people an increase of 17% from 2011 to 2021. Whilst the number of people aged 35 to 49 fell by around 9,700 people, a decrease of 9.4%[8].

***Housing***

4.4.9 The Wiltshire Core Strategy 2006-2026 identifies a minimum requirement for 42,000 new homes in Wiltshire over the plan period. The new Wiltshire Local Plan Emerging Spatial Strategy states that Wiltshire will need between 40,840 and 45,630 new homes over the plan period of 2016 to 2036. Wiltshire County has been subdivided into four different Housing Market Areas (HMAs). The application Site lies within the Chippenham HMA.

4.4.10 Wiltshire are using their current Local Housing Need figure (3,525 dwellings per annum) to inform their 5-year land supply calculation. The Council's most recent Housing Land Supply Statement published June 2025, states a land supply of 2.42-year supply using a base date of April 2024.

4.4.11 The latest Housing Delivery Test results published in December 2024 show that Wiltshire achieved 135% delivery against the housing requirement in the Housing Delivery Test[9].

4.4.12 The average house price (all property types) paid in Wiltshire (February 2026) was £328,000, representing a 1.4% increase from the February 2025 (£323,000). House prices in Wiltshire are above the regional house price for the Southwest (£300,000) and well above the national average (£268,000)[10].

***Economy***

4.4.13 The local authority business register and employment survey 2021 shows that there were 137,800 people in full-time jobs, with a total of 215,400 in total employment[11]. Job density (the ratio of jobs to the working age population aged 16-64) has also increased from 0.78 in 2011 to 0.86 in 2023, which is less than the Southwest (0.88), and nationally (0.87)[12].

[6] ONS Crown Copyright Reserved (2021) [from Nomis on 31 March 2026]; Age by single year.
[7] ONS Crown Copyright Reserved (2011) [from Nomis on 2 March 2023]; Age Structure.
[8] ONS 2021 Census; *How life has changed in Wiltshire*.
[9] Wiltshire Housing Land Supply Statement (June 2025)
[10] Office for National Statistics, UK House Price Index (February 2026)
[11] Office for National Statistics, Local Authority Business Register and Employment Survey (2024)
[12] ONS Crown Copyright Reserved (2023) [from Nomis on 2 April 2026]; Job Density.

4.4.14 Wiltshire's ONS figures indicating that there are 251,600 (around 81%) economically active people in employment, this is greater than the 78% in the Southwest, and 76% nationally. At Ward level the economic activity numbers are similar or greater than the Wiltshire numbers. With around 2,392 (around 83%) economically active people in employment (includes full-time students in employment) in Corsham Without, 1,858 (around 79%) people in Chippenham Lowden & Rowden, and 2,901 (84%) in Chippenham Pewsham[13].

4.4.15 In 2024, the highest proportion of all persons in employment in Wiltshire was that in Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles at 31,000 employee jobs followed by Human Health and Social Work Activities at 27,000 jobs[11]. Average gross earnings of working-age people in Wiltshire (by place of work) have risen steadily from the 2011 census and are currently £728.7 pounds per week, outperforming the southwest region at £699.1 pounds per week, but is still lower than the national average at £766.6 pounds[14].

***Retail***

4.4.16 A Retail and Town Centres Study was undertaken in 2020 by Avison Young on behalf of Wiltshire Council to provide evidence base information on retail and town centre planning issues associated with the Wiltshire Local Plan Review. The nearest shopping centres to the application Site are Chippenham and Corsham.

4.4.17 The main retail-related allocation in the current Wiltshire Core Policy is the Maltings and Central Car Park in Salisbury city centre (Core Policy 21). Identifying the site for a mixed-use development including circa 40,000sqm of retail floorspace. Another notable retail allocations identified in the study is the Bath Road car park / Bridge Centre site, which should form a retail extension to the town centre.

4.4.18 Chippenham is one of the three principal settlements in Wiltshire. According to the Retail and Town Centres Study (2020), there has been a noticeable increase in the number of convenience goods retailers in the centre, from 14 retailers in 2012 to 22 in 2020. The proportion of convenience goods retailers remains below the national average; however, the gap has become smaller. The proportion of comparison goods retailers remains above the national average although the number of such retailers in the centre has declined in line with the national trend, 111 in 2012 to 98 in 2020. Comparison goods retailers occupy circa 40% of all surveyed retail units in the town centre. Vacancies in Chippenham town centre have fallen from 30 in 2012 to 21 in 2020.

4.4.19 Corsham lies 4 miles (6.44 km) to the west of Chippenham. There has been a small rise in the number of convenience goods retailers in the centre, from 8 in 2012 to 9 in 2020.

[13] ONS Crown Copyright Reserved (2021) [from Nomis on 31 March 2026], Economic activity status.
[14] ONS Crown Copyright Reserved (2025) [from Nomis on 2 April 2026], Annual survey of hours and earnings – workplace analysis.

This remains above the national average although the difference has narrowed. In line with the national trend the number and proportion of comparison goods retailers in the town centre has decreased, from 36 units in 2012 to 31 in 2020.

4.4.20 There has been a noticeable increase in the number of vacant units in Corsham town centre. In 2012 there was one vacancy, however this has risen to nine vacancies in 2020, whilst remaining below the national average, it is a potential sign of a falling demand for commercial floorspace in Corsham. Vacancies account for some 1,600sqm of floorspace in the town centre, 15.6% of all surveyed retail and service floorspace.

***Social and Community Infrastructure***

*Nursery Education*

4.4.21 There are 10 nurseries within a 2-mile (3.22 km) radius of the Site, and 1 which is within a 1-mile (1.61 km) radius. The nearest nursery to the Site is Forest Nursery that is less than a mile from the Site.

4.4.22 Table 4.6 details the nursery providers within 2 miles (3.22 km) of the Site.

**Table 4.6: Nursery Provision[15]**

| Name | Type | Ages | Roll Size | Capacity | Spare Capacity (%) | Post Code | Distance from Site Centre (km) |
|---|---|---|---|---|---|---|---|
| Forest Nursery | Day Nursery | 0-4 | 81 | 35 | -56.8 | SN15 3QU | 1.38 |
| Busy Bees at Chippenham Bath Road | Day Nursery | 0-4 | 93 | 106 | 12.3 | SN14 0BJ | 1.79 |
| Moonbeams Pre-School | Day Nursery | 2-3 | 13 | 26 | 50.0 | SN14 0AS | 1.80 |
| Key Day | Day Nursery | 0-5 | 42 | 61 | 31.1 | SN15 3AJ | 1.80 |
| Snowdrop Cottage Day Nursery | Day Nursery | 2-4 | 29 | 26 | -11.5 | SN15 3JW | 2.19 |
| Snowdrop Cottage Preschool | Day Nursery | 2-4 | 53 | 44 | -20.5 | SN15 3JW | 2.19 |
| Sunflowers Nursery | Private Nursery | 3-11 | 399 | 420 | 5.0 | SN15 1HE | 2.19 |
| Little Pips Nursery | Day Nursery | 0-4 | 112 | 62 | -80.6 | SN15 1LH | 2.24 |
| Spring Rise Children's Centre | Children's Centre | 2-4 | 27 | 24 | -12.5 | SN14 0DH | 2.40 |
| New Road Nursery | Day Nursery | 0-5 | 72 | 78 | 7.7 | SN15 1HP | 2.53 |
| Lords Mead Pre-School Group | Day Nursery | 2-4 | 51 | 32 | -59.4 | SN14 0LL | 2.64 |

[15] Source: https://reports.ofsted.gov.uk/

4.4.23 The nurseries within a two-mile (3.22 km) radius of the Site have a total capacity for 914 children, and currently have around 972 children on their rolls. However, it is worth noting that, unlike in schools, children on nursery rolls do not all attend at the same fixed time and, as such, nurseries have greater flexibility in terms of capacity.

4.4.24 Appendix 4.1 shows the location of the nurseries.

*Primary Education*

4.4.25 There are 10 primary schools within 2 miles (3.22 km) of the application Site. The nearest school to the Site is St Mary's Catholic Primary School at 0.99 miles (1.59 km) from the Site.

4.4.26 The 10 schools have a total capacity for 2,941 children, with a current roll size of 2,515 children. This means there are 426 spare places.

**Table 4.7: Primary School Provision[16]**

| Name | Type | Phase | Ages | Roll Size | Capacity | Spare Capacity (%) | Post Code | Distance from Site Centre (km) |
|---|---|---|---|---|---|---|---|---|
| St Mary's Catholic Primary School | Academy sponsor led | Primary | 4-11 | 162 | 210 | 22.9 | SN15 2AH | 1.59 |
| Charter Primary School | Academy converter | Primary | 4-11 | 205 | 357 | 42.6 | SN15 3EA | 1.64 |
| Kings Lodge Primary School | Academy converter | Primary | 4-11 | 296 | 420 | 29.5 | SN15 3SY | 1.66 |
| Queen's Crescent School | Academy converter | Primary | 4-11 | 415 | 420 | 1.2 | SN14 0QT | 2.03 |
| Lacock Church of England Primary School | Voluntary controlled school | Primary | 4-11 | 63 | 84 | 25 | SN15 2LQ | 2.08 |
| Ivy Lane Primary School | Academy converter | Primary | 3-11 | 444 | 420 | -5.7 | SN15 1HE | 2.19 |
| Frogwell Primary School | Foundation school | Primary | 4-11 | 187 | 235 | 20.4 | SN14 0DG | 2.37 |
| Monkton Park Primary School | Community school | Primary | 4-11 | 262 | 270 | 3.0 | SN15 3PN | 2.46 |
| Redland Primary School | Community school | Primary | 4-11 | 285 | 315 | 9.7 | SN14 0JE | 2.51 |

[16] Source: https://www.get-information-schools.service.gov.uk/ and https://reports.ofsted.gov.uk/

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| St Peter's CofE Academy | Academy converter | Primary | 4-11 | 196 | 210 | 6.7 | SN14 0LL | 2.61 |

4.4.27 Appendix 4.1 shows the location of the primary schools.

*Secondary Education*

4.4.28 There are three secondary schools within 3.5 km of the Site. The nearest secondary school to the Site is Abbeyfield School. All three schools include sixth form provision.

4.4.29 The 2 secondary schools within a 2 mile (3.22 km) radius have a total capacity for 2,869 children, and a total roll size of 2,465. This means that there are 404 spare spaces.

**Table 4.8 Secondary School Provision[17]**

| Name | Type | Phase | Ages | Roll Size | Capacity | Spare Capacity (%) | Post Code | Distance from Site Centre (km) |
|---|---|---|---|---|---|---|---|---|
| Abbeyfield School | Community school | Secondary | 11-19 | 907 | 1069 | 15.2 | SN15 3XB | 2.41 |
| Sheldon School | Academy converter | Secondary | 11-18 | 1558 | 1800 | 13.4 | SN14 6HJ | 3.09 |
| Hardenhuish School | Academy converter | Secondary | 11-18 | 1559 | 1678 | 7.1 | SN14 6RJ | 3.46 |

4.4.30 Appendix 4.1 shows the location of the secondary schools.

*Other Education*

4.4.31 This section includes other sixth form provision as well as community education which refers to programmes that aim to promote learning and social development work in communities targeting adults aged 19+. Table 4.9 shows the other education facilities within a 3-mile (4.83 km) distance from the application Site. Not all facilities listed their roll size or capacity.

**Table 4.9 Other Education Facilities**

| Name | Type | Phase | Ages | Roll Size | Capacity | Spare Capacity (%) | Post Code | Distance from Site Centre (km) |
|---|---|---|---|---|---|---|---|---|
| Notton House Academy | Academy special converter | N/A | 8-19 | 53 | 50 | -6 | SN15 2NF | 0.68 |
| Wiltshire College and University Centre | Further education | 16 plus | 16-99 | N/A | N/A | N/A | SN15 3QD | 2.57 |

[17] Source: https://www.get-information-schools.service.gov.uk/ and https://reports.ofsted.gov.uk/

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| The Young People's Support Centre | Miscellaneous | N/A | 11-16 | N/A | N/A | N/A | SN15 1AA | 2.85 |
| Heywood Prep | Other independent school | N/A | 2-11 | 258 | 260 | 0.7 | SN13 0AP | 3.73 |
| Wiltshire College & University Centre at the Methuen Centre, Corsham | Further education | Post-16 | 16-99 | N/A | N/A | N/A | SN13 9HR | 3.75 |

*Libraries*

4.4.32 There are two libraries within 3 miles (4.83 km) of the application Site, Chippenham Library (1.24 miles / 2.0 km) and Corsham Library (2.65 miles / 4.26 km). There are a total of four libraries within 5 miles (8.05 km) of the application Site.

**Table 4.10 Libraries**

| Name | Distance from Site (km) | Post Code |
|---|---|---|
| Chippenham Library | 2.0 | SN15 3EJ |
| Corsham Library | 4.26 | SN13 9DN |
| Melksham Library | 7.13 | SN12 6ES |
| Calne Library | 7.93 | SN11 0JU |

*GP Provision*

4.4.33 There are currently five surgeries within 3 miles (4.83 km) of the Site, with a total of 48 GPs, catering for a total list size of 53,993, which equates to roughly 1,125 patients per GP. The nearest surgery is Rowden Surgery which is 0.95 miles (1.53 km) from the application Site.

**Table 4.11 GP Provision[18]**

| Name | Distance from Site (km) | Post Code | List Size | No. of GPs | Patients per GP |
|---|---|---|---|---|---|
| Rowden Surgery | 1.53 | SN15 2SB | 18078 | 17 | 1063 |
| Lodge Surgery | 1.66 | SN15 3SY | 8246 | 9 | 916 |
| Hathaway Surgery | 2.56 | SN15 1HP | 16007 | 12 | 1334 |
| Hathaway Surgery | 3.22 | SN14 6GT | | | |
| Porch Surgery | 4.20 | SN13 9DL | 11662 | 10 | 1166 |

*Dentist Provision*

[18] Source: NHS Choices Dataset https://www.nhs.uk/about-us/nhs-webSite-datasets/

4.4.34 There are currently eight dentists within two miles (3.22 km) of the application Site, and one dentist 2.01 miles (3.23 km) from the Site. The nearest dentist is Chippenham Dental Access Centre which is 0.84 miles (1.35 km) from the application Site.

**Table 4.12 Dentist Provision**

| Name | Distance from Site (km) |
|---|---|
| Chippenham Dental Access Centre | 1.35 |
| London Road Dental | 1.80 |
| The High Street Dental Practice | 2.11 |
| Dental Health for Life | 2.16 |
| Old College Dental Surgery | 2.51 |
| Aurora Dental & Implant Clinic Chippenham | 2.54 |
| Hanlon & Gardner Dental Practice | 2.59 |
| Gentle Dental Care Chippenham | 2.80 |
| Hathaway Dental Practice | 3.23 |

*Hospitals*

4.4.35 The nearest hospital is the Chippenham Community Hospital which is 0.86 miles (1.38 km) from the application Site. The next nearest hospital is Melksham Community Hospital which is 4.63 miles (7.45 km) from the Site.

**Table 4.13 Hospital Provision [19]**

| Name | Distance from Site (km) |
|---|---|
| Chippenham Community Hospital | 1.38 |
| Melksham Community Hospital | 7.45 |
| Devizes Health Centre | 14.1 |
| Trowbridge Community Hospital | 13.36 |

*Care Homes*

4.4.36 There are seven care homes within 2 miles (3.22 km) of the application Site, and one care home 2.27 miles (3.65 km) from the Site. The nearest care home is Avon Court Care Home, which is 0.87 miles (1.40 km) from the Site.

**Table 4.14 Care Homes**

| Name | Distance from Site (km) |
|---|---|
| Avon Court Care Home | 1.40 |
| Anchor - Ivyfield Court | 1.82 |
| Flowers Manor Care Home | 1.82 |
| The Old Vicarage Nursing Home | 2.12 |
| OSJCT Seymour House Care Home | 2.35 |

[19] **Source: NHS Choices Dataset https://www.nhs.uk/about-us/nhs-website-datasets/**

| | |
|---|---|
| Middlefields House Nursing Home | 3.07 |
| Ferfoot Care Home | 3.07 |
| Warrington Lodge Care Home | 3.65 |

4.4.37 Appendix 4.1 shows the location of GP surgeries, dentists, hospitals, and care homes.

***Open Space and Physical activity***

*Sports facilities*

4.4.38 The Site has a large range of sports facilities within 2 miles (3.22 km) of the Site. Some of these are located within schools. All sports facilities within 2 miles (3.22 km) of the Site are shown in table 4.15. The nearest public sports facility is 'The climbing academy – The Arc', which is 1.01 miles (1.63 km) from the Site.

**Table 4.15 Sports Facilities**

| Name | Distance from Site (km) | School/Public |
|---|---|---|
| Lackham Campus Playing Fields | 0.80 | School |
| The Climbing Academy - The Arc | 1.63 | Public |
| Pewsham Park | 1.64 | Public |
| North Wilts Bowls Club | 1.69 | Public |
| King's Lodge Community School Playing Fields | 1.69 | School |
| Spartans Gym | 1.82 | Public |
| Queen's Crescent Primary School Playing Fields | 1.98 | School |
| Chippenham Sailing & Canoeing Club | 2.03 | Public |
| Ivy Lane Playing Fields | 2.11 | School |
| Lacock Cricket Pitch | 2.22 | Public |
| Lacock Sports Pitch | 2.22 | Public |
| Monkton Park Golf Course | 2.22 | Public |
| Hardens Lane Pitches | 2.32 | Public |
| Frogwell Primary School Playing Fields | 2.37 | School |
| Monkton Park MUGA | 2.41 | Public |
| Olympiad Leisure Centre | 2.41 | Public |
| Monkton Park Primary School | 2.45 | School |
| Snap Fitness | 2.48 | Public |
| Inspire Fitness | 2.49 | Public |
| St Peter's CofE Academy Playing Fields | 2.54 | School |
| Redland Primary School | 2.54 | School |
| Abbeyfield School Pitches | 2.54 | School |
| Stanley Park Pitches | 2.62 | Public |
| Wiltshire College Playing Fields | 2.62 | School |
| Corsham Park Rugby Club | 2.74 | Public |
| Chippenham Cricket Club | 2.77 | Public |

| | | |
|---|---|---|
| John Coles Park Tennis, Bowls & Basketball | 2.83 | Public |
| Chippenham Town Football Club | 2.86 | Public |
| Corsham Town Football Club | 2.86 | Public |
| Coppershell Playing Field | 3.01 | Public |
| Chippenham Rugby Club Playing Fields | 3.19 | Public |
| Starfish Hydrotherapy Pool | 3.23 | Public |
| Chippenham Rugby Club | 3.32 | Public |

4.4.39 The application Site is also located close to several play areas, some of these play areas are located within schools. The nearest public play area is the Blackwellhams Play Area which is 0.76 miles (1.22 km) from the application Site.

**Table 4.16 Play Areas**

| Name | Distance from Site (km) | School/Public |
|---|---|---|
| Blackwellhams Play Area | 1.22 | Public |
| Gypsy Lane Play Area | 1.53 | Public |
| Kings Lodge Primary School Play Area | 1.58 | School |
| St Mary's Primary School Play Area | 1.61 | School |
| Pewsham Community Centre Play Area | 1.63 | Public |
| The Charter Primary School Play Area | 1.64 | School |
| Corsham Road Play Area | 1.69 | Public |
| Westmead Terrace Play Area | 1.69 | Public |
| Pewsham Park Play Area | 1.71 | Public |
| Kingsley Road Field Play Area | 1.78 | Public |
| Millenium Park Play Area | 1.79 | Public |
| Larkham Rise Play Area | 1.93 | Public |
| Chippenham Sailing & Canoeing Club Play Area | 1.98 | Public |
| Audley Road Play Area | 2.11 | Public |
| Gascelyn Park Play Area | 2.14 | Public |
| Ivy Lane Primary School Play Area | 2.17 | School |
| Lacock Play Area | 2.19 | Public |
| Frogwell Primary School Play Area | 2.37 | School |
| Monkton Park Play Area | 2.38 | Public |
| Monkton Primary School | 2.45 | School |
| Abbeyfield School Play Area | 2.46 | School |
| John Coles Park Play Area | 2.75 | Public |
| Little Battens Play Area | 2.98 | Public |
| The Pewsham Play Area | 3.04 | Public |
| Coppershell Play Area | 3.11 | Public |
| Sheldon School Play Area | 3.14 | School |
| St Nicholas School Play Area | 3.27 | School |
| Dicketts Road Play Area | 3.85 | Public |

4.4.40 Appendix 4.1 shows the sports facilities and play areas within 3 miles (4.83 km) of the Site.

**The projected future baseline**

4.4.41 This section outlines likely future baseline conditions. Only receptors where there is likely to be a notable change are detailed.

***Population***

4.4.42 Population projections from a 2022 base highlight Wiltshire's population is forecast to grow by 516,107 (+6.0%) to 547,200 in 2032[20]. The population is also set to age significantly over the period. In 2032, 25% of the population in Wiltshire are projected to be aged 65 years or over, up from 21% in 2022. There is a projected decrease in those aged under 15 of age during this period, from 21% of people in Wiltshire to 18% of people. The share of those aged 15-64 years of age will stay the same at around 60%.

***Housing***

4.4.43 The housing requirement for Wiltshire from 2006-2026 was 14,297 houses. The new overall housing requirement in the Emerging Strategy 2016-2036 is 20,400 houses for the entire Wiltshire County. When the number of homes built and in the pipeline is deducted it leaves a further 9,860 homes to be accommodated up until 2036 (from 1 April 2019). Most of these homes are within Chippenham town with a further 5,100 homes left to be accommodated.

***Economy***

4.4.44 The Wiltshire Core Strategy makes provision for at least 178 ha of new employment land between 2006 and 2026. 26.5 ha of the new employment land will be within the Chippenham Community Area.

***Retail***

4.4.45 The Wiltshire Retail and Town Centres Study 2020 divides Wiltshire into study area zones. The application Site and Chippenham are within zone 22.

4.4.46 Zone 22's convenience expenditure per capita in 2020 was £2,405, this is projected to decrease by 6% to £2,261 in 2030. The expenditure for comparison goods per capita in 2020 was £3,691 this is projected to see a large increase of 39.5% to £5,152 in 2030.

4.4.47 The Wiltshire Retail and Town Centres Study 2020 indicates that Chippenham had capacity for additional floorspace of 1,888sqm net in 2020, and 1,451sqm net in 2030. However, the report notes that these figures were made before the Aldi and Lidl stores in Chippenham were approved. They have since been approved and built out and

[20] Office for National Statistics 2022-based subnational population projections (Released in June 2025)

therefore soak up generally all the forecasted quantitative capacity over the assessment period.

4.4.48 The report indicates that there is the potential for an additional 1,632sqm net floorspace by 2025 for comparison goods in Chippenham, which will fall to 1,306sqm net by 2030.

4.4.49 For Corsham the study indicates a small over-supply of floorspace for convenience goods, -216sqm net in 2020. Based upon a constant market share over the assessment period, this over-supply will remain. The comparison goods floorspace forecasts shows that Corsham will have 58sqm net floorspace capacity in 2030.

***Social and Community Infrastructure***

*Primary Education*

4.4.50 The School Places Strategy 2023-2027 looks at school places by dividing Wiltshire into detailed planning area assessments. The one relevant to the application Site is Chippenham.

4.4.51 There are 18 primary schools in the Chippenham area, 10 of which are within the 2-mile (3.22 km) catchment area of the application Site.

4.4.52 The following graphs (Figure 4.1 and Figure 4.2) is taken from the School Places Strategy and shows the forecast demand for school places in Chippenham urban and rural primary schools.

**Figure 4.1 Chippenham Primary – Urban demand for school places**

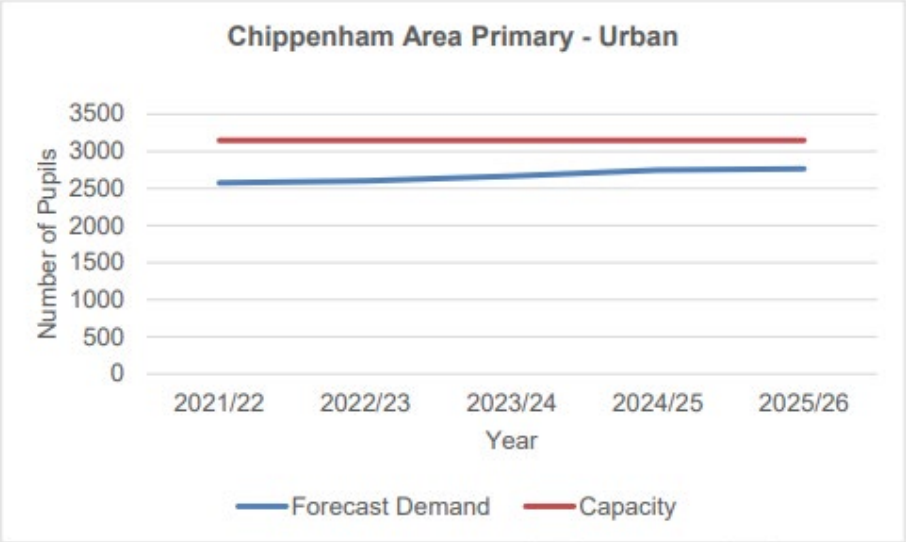
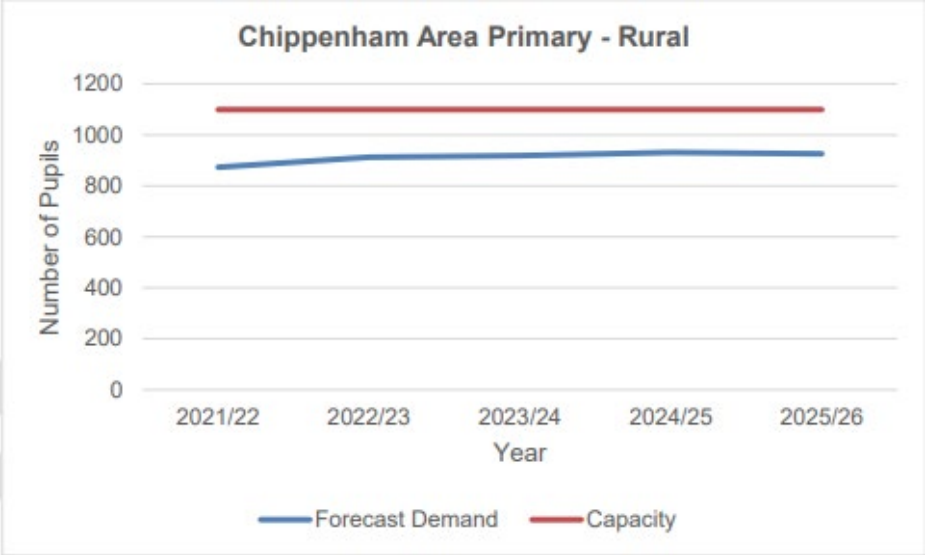


**Figure 4.2 Chippenham Primary –Rural demand for school places**




4.4.53 At the end of the forecast period, there will still be over 1300 houses scheduled to complete by 2030. This level of housing is expected to generate a need for over 400 primary school places.

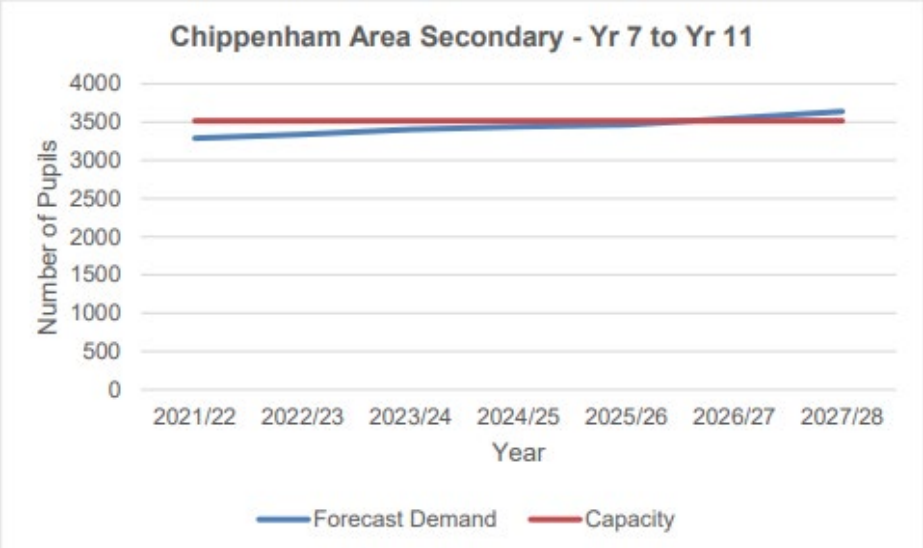
4.4.54 The Council identified that for the next few years (2023-2025) there will be sufficient places in Chippenham to cater for projected demand including housing completions for that period. However, post 2025/26 it reports there is unlikely to be sufficient places to meet demand as families move into completed housing.

4.4.55 Section 106 agreements have been signed to secure additional primary school Sites on the Bird's Marsh Wood (1FE), Rawlings Green (2FE), and Rowden Park (2FE) developments. Rowden Park is located directly north of the application Site.

*Secondary Education*

4.4.56 There are three secondary schools in the Chippenham area, all three are within 3 miles (4.83 km) of the application Site. The fourth secondary school within the 3-mile (4.83 km) catchment area is within the Corsham area.

**Figure 4. 3 Chippenham Secondary – Demand for school places.**




4.4.57 The strategy identifies that the surplus capacity for secondary school is limited and will be filled quickly as larger cohorts feed through from primary schools and planned housing is completed.

4.4.58 At the end of the forecast period, there will be around 800 houses scheduled to complete by 2030. This level of housing is expected to generate a need for around 200 secondary school places.

4.4.59 No additional secondary school sites are planned in Chippenham, beyond that associated with the Draft South Chippenham Allocation which is recommended to be withdrawn along with the draft local plan. The Council is considering a strategy to accommodate growth at Chippenham, which will likely be a further expansion of existing schools (where possible) or the creation of a new secondary school. The planning application of Abbeyfield School's expansion to provide an additional 450 school places (ref. PL/2023/01340) was resolved to be approved at strategic planning committee meeting on 24 March 2026.

**Sensitivity of Receptors**

4.4.60 Analysis of both current and projected future baseline condition (as detailed above) has been used to assess the sensitivity of receptors, as summarised in Table 4.17 below:

**Table 4.17 Receptor Sensitivity**

| Receptor | Summary of Analysis | Sensitivity |
|---|---|---|
| Population | Expected to experience population growth, including an ageing trend. | Low |
| Housing | There is significant unmet housing need in Wiltshire, including affordability issues. | High |
| Economy | Relatively strong performance. | High |

| | | | |
|---|---|---|---|
| Retail | | Relatively strong performance, except for vacancy rates in Corsham. | Medium |
| Social and community infrastructure | Education: Nursery | Reasonable amount of supply. | Medium |
| | Education: Primary | Sufficient supply, volatile demand | Medium |
| | Education: Secondary | Sufficient supply and additional planned capacity | Medium |
| | Libraries | Sufficient provision | Low |
| | Health: GPs | A variety of GPs, sufficient capacity | Low. |
| | Health: Dentists | Good number of dentists, no particular challenges | Low |
| | Health: Hospitals | Sufficient provision of hospitals | Low |
| | Health: Care Homes | Good number of care homes | Low |
| Open Space and Physical activity | Sports Facilities | Large number of facilities | Low |
| | Play areas | Large number of play areas | Low |

## 4.5 POTENTIAL EFFECTS

4.5.1 This section identifies the potential direct and indirect effects the Proposed Development is likely to have on existing and future residents, users and visitors and assesses the significance of these both during and after construction.

**Construction stage**

***Economy***

4.5.2 Significant effects on population, housing, education, health, and other community facilities are not expected as a result of construction, with the exception of potential temporary housing needs and expenditure of the construction workers.

4.5.3 It is estimated that the total construction costs for the built development and infrastructure will amount to £58.4 million (approximately £146,000 per dwelling). If labour costs associated with the construction and completion of the Proposed Development are at an average of 30% of the total construction costs, then labour costs would be circa £17.52 million.

4.5.4 To establish the effect of the construction phase in terms of direct additional employment in Wiltshire, the associated labour costs are divided by the average cost of construction labour, based on an average wage of £728.1 per week, giving a salary of £36,370. From this it can be estimated that the development could yield up to 482 person-years direct additional employment[21]. The Proposed Development is assumed to spread over a period of around 4 to 5 years, thereby directly creating around 120 direct construction job opportunities per year.

4.5.5 Notwithstanding the direct construction job creation as referred to above, there would also be indirect effects through the supply of materials from local businesses and the expenditure of salaries in the wider locality. It is considered likely that most of these companies would be located within Wiltshire and the surrounding areas such as Chippenham and Corsham. Most construction workers are likely to be employed from the local labour market which would promote beneficial effects within this area. This increase in spending and job creation would also be experienced by those companies who are indirectly benefiting from the construction of the proposed development, such as building suppliers/merchants.

4.5.6 It is considered appropriate to apply a conservative 1.2 employment multiplier to the FTE construction employment, as referred to above, indicating an additional 144 or so indirect jobs could potentially be created through the construction phases of the Proposed Development and the increase in local expenditure.

[21] Annual Survey of Hours and Earnings (ASHE) – Office for National Statistics gross weekly earnings by industry (2025).

4.5.7 Considering the above, it can be concluded that the potential direct and indirect effects of the construction work upon job creation and expenditure would be temporary, of local scale and of moderate beneficial significance.

***Open space and physical activity***

4.5.8 Pedestrian activity will not be significantly affected by construction traffic. Construction traffic routeing will generally be confined to major highways, avoiding residential streets and local settlements, reflecting the objective of minimising the areas of residential development affected and hence pedestrian activity. The magnitude of the impact is small, and the sensitivity of the receptor is negligible, and therefore the significance of the effect is negligible.

4.5.9 The main possible effect to open space and physical activity, will be the access to the two public rights of way which cross the Site. These routes will remain accessible during construction where possible, although some temporary closures may be necessary to facilitate construction activity with an alternative route provided.

4.5.10 Where the works affect existing footways on the public highway the contractor will be expected to always maintain a safe route for pedestrians.

***Pollution and environmental factors***

4.5.11 All construction work has the potential to impact on human health. The effects on air quality are considered in chapter 6 – Air Quality.

**Post-completion stage**

***Population***

4.5.12 The average household size in Wiltshire is 2.32 persons per household[22]. On this basis, it is expected that the resident population arising from 400 new homes proposed will be 926 persons an increase of 0.18% over and above the existing population of Wiltshire. Therefore, the magnitude of this impact is deemed to be negligible. And as a result of low sensitivity, this is judged to result in negligible significance.

4.5.13 Looking at the effect the population increase of 926 persons will have on the area surrounding the application Site, there will be a population increase of 6.85% from the combined population of Corsham Without, Chippenham Lowden & Rowden, and Chippenham Pewsham at 13,511 persons. A 6.85% increase would be a small magnitude impact.

4.5.14 The additional population figure above assumes that all residents of the Proposed Development would come from outside Wiltshire, or outside the wards. In reality, a proportion of the new homes are likely to be occupied by existing local residents buying

[22] ONS Crown Copyright Reserved [from Nomis on 10April 2026], Household size.

first homes, trading up or downsizing, or people on the waiting list for affordable housing. For the purpose of assessing the worst-case scenario, it will be assumed that all the population increase would be additional to the local area.

***Housing***

4.5.15 The 400 dwellings as proposed will help Wiltshire to meet the target of 9860 homes left to be accommodated by 2036 which is 4.06%. Or indeed, 7.84% of the 5100 homes directed to Chippenham town.

4.5.16 There will also be provision for affordable housing within the development which will help to improve the affordability of homes in the surrounding area, giving first time buyers and those presently unable to afford a home the opportunity to do so.

4.5.17 This impact is deemed to be negligible for (<5%) Wiltshire, and small (6-10%) for Chippenham. Coupled with high sensitivity due to policy requirements, which results in an anticipated moderate beneficial effect.

***Economy***

*Direct Employment*

4.5.18 The application Site is currently undeveloped and therefore offers few existing jobs; any employment that it does generate, exists in agriculture and farming.

4.5.19 The Proposed Development includes a local centre which could include commercial, local retail, community, and leisure uses, which will create a modest number of jobs. Additional jobs will also be created through the management of open spaces within the Proposed Development.

4.5.20 The local centre is anticipated to include different use classes comprising up to 675 sqm of use class E and F2, with no more than 200 sqm for class E(a). The employment density guide (2015) is based on the previous Use Class Order, however, has been used to calculate an assumed job generation.

4.5.21 The Proposed Development could be expected to deliver up to 36 jobs spread across these uses, as set out below.

**Table 4.18 Potential job creation within proposed local centre**

| Local Centre uses | HCA Employment Density (sqm per FTE) | Jobs |
|---|---|---|
| Old use Classes that fit into use class E:<br>A1 Retail, high street<br>A2 Finance & Professional Services<br>A3 Restaurants & Cafes | Density (sqm)<br><br>15-20 (average 17.5)<br>16<br>15-20 (average 17.5) | GEA = 675sqm<br>NIA =675sqm x 0.9<br>= 607.5sqm |

| | | |
|---|---|---|
| | E Overall average = 17 | 607.5/17 = **36 Jobs** |

4.5.22 These new jobs could offer employment opportunities for a wide range of skill levels, including management, clerical/administrative and sales staff, as well as skilled and semi-skilled jobs. The proposals could create a mix of full-time, permanent jobs as well as flexible part-time opportunities on Site. Based on experience and for the purpose of this ES it is assumed that 80% of all jobs will be full time while 20% will be part time. On this basis, in the order of 29 jobs will be full time and 7 will be part time. Therefore, there is an anticipated moderate beneficial effect.

*Indirect Employment*

4.5.23 Indirect jobs will be supported by the increased expenditure on goods, supplies and services provided in the surrounding area and will support induced employment in local shops, services, and other firms.

4.5.24 It is expected that the local centre would not reduce current expenditure in shops in Chippenham or Corsham and will more likely serve just the residents of the Proposed Development and nearby houses. Residents will also likely visit the proposed local centre at Rowden Park (10-minute walk away) which will include a food store and other retail units.

***Social and community infrastructure***

*Primary Schools*

4.5.25 Using Wiltshire Council's calculation of pupil product figures, of 0.31 primary aged pupils per dwelling (31 per 100 dwellings)[23], the pupil yield arising from the Proposed Development of 400 dwellings would comprise 124 primary school pupils.

4.5.26 The School Places Strategy has confirmed that a full 2FE primary school (240 pupil places) will be brought forward at Rowden Park and the school will be delivered by Wiltshire Council. The s106 for the Rowden Park development does not secure a trigger for the delivery / opening of the school, but the transfer of school land must take place at 150 occupations.

4.5.27 The new school at Rowden Park combined with the current 426 surplus places within 2 miles (3.22 km) of the application Site and that school demand forecasts also show capacity consistently above the demand, therefore there is sufficient capacity for the possible 124 primary pupils arising from the Proposed Development. The 124 figure is also a worst-case scenario figure, which assumes that 124 new places will be needed. In

[23] Wiltshire Council: 'Developers Contributions – Education Infrastructure Education, Schools and Early Years Places Policy Approved 2014 (Revision 2017).

reality some children that occupy the development will already be enrolled at nearby schools. Therefore, the magnitude of this impact is assessed as minor adverse.

*Secondary Schools*

4.5.28 Using Wiltshire Council's calculation of pupil product figures of 0.22 secondary aged pupils per dwelling (22 per 100 dwellings)[23], the pupil yield arising from the Proposed Development of 400 dwellings would comprise 88 secondary pupils.

4.5.29 There is currently enough capacity for the 88 pupils as there are 404 spare places in the two secondary schools which are within 2 miles (3.22 km) of the Site. However, the school places demand forecasts for secondary schools in Chippenham show that the demand for school places overtakes capacity by 2027/2028. The nearest existing secondary school to the site is the Abbeyfield School and as mentioned previously in 4.4.59 the planning application (ref. PL/2023/01340) for expansion has just been approved. Therefore, the magnitude of this impact is assessed as minor adverse.

*GP Provision*

4.5.30 It is anticipated that most residents of the Proposed Development would register with one of the five local GPs which are within 3 miles (4.83 km) of the Site. Therefore, the Proposed Development could create demand for up to 928 additional patient places on GP lists in the surrounding area.

4.5.31 There is currently a total of four surgeries within 3 miles (4.83 km) of the Site, with a total of 48 GPs, catering for a total list size of 53,993, which equates to roughly 1,125 patients per GP. 928 patients split between the 48 GPs would equate to roughly 19 extra patients per GP, a 2% increase. However, this figure is likely to be lower as their will be people who will move to the development who are already registered with one of those GPs. It is therefore concluded that the impact will be negligible magnitude.

*Open Space Provision*

4.5.32 The Proposed Development is well situated to sports facilities and play areas, as well as access to the new riverside park that will be delivered as a feature of the Rowden Park development.

4.5.33 The Proposed Development makes provision for areas of open space in accordance with the requirements of the adopted Wiltshire Open Space Standards. The provision is set out below.

**Table 4.19 Open space requirement and provision**

| Open Space Type | Quantity standard (ha/1000) for New Provision | Access standard | Requirement based on the increased population (ha) | Proposed (ha) |
|---|---|---|---|---|
| Allotments | 0.25 | 480m or 10 mins walk | 0.23 | 0.23 |
| Amenity Green Space | 0.9 | 480m or 10 mins walk | 0.83 | 1.55 |
| Parks, Sport and recreation | 1.1 | 600m or 12-13 mins walk | 1.02 | 5.35 |
| Play space (children) | 0.25 | 480m or 10 mins walk | 0.23 | 0.23 |
| Play space (youth) | 0.30 | 600m or 12-13 mins walk | 0.28 | 0.28 |
| Natural Green Space | 1.8 (including SUDs) | 720m or 15 mins walk | 1.67 | 10.65 |

4.5.34 Table 4.19 shows that the Proposed Development would provide significantly more natural green space, than required by local open space standards. Provision of play areas for children and young people will be located within proposed residential areas and will meet the required standards, as will provision of allotments. The magnitude of this impact is deemed to be moderate beneficial.

## 4.6 MITIGATION MEASURES

### Construction stage

***Pollution and environmental factors***

4.6.1 All construction phase activities would be carried out in accordance with the mitigation measures and practices in the Construction Environmental Management Plan.

### Post-completion stage

4.6.2 Suitably worded conditions on any planning permission will be agreed, as well as delivery thresholds that will form part of the Section 106 legal agreement to ensure that necessary infrastructure and facilities including education contributions will be delivered at an appropriate time within the delivery of the Proposed Development in order to avoid increasing pressure on existing facilities in the surrounding area.

## 4.7 RESIDUAL EFFECTS

4.7.1 The residual effects of the Proposed Development will either be beneficial or negligible, except for the minor adverse potential education effects. The residual effects during construction and following completion of the Proposed Development would remain comparable to those described within the assessment of potential effects. The potential minor adverse education effects will be mitigated through s106 contributions.

4.7.2 In summary the overall socio-economic effects of the Proposed Development are considered to be beneficial, as it will:

- provide a wide choice of housing of a broad range of types and tenures;
- provide short and long-term employment opportunities;
- increase expenditure in new and existing businesses and shops;
- increase informal green space provision;
- maintain public safety.

4.7.3 Table 4.20 summarises the residual socio-economic effects predicted to arise from the proposed development, taking into account the mitigation measures proposed above.

**Table 4.20 Summary of effects**

| Potential effect | Significance (pre-mitigation) | Mitigation measure | Significance of residual effect |
|---|---|---|---|
| **Construction stage** | | | |
| Job creation and expenditure<br>Construction of £58.4m, supporting around 120 construction-based FTEs over a 4-to-5-year period. | **Temporary Moderate beneficial** | None required | **Moderate beneficial** |
| **Post-completion stage** | | | |
| Increase in Population – an additional 926 residents, helping to mitigate an ageing population trend. | **Moderate beneficial** | Associated provision of infrastructure and/or financial contributions, insofar as this is necessary, in a timely manner. | **Moderate beneficial** |
| Housing Market– improved affordability through the provision of 400 new market and affordable homes. | **Moderate beneficial** | None required | **Moderate beneficial** |
| Economy and Job creation around 36 new jobs to further enhance the local economy. | **Minor beneficial** | None required | **Minor beneficial** |

| | | | | |
|---|---|---|---|---|
| Social and community infrastructure | Primary Education – increased demand for | **Minor Adverse** | Potential for making financial contributions | **Negligible** |
| | Secondary Education | **Minor Adverse** | Potential for making financial contributions | **Negligible** |
| | GPs – increased demand for existing GPs | **Negligible** | None required | **Negligible** |
| Open space and physical activity – large provision of a variety of open space provisions. | | **Moderate beneficial** | None required | **Moderate beneficial** |

## 4.8 CUMULATIVE EFFECTS

4.8.1 The assessment has considered the following nearby development proposals:

**Table 4.21: Summary of Nearby Development Proposals**

| Site Name | Planning Permission | No. of dwellings | Non-resi land uses | Employment (ha) |
|---|---|---|---|---|
| Birds Marsh | N/12/00560/OUT | 750 | A1, B1, B2, B8 | 2.7 |
| Rawlings Green (Policy CH2 in Chippenham Site Allocation Plan 2027) | 15/12351/OUT | 650 | B1, E | 5 |
| Rowden Park (Policy CH1 in Chippenham Site Allocation Plan 2027) | 14/12118/OUT | 1,000 | A1-A5, D1, D2 | - |
| Hunters Moon | 16/12493/FUL | 450 | B1, B2, B8 | 2.41 |
| Langley Park | 16/04269/FUL | 0 | A1 | 0.0174 |
| Langley Park – Additional | 16/03515/OUT | 400 | A1, A3, C1, C3 | 1.3656 |
| Land at Hungerdown Lane | 17/09445/FUL | 35 | A1 | 0.2206 (food store) |
| Land at Showell Farm | N/13/00308/OUT | 0 | B1 (a), (b) & (c), B2, B8 | 5 |
| Land at Patterdown Road | 16/09277/OUT | 72 | - | - |
| Land at Showell Nurseries Showell | 17/08554/OUT | 120 | - | - |
| Land off the B4069 East of Barrow Farm, Langley Burrell | PL/2022/04681 | 230 | E, Sui Generis | 0.0675 |

*Population, Housing*

4.8.2 The above proposals including the Proposed Development would result in the provision of 4,107 new homes and potentially an additional 9,528 residents in total. Therefore, the cumulative effect to population is moderate beneficial. The 4,107 new homes also have a moderate beneficial cumulative effect as the new market and affordable homes will help with the affordability of the area.

*Economy*

4.8.3 The cumulative effect of the new developments will have a moderate beneficial effect on the local economy. As construction jobs will be created, and the creation of new employment land on top of the proposed development's local centre will also create hundreds of new jobs.

*Primary Schools*

4.8.4 The potential 9,528 residents arising from all the developments including the proposed development, will generate 2,953 new primary pupils. The Birds Marsh development includes the provision for a 1FE primary school, Rawlings Green includes a 2FE primary school, and Rowden Park includes a 2FE primary school. 1FE has 210 places, therefore the three developments will create 1,050 new school places (using 2FE for Rowden Park). This leaves 1,903 pupils to go in the existing school surplus.

4.8.5 Therefore, for the next few years there are sufficient places to cater for projected demand. The School Places Strategy 2023 – 2027 sets out a plan for the provision of new primary schools. So, the cumulative effect can be considered negligible.

*Secondary Schools*

4.8.6 The potential 9,528 from all the developments including the proposed development, will generate 2,096 new secondary pupils. None of the developments include a secondary school. The Abbeyfield School expansion has already been approved and the Council are considering future provision of secondary schools within the School Places Strategy 2023 – 2027. So, the cumulative effect can be considered negligible.

*GPs*

4.8.7 The potential 9,528 residents arising from all the developments would increase the demand on the existing GPs, however as the developments cover a wide area this demand will be spread out. It is also likely that the 9,528-population arising from the developments are already registered with local GPs. Therefore, there is a negligible effect.

*Open Space*

4.8.8 The cumulative developments include the provision of a variety of open space types. The Proposed Development provides for open space and play facilities and will be complemented by other open space facilities provided by other developments. As such, the cumulative development proposals will lead to an increased formal and informal open space provision and the cumulative effects on open space will be moderate beneficial.

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**APPENDICES**

Appendix 5.1 Study Area and Highway Links
Appendix 5.2 Transport Assessment (TA)
Appendix 5.3 Framework Travel Plan

## 5.1 INTRODUCTION

5.1.1 This chapter of the ES has been produced by Amy Waites (HNC C.Eng, MCIHT) of Ridge to assess the Proposed Development in relation to the likely significant effects it would have upon the environment in respect of Transport and Access.

5.1.2 In accordance with the Environmental Impact Assessment (EIA) Regulations (2017) this ES chapter have been carried out by competent experts, comprising Members of the Chartered Institute of Highways and Transportation, and is in accordance with guidance of the professional institution and Guidelines on the Environmental Assessment of Traffic and Movements published by The Institute of Environmental Management and Assessment (IEMA) in 2023.

5.1.3 Ridge is a multi-disciplinary engineering consultancy with a team of specialist transport planners with over 75 years' experienced and is frequently called upon to provide expert evidence at Public and Local Plan Inquiries. Ridge have experience and expertise of the EIA process.

5.1.4 The assessment in this chapter is supported by the following appendices:

- Appendix 5.1 – Study Area and Highway Links
- Appendix 5.2 - Transport Assessment (TA)
- Appendix 5.3 - Framework Travel Plan

## 5.2 RELEVANT POLICY

### National Policy

#### *National Planning Policy Framework*

5.2.1 The National Planning Policy Framework (NPPF) indicates that development will have to promote sustainable transport and be sustainable in nature.

5.2.2 In relation to 'Considering Development Proposals', paragraph 115 requires determining authorities to ensure that "…appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location; safe and suitable access to the site can be achieved for all users; the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree through a vision-led approach".

5.2.3 Paragraph 116 states "Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network, following mitigation, would be severe, taking into account all reasonable future scenarios". The assessment of whether the residual cumulative impacts of development are 'severe' should be based on an objective, technical assessment of the proposals in highways and transport terms.

5.2.4 Paragraph 117 states that development should "…give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second - so far as possible - to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use; address the needs of people with disabilities and reduced mobility in relation to all modes of transport; create places that are safe, secure and attractive - which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards; allow for the efficient delivery of goods, and access by service and emergency vehicles; and be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations".

5.2.5 Paragraph 118 states that all development expected to generate significant amounts of movements should be supported by a Travel Plan (TP) and the planning application should be supported by a Transport Assessment (TA) or Transport Statement (TS). The planning application is supported by a TA and Framework Travel Plan.

***Planning Practice Guidance***

5.2.6 Published in 2014, the Government's Planning Practice Guidance (PPG) 'Travel Plans, Transport Assessments and Statements in Decision-Taking' outlines the fundamental principles that form the basis of TPs, TAs, and TSs. The guidance states that producing these documents provides a means to assess, and mitigate, the transport impacts of development; in this way, sustainable development can be achieved.

5.2.7 The guidance sets out that whilst TPs promote the implementation of sustainable travel into the planning process, TAs and TSs assess the potential transport implications of developments and significantly whether the residual transport impacts of a proposed development are "severe".

**Local Policy**

***Wiltshire Core Strategy (2015)***

5.2.8 Wiltshire Core Strategy (WCS) was adopted in 2015 and sets out the overarching planning framework for Wiltshire through to 2026. It incorporates saved policies from former District Local Plans, that were not replaced by the WCS.

5.2.9 Policies in relation to transport include Core Policy 61 'Transport and Development', and Core Policy 62 'Development Impacts on the Transport Networks'.

5.2.10 Core Policy 61 states:

*"New development should be located and designed to help reduce the need to travel, particularly by private car, and to encourage the use of sustainable transport alternatives."*

5.2.11 Core Policy 61 goes on to state that Transport Assessments must demonstrate that:

- consideration has been given to the needs of all transport users;
- the proposal is capable of being served by safe access to the highway network; and
- fit for purpose and safe loading/unloading facilities can be provided where these are required as part of the normal functioning of the development.

5.2.12 Core Policy 61 concludes by stating:

*"Where appropriate, contributions will be sought towards sustainable transport improvements and travel plans will be required to encourage the use of sustainable transport alternatives and more sustainable freight movements."*

5.2.13 Core Policy 62 states:

*"Developments should provide appropriate mitigating measures to offset any adverse impacts on the transport network at both the construction and operational stages."*

5.2.14 Core Policy 63 covers Transport Strategies for principal settlements including Chippenham. Core Policy 63 states:

*"Packages of integrated transport measures will be identified in Chippenham, Trowbridge and Salisbury to help facilitate sustainable development growth. The packages will seek to achieve a major shift to sustainable transport by helping to reduce reliance on the private car and by improving sustainable transport alternatives."*

***Chippenham Site Allocations Plan***

5.2.15 The Chippenham Site Allocations Plan was adopted in May 2017 to identify strategic sites to deliver growth (4,510 homes by 2026) in the Chippenham area, this includes the consented development at North Chippenham, and allocations at Rawlings Green and South West Chippenham.

5.2.16 Objective 3: improving connectivity and reducing traffic impacts, states:

*"The scale and rate of growth that Chippenham will accommodate over the plan period will increase pressures on the road network. The A350 plays an important role both in supporting the town's economy but also a much wider area. Improvements are planned to improve how the A350 works and development at Chippenham must not undo these benefits. Congested road corridors and junctions within the town impede and can deter travel to the town's businesses, services and facilities. In particular, congestion in and around the town centre, as recognised by the Chippenham Vision, needs to be addressed as a part of planning for the town's growth…"*

5.2.17 Objective 4: improving access to sustainable transport, states:

*"…Development should seek to promote easier access to key services by non motorised transport, improve access to public transport, offer efficient access to the primary road network, particularly by HGV traffic, and avoid unnecessary traffic in the town centre..."*

5.2.18 The majority of the Southwest Chippenham allocation has been granted planning permission, extending the Chippenham built out boundary south to the northern boundary of The Site and offering employment, primary education and everyday services and facilities within a distance that enables journeys to be undertaken using active modes of transport.

***Wiltshire Local Transport Plan (2011-2026)***

5.2.19 The Third Wiltshire Local Transport Plan covers the period from 2011 to 2026, and sets out the Council's objectives, implementation plans and targets for transport in Wiltshire

via a long-term transport strategy, a shorter term implementation plan and a number of supporting strategies.

5.2.20 The overall vision of LTP3 is:

*"To develop a transport system which helps support economic growth across Wiltshire's communities, giving choice and opportunity for people to safely access essential services. Transport solutions will be sensitive to the built and natural environment, with a particular emphasis on the need to reduce carbon emissions."*

5.2.21 A number of local strategic transport objectives have been developed in the LTP3; these include:

- SO2 - To provide, support and promote a choice of sustainable transport alternatives;
- SO5 - To improve sustainable access to a full range of opportunities particularly for those people without a car;
- SO11 - To reduce the level of air pollutant and climate change emissions from transport;
- SO12 - To support planned growth in Wiltshire and ensure that new developments adequately provide for their sustainable transport requirements and mitigate their traffic impacts;
- SO13 - To reduce the need to travel, particularly by private car;
- SO14 - To promote travel modes that are beneficial to health; and
- SO17 - To improve access to Wiltshire's countryside and provide a more useable public rights of way network.

5.2.22 Car and cycle parking standards for residential developments are set out in the 'Car Parking Strategy' and 'Cycling Strategy' respectively.

**Guidance and Best Practice**

***Guidelines on the Environmental Assessment of Road Traffic, 1993***

5.2.23 To determine the potential environmental effects of the car and non-car trips associated with the Proposed Development, the applied methodologies were informed by the Guidelines on the Environmental Assessment of Road Traffic, produced by the Institute of Environmental Assessment (IEA (now Institute of Environmental Management and Assessment) (IEMA) (subsequently referred to as the 'IEMA guidelines'), which provide guidance on a range of potential traffic related effects arising from new development.

5.2.24 Where no specific method is defined within the IEMA guidelines, alternative means of assessment was undertaken based on published transportation assessment guidance and best practice. Each of these, as appropriate to this assessment, are considered in turn. In the absence of definitive guidance professional judgement was applied.

***Design Manual for Roads and Bridges***

5.2.25 This suite of documents sets out the current standards, advice notes and other documents relating to the design, assessment and operation of trunk roads, including motorways.

***Department for Transport (DfT)Circular 02/2013 - The Strategic Road Network and the Delivery of Sustainable Development***

5.2.26 This circular sets out how National Highways (NH) engage with the planning system and details on how NH will fulfil its remit to be a delivery partner for sustainable economic growth while maintaining, managing and operating a safe and efficient road network.

***Manual for Street***

5.2.27 The Government's Manual for Streets (MfS) document, published in 2007, provides guidance for the modification of existing residential streets and the design, planning and approval of new residential streets.

5.2.28 The document is based on the premise that there is "a need to bring about a transformation in the quality of streets", reflecting the need to "place a high priority on meeting the needs of pedestrians, cyclists and public transport users, so that growth in these modes of travel is encouraged".

5.2.29 Manual for Streets 2 (MfS2) was published in September 2010. It is a companion document to MfS and explains how the principles of MfS can be applied more widely. This widens the scope of the MfS advice away from residential streets to roads whose function may currently be primarily for traffic movement rather than pedestrian activity.

***Local Transport Note (LTN) 1/20 Cycle Infrastructure Design***

5.2.30 This guidance document sets out best practice for the design of high-quality, safe cycle infrastructure.

5.2.31 Healthy Streets is a human-centred framework embedding public health in transport, public realm and planning. The ten Heathy Streets indicators focus on the human experience needed on all streets.

## 5.3 ASSESSMENT METHODOLOGY

### Scope

#### *Geographical Scope*

5.3.1 The Study Area is shown in the Traffic Flow Diagram in **Appendix 5.1**.

#### *Temporal Scope*

5.3.2 The future year for the purpose of the assessment of the operational impact has been assumed to be 2031 corresponding to five years post planning application submission. The assessment for the construction impact has used an annual buildout of circa 100 units.

5.3.3 The assessment considers the environmental impact of any change in traffic levels over 24 hours using annual average daily traffic (AADT) flows derived from the Wiltshire Transport Model (WTM) 2024 'Core' scenario and factored using appropriate 24-hour flows at nearby Department for Transport (DfT) survey sites.

### Data Sources

5.3.4 The traffic assessment has utilised data extracted from the Wiltshire Transport Model (WTM) 2024 'Core' scenario.

5.3.5 The latest TEMPro database 8.0 has been interrogated to uplift the obtained WTM 2024 traffic flows to project Year 2026 baseline condition and Future Year 2031 background traffic conditions.

5.3.6 It is noted that the WTM 2024 Core Scenario include a number of committed developments in the local area that were identified during the EIA screening. Two committed developments including Land at Showell Nurseires and East of Barrow Farm are also considered as part of the Year 2031 baseline forecast.

5.3.7 The TRICS database has been interrogated to provide development traffic generation.

5.3.8 The accessibility by sustainable modes of transport of the Site to local services and facilities has been informed through a desktop study.

### Assessment Approach

5.3.9 To determine the potential environmental effects of the car and non-car trips associated with the Proposed Development, the applied methodologies were informed by the IEMA guidelines.

**Significance Criteria**

5.3.10 The significance of potential traffic implications has been assessed adopting the principles developed from best practice. The effect of significance is derived from measuring the magnitude of change and the sensitivity of the receptors affected. Categories of sensitivity and magnitude are defined and assessed to determine the significance of the effect.

**Magnitude and Sensitivity**

5.3.11 In line with the IEMA guidelines, the following key traffic related environmental effects are considered relevant in this assessment:

- Severance;
- Driver Delay;
- Pedestrian Delay;
- Pedestrian/Cycle Amenity;
- Accidents and Safety; and
- Fear and Intimidation.

5.3.12 The criteria used to determine the magnitude of each of the potentially significant traffic-related environmental effects described above is based on the advice provided within the IEMA guidelines, summarised below:

***Severance***

5.3.13 Severance is the perceived division that can occur within a community when it becomes separated by a major traffic artery. The IEMA guidelines point to thresholds outlined in the Manual of Environmental Appraisal (MEA) that state that a 30% change in traffic flow is likely to produce a slight change in severance, with moderate and substantial changes occurring at 60% and 90% respectively. However, it is noted that IEMA guidelines states that these figures "have been derived from studies of major changes in traffic flow and therefore should be used cautiously in any environmental assessment. The assessment of severance should pay full regard to specific local conditions, e.g. whether crossing facilities are provided or not, traffic signal settings, etc".

5.3.14 In addition, IEMA guidelines also states that the "measurement and prediction of severance is extremely difficult. The correlation between the extent of severance and the physical barrier of a road is not clear and there are no predicative formulae which give simple relationships between traffic factors and levels of severance". Thus, the assessment of severance has been undertaken based on professional judgement taking into account quantitative factors (i.e. increase in traffic flow) and qualitative factors (surrounding pedestrian / cyclist and traffic environment).

***Driver Delay***

5.3.15 Delay to drivers generally occur at junctions where opposing vehicle manoeuvres are undertaken with vehicles having to give or receive priority depending upon the type of junction arrangement. The IEMA guidelines indicate that the delays are only likely to be significant when the existing highway network is already running at or close to its theoretical design capacity. Although evidently even in a congested area a low level of traffic can still have large change in terms of magnitude.

5.3.16 The ES considers the operation of the highway network across the agreed study area. Driver delay is considered through the analysis of impact and subsequent junction capacity as detailed in the TA. Appendix 5.2 provides further detail on junction capacity.

***Pedestrian / Cyclist Delay***

5.3.17 The IEMA guidelines note that changes in the volume, composition and or speed of traffic may affect the ability of people to cross roads. Typically, increases in traffic levels result in increased pedestrian and cyclist delay. The guidelines do not set any thresholds, recommending instead that assessors use their judgement to determine the significance of the impact.

5.3.18 A study published by the Transport Research Laboratory was referred to in the IEMA guidelines as providing a useful approximation for determining pedestrian delay. The TRL research concluded that mean pedestrian delay was found to be eight seconds at flows of 1,000 vehicles per hour and below 20 seconds at 2,000 vehicles per hour for various types of crossing condition. This research was reproduced in DMRB Volume 11 sets out predictive mean pedestrian delay based on empirical data taking into account traffic flow and a range of parameters such as crossing width and vehicle speeds.

5.3.19 A two-way flow of 1,400 vehicles per hour was adopted as a lower threshold for assessment (equating to a mean 10 second delay for a link with no pedestrian facilities) in the TRL report. Below this flow pedestrian delay is unlikely to be a significant factor. This is deemed a robust starting point for narrowing down the modelled routes within the study area and ensuring the routes selected exceeded the suggested threshold of analysis in DMRB Volume 11. It should be noted that for controlled forms of pedestrian crossing the pedestrian delays are less.

5.3.20 There is no guidance on cyclist delay and therefore, the Transport Research Laboratory research has been used along with professional judgement.

***Pedestrian / Cycling Amenity***

5.3.21 Where the increase in transport trips associated with the Proposed Development could have a change to the perceived amenity through increased noise, pollution or congestion that may detract from the existing environment. It is noted that the IEMA guidelines suggest that a tentative threshold for judging the significance of changes in pedestrian amenity would be where traffic flow (or its lorry component) is halved or doubled.

However, it is evident that the change in respect to pedestrian amenity can be subjective and therefore some professional judgement is required to assess this aspect.

5.3.22 There is no guidance on changes to cyclist amenity and therefore, the IEMA guidelines tentative threshold for pedestrian amenity has been used along with professional judgement.

***Accident and Safety***

5.3.23 Where a development is expected to change the current composition, volume and speed of the traffic as well as pedestrian/ cycling activity along the adjoining highway network, a Personal Injury Accident Study should be carried out to assess the potential significance of accident risks.

5.3.24 The IEMA guidelines do not include any definition in relation to accidents and safety, suggesting that professional judgement will be needed to assess the implications of local circumstance, or factors which may increase or decrease the risk of accidents.

***Fear and intimidation***

5.3.25 The scale of fear and intimidation experienced by pedestrians/cyclists is dependent on the volume of traffic, its HGV composition, its proximity to people or the lack of protection caused by such factors as narrow pavement widths as well as factors such as the speed and size of vehicles.

5.3.26 There is no commonly agreed threshold by which to determine the significance of this effect. IEMA guidelines note previous work that has been undertaken which puts forward thresholds that define the degree of hazard to pedestrians by average traffic flow, however, these thresholds do not take account of the nearby environment in terms of footway provision and pedestrian facilities. In addition, the thresholds only assess Fear and Intimation based on total flows and therefore do not provide an indication of changes to Fear and Intimidation. Thus, as with severance, the assessment of fear and intimidation has been undertaken based on professional judgement taking into account quantitative factors (i.e. increase in traffic flow) and qualitative factors (surrounding pedestrian and traffic environment). This is in accordance with IEMA guidelines which states that there will be "need for judgement to be exercised in determining the degree of fear and intimidation".

5.3.27 Similarly, there is no guidance provided to assess the significance of this effect on cyclists and therefore, the assessment of fear and intimidation has been undertaken on professional judgement.

***Receptors and Receptor Sensitivity***

5.3.28 IEMA guidelines recommends that particular groups, or locations, which may be sensitive to changes in traffic conditions are identified. The following groups and special interests should therefore be considered:

- People at home;
- People in work places;
- Sensitive groups e.g. children, elderly and disabled;
- Sensitive locations e.g. hospitals, schools, churches;
- People walking;
- People cycling;
- Open spaces, recreational sites, shopping areas;
- Sites of ecological/nature conservation value; and
- Sites of tourist/visitor attraction.

5.3.29 Sensitive receptors, such as hospitals and schools, define sensitive areas. The sensitivity of receptors (in proximity to highway links) has been graded into High, Medium and Low categories in **Table 5.1** below.

**Table 5.1 Magnitude of Impacts**

| **Sensitivity** | **Receptor** |
|---|---|
| High | Educational Facilities;<br>Retirement / care homes;<br>Roads without footways; and<br>Accident clusters |
| Medium | Hospitals, surgeries etc.;<br>Parks and recreation areas;<br>Shopping areas; and<br>Roads with narrow footways. |
| Low | Open space;<br>Tourist/visitor attractions;<br>Historical Buildings; and<br>Churches<br>Residential areas with adequate footway provision |

**Significance of Effects**

5.3.30 In accordance with the IEMA guidelines, the following rules have been used as a screening process to define the scale and extent of this assessment:

- Rule 1 - Include road links where traffic flows would increase by more than 30% (or the number of HGVs would increase by more than 30%); and
- Rule 2 - Include any other specifically sensitive areas where traffic flows would increase by 10% or more.

5.3.31 Where the predicted increase in traffic flows is lower than the above thresholds, the IEMA guidelines suggest the significance of the effects can be stated to be negligible and further detailed assessments are not warranted.

5.3.32 The calculation of significance has been undertaken by cross correlating the magnitude of change with the sensitivity of nearby receptors. This assessment has taken into account the geographical location of receptors in relation to the assessed highway network.

**Assessment of Significance**

5.3.33 Details of the subsequent calculation of the significance of an effect is shown in **Table 5.2** below. In EIA terms a moderate to major transport impact is generally considered to be significant, whereas a minor to negligible impact is generally considered to be insignificant.

**Table 5.2 Significance of Effects**

| **Magnitude** | **Sensitivity** | | | |
|---|---|---|---|---|
| | High | Medium | Low | Negligible |
| Large | Major | Major | Moderate | Minor |
| Moderate | Major | Moderate | Minor | Negligible |
| Small | Moderate | Minor | Minor | Negligible |
| Negligible | Minor | Negligible | Negligible | Negligible |

**Uncertainties and Limitations**

5.3.34 Traffic generation estimates for the construction of the Proposed Development are based on a number of assumptions on matters such as material quantities, number of workers, indicative construction programme etc. However, worst case assumptions have been applied to determine the likely peak period and highest traffic generation which have been used to determine the associated effects.

5.3.35 The principal assumptions which form the basis of the assessment are those used to derive the predicted trip generation of the Proposed Development (i.e. numbers of trips by land use type and the modes of travel). Full details of the trip generation, distribution and assignment are set out within the TA attached at Appendix 5.2.

5.3.36 The Parameter Plan identifies the access points for the Proposed Development together with the general arrangement drawings for the proposed access(es) which are set out in the TA attached at Appendix 5.2.

5.3.37 The main limitation in this assessment is the precision of the traffic forecast as all traffic data for the baseline condition is collected from the WTM which is subject to a significant number of assumptions in terms of traffic growth, network coding and model parameters.

The traffic volume along the network is the average representation derived from random seed runs in line with best practice and are subject to an accuracy of ±15%.

5.3.38 The WTM include assumptions relating to the build out and delivery of nearby committed developments and proposed highway improvement schemes. It should be noted that these committed schemes have yet to be constructed and the delivery of these proposals are not within the applicant's control. Furthermore, there may be subsequent applications to amend aspects of these proposals once further detail is known in relation to the Site or in relation to the prevailing market conditions. On this basis the assessment of these schemes, including the cumulative effects, can only be based on the current understanding of the proposals being brought forward.

## 5.4 BASELINE CONDITIONS

### The Current Baseline

#### *Site Location*

5.4.1 The Site occupies an area of approximately 30 hectares across a number of agricultural fields and is located on the southern edge of Chippenham adjacent to areas of land that have received planning permission for residential and employment uses. These include Rowden Park, Land at Hunters Moon, Land at Showell Farm, Land at Showell Nurseries) and Land at Patterdown Road a number of which are now being implemented and occupied. The site is located east of Patterdown Road (B4528) and northeast of the Lackham Roundabout.

#### *Access to Local Services and Facilities*

5.4.2 Details relating to accessibility is provided within the TA included at **Appendix 5.2**.

5.4.3 The analysis indicates that the Site is located within a reasonable walking distance (2km) of numerous existing and proposed services and facilities.

5.4.4 Additionally, Chippenham railway station and Chippenham Town Centre lie within a reasonable cycling (5km) distance of the Site.

#### *Walking*

5.4.5 The area within and surrounding the Site is served by Public Rights of Way (PRoWs) and foot/cycleways which will provide routes through the committed development sites into the existing built up area of Chippenham with onward links to existing services, facilities and transport links via existing continuous footways.

5.4.6 In addition, PRoWs to the south enable access to Lackham College and the wider PRoW network providing access to Lacock village and rural Wiltshire for leisure walking.

5.4.7 The proposed local centre and primary school within the committed Rowden Park development, and the proposed employment opportunities to be created through the commercial business parks at Showell Farm are within a reasonable walking distance of the Site.

5.4.8 The pedestrian network is detailed within the TA included at **Appendix 5.2**.

#### *Cycling*

5.4.9 The cycleways that will be provided within the Rowden Park committed development provide a route to the north connecting into the existing extensive cycle network that provides connections across Chippenham to a wide range of services and facilities including the town centre and railway station.

***Bus***

5.4.10 The site is not currently located in close proximity to a regular bus service. The X34, which provides a half-hourly service between Chippenham and Frome via Trowbridge, can be accessed via the 'Wiltshire College' bus stops on the A350 and the 'B&Q' and the 'Rowden Arms' bus stops on Bath Road.

5.4.11 The bus stops on Bath Road also provide access to the 44D (Chippenham town centre), 636 (Corsham, Colerne, Marshfield), X31 (Corsham, Rudloe, Box, Bath) and X34 (Frome, Trowbridge, Melksham) services.

5.4.12 The 'Showell Farm' bus stops on the B4528 'Patterdown Road' provide access to the X37 service which provides access to and from Wiltshire College via a single morning and evening service.

5.4.13 The Rowden Park and Showell Nurseries permitted developments are obligated to contribute a sum of £428 per dwelling (index linked) towards public transport service enhancements. This sum of money was intended to extend the existing Stagecoach Service 55 which routes from Chippenham railway station to Swindon bus station via Calne, Lyneham and Royal Wootton Bassett, to the Rowden Park site where the bus would enter and exit the site via an internal circular bus route.

***Rail***

5.4.14 Chippenham railway station lies approximately 3.5km northeast of the Site and provides services to Bath, Bristol, Cardiff, Swindon, Reading and London and locally to Melksham, Trowbridge and Westbury. The station is within a reasonable cycling distance of the Site and provides secure cycle parking.

5.4.15 Further details in respect of rail facilities and services can be found within the TA attached at **Appendix 5.2**.

***Highway Network***

5.4.16 The Site is situated to the south of Chippenham and has good road connections with urban distributor and arterial roads in the surrounding area. The Site is bound by Patterdown Road (B4528) to the west, which connects to Lackham Roundabout providing direct access to the A350 which form a primary route from the M4 to the south coast. A description of the local highway network is provided within the TA attached at **Appendix 5.2**.

5.4.17 Over recent years three major capital schemes (Phases 1, 2 and 3) have been brought forward to improve capacity and safety on the A350 around Chippenham, largely funded through successful Department for Transport (DfT) and/or Local Enterprise Partnerships (LEP) funding bids.

5.4.18 In 2018, partial traffic signalisation at the M4 Junction 17 motorway off-slips was introduced.

***Personal Injury Collision Analysis***

5.4.19 To assess the existing safety level of the nearby highway network and thus identify any potential collision patterns, a review of the latest available 5-year personal injury records between 01/01/2020 and 31/12/2024 was undertaken following advice from Wiltshire Council to utilise the Crashmap website.

5.4.20 Personal Injury Collision (PIC) data was requested from WC for the roads surrounding the Site for the latest 5-year period available.

5.4.21 Over the 5-year period, there were 11 collisions including 7 slight injuries, 3 serious incidents and 1 fatality reported along the road network in the vicinity of the development site. Out of these, 3 slight and 3 serious incidents were reported at the A350/ West Cepen Way Roundabout which account for an average 1 incident per year.

5.4.22 Detailed analysis of the incidents is undertaken within the TA (Appendix 5.2) and indicates that given the low number of collisions and their dispersed nature, it is reasonable to conclude that the highway network surrounding the proposed development site does not include any geometric features that can be specifically linked to recorded collisions.

***Baseline Traffic Condition***

5.4.23 The WTM 2024 'Core' scenario has been used to provide the baseline traffic flows.

5.4.24 The model takes into account the relevant highway improvements as well as the strategic allocations and committed developments that are programmed for completion up to 2024.

5.4.25 The committed developments within Chippenham that are programmed for completion by 2024 and therefore included in the WTM are:

- Langley Park Aldi Store;
- Langley Park – 70% of 400 dwellings + hotel;
- Land southeast of M4 J17 – 9.3ha B8;
- Land at Hungerdown Lane – 35 dwellings;
- Land at Showell Farm – 5ha B1, B2, B8;
- Land at Patterdown Road – 72 dwellings;
- Rowden Park – 70% of 1,000 dwellings;
- Hunters Moon – 70% of 2.3ha B1, B2, B8 + 450 dwellings;
- Rawlings Green – 70% of 250 dwellings;
- Birds Marsh – 70% of 2.7ha A1, B1, B2, B8 + 750 dwellings; and
- East of Farrells Field – 70% of 30 dwellings.

5.4.26 The forecast peak hour traffic for Year 2024 baseline has been collected from the WTM and factored using appropriate data at nearby DfT traffic survey sites to project AADT and AAWT flow level. These were then uplifted using TEMPRO growth factors to present a base year 2026 traffic condition.

5.4.27 Details of forecast AADT flows for the 2024 Core Scenario and 2026 baseline conditions are outlined in Table 5.3 below.

5.4.28 **Appendix 5.1** shows the geographical position of the highway links.

**Table 5.3: 2024 Baseline AADT Traffic Flows**

| Ref | Location | 2024 AADT | 2026 AADT |
|---|---|---|---|
| Link 1 | A429 | 16494 | 16762 |
| Link 2 | A350 South | 37453 | 38060 |
| Link 3 | M4 WB Offslip | 8140 | 8272 |
| Link 4 | M4 EB Offslip | 8264 | 8398 |
| Link 5 | B4122 | 7100 | 7215 |
| Link 6 | A350 North | 41518 | 42191 |
| Link 7 | Unnamed Rd | 4160 | 4227 |
| Link 8 | Malmesbury Rd | 14349 | 14581 |
| Link 9 | A350 South | 29973 | 30459 |
| Link 10 | A350 Mid 1 | 30007 | 30494 |
| Link 11 | A350 Mid 2 | 30007 | 30494 |
| Link 12 | A350 North | 30012 | 30499 |
| Link 13 | A420 Bristol Rd East | 11856 | 12049 |
| Link 14 | Bumper Way | 7490 | 7611 |
| Link 15 | A350 South | 23491 | 23872 |
| Link 16 | A420 Bristol Rd West | 14703 | 14941 |
| Link 18 | Sandown Dr | 2442 | 2481 |
| Link 19 | A350 South | 23076 | 23450 |
| Link 20 | A350 North | 23082 | 23456 |
| Link 21 | Sainsbury Access | 13128 | 13341 |
| Link 22 | A4 Bath Rd East | 20216 | 20544 |
| Link 23 | A350 South | 24394 | 24790 |
| Link 24 | A4 Bath Rd West | 20357 | 20687 |
| Link 25 | A350 North | 13455 | 13673 |
| Link 26 | Patterdown Rd | 9761 | 9919 |
| Link 28 | A350 South | 22684 | 23052 |
| Link 29 | Patterdown Rd South | 9764 | 9922 |
| Link 31 | Patterdown Rd North | 10551 | 10722 |

| Ref | Location | 2024 AADT | 2026 AADT |
|---|---|---|---|
| Link 32 | Patterdown Rd South | 10548 | 10719 |
| Link 33 | Saltersford Ln | 4196 | 4265 |
| Link 34 | Patterdown Rd North | 6357 | 6460 |
| Link 35 | Saltersford Ln South | 6301 | 6403 |
| Link 36 | A4 Bath Rd West | 22194 | 22554 |
| Link 37 | Hungerdown Ln North | 15402 | 15651 |
| Link 38 | A4 Bath Rd East | 15926 | 16184 |
| Link 39 | A4 Bath Rd West | 15247 | 15494 |
| Link 40 | Patterdown Rd | 8638 | 8778 |
| Link 41 | A4 Bath Rd East | 23481 | 23862 |
| Link 42 | A4 Bath Rd West | 27810 | 28261 |
| Link 43 | A420 Ivy Ln | 19354 | 19668 |
| Link 44 | Ave La Fleche | 39713 | 40357 |
| Link 45 | A420 Ivy Ln | 19354 | 19668 |
| Link 46 | A420 Marshfield Rd | 17180 | 17459 |
| Link 47 | A420 New Road | 15006 | 15249 |
| Link 48 | New Ln | 5851 | 5946 |
| Link 49 | London Rd West | 5824 | 5918 |
| Link 50 | London Rd East | 13024 | 13235 |
| Link 51 | Ave La Fleche | 6862 | 6973 |
| Link 52 | Ave La Fleche West | 27417 | 27862 |
| Link 53 | Ave La Fleche East | 7651 | 7775 |
| Link 54 | A4 Pewsham Way South | 15327 | 15576 |
| Link 55 | A4 Pewsham Way North | 15327 | 15575 |
| Link 57 | A4 Pewsham Way South | 15327 | 15575 |
| Link 58 | A4 Pewsham Road W | 15327 | 15575 |
| Link 59 | Canal Rd | 6558 | 6665 |
| Link 60 | A4 Pewsham Way E | 9161 | 9309 |
| Link 61 | A4 Pewsham Way SW | 11511 | 11698 |
| Link 62 | Kings Henry Dr | 1077 | 1095 |
| Link 63 | A4 Pewsham Way NE | 10914 | 11091 |
| Link 64 | A4 Pewsham Ln South | 10914 | 11091 |
| Link 65 | Lodge Rd | 3064 | 3114 |
| Link 66 | A4 Pewsham Ln North | 10248 | 10414 |
| Link 67 | London Rd West | 12054 | 12250 |
| Link 68 | A4 Pewsham Ln South | 10327 | 10495 |
| Link 69 | London Rd East | 21828 | 22182 |
| Note: Links 17,27, 30 and 56 are not included in the WTM and therefore have not been assessed. | | | |

**The Projected Future Baseline**

***Highway Network***

5.4.29 Wiltshire Council (WC) has obtained approval from the DfT for the Full Business Case for the A350 Phases 4 and 5. In December 2025 WC announced its intention to award the contract.

5.4.30 The key elements of the Phase 4 & 5 project are:-

- Phase 4 dualling: widening the A350 to dual 2-lane carriageways between Chequers Roundabout (A4) and Lackham roundabout. The dualling would take place within the existing wide highway verge to the west of the current carriageway;
- Phase 5 dualling: widening the A350 to dual 2-lane carriageways along the full stretch between Cepen Park South Roundabout and Bumpers Farm Roundabout (A420). The dualling would take place within the existing wide highway verge to the west of the current carriageway;
- A significant remodelling of the Bumpers Farm roundabout junction to provide capacity enhancements and full signalisation; and
- Alterations to Lackham Roundabout capacity to accommodate the additional carriageway.

5.4.31 A M4 Junction 17 scheme is being developed as a single package of improvements to maximise and optimise capacity of the junction within the bounds of the existing highway. It is anticipated that this approach will help avoid the potential need for progressive and sequential improvement projects at the junction over many years as individual developments come forward.

5.4.32 The scheme proposals include: -

- Introduction of traffic signals to all approaches to the roundabout i.e. completion of the full signalisation of the junction;
- Carriageway widening and additional traffic capacity on all approaches to the junction (M4 off slips, A350, A429 and B4122);
- Increase in the number of traffic lanes across the motorway bridges from two to three;
- Widening of the circulatory carriageway and introduction of additional traffic lanes and capacity around the junction;
- Repositioning of the layby along the A429 to allow for carriageway widening work.

5.4.33 The £50M scheme went out to tender in December 2025 with Phase 1 expected to be delivered in 2026 and Phase 2 to be constructed during 2027.

***Future Year Baseline Traffic Condition***

5.4.34 Tempro traffic growth factors are applied to uplift the Year 2024 Core Scenario Forecast to project background traffic levels for Year 2031. Traffic associated with the committed developments at Showell Nurseries and Barrow Farm is also included, in addition to the background growth, to represent the Year 2031 baseline condition.

5.4.35 Details of forecast flows for the 2031 baseline conditions are outlined in **Table 5.4** below.

5.4.36 **Appendix 5.1** shows the geographical position of the highway links.

**Table 5.4: 2031 Baseline AADT Traffic Flows**

| Ref | Location | 2031 ADDT |
|---|---|---|
| Link 1 | A429 | 17734 |
| Link 2 | A350 South | 40308 |
| Link 3 | M4 WB OffSlip | 8811 |
| Link 4 | M4 EB Offslip | 8958 |
| Link 5 | B4122 | 7905 |
| Link 6 | A350 North | 44657 |
| Link 7 | Unnamed Rd | 5030 |
| Link 8 | Malmesbury Rd | 15460 |
| Link 9 | A350 South | 32607 |
| Link 10 | A350 Mid 1 | 32644 |
| Link 11 | A350 Mid 2 | 32644 |
| Link 12 | A350 North | 32649 |
| Link 13 | A420 Bristol Rd East | 12687 |
| Link 14 | Bumper Way | 8057 |
| Link 15 | A350 South | 25773 |
| Link 16 | A420 Bristol Rd West | 15792 |
| Link 18 | Sandown Dr | 2613 |
| Link 19 | A350 South | 25329 |
| Link 20 | A350 North | 25336 |
| Link 21 | Sainsbury Access | 14047 |
| Link 22 | A4 Bath Rd East | 21632 |
| Link 23 | A350 South | 26897 |
| Link 24 | A4 Bath Rd West | 21939 |
| Link 25 | A350 North | 15191 |
| Link 26 | Patterdown Rd | 10945 |
| Link 28 | A350 South | 24753 |
| Link 29 | Patterdown Rd South | 10948 |
| Link 31 | Patterdown Rd North | 11658 |

| Ref | Location | 2031 ADDT |
|---|---|---|
| Link 32 | Patterdown Rd South | 11503 |
| Link 33 | Saltersford Ln | 4501 |
| Link 34 | Patterdown Rd North | 7007 |
| Link 35 | Saltersford Ln South | 6762 |
| Link 36 | A4 Bath Rd West | 23748 |
| Link 37 | Hungerdown Ln North | 16501 |
| Link 38 | A4 Bath Rd East | 17041 |
| Link 39 | A4 Bath Rd West | 16314 |
| Link 40 | Patterdown Rd | 9448 |
| Link 41 | A4 Bath Rd East | 25331 |
| Link 42 | A4 Bath Rd West | 30031 |
| Link 43 | A420 Ivy Ln | 21014 |
| Link 44 | Ave La Fleche | 42737 |
| Link 45 | A420 Ivy Ln | 21014 |
| Link 46 | A420 Marshfield Rd | 18412 |
| Link 47 | A420 New Road | 16217 |
| Link 48 | New Ln | 6261 |
| Link 49 | London Rd West | 6231 |
| Link 50 | London Rd East | 13980 |
| Link 51 | Ave La Fleche | 7387 |
| Link 52 | Ave La Fleche West | 29388 |
| Link 53 | Ave La Fleche East | 8231 |
| Link 54 | A4 Pewsham Way South | 16407 |
| Link 55 | A4 Pewsham Way North | 16407 |
| Link 57 | A4 Pewsham Way South | 16407 |
| Link 58 | A4 Pewsham Road W | 16407 |
| Link 59 | Canal Rd | 7025 |
| Link 60 | A4 Pewsham Way E | 9802 |
| Link 61 | A4 Pewsham Way SW | 12317 |
| Link 62 | Kings Henry Dr | 1153 |
| Link 63 | A4 Pewsham Way NE | 11678 |
| Link 64 | A4 Pewsham Ln South | 11678 |
| Link 65 | Lodge Rd | 3279 |
| Link 66 | A4 Pewsham Ln North | 10965 |
| Link 67 | London Rd West | 12942 |
| Link 68 | A4 Pewsham Ln South | 11050 |
| Link 69 | London Rd East | 23400 |
| Note: Links 17,27, 30 and 56 are not included in the WTM and therefore have not been assessed. | | |

## 5.5 POTENTIAL EFFECTS

### Construction Stage

#### *Inherent Design Mitigation*

5.5.1 A detailed Construction Traffic Management Plan (CTMP) will be produced, as part of the Construction Environmental Management Plan (CEMP), which can be regarded as a standard control measure for applications of this scale, and which is expected to be secured by planning condition. This document will detail how construction vehicles will access the Site throughout the construction phases and will set out how they will do this in a safe and efficient manner.

5.5.2 Specific measures can be agreed with the highways authority when discharging the planning condition relating to the CTMP, however it is expected that the CTMP will include the following:

- Phasing of construction;
- Access arrangements for workers and HGVs;
- Working hours are likely to be limited to 08:00-18:00 on weekdays, 08:00-13:00 on Saturdays, no working on Sunday or Bank Holidays without prior agreement with the highway and local planning authorities;
- Construction traffic routeing which will be generally confined to major highways, avoiding residential streets and local settlements. It is anticipated that most construction materials will arrive directly via the A350 Lackham Roundabout.
- Vehicle types and movement periods to be defined to minimise the effect on local communities, particularly during unsociable hours;
- On-site HGV wheel wash facilities will be provided and engine idling whilst stopped will be minimised;
- Traffic management measures; and
- Parking and loading arrangements.

5.5.3 It should be noted that routeing restrictions, as noted above, will ensure that HGVs avoid inappropriate routes through existing communities.

5.5.4 The Applicant has committed to ensuring that the contractor(s) implement a CTMP which would include standard control measures for minimising and managing construction.

5.5.5 Effective implementation of the CTMP, including restrictions on vehicle routing, working times and delivery times, would minimise potential adverse effects associated with construction activity, although residual effects would remain.

#### *Construction Impacts and Effects*

5.5.6 The related construction traffic will comprise two principal forms. Firstly, workforce-related traffic will comprise the arrival/departure of the workforce associated with the

construction of the Proposed Development. Secondly, delivery-related traffic will comprise traffic associated with deliveries, plant movements, and material movements for export/import of materials.

5.5.7 Typically for a buildout of 100 dwellings per annum there would be an average daily workforce of 50 staff. This number of construction workers is not expected to generate the same number of vehicle trips as many workers travel together in vans or cars.

5.5.8 Typically, construction hours demand the workforce to arrive/depart outside of peak hours, and as such this element of construction traffic will have a minimal effect during peak hours. In addition, the total movements associated with the completed Proposed Development will be much higher than the number of workforce-related movements, and therefore these movements will present less onerous traffic conditions than those associated with the occupation of the Proposed Development.

5.5.9 Similar to above an estimate for HGV movements for the construction of 100 dwellings per annum is seven daily HGV deliveries equating to 14 daily HGV movements. Delivery to the Site will be minimal in terms of numbers of vehicles and will most likely be spread throughout the course of the day.

5.5.10 Looking at the southern link of Patterdown Road where the greatest impact of HGVs is likely to occur, the model indicates 585 HGV movements in 2024. On this basis the construction HGV traffic associated with the construction phase of the Proposed Development will increase by 2.4% or in terms of all vehicle movements by less than 1%.

5.5.11 Thus, in consideration of the above, it is considered that the change due to construction related movements will be negligible for all assessed criteria discussed above. The receptors in close proximity to the Site are of low to medium sensitivity, comprising mostly of farmland and residential units (i.e. both existing and proposed), and, whilst higher sensitivity receptors would be present elsewhere in the network, construction traffic, which would already be at low levels, would be further dispersed at these points. Thus, whilst there would be a direct effect in this instance, this would be negligible (i.e. not significant) and would also be temporary.

**Post-Completion Stage**

***Inherent Design Mitigation***

5.5.12 The Proposed Development will encompass a residential development supported by a local centre with retail and commercial business and service uses. The local centre will reduce the need for the new community to travel externally for its basic day-to-day requirements.

5.5.13 The Proposed Development will deliver suitable and safe accesses for all modes and includes an uncontrolled crossing point with a pedestrian refuge to enable access to the proposed bus stops.

5.5.14 The Proposed Development will deliver a 3m shared active travel route on the eastern side of Patterdown Road along the Site's frontage.

5.5.15 The Proposed Development will incorporate the existing PRoWs and proposes a network of active travel routes across the Site and links to the existing/proposed communities enabling residents to undertake journeys by walking and cycling. Appropriate cycle parking will be provided for all land uses.

5.5.16 The design of the internal road network will be engineered to meet the standards specified in Manual for Streets guidance and WC guidance, with a particular focus on the creation of safe routes around the Site encouraging accessibility for pedestrians and cyclists.

5.5.17 The Proposed Development will, in negotiation with the highway authority, undertake a contribution to ensure that a regular bus service and associated infrastructure is available to the residents of the Proposed Development.

5.5.18 The development offers opportunities to deliver potential sustainable travel infrastructure / measures such as electric bike/scooter hire facilities, car club vehicle(s), electric vehicle charging points, storage lockers for home deliveries, wayfinding infrastructure and sustainable travel information.

5.5.19 A Framework Travel Plan (FTP) has been developed and is attached at Appendix 5.3. The FTP outlines key targets, responsibilities, and a range of initiatives and measures that are designed to reduce the need to travel by car and therefore, reduce emissions and congestion and promote a healthier lifestyle.

5.5.20 The Proposed Development will provide Electric Vehicle infrastructure in accordance with the LHA's and Building Regulation requirements.

***Operational Impacts and Effects***

5.5.21 The permanent traffic and transport operational impacts associated with the additional traffic flow generated by the Proposed Development in 2031 have been assessed by firstly identifying those links expected to see an increase in traffic of more than 10% in the daily flow.

***Traffic Generation and Assignment***

5.5.22 The TA attached at Appendix 5.2 sets out the traffic generation and assignment along the local highway network.

***The Scope of the Assessment***

5.5.23 Forecast AADT traffic flows for the 2028 assessment are identified in Table 5.5 below. A comparison study between the Baseline and the "With Development" scenarios has been undertaken to identify the road links that will experience a tangible fluctuation in traffic volume as result of the Proposed Development.

**Table 5.5: Forecast Differences between Baseline and "Proposed Development Scenarios"**

| Ref | Location | 2031 Baseline AADT | 2031 + Proposed Development AADT | Difference % |
|---|---|---|---|---|
| Link 1 | A429 | 17734 | 17807 | 0.4% |
| Link 2 | A350 South | 40308 | 40618 | 0.8% |
| Link 3 | M4 WB OffSlip | 8811 | 8843 | 0.4% |
| Link 4 | M4 EB Offslip | 8958 | 9034 | 0.8% |
| Link 5 | B4122 | 7905 | 7905 | 0.0% |
| Link 6 | A350 North | 44657 | 44967 | 0.7% |
| Link 7 | Unnamed Rd | 5030 | 5030 | 0.0% |
| Link 8 | Malmesbury Rd | 15460 | 15484 | 0.2% |
| Link 9 | A350 South | 32607 | 32941 | 1.0% |
| Link 10 | A350 Mid 1 | 32644 | 32978 | 1.0% |
| Link 11 | A350 Mid 2 | 32644 | 32978 | 1.0% |
| Link 12 | A350 North | 32649 | 32983 | 1.0% |
| Link 13 | A420 Bristol Rd East | 12687 | 12687 | 0.0% |
| Link 14 | Bumper Way | 8057 | 8153 | 1.2% |
| Link 15 | A350 South | 25773 | 26338 | 2.2% |
| Link 16 | A420 Bristol Rd West | 15792 | 15926 | 0.9% |
| Link 18 | Sandown Dr | 2613 | 2613 | 0.0% |
| Link 19 | A350 South | 25329 | 25894 | 2.2% |
| Link 20 | A350 North | 25336 | 25901 | 2.2% |
| Link 21 | Sainsbury Access | 14047 | 14047 | 0.0% |
| Link 22 | A4 Bath Rd East | 21632 | 21632 | 0.0% |
| Link 23 | A350 South | 26897 | 27817 | 3.4% |
| Link 24 | A4 Bath Rd West | 21939 | 22295 | 1.6% |
| Link 25 | A350 North | 15191 | 16111 | 6.1% |

| Ref | Location | 2031 Baseline AADT | 2031 + Proposed Development AADT | Difference % |
|---|---|---|---|---|
| Link 26 | Patterdown Rd | 10945 | 12077 | 10.3% |
| Link 28 | A350 South | 24753 | 24966 | 0.9% |
| Link 29 | Patterdown Rd South | 10948 | 12081 | 10.3% |
| Link 30 | Site Access | 335 | 1956 | |
| Link 31 | Patterdown Rd North | 11658 | 12147 | 4.2% |
| Link 32 | Patterdown Rd South | 11503 | 11992 | 4.3% |
| Link 33 | Saltersford Ln | 4501 | 4525 | 0.5% |
| Link 34 | Patterdown Rd North | 7007 | 7472 | 6.6% |
| Link 35 | Saltersford Ln South | 6762 | 6787 | 0.4% |
| Link 36 | A4 Bath Rd West | 23748 | 23748 | 0.0% |
| Link 37 | Hungerdown Ln North | 16501 | 16525 | 0.1% |
| Link 38 | A4 Bath Rd East | 17041 | 17041 | 0.0% |
| Link 39 | A4 Bath Rd West | 16314 | 16314 | 0.0% |
| Link 40 | Patterdown Rd | 9448 | 9913 | 4.9% |
| Link 41 | A4 Bath Rd East | 25331 | 25796 | 1.8% |
| Link 42 | A4 Bath Rd West | 30031 | 30451 | 1.4% |
| Link 43 | A420 Ivy Ln | 21014 | 21141 | 0.6% |
| Link 44 | Ave La Fleche | 42737 | 42920 | 0.4% |
| Link 45 | A420 Ivy Ln | 21014 | 21141 | 0.6% |
| Link 46 | A420 Marshfield Rd | 18412 | 18481 | 0.4% |
| Link 47 | A420 New Road | 16217 | 16274 | 0.4% |
| Link 48 | New Ln | 6261 | 6261 | 0.0% |
| Link 49 | London Rd West | 6231 | 6231 | 0.0% |
| Link 50 | London Rd East | 13980 | 14080 | 0.7% |

| Ref | Location | 2031 Baseline AADT | 2031 + Proposed Development AADT | Difference % |
|---|---|---|---|---|
| Link 51 | Ave La Fleche | 7387 | 7487 | 1.4% |
| Link 52 | Ave La Fleche West | 29388 | 29504 | 0.4% |
| Link 53 | Ave La Fleche East | 8231 | 8331 | 1.2% |
| Link 54 | A4 Pewsham Way South | 16407 | 16423 | 0.1% |
| Link 55 | A4 Pewsham Way North | 16407 | 16423 | 0.1% |
| Link 57 | A4 Pewsham Way South | 16407 | 16423 | 0.1% |
| Link 58 | A4 Pewsham Road W | 16407 | 16423 | 0.1% |
| Link 59 | Canal Rd | 7025 | 7041 | 0.2% |
| Link 60 | A4 Pewsham Way E | 9802 | 9802 | 0.0% |
| Link 61 | A4 Pewsham Way SW | 12317 | 12317 | 0.0% |
| Link 62 | Kings Henry Dr | 1153 | 1153 | 0.0% |
| Link 63 | A4 Pewsham Way NE | 11678 | 11678 | 0.0% |
| Link 64 | A4 Pewsham Ln South | 11678 | 11678 | 0.0% |
| Link 65 | Lodge Rd | 3279 | 3279 | 0.0% |
| Link 66 | A4 Pewsham Ln North | 10965 | 10965 | 0.0% |
| Link 67 | London Rd West | 12942 | 13042 | 0.8% |
| Link 68 | A4 Pewsham Ln South | 11050 | 11050 | 0.0% |
| Link 69 | London Rd East | 23400 | 23500 | 0.4% |
| Note: Links 17,27, 30 and 56 are not included in the WTM and therefore have not been assessed. | | | | |

5.5.24 As can be seen above, when taking into account the traffic generation associated with the Proposed Development, the majority of the road links experience a fluctuation of less than 10% in traffic volume with only Patterdown Road south of the Proposed Development's site access (Links 26 and 29), encountering an increase of more than 10% in daily traffic.

5.5.25 Taking into account the screening rules as set out in paragraph 5.3.26, all road links except Link 26 and Link 29 are below Rule 1 (the 10% threshold) that sets out the requirement for a detailed assessment to be undertaken. Although the increase in daily traffic on Link 26 and Link 29 is above 10%, they have low sensitivity receptors and are therefore, subject to Rule 2 (the 30% threshold). Therefore, no detailed assessment of the impact of the traffic generated by the Proposed Development is required and the impact is considered to be negligible for all environmental effects.

5.5.26 It should be noted, that whilst there is no requirement to undertake a detailed environmental assessment, the TA (**Appendix 5.2**) identifies that the western arm of the Chequers Roundabout on the A350 is currently operating over capacity and with the development traffic the capacity worsens. The TA identifies a scheme to mitigate the effects of the development traffic and provides a nil-detriment solution.

## 5.6 MITIGATION MEASURES

### Construction Stage

5.6.1 No additional mitigation measures are proposed in addition to the inherent design mitigation measures identified in paragraphs 5.5.1 – 5.5.5.

### Post-Completion Stage

5.6.2 No additional mitigation measures are proposed in addition to the inherent design mitigation measures identified in paragraphs 5.5.12 – 5.5.20 and 5.5.26.

## 5.7 RESIDUAL EFFECTS

### Construction Stage

5.7.1 After the inherent mitigation of the CTMP the construction phase of the Proposed Development is expected to have a temporary negligible effect on severance, driver delay, pedestrian / cyclist delay, pedestrian/cyclist amenity, accidents and safety and fear and intimidation.

### Post-Completion Stage

5.7.2 After the inherent mitigation the operational phase of the Proposed Development is expected to have a negligible effect on severance, driver delay, cyclist delay, and pedestrian delay, cyclist amenity, pedestrian amenity, accidents and safety and fear and intimidation.

### Summary of Effects

5.7.3 The effects identified are summarised in Table 5.6 below:

**Table 5.6: Summary of Effects**

| Potential Effect | Significance (pre-mitigation) | Mitigation Measure | Significance of residual effect |
|---|---|---|---|
| **Construction Stage** | | | |
| Pedestrian / Cyclist Severance | **Negligible** | None | **Negligible** |
| Driver Delay | **Negligible** | None | **Negligible** |
| Pedestrian / Cyclist Delay | **Negligible** | None | **Negligible** |
| Pedestrian / Cyclist Amenity | **Negligible** | None | **Negligible** |
| Fear and Intimidation | **Negligible** | None | **Negligible** |
| Accident and Safety | **Negligible** | None | **Negligible** |
| **Post-Completion Stage** | | | |
| Pedestrian / Cyclist Severance | **Negligible** | None | **Negligible** |
| Driver Delay | **Negligible** | None | **Negligible** |
| Pedestrian / Cyclist Delay | **Negligible** | None | **Negligible** |
| Pedestrian / Cyclist Amenity | **Negligible** | None | **Negligible** |
| Fear and Intimidation | **Negligible** | None | **Negligible** |
| Accident and Safety | **Negligible** | None | **Negligible** |

**Assessment Summary**

5.7.4 The assessment of the impact due to the traffic generation of the construction of the Proposed Development is negligible and temporary for severance, driver delay, pedestrian / cyclist delay, pedestrian / cyclist amenity, accidents and safety and fear and intimidation.

5.7.5 The assessment of the impact due to the traffic generation of the occupied Proposed Development is permanent and negligible for severance, driver delay, pedestrian / cyclist delay, pedestrian / cyclist amenity, accidents and safety and fear and intimidation.

## 5.8 CUMULATIVE EFFECTS

5.8.1 A number of committed developments were considered either as part of the WTM or specifically within the Year 2031 Baseline forecast. Consequently, the residual impacts presented in Table 5.6 represent not only the effects of the proposed development but also the cumulative impact when considered alongside other committed schemes.

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## 6.1 INTRODUCTION

6.1.1 This chapter of the ES identifies and describes the nature and significance of the potential effects in relation to air quality as a result of the Proposed Development.

6.1.2 The chapter has been prepared by Dr Sarah Irons, Technical Specialist Director at Brookbanks Consulting Limited. Sarah has over 25 years' experience of undertaking air quality assessments for Environmental Statements and is a member of both the Institute of Air Quality Management (IAQM) and Institute of Environmental Science (IES).

## 6.2 RELEVANT POLICY

### National Policy

#### *National Planning Policy Framework (NPPF)*

6.2.1 The latest version of the NPPF (Department for Levelling Up, Housing and Communities, 2024) sets out the Government's planning policies for England and how these are expected to be applied. At the heart of the NPPF is a presumption in favour of sustainable development. It requires Local Plans to be consistent with the principles and policies set out in the NPPF with the objective of contributing to the achievement of sustainable development.

6.2.2 The NPPF states that the planning system has three overarching objectives in achieving sustainable development including a requirement to "*protect and enhance our natural, built and historic environment; including making effective use of land, improving biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy*."

6.2.3 Under Section 15: Conserving and Enhancing the Natural Environment, the NPPF (paragraph 187) requires that "'*planning policies and decisions should contribute to and enhance the natural local environment by …preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible help to improve local environmental conditions such as air and water quality*."

6.2.4 In dealing specifically with air quality, paragraph 199 states that "*planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas. Opportunities to improve air quality or mitigate impacts should be identified, such as through traffic and travel management, and green infrastructure provision and enhancement. So far as possible these opportunities should be considered at the plan-making stage, to ensure a strategic approach and limit the need for issues to be reconsidered when determining individual applications. Planning decisions should ensure that any new development in Air Quality Management Areas and Clean Air Zones is consistent with the local air quality action plan*."

6.2.5 Paragraph 200 ensures that operations at existing businesses and facilities are not adversely affected by a Proposed Development and states that "*Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions*

*placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed."*

***Planning Practice Guidance (PPG)***

6.2.6 The PPG (Department for Levelling Up, Housing and Communities, 2024) is a web-based resource published by the UK government to support the National Planning Policy Framework (NPPF). It provides detailed, practical guidance for local authorities, developers, and planning professionals on how to interpret and implement planning policies.

6.2.7 With respect to air quality, the PPG outlines the role of Local Plans in promoting sustainability and providing limitations on development in areas of poor air quality. An emphasis is placed on consultation with the planning authority to determine whether there are any local issues with the potential to affect the scope of an air quality assessment. Typical air quality mitigation measures are outlined highlighting the use of planning conditions and funding obligations to off-set significant impacts.

***Air Quality Strategy for England, Scotland, Waled and Northern Ireland***

6.2.8 The Government's policy on air quality within the UK is set out in the Air Quality Strategy (AQS), which was first published in July 2007 (Defra, 2007), pursuant to the requirements of Part IV of the Environment Act 1995. The AQS sets out a framework for reducing hazards to health from air pollution and ensuring that international commitments are met in the UK. The AQS is designed to be an evolving process that is monitored and regularly reviewed. The most recent version of the AQS was published in April 2023 and updated in August 2023 (Defra, 2023).

6.2.9 The AQS sets standards and objectives for ten main air pollutants to protect health, vegetation and ecosystems. These are benzene ($C_6H_6$), 1,3-butadiene ($C_4H_6$), carbon monoxide (CO), lead (Pb), nitrogen dioxide ($NO_2$), particulate matter ($PM_{10}$, $PM_{2.5}$), sulphur dioxide ($SO_2$), ozone ($O_3$) and polycyclic aromatic hydrocarbons (PAHs).

6.2.10 The air quality standards are long-term benchmarks for ambient pollutant concentrations which represent negligible or zero risk to health, based on medical and scientific evidence reviewed by the Expert Panel on Air Quality Standards (EPAQS) and the World Health Organisation (WHO). These are general concentration limits, above which sensitive members of the public (e.g., children, the elderly and the unwell) might experience adverse health effects.

6.2.11 The air quality objectives are medium-term policy-based targets set by the Government which take into account economic efficiency, practicability, technical feasibility and

timescale. Some objectives are equal to the EPAQS recommended standards or WHO guideline limits, whereas others involve a margin of tolerance, i.e., a limited number of permitted exceedances of the standard over a given period.

6.2.12 For some pollutants there is both a long-term (annual mean) standard and a short-term standard. In the case of $NO_2$, the short-term standard is for a 1-hour averaging period, whereas for fine particulates ($PM_{10}$) it is for a 24-hour averaging period. These periods reflect the varying impacts on health of differing exposures to pollutants (e.g., temporary exposure on the pavement adjacent to a busy road, compared with the exposure of residential properties adjacent to a road).

6.2.13 The current air quality standards and objectives for the protection of human health are set out in the Air Quality Regulations 2010 and The Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020. Of the pollutants included in the AQS, $NO_2$, $PM_{10}$ and $PM_{2.5}$ are particularly relevant to this project, as these are the primary pollutants associated with road traffic. A summary of the air quality standards for these pollutants is presented in Table 6.1.

**Table 6.1 Air Quality Standards and Objectives**

| Pollutant | Standard | Averaging Period | Comment |
|---|---|---|---|
| $NO_2$ | 40 | Annual | - |
| | 200 | 1-Hour | Not to be exceeded more than 18 times per year |
| $PM_{10}$ | 40 | Annual | - |
| | 50 | 24-Hour | Not to be exceeded more than 35 times per year |
| $PM_{2.5}$ | 20 | Annual | |
| | 10 | Annual | AMCT |

6.2.14 It is widely accepted that there is no safe level for $PM_{2.5}$ and on this basis The Environment Act 2021 required the Air Quality Standards Regulations to be updated to include a more stringent long-term air quality target by the 31st October 2022. On 31st January 2023, the Government published an Environmental Improvement Plan (EIP) (Defra, 2023), which included an Annual Mean Concentration Target (AMCT) of 10 µg/m$^3$, to be achieved by the end of 2040. The 2025 EIP (Defra, 2025) has updated the compliance date to 31 December 2030. The 10 µg/m$^3$ target has been adopted into UK law via the Environmental Targets (Fine Particulate Matter) (England) Regulations 2023.

**Local Policy**

***Adopted Local Plan***

*6.2.15* The Wiltshire Core Strategy (Wiltshire Council, 2015) sets out the framework for sustainable development in Wiltshire up to 2026.

*6.2.16* Core Policy 55 'Air Quality' states: "*Development proposals, which by virtue of their scale, nature or location are likely to exacerbate existing areas of poor air quality, will need to demonstrate that measures can be taken to effectively mitigate emission levels in order to protect public health, environmental quality and amenity. Mitigation measures should demonstrate how they will make a positive contribution to the aims of the Air Quality Strategy for Wiltshire and where relevant, the Wiltshire Air Quality Action Plan. Mitigation may include:*

*i. landscaping, bunding or separation to increase distance from highways and junctions*
*ii. possible traffic management or highway improvements to be agreed with the local authority*
*iii. abatement technology and incorporating site layout/separation and other conditions in site planning*
*iv. traffic routing, site management, site layout and phasing*
v. *where appropriate, contributions will be sought toward the mitigation of the impact a development may have on levels of air pollutants*."

***Wiltshire Council Air Quality Action Plan***

6.2.17 Local Authorities are required to regularly review and assess air quality to establish whether there are any locations where pollutant concentrations exceed the relevant air quality objectives or EU limit values. Where an exceedance is identified, the local authority is obliged to declare an Air Quality Management Area (AQMA) and prepare an Air Quality Action Plan (AQAP) setting out measures to improve air quality and achieve compliance with the objective(s).

6.2.18 Whilst air quality across Wiltshire is generally good, there are still a number of areas where high volumes of traffic and congestion are leading to exceedances of the air quality objective for $NO_2$. There are currently eight AQMA's in Wiltshire, one of which is also designated for $PM_{10}$. The nearest to the proposed development is in Calne, approximately 7km west of the Application Site.

6.2.19 The current Wiltshire AQAP (Wiltshire Council, 204) sets out the Councils commitment to improving air quality between 2024 and 2029. Key actions include:

1. Reduce car use and traffic emissions

- Promote walking and cycling (LCWIPs, active travel schemes)
- Improve public transport, especially buses
- Support park & ride schemes

2. Transition to low-emission vehicles

- Expand electric vehicle (EV) charging infrastructure
- Promote electric buses and low-emission taxis
- Improve fleet efficiency (HGVs, vans, council vehicles)

3. Improve traffic flow and management

- Upgrade junctions and traffic signals (e.g. MOVA systems)
- Introduce traffic rerouting / one-way systems
- Reduce congestion through transport strategies

4. Control impacts of new development

- Use the planning system (Core Policy 55 / SPD)
- Require mitigation measures from developers
- Integrate air quality into Local Plan policies

5. Manage freight and deliveries

- Target LGVs and HGVs (major NOx contributors)
- Promote sustainable last-mile delivery
- Encourage efficient routing and cleaner fleets

6. Environmental and behavioural measures

- Promote no-idling schemes
- Support Clean Air Day and awareness campaigns
- Expand green infrastructure (trees, green spaces)

7. Targeted actions in AQMAs

Site-specific measures in towns like:

- Salisbury (active travel, rail connectivity, junction upgrades)
- Bradford-on-Avon (one-way systems, traffic restrictions)
- Other towns (traffic rerouting, EV uptake)

8. Partnership and monitoring

- Work with government, transport bodies, and communities
- Monitor progress through Annual Status Reports
- Review and update plan regularly

6.2.20 The effectiveness of the AQAP measures is evaluated via the Council's ongoing air quality monitoring programme and reported to Defra in their Annual Air Quality Status Report (ASR).

***Wilshire Council Air Quality Strategy***

6.2.21 The latest adopted air quality strategy for Wiltshire was published in 2019 (Wiltshire Council, 2019) and includes the following key priorities for improving air quality across the county:

- Achieve air quality objectives in AQMAs

- Maintain good air quality elsewhere
- Lead by example (council actions)
- Raise awareness and inform the public

6.2.22 The strategy underpins the actions within the AQAP, which are targeted specifically at improving air quality within the designated AQMA's.

***Wiltshire Air Quality Supplementary Planning Guidance (SPD)***

6.2.23 The Wiltshire Air Quality SPD (Wilshire Council, 2025) aims to ensure that new development:

- Does not worsen air quality
- Mitigates pollution impacts
- Complies with national policy (NPPF) and local strategies

6.2.24 It sets out a three-step approach:

6.2.25 1. Good design - Developments must:

- Promote sustainable transport (walking, cycling, public transport)
- Include EV charging infrastructure
- Reduce exposure (e.g. layout, ventilation, separation)

6.2.26 2. Site classification - Developments are grouped into:

- Type 1 – small/low impact: development below specified dwelling number/ area thresholds)
- Type 2 – likely to increase traffic/emissions: development above specified dwelling number/ area thresholds, where the trip generation may result in a reduction in average speeds of 10km/hr and/or involve substantial infrastructure changes.
- Type 3 – high impact or in poor air quality areas: Type 2 sites within 5km of a monitoring location where an annual mean $NO_2$ concentration above 36 $\mu g/m^3$ has been recorded in the last three years)

6.2.27 3. Supporting documents - Depending on site type, developers must submit supporting information, as outlined in Table 6.2.

**Table 6.2 Required Supporting Documents**

| Type | Supporting Documents |
|---|---|
| 1 | - Evidence of good base design including EV charging that meets Wiltshire Council minimum EV charging requirements<br>- Construction Environmental Management Plan (CEMP)<br>- Exposure Mitigation (if applicable) |
| 2 | As Type 1, and<br>- Low Emission Travel Plan |
| 3 | As Type 1 and 2, and |

| | |
|---|---|
| | - Concentration Assessment and Mitigation Assessment |

6.2.28 Recommended mitigation measures within the SPD include:

- Reducing car use (active travel, public transport).
- Promoting EVs and low-emission vehicles.
- Improving site layout and design.
- Controlling construction emissions.
- Providing financial contributions where needed.

## 6.3 ASSESSMENT METHODOLOGY

### Scope

6.3.1 The scope of the assessment has been determined using the 3-step approach set out in the Wiltshire Council Air Quality SPD.

6.3.2 The number of dwellings proposed exceeds the threshold of 100, therefore the development is automatically classified as Type 2 or Type 3. The nearest AQMA is over 7km from the Site and there are no locations within 5km where annual mean $NO_2$ concentrations have exceeded 36 µg/$m^3$ in the last three years. However, based on the size of development and the number of additional trips that will be generated during the operational phase, it is considered that there is the potential for a reduction in traffic speeds that has the potential to affect emissions and therefore local air quality. The Proposed Development is therefore classified as Type 3 and the scope of the assessment is as follows:

- A review of local air quality monitoring data and Defra mapped background concentrations to determine appropriate background concentrations for use in the assessment.
- An assessment, in accordance with the Institute of Air Quality Management (IAQM) Guidance on the assessment of dust from demolition and construction (IAQM, 2024) to determine the risk dust impacts associated with the construction phase of the Proposed Development, including re-suspended dust from heavy vehicle movements over material tracked out of the Site onto the local road network.
- A screening assessment, in accordance with the IAQM/ Environmental Protection UK (EPUK) planning guidance (IAQM & EPUK, 2017) to identify road links where the change in traffic during the construction and operational phase has the potential to significantly increase emissions and affect local air quality.
- Detailed dispersion modelling of emissions from traffic on the identified road links to assess potential impacts at worst-case sensitive human health and ecological receptor locations.
- An emissions mitigation assessment, in accordance with the Air Quality SPD.

6.3.3 In accordance with the IAQM guidance, the assessment of construction dust impacts is limited to human health receptors within 250m of the Application Site boundary and within 50m of roads used by construction traffic, up to 250m from the Site entrance. For ecological receptors, construction dust impacts are limited to within 50m of the Site boundary and within 50m of roads used by construction traffic, up to 250m from the Site entrance.

6.3.4 The effect of traffic-related traffic impacts has been assessed at worst-case high sensitivity receptors within 200m of road links where a significant increase in traffic is

anticipated. The extent of the assessment of operational traffic impacts is limited by the extent of the Transport Assessment for the Proposed Development.

**Data Sources**

6.3.5 Consultation was undertaken with the EHO at Wiltshire Council to agree the classification for the Proposed Development.

6.3.6 The following data sources have been utilised within the assessment:

- Defra Background Mapped Background (2021 Base year) Pollutant Concentrations
- Department for Transport automatic traffic counts
- Defra Multi-Agency Geographic Information for the Countryside (MAGiC) database
- Uk Air Pollution Information System (APIS)
- UK Pollutant Release and Transfer Register (PRTR)
- National Atmospheric Emissions Inventory (NAEI) Point Source Database
- Ordnance Survey API Data
- Wiltshire Council Air Quality Annual Status Reports
- British Geological Society (BGS) Geology Viewer

**Assessment Approach**

***Construction Dust***

6.3.7 The potential impact of dust generated during site enabling and construction works at the Proposed Development has been undertaken in accordance with the IAQM Guidance on the assessment of dust from demolition and construction (IAQM, 2024). A full description of the methodology is provided in Appendix 6.1.

6.3.8 The potential risk of dust soiling and human health effects is based on the proximity and sensitivity of nearby receptors to the proposed works and the anticipated magnitude of the dust emission due to:

- Demolition;
- Earthworks;
- Construction; and
- Track-out (re-suspended dust from vehicle movements).

6.3.9 Professional judgement is also required, taking into account factors such as the prevailing wind direction, the proposed construction phasing, the likely duration of dust raising activities, local topography and existing air quality.

6.3.10 A range of best practice mitigation measures are provided within the guidance, which are dependent on the level of dust risk attributed to the site. It is recommended that these measures are incorporated into the CEMP for the Proposed Development.

6.3.11 The significance of the residual impacts following appropriate mitigation is determined by professional judgement.

***Construction Traffic***

6.3.12 The EPUK/ IAQM Air Quality Planning Guidance (IAQM & EPUK, 2017) provides screening thresholds to determine whether traffic associated with a development is likely to affect air quality. A detailed assessment of traffic-related impacts is required where:

- There is a change in the annual average daily traffic (AADT) flow of light duty vehicles (LDV) of more than 500 (100 within an AQMA); and/or
- There is a change in the AADT flow of heavy duty vehicles (HDV) of more than 100 (25 within an AQMA); and/or
- There is a change in the road re-alignment by more than 5m; and/or
- A new junction is introduced, which will significantly alter vehicle speeds.

6.3.13 In the context of these criteria, HDVs are vehicles exceeding 3.5T.

6.3.14 Detailed information regarding the number of vehicles that will be generated during the construction phase is not currently available. However, the Proposed Development is 7km from the nearest AQMA and based on the phased nature of the development, the trip generation is very unlikely to exceed the above thresholds. The temporary impact on air quality is therefore expected to be negligible and not significant.

***Operational Traffic***

6.3.15 Existing baseline and future year traffic flows on the local road network have been provided by the transport consultants for the Proposed Development (Ridge). The full dataset is provided in Appendix 6.2.

6.3.16 The Proposed Development is expected to generate 1621 AADT (1%HDV), which will primarily access the Site via the A350.

***Human Health Effects***

6.3.17 Road links where the change in traffic flow will exceed the IAQM/ EPUK screening threshold of 500 AADT are highlighted in Figure 6.3A of Appendix 6.3.

6.3.18 Detailed dispersion modelling of potential impacts on human health has been undertaken using ADMS Roads (v5.1), a commercially available dispersion model that has been widely validated for this type of assessment. The model has been used to predict concentrations of oxides of nitrogen (NOx) and particulate matter (as $PM_{10}$ and $PM_{2.5}$) at selected receptors using 2031 emission factors from the latest version of the Emission Factors Toolkit (EFT_v13.1), in conjunction with hourly sequential meteorological data from RAF Fairford (approximately 34km northeast of the Site). The predicted concentrations of

NOx have been converted to $NO_2$ using version 9.1 of the Defra NOx to $NO_2$ calculator. The model input parameters are summarised in Appendix 6.4.

6.3.19 The following scenarios have been assessed:

- 2024 Baseline
- 2031 Baseline; and
- 2031 Baseline plus Proposed Development.

6.3.20 The future baseline flows include traffic associated with the other committed/proposed developments in the area. Cumulative impacts are therefore intrinsic to the assessment.

6.3.21 The Local Air Quality Management Technical Guidance (LAQM.TG22) (Defra, 2025) recommends that model results are compared with measured data to determine whether adjustment is required to reflect local air quality more accurately. This process is known as verification. It is recommended that model predictions should be within 25% (preferably 10%) of monitored concentrations for the model to be predicting with any degree of accuracy. The model has been used to predict $NO_2$ concentrations at diffusion tube monitoring locations on the A350 at Melksham and the A4 at Pickwick (Corsham). Full details of the verification and calculation of adjustment factors are provided in Appendix 6.5.

6.3.22 LAQM.TG22 describes in detail typical locations where consideration should be given to pollutants defined in the Regulations. Generally, the guidance suggests that all locations 'where members of the public are regularly present' should be considered. At such locations, members of the public will be exposed to pollution over the time that they are present, and the most suitable averaging period of the pollutant needs to be used for assessment purposes.

6.3.23 For instance, on a footpath, where exposure will be transient (for the duration of passage along that path) comparison with short-term standards (i.e., 15-minute mean or 1-hour mean) may be relevant. In a school, or adjacent to a private dwelling, however; where exposure may be for longer periods, comparison with long-term standards (such as 24-hour mean or annual mean) may be most appropriate. In general terms, concentrations associated with long-term standards are lower than short-term standards owing to the chronic health effects associated with exposure to low level pollution for longer periods of time.

6.3.24 Details of the assessed sensitive receptor locations are provided in Table 6.3. The receptors are most sensitive land-use types (e.g. residential dwellings) in closest proximity to the affected road links and represent worst-case exposure.

6.3.25 A review of the PRTR and NAEI Point Source database has not identified any significant industrial sources of dust or combustion emissions.

6.3.26 On-Site receptors have also been included at the boundary of the Proposed Development with Pattersdown Road (PD1 and PD2), representing worst-case long-term exposure for future occupants.

6.3.27 The receptor locations are presented in Figure 6.3B of Appendix 6.3. Ground-floor level exposure (1.5m) has been assumed for all receptors.

**Table 6.3 Sensitive Receptors (Human Health)**

| ID | Name | Type | Easting | Northing |
|---|---|---|---|---|
| 1 | 22 Deere Avenue | Residential | 390132 | 171484 |
| 2 | A3 Methuen Park | Commercial | 389926 | 171736 |
| 3 | Nursery | Nursery | 389636 | 172220 |
| 4 | 18 Hamilton Drive | Residential | 389623 | 172399 |
| 5 | 6 Drake Crescent | Residential | 389579 | 172863 |
| 6 | Vincients Cottage | Residential | 389678 | 173697 |
| 7 | 9 Mount Pleasant | Residential | 390204 | 174441 |

***Ecological Effects***

6.3.28 In accordance with the IAQM's 'guide to the assessment of air quality impacts on designated nature conservation sites' (IAQM, 2019) and the Natural England's 'Air pollution and development: advice for local authorities' (Natural England, 2025) a search of Defra's MAGiC database has been undertaken to identify designated habitat sites and ancient woodland located within 200m of road links that will be affected by traffic associated with the Proposed Development. The following sites have been identified:

- Box Mine SSSI component of the Bath and Bradford on Avon Bats Special Area of Conservation (SAC); and
- Vincients Wood ancient woodland (AW).

6.3.29 The Natural England guidance (Natural England, 2025) refers to the Joint Nature Conservation Committee (JNCC) guidance on Decision-making Thresholds for Air Pollution (JNCC, 2021), which states that where a development 'in-isolation' changes the flow on a road adjacent to a Site of Special Scientific Interest (SSSI) or European designation by less than 0.15% of the existing baseline flow (a decision making threshold, DMT) then it can be concluded that the impact on the designation will be imperceptible. Where the designation is further from the road, the guidance provides a range of DMT's that could trigger a potentially significant impact (>1% of the relevant critical level or load). These DMT's, however, are intended to be applied to the 'in-combination' change in traffic (i.e. the cumulative change in traffic due to the proposed development and other committed developments in the area).

6.3.30 The IAQM guidance (IAQM, 2019) recommends that a screening threshold of 1000 LDVs and 200 HDV's is applied to roads within 200m of designated sites. This threshold has

been applied to Vincients Wood, which falls outside the scope of the Natural England guidance.

6.3.31 A summary of the screening assessment undertaken for the SAC is presented in Table 6.4. It should be noted that the traffic flows are representative of the A4 immediately to the west of the junction with the A350. There are several junctions between the A350 and the SAC and therefore the 'in-isolation' and 'in-combination' flows represent a worst-case in terms of the potential change in traffic.

6.3.32 The data indicates a potentially significant effect on nutrient nitrogen deposition at the SAC, however the part of the SAC that is within 20m of the A4 covers an area of approximately 800 $m^2$ and the remainder of the designated area is at least 81m from the road, where the applicable DMT is 606 AADT. On this basis, the effect of the traffic associated with the Proposed Development and other committed developments in the area on the integrity of the SAC is unlikely to be significant. Further information is provided in Chapter 8 'Ecology'.

**Table 6.4 Habitat Impacts Screening (Bath and Bradford on Avon Bats SAC)**

| **Parameter** | **Road Link and Minimum Distance from Road** | **In-Isolation Change in Flow (AADT)** | **In-Combination Change in Flow (AADT)** | **Screening Threshold/ DMT[1] (AADT)** |
|---|---|---|---|---|
| NOx Critical Level (30 µg/$m^3$) | 20m from the A4 | 356 | 513 | 547 |
| Ammonia ($NH_3$) Critical Level (1 µg/$m^3$) | | | | 731 |
| Nutrient nitrogen critical load (10 µg/$m^3$) | | | | 415 |
| [1] DMTs for a habitat site that is 25m from the road. | | | | |

6.3.33 A summary of the screening exercise undertaken for the Vincients Wood ancient woodland is presented in Table 6.5. The 'in-combination' AADT change in flow on the A350 exceeds the screening threshold of 1000 LDV's, therefore a detailed assessment of potential impacts is required.

**Table 6.5 – Habitat Impacts Screening (Vincients Wood)**

| **Road Link and Minimum Distance from Road** | **In-Isolation Change in Flow (AADT)** | | **In-Combination Change in Flow (AADT)** | | **Screening Threshold/ DMT[1] (AADT)** | |
|---|---|---|---|---|---|---|
| | **LDV** | **HDV** | **LDV** | **HDV** | **LDV** | **HDV** |
| 66m from the A350 | 559 | 6 | 1190 | 12 | 1000 | 200 |

6.3.34 The impact of emissions from traffic associated with the Proposed Development on the ancient woodland has been evaluated with respect to potential changes in airborne NOx and $NH_3$ concentrations, nutrient nitrogen and acid deposition.

6.3.35 The Air Pollution Information System (APIS) provides site specific critical loads for Sites of Special Scientific Interest (SSSI's) and European habitat sites, but not for less sensitive designations. However, more general information about the sensitivity of specific habitat types to potential impacts is provided. Details of the applicable critical levels/ loads are presented in Table 6.6.

**Table 6.6 Vincents Wood Primary Habitats and Critical Loads/ Levels**

| Primary Habitat | Parameter | Critical Load/ Level | Comment |
|---|---|---|---|
| Broadleaved, mixed and yew woodland | Airborne NOx | 30 µg/$m^3$ | |
| | Airborne $NH_3$ | 1 µg/$m^3$ | Assumed lichens and bryophytes are present |
| | Acid Deposition | CLminN: 0.142<br>CLmaxN: 11.042<br>CLmaxS: 10.9 | |
| | Nitrogen Deposition | 10 N/ha/yr | |

6.3.36 A worst-case receptor location has been selected at the boundary of the ancient woodland nearest the A350, as shown in Figure 6.3C of Appendix 6.3.

6.3.37 The EFT does not include emission factors for $NH_3$, however in accordance with the Natural England guidance (Natural England, 2025), the CREAM Tool (v2A), developed by Air Quality Consultants Ltd (Logika Group), has been used to calculate the traffic-related emissions for use in the assessment.

6.3.38 Dry deposition velocities for $NO_2$ and $NH_3$ of 0.003 m/s and 0.03 m/s, respectively have been used in the assessment, in accordance with the 'Technical guidance on detailed modelling approach for an appropriate assessment for emissions to air' (AQTAG, 2014).

***On-Site Exposure***

6.3.39 A review of the PRTR and NAEI Point Source database has not identified a significant industrial or commercial source of dust or combustion emissions that is likely to affect air quality or amenity at the Site. Impacts associated with the sewage treatment works, located to the east of the Site have been addressed within the odour assessment for the Proposed Development.

6.3.40 The primary source of air pollution at the Proposed Development is expected to be emissions from traffic on the local road network. Pollutant concentrations have therefore been predicted at two on-Site receptors at the boundary of the Site with Pattersdown

Road, representing worst-case long-term exposure for future occupants (see Table 6.7). The receptor locations are shown in Figure 6.3B of Appendix 6.3. Again, concentrations have been predicted at 1.5m, representing the typical ground-floor level exposure zone.

**Table 6.7 On-Site Sensitive Receptors (Human Health)**

| ID | Name | Type | Easting | Northing |
|---|---|---|---|---|
| PD1 | Proposed Development 1 | Residential | 390943 | 170685 |
| PD2 | Proposed Development 2 | Residential | 390961 | 170773 |

**Significance Criteria**

***Traffic-Related Effects on Human Health***

6.3.41 The EPUK/IAQM planning guidance recommends that the impact at individual receptors is described by expressing the magnitude of the incremental change in the annual mean pollutant concentrations as a percentage of the long-term air quality assessment level (AQAL), as set out in Table 6.8. The percentage change is rounded to the nearest whole number; changes of less than 0.5% are rounded to 0% and are considered to be 'negligible'.

**Table 6.8 Magnitude of Impact**

| Percentage Change in Concentration Relative to AQAL | Magnitude |
|---|---|
| 0% | Negligible |
| 1% | Small |
| 2-5% | Moderate |
| 6-10% | Large |
| >10% | Very Large |

6.3.42 The IAQM significance criteria are based on changes in long-term pollutant concentrations and are therefore, by nature, applicable to locations that are of 'high' sensitivity to changes in air quality such as residential properties, schools and hospital. The criteria are not strictly applicable to less sensitive locations where exposure may be limited to short-time periods only, such as commercial premises, and at these locations are typically evaluated with respect to the potential for an exceedance of the short-term air quality standards only.

6.3.43 However, the significance of the impact depends not only on the magnitude of the impact but also on existing air quality, such that receptor sensitivity can be defined in terms of existing air quality at the receptor location, as set out in Table 6.9

**Table 6.9 Receptor Sensitivity**

| Annual Mean Concentration at Receptor | Sensitivity |
|---|---|
| 75% or less of AQAL | Negligible |

| | |
|---|---|
| 76-94% of AQAL | Low |
| 95- 102% of AQAL | Medium |
| 103-109% of AQAL | High |
| 110% or more of AQAL | Very High |

6.3.44 Impact descriptors are then identified as set out in Table 6.10. The IAQM guidance is clear that these descriptors should be used for individual receptors only and the overall significance should be based on professional judgement taking into account factors such as:

- *the existing and future air quality in the absence of the development;*
- *the extent of current and future population exposure to the impacts; and*
- *the influence and validity of any assumptions adopted when undertaking the prediction of impacts.*

**Table 6.10 Impact Descriptors for Individual Receptors**

| **Magnitude** | **Sensitivity** | | | | |
|---|---|---|---|---|---|
| | **Very High** | **High** | **Medium** | **Low** | **Negligible** |
| Very Large | Major | Major | Major | Moderate | Negligible |
| Large | Major | Major | Moderate | Slight | Negligible |
| Moderate | Major | Moderate | Moderate | Negligible | Negligible |
| Small | Moderate | Moderate | Slight | Negligible | Negligible |
| Negligible | Negligible | Negligible | Negligible | Negligible | Negligible |

6.3.45 When a single development is judged in isolation, a 'moderate' or 'major' impact is likely to give rise to a 'significant' effect on air quality, whereas a 'negligible' or 'slight' impact would not have a significant effect.

***Traffic-Related Ecological Effects***

6.3.46 A threshold of 1% of the critical level or critical load has been adopted in the assessment to screen potential impacts on Vincients Wood. This threshold is widely used for assessment purposes and is considered to represent a change that is imperceptible from typical variations in, for example, weather or emissions.

6.3.47 The IAQM habitat guidance (IAQM, 2019) states that "*the 1% screening criterion is not a threshold of harm and exceeding this threshold does not, of itself, imply damage to a habitat*" and consultation with an ecologist may be required to determine whether there is likely to be an adverse effect on the integrity of the habitat site.

6.3.48 The Environment Agency risk assessment guidance for environmental permitting purposes also applies the 1% criteria but considers that where the total predicted concentration (impact plus existing background) is less than 70% of the relevant

assessment level, then the impact is also 'negligible'. This approach has been adopted within the assessment.

6.3.49 Local wildlife sites and ancient woodland are considered less sensitive than statutory designated sites and the Environment Agency consider any impact of below the assessment level to be of 'negligible' significance. The IAQM, however, recommends that the 1% threshold is applied, and professional judgement is used to determine significance.

**Uncertainties and Limitations**

6.3.50 There is an inherent level of uncertainty associated with any assessment process; however, the methodology presented has been developed to minimise errors where possible. Potential errors in predicted concentrations due to uncertainties in the assessment source activity data (e.g., traffic flows and emission factors) and the estimated background concentration are minimised by the verification of modelled concentrations using local monitoring data.

## 6.4 BASELINE CONDITIONS

### The Current Baseline

6.4.1 Wiltshire Council measure ambient pollutant concentrations via a network of automatic air quality monitors and passive diffusion tubes. Details of the monitoring sites that are considered relevant to the assessment are presented in Table 6.11. The locations of the sites relative to the Proposed Development are presented in Figure 6.3D of Appendix 6.3.

6.4.2 All the sites are diffusion tubes measuring long-term $NO_2$ concentrations. The Council's automatic monitors are located within the Salisbury, Bradford-on-Avon and Devizes AQMA's, and the data are therefore not considered representative of the study area.

**Table 6.11 Air Quality Monitoring Locations**

| ID | Name | Type | Easting | Northing |
|---|---|---|---|---|
| 18 | Bourne House, Bath Rd, Chippenham | Roadside | 391712 | 173286 |
| 19 | Rowde Mead Chippenham | Urban Background | 392467 | 172055 |
| 20 | Station Hill, Chippenham | Roadside | 391925 | 173579 |
| 37 | Melksham N | Roadside | 390118 | 164878 |
| 44 | Pickwick, Corsham | Roadside | 386321 | 170604 |

6.4.3 A summary of annual mean $NO_2$ concentrations measured between 2020 and 2024 is presented in Table 6.12. There have been no measured exceedances of the air quality objective of 40 µg/m$^3$ at these locations over the five-year period. A declining trend is evident at both roadside and background locations, likely due to the transition to low emission vehicles.

6.4.4 Diffusion tubes cannot measure short-term concentrations, however, measurements across the UK (D Laxen and B Marner, 2003) have shown that an exceedance of the 1-hour mean air quality standard for $NO_2$ is unlikely where the annual mean concentration is less than 60 µg/m$^3$. The measured concentrations in the area are less than 50% of this threshold, therefore the risk of an exceedance of the short-term objective is negligible.

**Table 6.12 Annual Mean $NO_2$ Concentrations (2019 – 2024)**

| ID | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|
| 18 | 23.7 | 25.0 | 23.3 | 21.6 | 19.7 |
| 19 | 8.5 | 8.8 | 9.5 | 8.3 | 7.8 |
| 20 | 23.4 | 28.6 | 27.7 | 24.9 | 23.4 |
| 37 | 27.0 | 29.0 | 27.2 | 22.2 | 21.8 |
| 44 | - | 25.1 | 24.1 | 21.6 | 20.4 |

***Defra Mapped Background Concentrations***

6.4.5 For comparison with the measured background $NO_2$ concentrations and in the absence of a local site measuring particulate concentrations, annual mean $NO_2$, $PM_{10}$ and $PM_{2.5}$ concentrations in the study area have been obtained from the DEFRA background pollutant maps. These 1km grid resolution maps are derived from a complex modelling exercise that takes into account emissions inventories and measurements of ambient air pollution from both automated and non-automated sites. The latest background maps were issued in November 2024 and are based on 2021 monitoring data.

6.4.6 A summary of the maximum 2024 (baseline year) and 2031 (future year) annual mean mapped background concentrations in the study area (Site, receptors and verification locations) are presented in Table 6.13. The mapped concentrations are well below the current air quality standards and objectives. The data also indicates compliance with the Government's $PM_{2.5}$ AMCT for 2030 of 10 µg/m$^3$.

6.4.7 The mapped data illustrate the anticipated improvement in background air quality between the baseline and future years due primarily to the transition to low emission vehicles. Note that particulate concentrations are not predicted to decline as rapidly as $NO_2$ due to the contribution from non-road emission sources, such as construction works and domestic wood burning.

6.4.8 To provide a conservative assessment of potential impacts and exposure, the 2024 mapped concentrations have been used to predict pollutant concentrations at the identified sensitive receptor locations in 2031.

**Table 6.13 Mapped Background Concentrations**

| ID | $NO_2$ | | $PM_{10}$ | | $PM_{2.5}$ | |
|---|---|---|---|---|---|---|
| | **2024** | **2031** | **2024** | **2031** | **2024** | **2031** |
| Receptors | | | | | | |
| 1 | 6.0 | 4.7 | 12.0 | 11.4 | 6.8 | 6.3 |
| 2 | 6.0 | 4.7 | 12.0 | 11.4 | 6.8 | 6.3 |
| 3 | 6.3 | 4.7 | 12.5 | 11.9 | 7.0 | 6.5 |
| 4 | 6.3 | 4.7 | 12.5 | 11.9 | 7.0 | 6.5 |
| 5 | 6.3 | 4.7 | 12.5 | 11.9 | 7.0 | 6.5 |
| 6 | 5.9 | 4.5 | 12.5 | 11.9 | 6.9 | 6.4 |
| 7 | 8.4 | 6.6 | 14.5 | 13.8 | 9.0 | 8.4 |
| PD1 | 5.4 | 4.2 | 11.4 | 10.8 | 6.6 | 6.1 |
| PD2 | 5.4 | 4.2 | 11.4 | 10.8 | 6.6 | 6.1 |
| Verification Locations | | | | | | |
| 37 | 8.2 | - | - | - | - | - |
| 44 | 6.4 | - | - | - | - | - |

***Airborne NOx Concentration and Background Nitrogen Deposition and Acidification (Ecological)***

6.4.9 Three-year average (2020 – 2022) background $NH_3$, nitrogen deposition and acidification rates for Vincients Wood have been obtained from the Air Pollution Information System (APIS) and are summarised in Table 6.14, together with the Defra mapped background NOx concentration for the baseline year (2024). The background nitrogen deposition rate and $NH_3$ concentration are above the relevant critical load/level.

**Table 6.14 Background Airborne NOx/$NH_3$ Concentrations, Nitrogen Deposition and Acidification Rates**

| Parameter | Background at Vincients Wood | Critical Level/ Load |
|---|---|---|
| Annual Mean NOx Concentration (µg/$m^3$) | 7.5 | 30 |
| Annual Mean $NH_3$ Concentration (µg/$m^3$) | 2.03 | 1 |
| Nitrogen Deposition (kg N/ha/yr) | 31.9 | 10 - 15 |
| Nitrogen Acidification (keq/ha/yr) | 2.28 | - |
| Sulphur Acidification (keq/ha/yr) | 0.17 | - |
| Total Acidification | 2.45 | 11.042 |

**The Projected Future Baseline**

6.4.10 The modelled annual mean existing (2024) and future (2031) baseline concentrations at the identified receptors are presented in Table 6.15. Whilst the backgrounds have been held at 2024 level as a worst-case, the modelled 2031 concentrations indicate a significant decline in $NO_2$ concentrations due to the ongoing transition to a low emission vehicle fleet, despite the increase in baseline traffic and the contribution from other committed developments in the area. A slight reduction in $PM_{10}$ and $PM_{2.5}$ concentrations is also predicted at the majority of receptor locations.

**Table 6.15 Modelled Existing and Future Baseline Pollutant Concentrations**

| ID | $NO_2$ | | $PM_{10}$ | | $PM_{2.5}$ | |
|---|---|---|---|---|---|---|
| | **2024** | **2031** | **2024** | **2031** | **2024** | **2031** |
| 1 | 13.5 | 9.4 | 14.3 | 14.3 | 8.1 | 8.1 |
| 2 | 17.5 | 11.4 | 15.7 | 15.6 | 8.8 | 8.8 |
| 3 | 16.9 | 11.0 | 16.2 | 16.1 | 9.0 | 8.9 |
| 4 | 19.4 | 12.2 | 16.5 | 16.4 | 9.2 | 9.1 |
| 5 | 14.5 | 10.2 | 15.0 | 15.0 | 8.4 | 8.4 |
| 6 | 17.3 | 11.4 | 16.1 | 16.0 | 8.9 | 8.8 |
| 7 | 30.7 | 19.0 | 21.9 | 21.6 | 13.0 | 12.7 |

| | | | | | | |
|---|---|---|---|---|---|---|
| PD1 | 20.7 | 12.5 | 16.1 | 16.1 | 9.2 | 9.1 |
| PD2 | 18.4 | 11.4 | 15.5 | 15.4 | 8.8 | 8.7 |

## 6.5 POTENTIAL EFFECTS

### Construction Stage

6.5.1 Sensitive receptors that may be affected by dust emissions during construction activities include residential properties, educational facilities, retail premises, places of work, recreational areas and ecological receptors.

6.5.2 The precise behaviour of the dust, its residence time in the atmosphere, and the distance it may travel before being deposited would depend upon a number of factors. These include wind direction and strength, local topography and the presence of intervening structures (buildings, etc.) that may intercept dust before it reaches sensitive locations. Furthermore, dust would be naturally suppressed by rainfall.

6.5.3 A wind rose from RAF Fairford (2024) is presented in Figure 6.3E of Appendix 6.3, which shows that the prevailing wind is from the southwest. Receptors located to the northeast are therefore most likely to experience impacts as a result of dust generated during the construction process. The land immediately to the northeast of the Application Site is agricultural.

#### *Sensitivity of the Area to Dust Soiling Effects*

6.5.4 The sensitivity of the area to dust soiling impacts is dependent on the proximity of the most sensitive receptors to the site boundary and roads affected by construction traffic (within 250m of the Site entrance). The area around the Site that has the potential to be affected by dust emissions from on-site activities and trackout is presented in Figure 6.3F and Figure 6.3G of Appendix 6.3. A summary of the receptor and area sensitivity to dust soiling impacts is presented in Table 6.16.

**Table 6.16 Sensitivity of the Area to Dust Soiling Impacts**

| Land-Use | Distance from Site Boundary/ Road | Number of Receptors | Sensitivity | |
|---|---|---|---|---|
| | | | Receptor | Area |
| On-Site Activities (Demolition, Earthworks and Construction) | | | | |
| Existing Residential Dwellings | <20m | 1 - 10 | High | Medium |
| | <250m | 10 - 100 | | |
| Proposed Residential Dwellings | <20m | 1 - 10 | High | |
| | <50m | 10 - 100 | | |
| | <100m | >100 | | |
| Trackout | | | | |
| Existing Residential Dwellings | <50m | 0 | High | Negligible |

#### *Sensitivity of the Area to Human Health Impacts*

6.5.5 The sensitivity of the area to impacts on human health is also based on the proximity of the most sensitive receptors, but it also dependant on existing particulate concentrations in the area. The higher the existing $PM_{10}$ concentration the more likely health impacts will occur at receptor locations. Based on the mapped background concentrations in the area, it is assumed that the existing $PM_{10}$ concentrations in the area are below 24µg/$m^3$, the lowest threshold within the guidance. A summary of the receptor and area sensitivity to health impacts from airborne dust is presented in Table 6.17.

**Table 6.17 Sensitivity of the Area to Health Impacts from Dust**

| Land-Use | Distance from Site Boundary/ Road | Number of Receptors | Sensitivity | |
|---|---|---|---|---|
| | | | Receptor | Area |
| On-Site Activities (Demolition, Earthworks and Construction) | | | | |
| Existing Residential Dwellings | <20m | 1 - 10 | High | Low |
| | <250m | 10 - 100 | | |
| Proposed Residential Dwellings | <20m | 1 - 10 | High | |
| | <50m | 10 - 100 | | |
| | <100m | >100 | | |
| Trackout | | | | |
| Existing Residential Dwellings | <50m | 0 | High | Negligible |

***Sensitivity of the Area to Impacts on Ecology***

6.5.6 There are no dust sensitive habitat sites within 50m of the Site; therefore, the sensitivity of the area to ecological impacts is negligible.

***Magnitude of the Dust Emission***

6.5.7 The magnitude of the likely dust emission from earthworks, construction and trackout is presented in Table 6.18. The development is a greenfield site and therefore no significant demolition works are required.

**Table 6.18 Dust Emission Magnitude**

| Source | IAQM Criteria | Proposed Development | Dust Emission Magnitude |
|---|---|---|---|
| Earthworks | Site Area | >110,000$m^2$ | Large |
| | Soil Type | Kellaways Formation- Sandstone, siltstone and mudstone with superficial Rover Terrace deposits (sand and gravel). Cornbrash Formation- Limestone on the western extent. | |

| | | | |
|---|---|---|---|
| | | Soil type is considered to be moderately dusty. | |
| | Number of heavy earth moving vehicles at any one time | <50 | |
| | Maximum bund height | >6m | |
| Construction | Total building volume | > 75,000m$^3$ | Large |
| | Dusty Construction materials | Brick and concrete | |
| | On-site concrete batching? | Yes | |
| | Sandblasting? | No | |
| Trackout | Number of outward HGV movements in any one day | <50 | Large |
| | Surface material | Moderately dusty | |
| | Unpaved road length | >100m | |

6.5.8 A summary of the potential risk of dust impacts, prior to mitigation, based on the 'low' sensitivity of the area to human health impacts and 'medium' sensitivity to dust soiling impacts is presented in Table 6.19.

6.5.9 Based on the assessed risk of impacts, best practice mitigation measures have been identified to ensure that off-site impacts are of negligible significance. These are provided in Table 6.6A of Appendix 6.6 and will be included in the CEMP for the Proposed Development (embedded mitigation), to be secured by way of an appropriately worded condition.

**Table 6.19 Risk of Dust Impacts Prior to Mitigation**

| Source | Human Health Risk | Dust Soiling Risk | Ecological Risk | Overall Risk |
|---|---|---|---|---|
| Earthworks | Low | Medium | Negligible | Medium |
| Construction | Low | Medium | Negligible | Medium |
| Trackout | Low | Medium | Negligible | Medium |

**Post-Completion Stage**

***Traffic-Related Impacts on Human Health***

6.5.10 Predicted 2031 annual mean $NO_2$ concentrations at the identified receptor locations, without and with the operational traffic associated with the Proposed Development are presented in Table 6.20. The predicted concentrations are less than 75% of the air quality

standard of 40 µg/m$^3$ at all locations, therefore the sensitivity of the receptors to changes in $NO_2$ concentrations is considered to be 'low' (see Table 6.9).

6.5.11 The maximum predicted impact is 0.1 µg/m$^3$, which is 'negligible' and 'not significant'.

6.5.12 The detailed dispersion modelling indicates that, due to the ongoing transition to a low emissions vehicle fleet, annual mean $NO_2$ concentrations at sensitive receptor locations will be considerably lower than the existing (2024) baseline (see Table 6.15).

**Table 6.20 – Predicted 2031 Annual Mean $NO_2$ Concentrations (µg/m$^3$)**

| ID | Baseline | Baseline + Development | Impact (% AQAL) | Magnitude of Impact |
|---|---|---|---|---|
| 1 | 9.4 | 9.6 | 0% | Negligible |
| 2 | 11.4 | 11.5 | 0% | Negligible |
| 3 | 11.0 | 11.1 | 0% | Negligible |
| 4 | 12.2 | 12.3 | 0% | Negligible |
| 5 | 10.2 | 10.3 | 0% | Negligible |
| 6 | 11.4 | 11.5 | 0% | Negligible |
| 7 | 19.0 | 19.1 | 0% | Negligible |

6.5.13 Predicted 2031 annual mean $PM_{10}$ concentrations at the identified receptor locations, without and with the operational traffic associated with the Proposed Development are presented in Table 6.21. Again, the baseline concentrations are less than 75% of the air quality standard of 40 µg/m$^3$ at all locations and the sensitivity of the receptors to changes in $PM_{10}$ concentrations is 'low'.

6.5.14 The maximum predicted impact is 0.1 µg/m$^3$, which is 'negligible' and 'not significant'.

**Table 6.21 Predicted 2031 Annual Mean $PM_{10}$ Concentrations (µg/m$^3$)**

| ID | Baseline | Baseline + Development | Impact (% AQAL) | Magnitude of Impact |
|---|---|---|---|---|
| 1 | 14.3 | 14.4 | 0% | Negligible |
| 2 | 15.6 | 15.7 | 0% | Negligible |
| 3 | 16.1 | 16.2 | 0% | Negligible |
| 4 | 16.4 | 16.5 | 0% | Negligible |
| 5 | 15.0 | 15.0 | 0% | Negligible |
| 6 | 16.0 | 16.1 | 0% | Negligible |
| 7 | 21.6 | 21.6 | 0% | Negligible |

6.5.15 Predicted 2031 annual mean $PM_{2.5}$ concentrations at the identified receptor locations, without and with the operational traffic associated with the Proposed Development are presented in Table 6.22. Again, the baseline concentrations are less than 75% of the air quality standard of 20 µg/m$^3$ at all locations and the sensitivity of the receptors to changes in $PM_{2.5}$ concentrations is 'low'.

6.5.16 The maximum predicted impact is <0.1 µg/m$^3$, which is 'negligible' and 'not significant'.

**Table 6.22 Predicted 2031 Annual Mean $PM_{2.5}$ Concentrations (µg/m$^3$)**

| ID | Baseline | Baseline + Development | Impact (% AQAL) | Magnitude of Impact |
|---|---|---|---|---|
| 1 | 8.1 | 8.1 | 0% | Negligible |
| 2 | 8.8 | 8.8 | 0% | Negligible |
| 3 | 8.9 | 9.0 | 0% | Negligible |
| 4 | 9.1 | 9.1 | 0% | Negligible |
| 5 | 8.4 | 8.4 | 0% | Negligible |
| 6 | 8.8 | 8.9 | 0% | Negligible |
| 7 | 12.7 | 12.8 | 0% | Negligible |

***Traffic-Related Ecological Impacts***

6.5.17 Maximum predicted NOx and $NH_3$ concentrations, nutrient nitrogen deposition rates and nitrogen acidification rates at Vincients Wood due to emissions from the Proposed Development traffic are presented in Table 6.23. The values shown include the local background, as derived from APIS (see Table 6.14). Impacts are evaluated with respect to the relevant Critical Level/ Critical Load (CL) set out in Table 6.6. The predicted impact on the ancient woodland is 'negligible' and 'not significant'.

**Table 6.23 Predicted Ecological Impacts**

| Parameter | Baseline | Baseline + Development | CL | Impact (% CL) | Magnitude of Impact |
|---|---|---|---|---|---|
| Annual Mean NOx (µg/m$^3$) | 11.3 | 11.4 | 30 | 0.3% | Negligible |
| Annual Mean $NH_3$ (µg/m$^3$) | 2.2 | 2.2 | 1 | 0.4% | Negligible |
| Nitrogen Deposition (kg N/ha/yr) | 28.4 | 28.4 | 10 | 0.4% | Negligible |
| Acidification (keq/ha/yr) | 2.2 | 2.2 | 11.042 | 0.1% | Negligible |

***Exposure***

6.5.18 The predicted 2031 annual mean concentrations of $NO_2$, $PM_{10}$ and $PM_{2.5}$ at the worst-case on-Site receptors are presented in Table 6.24. The concentrations are well below the current air quality standards for the protection of health. The predicted $PM_{2.5}$ concentrations are also compliant with the Government's AMCT of 10 µg/m$^3$.

6.5.19 With regard to short-term exposure, the predicted $NO_2$ concentrations are less than 25% of the 60 µg/m$^3$ threshold for a potential exceedance of the 1-hour mean objective. The risk of non-compliance at the Site is therefore 'negligible'.

6.5.20 LAQM.TG22 provides a relationship between predicted annual mean $PM_{10}$ concentrations and the likely number of exceedances of the short-term (24-hour mean) PM10 objective of 50 µg/m$^3$. The objective allows 35 exceedances per year, which is equivalent to an annual mean of 32 µg/m$^3$. On this basis, the dispersion modelling indicates that compliance with the short term $PM_{10}$ objective will be achieved at the Site.

**Table 6.24 – Predicted 2031 On-Site Annual Mean Concentrations**

| **Receptor** | **$NO_2$** | **$PM_{10}$** | **$PM_{2.5}$** |
|---|---|---|---|
| PD1 | 12.8 | 16.3 | 9.2 |
| PD2 | 12.1 | 15.9 | 9.0 |

## 6.6 MITIGATION MEASURES

### Construction Stage

6.6.1 In accordance with the IAQM guidance (IAQM, 2024) the mitigation measures detailed in Appendix 6.6 will be incorporated into the CEMP for the Proposed Development (to be secured by way of an appropriately worded condition). These measures are expected to effectively control dust emissions associated with the Site during the construction stage and the significance of the dust impact on nearby receptors, including early occupants of the Proposed Development, is expected to be 'negligible' and 'not significant'.

### Post-Completion Stage

6.6.2 All new developments are required to demonstrate good design with respect to minimising both emissions and new exposure to poor air quality. A Framework Travel Plan has been developed to encourage sustainable transport and minimise the number of vehicle trips generated by the Proposed Development. The Proposed Development will also include secure cycle parking/storage. Other Travel Plan measures could include:

- Travel Information Webpage; and
- Travel Plan Welcome Pack.

6.6.3 The results of the detailed dispersion modelling indicates that traffic associated with the Proposed Development will have a 'negligible' and 'not significant' effect, therefore no additional measures are proposed.

## 6.7 RESIDUAL EFFECTS

### Construction Stage

6.7.1 The residual effects of dust and particulate matter generated by construction activities will be minimised by following the mitigation measures outlined in Appendix 6.6. The residual effects are expected to be 'negligible'.

### Post-Completion Stage

6.7.2 The residual effect of the Proposed Development on local air quality will be 'negligible'.

### Summary of Effects

6.7.3 The effects identified are summarised in Table 6.25 below:

**Table 6.25 – Summary of Effects**

| Potential Effect | Significance (pre-mitigation) | Mitigation Measure | Significance of residual effect |
|---|---|---|---|
| Construction Stage | | | |
| Dust | n/a | CEMP | Negligible |
| Traffic | Negligible | Construction Traffic Management Plan | Negligible |
| Post-Completion Stage | | | |
| Traffic | Negligible | Framework Travel Plan | Negligible |

## 6.8 CUMULATIVE EFFECTS

6.8.1 The future baseline traffic flows used in the assessment of operational traffic impacts include traffic associated other committed developments in the area, therefore cumulative effects are intrinsic to the assessment. The cumulative effect on air quality is therefore predicted to be 'negligible'.

## 6.9 REFERENCE LIST

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Department for Levelling Up, Housing and Communities (2024) Planning Practice Guidance.

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**APPENDICES**

Appendix 7.1 Landscape and Visual Impact Assessment
Appendix 7.2 Landscape and Visual Effects
Appendix 7.3 Cumulative Effects

## 7.1 INTRODUCTION

7.1.1 This Chapter of the ES has been produced by The Environmental Dimension Partnership Ltd (EDP). The purpose of the Landscape and Visual Impact Assessment (LVIA) is to review landscape character and visual amenity, and to assess the resulting landscape and visual effects of the Proposed Development.

7.1.2 This Chapter has been prepared with reference to the Technical Appendices as set out below:

- Technical Appendix 7.1: Landscape and Visual Impact Assessment;
- Technical Appendix 7.2: Landscape and Visual Effects; and
- Technical Appendix 7.3: Cumulative Effects.

7.1.3 The following drawings have been prepared to further inform and illustrate the landscape and visual assessment. These are provided as part of Appendix 7.1:

- Figure 7.1: Site Location and Study Areas;
- Figure 7.2: Site Character and Local Context;
- Figure 7.3: Relevant Planning Designations and Considerations;
- Figure 7.4: Published Landscape Character Assessments;
- Figure 7.5: Topography;
- Figure 7.6: Visual Analysis and Photoviewpoint Locations; and
- Figure 7.7: Illustrative Landscape Strategy.

### Competency

7.1.4 The Chapter and associated material have been prepared by Adam Hughes (BA (Hons), DipLA, CMLI), a Chartered Landscape Architect with over 15 years of experience working extensively on LVIAs and EIAs across a range of sectors in the UK including residential, energy/renewables and commercial.

## 7.2 RELEVANT POLICY

### National Planning Policy Framework

7.2.1 The *National Planning Policy Framework* (NPPF), updated in December 2024, includes planning policies and guidance requiring developers to respond to the natural environment and landscape character, integrating the development into its local surroundings.

7.2.2 Section 12 of the NPPF addresses the issue of good design and recommends that planning decisions should aim to ensure that developments respond to the local character and history. Specifically, in paragraph 130 it is stated that development should: "*add to the overall quality of the area…*", be "*visually attractive as a result of good architecture, layout and appropriate and effective landscaping…*", and be "*sympathetic to local character and history, including the surrounding built environment and landscape setting…*".

7.2.3 Section 15 of the NPPF addresses the natural environment. For landscape, this means "*recognising the intrinsic beauty of the countryside*" and balancing any 'harm' to the landscape resource with the benefits of the scheme in other respects. This balancing exercise is to be undertaken by the decision taker (in this case the Local Planning Authority (LPA)) and falls outside the remit of this report.

### Core Strategy

7.2.4 The adopted Wiltshire Core Strategy (January 2015) includes over-arching general development policies, to which the development proposals will be tested. Policies that are specific to the Site in landscape and visual terms are:

- Core Policy 50: Biodiversity and Geodiversity - Development proposals must demonstrate how features of nature conservation and geological value are protected, retained, buffered, and managed to maintain their ecological value, connectivity and functionality in the long-term. Should feature be identified for removal, ecological impacts should be mitigated;
- Core Policy 51: Landscape - Development should protect, conserve and where possible enhance landscape character, with any impacts mitigated through sensitive design and landscape measures;
- Core Policy 52: Green Infrastructure - Development proposals should make provision for the retention and enhancement of Wiltshire's green infrastructure network, and ensure that suitable links to the network are provided and maintained; and

- Core Policy 57 Ensuring High Quality Design and Place Making: Any new development within Wiltshire is expected to achieve *"a high standard of design".* This includes:
    - *"enhancing local distinctiveness by responding to the value of the natural and historic environment";*
    - *"the retention and enhancement of existing important landscaping and natural features in order to take opportunities to enhance biodiversity, create wildlife and recreational corridors, effectively integrate the development into its setting and to justify and mitigate against any losses that may occur through the development";*
    - *"making efficient use of land whilst taking account of the characteristics of the site and the local context to deliver an appropriate development which relates effectively to the immediate setting and to the wider character of the area"; and*
    - *"ensuring that the public realm, including new roads and other rights of way, are designed to create places of character which are legible, safe and accessible in accordance with Core Policy 66 (Strategic Transport Network)".*

**The Chippenham Neighbourhood Plan (CNP) 2023-2038 (Made 29 May 2025)**

7.2.5 The CNP aims to guide the future development and growth of Chippenham town in the period up to 2038. It contains a vision, objectives, and planning policies which seek to ensure that future development within the town is sustainable. The Site lies outside of the Neighbourhood Area, however, is bound to the north and the east by the area. Given its proximity, the below policies are considered relevant to the scope of this LVIA:

- Policy SCC2 – Sustainable Design and Construction;
- Policy GI1 – Protecting and Enhancing Biodiversity;
- Policy GI4 – Green Corridors;
- Policy GI5 – Trees, Woodland and Hedgerows; and
- Policy H2 – Housing Design.

7.2.6 Technical Appendix 7.1 includes a detailed review and commentary of the above policies considered relevant to the Site in landscape and visual terms.

**Legislative Context**

7.2.7 The EIA approach and methodology is set out in Chapter 1: EIA Methodology, of this ES Chapter. With regard to landscape and visual matters the 'Guidelines for Landscape and

Visual Impact Assessment' 3rd Edition (GLVIA3)', paragraph 2.2 includes that the European Landscape Convention (ELC), to which the UK is a signatory, defines landscape as:

*"Landscape is an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors"(Landscape Institute (LI) and Institute of Environmental Management and Assessment (IEMA), 2013).*

7.2.8 The GLVIA3, paragraph 2.4, reminds us that the importance of the ELC definition is that it "*…moves beyond the idea that landscape is only a matter of aesthetics and visual amenity*". Landscape assessment requires that proposed changes are assessed holistically in terms of all dimensions of the landscape resource. Those other dimensions include whether the Site has historical or cultural relevance, its habitats, its landscape fabric and its long-term management. Frequently the loss of openness and change to visual character are counterbalanced by neutral or even positive impacts on other dimensions of the landscape resource.

7.2.9 The GLVIA3 also states, in reference to the European Union Directive 2011/92/EU, that:

*"The Directive is clear that the emphasis is on the identification of likely significant environmental effects. This should embrace all types of effect and includes, for example, those that are positive/beneficial and negative/adverse, direct and indirect, and long and short term, as well as cumulative effects. Identifying significant effects stresses the need for an approach that is in proportion to the scale of the project that is being assessed and the nature of its likely effects. Judgement needs to be exercised at all stages in terms of the scale of investigation that is appropriate and proportional. This does not mean that effects should be ignored, or their importance minimised but that the assessment should be tailored to the particular circumstances in each case."*

7.2.10 This LVIA has been prepared in accordance with best practice guidance, as set out in the GLVIA3 which "*takes into account recognition of the European Landscape Convention by the United Kingdom government*" including with regard to the definition of landscape; value of landscape; and the assessment of the effects of the development on landscape, as set out above. This assessment has, therefore, been prepared with regard to the ELC in these regards.

## 7.3 ASSESSMENT METHODOLOGY

### Scope

7.3.1 To establish the baseline and the potential limit of notable effects, an area of 3km from the Site was adopted as the initial search area. This enabled the geographical scope of the assessment to be defined and provided the wider geographical context of the study. Within this area, the search focused on identifying the local planning policy context, identifying national and local landscape designations and other relevant designations (e.g., National Landscape (NL), Registered Parks and Gardens (RPGs), Scheduled Monuments (SMs), etc.), and providing a general geographical understanding of the Site and its broader context (for example, in relation to landform, transport routes and the distribution and nature of settlement).

7.3.2 Following this initial analysis and subsequent fieldwork, and having an appreciation of the Proposed Development, the study area has been refined to focus on those areas and features that are assessed as likely to be affected by the Proposed Development. The extent of this study area is 1km from the boundary, although occasional reference may be made to features beyond this area where appropriate. The Site is illustrated on Figure 7.1.

### Assessment Approach

7.3.3 Provided within this section is an abridged methodology for the landscape and visual assessment. An unabridged version and glossary can be found at Appendix EDP 2 within Technical Appendix 7.1.

7.3.4 The assessment considers landscape and visual matters as separate but linked issues. It takes into account:

- Landscape effects relating to physical changes to the landscape resource, such as landform, footpaths, trees, hedgerows and other types of vegetation;
- Landscape effects relating to potential changes to landscape or townscape character. Character is about how different factors combine or interact to give an area its distinct sense of place; and
- Visual effects relating to changes in the composition of people's views or their visual amenity.

7.3.5 A three-stage assessment process has been adopted for the LVIA in accordance with best practice as set out in the GLVIA3 as relevant to EIA schemes, comprising:

1. Description of the Proposed Development and the existing landscape and visual context in which it will be assessed (set out in Technical Appendix 8.1 and summarised in this Chapter);
2. Prediction of the likely changes to the landscape and visual receptors resulting from the Proposed Development (set out at Technical Appendix 8.2); and
3. Assessment of the significance and nature (positive or negative/adverse) of the effects resulting from the likely changes (set out at Technical Appendix 8.2 and summarised in this Chapter).

7.3.6 The assessment considers the following:

- Effects during construction;
- Effects at development completion (Year 1), without mitigation planting measures having been implemented; and
- Effects at development design year (Year 15), - taking into account the proposed 'inherent' mitigation measures. These effects are assessed at Year 15, when landscape mitigation planting would be expected to be mature.

***Baseline Data Collection***

7.3.7 The baseline comprises a factual description of the landscape and visual amenity resource of the Site. It is based on a review of landscape character documentation (with on-site corroboration), anticipated changes within the landscape, a review of planning polices and designations, and a review of the visual amenity of the Site and general visibility of the Site. This comprised both a desk-based analysis, on-site survey work, and included Zone of Theoretical Visibility (ZTV) analysis to aid the understanding of the potential visibility of the Proposed Development.

7.3.8 The baseline describes, classifies, and evaluates the baseline landscape and has been instrumental in the identification of the receptors and viewpoints to be included within the assessment. In addition, the baseline also considers those schemes that are operational, consented and in application, in order to evaluate the potential cumulative effects resulting from the introduction of the Proposed Development to a baseline that currently exists or is likely to exist.

7.3.9 In compiling the baseline, EDP has undertaken the following key tasks:

- A review of the planning policy context for the Site;
- A desk-top study and web search of relevant background documents and maps. EDP's study included reviews of aerial photographs, web searches, county and district publications and landscape character assessments. EDP has also obtained, where possible, information about relevant landscape and other designations such

as NLs, RPGs, Tree Preservation Orders (TPOs), SMs, Conservation Areas, and Listed Buildings; and

- Field assessment of local Site conditions undertaken during December 2025. This included a photographic survey of the character and fabric of the Site and its surroundings, using photography from a number of representative viewpoints, undertaken by a qualified landscape architect.

7.3.10 Further details of these key tasks are provided within the assessment methodology section below as they form an integral part of the assessment process.

***Assessment Methodology***

7.3.11 The likely effects of the Proposed Development on the landscape resource and visual amenity are assessed through the combination of an assessment of a number of representative viewpoints; desk research; and fieldwork. Through this work, a more precise understanding of the baseline conditions of the Site can be gained.

7.3.12 In order to assess the likely effects, the assessment draws on the baseline to identify receptors which may include, but not be limited to, those listed below.

7.3.13 Landscape receptors may include:

- Landscape designations on a national, regional or local level (where relevant);
- The landscape fabric of the Site;
- The 'host' landscape character area which contains the Proposed Development;
- 'Non-host' landscape character areas surrounding the host character area and which have the potential to be affected by the Proposed Development (where relevant); and
- Specific landscape features of value such as vegetation or grassland as identified through the ecology and arboriculture surveys.

7.3.14 Visual receptors may include:

- Users of National Cycle Routes and National Trails;
- Users of local/regional cycle and walking routes;
- Those using local Public Rights of Way (PRoW) - walkers, horse riders, cyclists;
- Users of open spaces with public access;
- Settlements and private residences;

- People using major (A and B) roads;
- People using minor roads; and
- People using local railways.

7.3.15 The tables within Appendix EDP 2 of Technical Appendix 7.1, summarised below for ease of reference, offer templates for assessing overall sensitivity of any landscape or visual receptor, and magnitude of change/impact.

7.3.16 Assessment of the overall sensitivity of any landscape or visual receptor is determined by combining judgements of their susceptibility to the type of change or development proposed and the value attached to the landscape or view as set out at paragraph 5.38 of GLVIA3. However, the narrative in this report demonstrates that assessment of overall sensitivity can change on a case-by-case basis. For example, a high susceptibility to change and a low value may result in a medium overall sensitivity, unless it can be demonstrated that the receptor is unusually susceptible or is in some particular way more valuable. A degree of professional judgement has been applied in arriving at the overall sensitivity for both landscape and visual receptors.

7.3.17 Table 7.1 below provides an indication of the criteria by which the overall sensitivity of a landscape receptor is judged within this assessment and considers both value and susceptibility independently.

**Table 7.1 Landscape Sensitivity Criteria**

| Category | Landscape Receptor Value Criteria | Landscape Susceptibility to Change Criteria |
|---|---|---|
| Very High | Nationally/internationally designated/valued countryside and landscape features; strong/distinctive landscape characteristics; absence of landscape detractors. | Strong/distinctive landscape elements/aesthetic/perceptual aspects; absence of landscape detractors; landscape receptors in excellent condition. Landscapes with clear and widely recognised cultural value. Landscapes with a high level of tranquillity. |
| High | Locally designated/valued countryside (e.g. Areas of High Landscape Value, Regional Scenic Areas) and landscape features; many distinctive landscape characteristics; very few landscape detractors. | Many distinctive landscape elements/aesthetic/perceptual aspects; very few landscape detractors; landscape receptors in good condition. The landscape has a low capacity for change as a result of potential changes to defining character. |
| Medium | Undesignated countryside and landscape features; some distinctive landscape | Some distinctive landscape elements/aesthetic/perceptual aspects; few landscape detractors; landscape |

| Category | Landscape Receptor Value Criteria | Landscape Susceptibility to Change Criteria |
|---|---|---|
| | characteristics; few landscape detractors. | receptors in fair condition. Landscape is able to accommodate some change as a result. |
| Low | Undesignated countryside and landscape features; few distinctive landscape characteristics; presence of landscape detractors. | Few distinctive landscape elements/aesthetic/perceptual aspects; presence of landscape detractors; landscape receptors in poor condition. Landscape is able to accommodate large amounts of change without changing these characteristics fundamentally. |
| Very Low | Undesignated countryside and landscape features; absence of distinctive landscape characteristics; despoiled/degraded by the presence of many landscape detractors. | Absence of distinctive landscape elements/aesthetic/perceptual aspects; presence of many landscape detractors; landscape receptors in very poor condition. As such landscape is able to accommodate considerable change. |

7.3.18 For visual receptors, judgements of susceptibility and value are closely interlinked considerations. For example, the most valued views are those which people go and visit because of the available view – and it is at those viewpoints that their expectations will be highest and thus most susceptible to change.

7.3.19 Table 7.2 provides an indication of the criteria by which the overall sensitivity of a visual receptor is judged within this assessment and considers both value and susceptibility together.

**Table 7.2: Visual Receptor Sensitivity Criteria**

| Category | Visual Receptor Criteria |
|---|---|
| Very High | Designed view (which may be to or from a recognised heritage asset or other important viewpoint), or where views of the surroundings are an important contributor to the experience. Key promoted viewpoint, e.g., interpretative signs. References in literature and art and/or guidebooks tourist maps. Protected view recognised in planning policy designation.<br><br>Examples may include views from residential properties, especially from rooms normally occupied in waking or daylight hours; national PRoWs, e.g., National Trails, and nationally designated countryside/landscape features with public access which people might visit purely to experience the view; and visitors to heritage assets of national importance. |

| Category | Visual Receptor Criteria |
|---|---|
| High | View of clear value but may not be formally recognised, e.g., framed view of high scenic value, or destination hill summits. It may also be inferred that the view is likely to have value, e.g., to local residents.<br><br>Examples may include views from recreational receptors where there is some appreciation of the landscape e.g. golf and fishing; local PRoW, access land and National Trust land, also panoramic viewpoints marked on maps; road routes promoted in tourist guides for their scenic value. |
| Medium | View is not promoted or recorded in any published sources and may be typical of the views experienced from a given receptor.<br><br>Examples may include people engaged in outdoor sport other than appreciation of the landscape e.g. football and rugby, or road users on minor routes passing through rural or scenic areas. |
| Low | View of clearly lesser value than similar views experienced from nearby visual receptors that may be more accessible.<br><br>Examples may include road users on main road routes (motorways/A roads) and users of rail routes or people at their place of work (where the place of work may be in a sensitive location). Also views from commercial buildings where views of the surrounding landscape may have some limited importance. |
| Very Low | View affected by many landscape detractors and unlikely to be valued.<br><br>Examples may include people at their place of work, indoor recreational or leisure facilities or other locations where views of the wider landscape have little or no importance. |

7.3.20 Table 7.3 provides an indication of the criteria by which the size/scale of change at a landscape or visual receptor is judged within this assessment.

**Table 7.3: Scale of Change Criteria**

| Category | Landscape Receptor Criteria | Visual Receptor Criteria |
|---|---|---|
| Very High | Total loss of or major alteration to key elements/features/characteristics of the baseline condition. Addition of elements which strongly conflict with the key characteristics of the existing landscape. | There would be a substantial change to the baseline, with the proposed development creating a new focus and having a defining influence on the view. |
| High | Notable loss or alteration to one or more key elements/features/characteristics of the baseline condition. Addition of elements that are prominent and may conflict with the key characteristics of the existing landscape. | The proposed development will be clearly noticeable, and the view would be fundamentally altered by its presence. |

| Category | Landscape Receptor Criteria | Visual Receptor Criteria |
|---|---|---|
| Medium | Partial loss or alteration to one or more key elements/features/characteristics of the baseline condition. Addition of elements that may be evident but do not necessarily conflict with the key characteristics of the existing landscape. | The proposed development will form a new and recognisable element within the view which is likely to be recognised by the receptor. |
| Low | Minor loss or alteration to one or more key elements/features/characteristics of the baseline landscape. Addition of elements that may not be uncharacteristic within the existing landscape. | The proposed development will form a minor constituent of the view being partially visible or at sufficient distance to be a small component. |
| Very Low | Barely discernible loss or alteration to key elements/features/characteristics of the baseline landscape. Addition of elements not uncharacteristic within the existing landscape. | The proposed development will form a barely noticeable component of the view, and the view whilst slightly altered would be similar to the baseline situation. |
| Negligible | No appreciable change. | No appreciable change. |

7.3.21 Table 7.4 provides an indication of the criteria by which the geographical extent of the area affected is judged within this assessment.

**Table 7.4: Geographical Extent Criteria**

| | Landscape Receptors | Visual Receptor Criteria |
|---|---|---|
| Largest ↕ Smallest | Large scale effects influencing several landscape types or character areas. | Direct views at close range with changes over a wide horizontal and vertical extent. |
| | Effects at the scale of the landscape type or character areas within which the proposal lies. | Direct or oblique views at close range with changes over a notable horizontal and/or vertical extent. |
| | Effects within the immediate landscape setting of the Site. | Direct or oblique views at medium range with a moderate horizontal and/or vertical extent of the view affected. |
| | Effects at the Site level (within the Site itself). | Oblique views at medium or long range with a small horizontal/vertical extent of the view affected. |
| | Effects only experienced on parts of the Site at a very localised level. | Long range views with a negligible part of the view affected. |

**Significance Criteria**

7.3.22 The purpose of the EIA process is to identify the likely significant environmental effects (both beneficial and adverse) arising from a proposed development.

7.3.23 In order to consider the likely level of any effect, the sensitivity of each receptor is combined with the predicted magnitude of change (as set out above), with reference also made to the geographical extent, duration and reversibility of the effect within the assessment. The level of effect can be derived by combining the sensitivity and magnitude in accordance with the matrix in Table 7.5.

**Table 7.5: Level of Effects Matrix**

| **Overall Sensitivity** | **Overall Magnitude of Change** | | | | |
|---|---|---|---|---|---|
| | **Very High** | **High** | **Medium** | **Low** | **Very Low** |
| **Very High** | **Substantial** | **Major** | **Major/ Moderate** | **Moderate** | Moderate/ Minor |
| **High** | **Major** | **Major/ Moderate** | **Moderate** | Moderate/ Minor | Minor |
| **Medium** | **Major/ Moderate** | **Moderate** | Moderate/Minor | Minor | Minor/ Negligible |
| **Low** | **Moderate** | Moderate/ Minor | Minor | Minor/ Negligible | Negligible |
| **Very Low** | Moderate/ Minor | Minor | Minor/ Negligible | Negligible | Negligible/ None |

7.3.24 Each effect is described and evaluated individually through the integration of all of the relevant factors, and assessed as either significant or not significant. For landscape and visual effects, those effects identified at a **substantial**, **major**, **major**/**moderate** or **moderate** level (emboldened in the table above) are generally considered to be **significant** and those effects assessed at **a moderate**/**minor, minor, minor**/**negligible** or **negligible** level are considered to be **not significant**.

7.3.25 In certain cases, where additional factors may arise, a further degree of professional judgement may be applied when determining the level of overall change. Where this occurs, further explanation is given.

7.3.26 Effects will be described and evaluated during construction, at Year 1 (completion of construction activities) and Year 15 (following maturation of the landscape proposals).

**Cumulative Effects**

7.3.27 Cumulative effects generally occur where there may be combined or sequential visibility of two or more developments of the same type and scale, or where the consideration of other schemes would increase an effect identified. Where other schemes are relevant, these are considered in conjunction with the proposals.

7.3.28 A schedule of schemes considered as part of the cumulative effects is presented in Chapter 2.

7.3.29 Cumulative impacts that can be foreseen as a result of the Proposed Development in conjunction with these identified schemes, and any possible mitigation measures required, are considered.

**Temporal Scope**

7.3.30 As advised in GLVIA3, the appraisal takes into account the effects of any proposed mitigation. Typically, a 15-year time horizon is used as the basis for conclusions about the residual levels of effect. Fifteen years is a well-established and accepted compromise between assessing the shorter-term effects (which may often be rather 'raw' before any proposed mitigation has had time to take effect) and an excessively long time period.

**Assumptions and Limitations**

7.3.31 The following assumptions and limitations of the assessment process are acknowledged:

- Baseline conditions have been established using published documents and field assessment; it is important to note that this information may change before, or during, the construction and operation of the Proposed Development, but is considered to be representative of the Site conditions on which to base the assessment;
- The assessment is undertaken in consideration of the 'worst case' scenario for the Proposed Development, i.e. those potential outcomes, situations or locations which would result in the most profound effect on landscape and visual receptors, unless stated to the contrary. It therefore identifies the greatest degree of change likely to accrue and may be subject to mitigating factors or alternative conditions which might reduce those effects. For example, the level of visual effect is expressed for winter landscape conditions when trees are bare of leaf cover and the visibility of development is at its greatest. Where this is the case, the assessment identifies alternative conditions or further mitigation which might result in impacts being less pronounced;
- As defined above, the assessment of likely significant effects applies a pre-determined methodology to arrive at its conclusions. This procedure brings a degree of objective, procedural rigour into what otherwise might be judged to be 'personal opinion'. Certainly, professional judgement still plays its part, but the purpose of adopting a methodology is to make the process as clear and logical as possible;

- The landscape and visual assessment considers an outline scheme of the Proposed Development, and the maximum parameters (as a worst-case) that are submitted with the planning application. During the subsequent design stages, detailed matters of the Proposed Development and landscape and ecological mitigation measures will be addressed. As these cannot be anticipated at this stage, they do not form part of the assessments;

- A lighting scheme does not form part of the outline planning application for the Proposed Development, but will be covered in detail by Reserved Matters, giving consideration to matters such as 'light spill' and 'sky glow', and any effects these may have on the ecological areas and corridors of the Site, as well as safety and security. This chapter considers the possible nature of changes in night-time landscape character and visual amenity arising from the provision of lighting within the Proposed Development; and

- This landscape and visual assessment does not consider the significance of heritage assets, or any potential direct impacts on these assets or their settings, which are set out in Chapter 9 'Cultural and Built Heritage'. The landscape and visual chapter makes note, where there are likely to be views of the Proposed Development from residential areas, whether this includes Listed Buildings or Conservation Areas.

## 7.4 BASELINE CONDITIONS

### The Current Baseline

7.4.1 The below forms a summary of the Landscape and Visual Baseline Appraisal conditions of the Site and surrounding context, for full details refer to Technical Appendix 7.1: Landscape and Visual Impact Assessment.

### *Published Landscape Character Assessments*

7.4.2 There are a number of Landscape Character Assessments (LCAs) relating to the Site and surrounding landscape (see Technical Appendix 7.1, Figure 7.4). An overview of the described features of the character areas and related guidance and recommendations relating to Proposed Development within the Site, are set out below.

*National Landscape Character Assessment*

7.4.3 Natural England's National Character Area (NCA) Maps show that the Site and its surroundings fall within NCA 117: Avon Vales (Natural England, 2014), which stretches approximately 40km from Frome in the south-western corner across to Malmesbury in the very northern tip.

7.4.4 For the scale of the development proposed on the site, it is considered that the description of landscape character undertaken at the sub-regional level is more relevant in establishing the landscape resource baseline. As such, of much greater use are the more localised assessments described in the following paragraphs.

*Local Landscape Character Assessment: Wiltshire Landscape Character Assessment (WLCA) (December 2005)*

7.4.5 The WLCA was produced by Land Use Consultants on behalf of Wiltshire County Council to understand the development of appropriate recommendations for future landscape conservation and management, following the now superseded 'North Wiltshire Landscape Character Assessment'.

7.4.6 The study breaks the county down into 16 different Landscape Character Types (LCTs), which are all then split further into location specific Landscape Character Areas. The Site is identified within 'LCT 12: Open Clay Vale' and 'Landscape Character Area 12B: Avon Open Clay Vale'. This LCT covers a broad area surrounding the Site and it is not considered that any further non-host LCTs will be affected by the proposals (Technical Appendix 7.1, Figure 7.4). A summary of the LCT, including the 'key characteristics' and 'Positive landscape

features of significance' considered relevant to the study area are contained within Technical Appendix 7.1.

***EDP Site Assessment***

7.4.7 EDP conducted an assessment of the Site's characteristics through site walkovers in November 2021, March 2022 and December 2025, in clear weather conditions. The visits were complemented by a review of aerial photography, mapping and field assessments from publicly accessible locations (e.g. from local roads and PRoW). The aerial photograph provided at Technical Appendix 7.1, Figure 7.2 illustrates the character and features of the landscape across the Site and near context while Technical Appendix 7.1, Figure 7.5 illustrates the topographic character across the Site and surrounding context.

7.4.8 In general, the character of the Site can be split in two:

- River Corridor – This area comprises two large, irregularly shaped, field parcels that lie adjacent to the River Avon. Due to the generally flat topography and mature landscape features on the periphery, this area has a partially enclosed feel where the wider context of Chippenham and the road corridors appear distant and muted. This is further reinforced by the surrounding topography outside of the Site boundaries, where the landform rises to the south and east to restrict a visual connection to the wider landscape. There are, however, areas of relative openness where gaps in vegetation combine with the topography to provide occasional views out to the elevated landscape to the south-west, however this is seen within the context of the existing pylons running across the Site's southern boundary; and
- Agricultural Fields – To the west, three large, broadly rectilinear, agricultural fields lie adjacent to the B4528 and Showell Farm. The mature vegetation running along the internal field boundaries helps to create a sense of enclosure where intervisibility with the wider landscape is generally restricted, albeit the ongoing construction at Rowden Park to the north is identifiable both visually and audibly. The western boundary being the only exception as this is open, where movement and noise along the B4528 and A350 to the west and south-west respectively forms a detracting feature across the agricultural landscape, which also contains the recently completed Southpoint Business Park.

7.4.9 Although the Site does not currently retain any physical or visual connection with the urban area of Chippenham to the north, experiences within the Site are influenced by its relative proximity to the town as the settlement moves closer to the northern edge of the Site through the development at Rowden Park. Farmsteads at Showell Farm to the west and Lower Lodge Farm to the east are experienced across a large portion of the site, as well as the recently constructed Siemens warehouse which lies approximately 250m to the west of

the Site and is prominent in the local landscape due to its height and general massing. Post and wire fencing allows a visual connection to the B4528 which provides a busy vehicular route into the heart of Chippenham. Movement along this road provides an audible and visual detractor in the 'Agricultural Fields' to the west, with the wider road network, most notably the A350, which also contributes to the audible experience within the Site. The Lackham Roundabout, approximately 50m south-west of the Site is situated slightly elevated, which contains further features that can be experienced within the site, such as road signs and streetlights. Perceptual qualities are further reduced by the overhead cables running diagonally across the site towards the Sewage Works to the north, alongside more substantial overhead cable cutting across the Site's south-eastern corner and continuing broadly eastwards across the landscape as it rises in elevation.

7.4.10 The landscape fabric of the Site is restricted largely to the field parcel boundaries, as the land itself has been identified as a mixture of 'Poor Semi-Improved Grassland' and 'Arable Grassland'. Field boundaries generally comprise intact species rich hedgerows interspersed with scattered trees, most notably running broadly north to south through the centre of the Site. Scattered trees and areas of scrub can also be found along the edge of the River Avon.

7.4.11 There are currently no cultural associations with the Site or immediate context.

7.4.12 The quality of the landscape remains typical of an agricultural setting, with elements of higher quality features limited to the field parcel boundaries. Generally, the existing hedgerows are intact, providing green links through the centre, and around the edge of, the Site boundary. The hedgerows along the Site's northern tip and running north to south between the two arable field parcels are defunct and species poor, with the Site's western edge to the B4528 containing only post and wire fencing.

7.4.13 Given the scale of the field parcels and the gently undulating local topography, the Site retains a good visual connection with the wider landscape. Views out are afforded towards the elevated landform south of the Site, as well as Lower Lodge Farm, situated on locally elevated land immediately east of the river. The more distant wooded ridgeline around Naish Hill (approximately 1.9km south-east) can be identified in the backdrop, however this is seen with the large route of pylons running across the landscape to the east in the foreground. The post and wire fencing along the western boundary also allows a visual connection with the road network (primarily the B4528, but also the A350 further west/south-west), reducing scenic qualities.

7.4.14 Generally, the features of the Site as identified above are not considered rare or unique at a local or national level. However, there are features, such as the willows and poplars along the river's edge, that are identified as characteristic of the LCT in the WCLA, as well as the Arboricultural Survey identifying three veteran trees within the Site boundary.

7.4.15 As identified above, the Site does not exhibit a large number of the identified 'Key characteristics' within LCT 12 of the WCLA. The Site is therefore considered to be typical of the overall LCT, containing features such as geometric fields with hedgerows and a pastoral landscape with some arable.

7.4.16 In terms of conservation interests, both the Ecological Appraisal and Arboricultural Survey identified habitats/features that should be retained, such as the 'Intact Species Rich Hedgerows' and Category A and Veteran Trees.

7.4.17 The Site contains two PRoW routes, both running broadly north to south, providing some pedestrian connectivity between the landscape to the south around Lackham with the centre of Chippenham further north. The easternmost route also provides a key link between Chippenham and Reybridge/Lacock to the south.

7.4.18 In terms of visual character, the Site is largely typical of a landscape on the fringe of a large settlement, with elements of countryside interspersed with varying levels of development – farmsteads within the locality alongside larger built form in the distance. The local road network reinforces this visual character.

***Landscape Designations***

7.4.19 Landscape-related designations and policy considerations within 1km of the Site are shown in Technical Appendix 7.1, Figure 7.3. As indicated, the Site and context does not lie within a nationally or locally designated landscape.

***Heritage Matters***

7.4.20 A description of the heritage assets of the Site and surrounding area is set out in Chapter 9: Built and Cultural Heritage. An overview of the cultural heritage features of relevance to the landscape of the Site and its surrounds is set out below:

- Rowden Conservation Area can be found 45m to the north of the Site and Chippenham Conservation Area 1.4km to the north of the Site;
- A small cluster of Grade II listed buildings can be found abutting the western boundary at Showell Farm. 2km to the north of the Site is a large group of Grade II and II* listed buildings, with several other listed buildings in the surrounding area; and
- A small number of RPGs can be found within the 3km broad study area, including Corsham Court approximately 2km to the west and Lacock Abbey approximately 2km south of the Site.

***Ecology Matters***

7.4.21 A description of the ecological assets of the Site and surrounding area is set out in Chapter 8: Ecology and Biodiversity. An overview of the ecological features of relevance to the landscape of the Site and its surrounds is set out below:

- Mortimore's Wood, a Local Nature Reserve (LNR) lies approximately 425m north; and
- Although outside of the 3km broad study area, Spye Park Site of Special Scientific Interest (SSSI) lies 3.5km south-east and Bencroft Hill Meadows is 4.8km north-east of the Site.

***Arboricultural Matters***

7.4.22 A separate Arboricultural Impact Assessment (see Technical Appendix 8.2) considers the arboricultural assets on the Site and within the study area. The following matters are relevant to the scope of this LVIA:

- The tree survey identified that there are three veteran trees within the Site;
- There are no TPOs within the Site; and
- Several areas of Ancient Woodland are located to the south-east and north-west of the Site, with the closest being 905m south-east.

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

7.4.23 A review of the definitive map reveals the following PRoWs within the study area. These are indicated within Technical Appendix 7.1, Figure 7.6:

- Public Footpath LACO9/CHIP1;
- Footpath LACO39/CHIP10;
- Footpath CHIP109; and
- National Cycle Network Route 403.

7.4.24 There are no areas of Open Access Land within the Site or study area.

***Primary and Secondary Roads***

7.4.25 Given the Site's position on the southern edge of Chippenham, a number of roads considered relevant to the LVIA can be found within the locality:

- The B4528;
- The A350;
- The access road to Lackham College; and
- A local lane over the railway line to the east.

***Key Settlements and Residences***

7.4.26 The following key settlements and residences are considered relevant to the Site in landscape and visual terms. These are illustrated at Technical Appendix 7.1, Figure 7.6.

- A – Showell Farm;
- B – Showell Cottages;
- C - Showell House;
- D – Barleigh House, Casamia and Fieldings;
- E – Beaumont; and
- F – Lower Lodge Farm.

***Visual Amenity Baseline***

7.4.27 With reference to Technical Appendix 7.1, Figure 7.6, it is considered that the surrounding vegetation and topography helps to enclose the Site and surrounding context. Following an initial ZTV and a thorough Site assessment, it is considered the Site is largely self-contained and enclosed visually from the wider surrounding area. The visual envelope of the Site is further refined into the Zone of Primary Visibility (ZPV), which contains:

- To the north the landscape continues along the River Avon corridor, which remains broadly flat. Middle distance views are afforded from the PRoW that runs through the Site as it continues northwards, however as the topography rises in elevation towards Chippenham, vegetation and built form help to screen views into the Site. Rowden Park is currently under construction immediately north of the main body of the site, which when completed, will further restrict intervisibility further north from the Site;

- The topography rises sharply within the landscape to the east of the Site where Lower Lodge Farm sits, which is afforded elevated views across the Site parcels. Beyond this, intervening vegetation and built form help to restrict views into the Site from the landscape to the east. Longer views are available from elevated receptors on Nockets Hill, however, the Site is seen within the context of the urban edge of Chippenham further north;
- Immediately south of the Site lies a localised elevated landform along the access road to Lackham College. This landform helps to heavily restrict the ZPV within the landscape to the south, with views restricted to the PRoW running through the Site as it ascends the slope towards the access road. Views further south are screened by intervening topography and vegetation; and
- The landscape to the west is generally flat, however the railway line dissects the area approximately 625m west of the Site, which sits in a well treed corridor helping to screen middle and long distance views in this direction. Closer views are restricted to those receptors abutting the Site's western boundary, such as Showell Farm and the B4528.

***PRoW Users***

7.4.28 PRoWs are typically given a high sensitivity due to their use as recreational routes. The following routes have been considered as part of this assessment (for Photoviewpoint locations refer to Technical Appendix 7.1, Figure 7.6, and for Photoviewpoints refer to Technical Appendix 7.1, Appendix EDP 4).

7.4.29 Public Footpath LACO9/CHIP1: These routes form one single route between Chippenham to the north and the landscape to the south around the access road to Lackham College, crossing parish boundaries along the Site's northern boundary. Elevated views are afforded towards the western part of the Site from the southern edge of the route as it descends towards the Site boundary (Photoviewpoint EDP 11). Properties at Showell Farm, the recently constructed Siemens Unit and Rowden Park residential-led development form contrasting components in the landscape, with intervening vegetation screening any intervisibility with the River Avon corridor to the east. Open views are afforded across the Site as the footpath enters through the southern boundary (Photoviewpoint EDP 12), broadly forming the Site's most elevated point. As the route exits the Site along the northern boundary, views are again open in a southerly direction, with field boundary vegetation helping to filter views into field parcels within the Site to the north and east (Photoviewpoint EDP 1). Immediately north of the Site, the footpath is under a temporary closure due to the ongoing works at Rowden Park, for an approximate stretch of 340m. Photoviewpoint EDP 2 has been included at the other end of the closure to illustrate the view, where it is anticipated that views from this location will soon be screened by the built form under construction.

Views become heavily filtered and largely screened as the route approaches Rowden Manor approximately 1km north of the Site (Photoviewpoint EDP 5).

7.4.30 Public Footpath LACO39/CHIP110: These form one single route between Footpath CHIP1 as described above and the landscape to the south around the access road to Lackham College, crossing parish boundaries along the Site's northern boundary. As the route heads north from the elevated landscape surrounding Lackham College, views are generally well screened by the intervening vegetation. As the route approaches a small pond approximately 100m south of the Site, the southern field parcels can be identified through boundary vegetation (Photoviewpoint EDP 9). The route then enters the Site along the southern boundary and users are afforded open views into the eastern half of the Site where the flood zones lie, with intervening vegetation and topography helping to heavily filter views towards the agricultural fields in the west (Photoviewpoint EDP 10). As the route crosses the northern boundary it becomes CHIP110, which again contains views of the eastern part of the Site over the northern boundary, which is currently a post and wire fence, with the western part screened by intervening vegetation and topography (Photoviewpoint EDP 3). As the route continues north views becomes further filtered by intervening vegetation (Photoviewpoint EDP 4).

7.4.31 Public Footpath CHIP109: Heads eastwards from the B4528 and connects to the River Avon and Footpaths CHIP1 and CHIP109 approximately 500m north of the Site. Views from the majority of this receptor are screened by intervening vegetation and built form, however glimpses are afforded from the eastern extent of the route (Photoviewpoint EDP 4).

7.4.32 Bridleway CHIP5: Runs broadly east to west approximately 1km north of the Site and runs along the access track to Rowden Manor. Views of the Site from this receptor are largely screened by intervening vegetation, with limited glimpses afforded from the eastern edge of the bridleway (Photoviewpoint EDP 5).

7.4.33 Public Footpath CHIP49: This route heads west from the Disused Pewsham Locks along the old canal approximately 1.9km west of the Site. Views from this receptor are screened by intervening mature vegetation running along the southern edge of the footpath (Photoviewpoint EDP 6).

7.4.34 Public Footpath CALW82: Runs broadly east to west within the elevated landscape approximately 2km east of the Site. The Site can be glimpsed in the middle distance from elevated positions through intervening vegetation, where the large former nursery abutting the Site boundary helps to identify the Site's broad location (Photoviewpoint EDP 7).

***Road Users***

7.4.35 B4528: Running along the entirety of the Site's western boundary, users of the B4528 are afforded open views into the Site as it passes the boundary through the post and wire fencing. The available views are generally restricted to the large arable field within the western half of the Site, with field boundary vegetation restricting intervisibility with the remainder of the Site. These views are also restricted to road users abutting the Site boundary. Views from the road to the north are heavily filtered and screened by intervening vegetation and built form. The urban nature of this route results in a low sensitivity.

7.4.36 A350: The A350 forms a bypass around the western edge of Chippenham. The road lies approximately 60m to the south-west of the Site at its nearest point at the Lackham Roundabout. Users of the road are afforded glimpses into the south-western corner of the Site from this location, however, generally views towards the Site from this receptor are well screened by vegetation and topography. This route is considered to be low sensitivity.

7.4.37 Access Road to Lackham College: Heading south-east from the Lackham Roundabout, users of this access road are afforded glimpses into the Site as it rises in elevation. This is restricted to a limited section of the road as the majority of it runs through woodland. Views are filtered by intervening vegetation along the road edge and the Site's southern boundary. This route runs through a rural landscape and is therefore given a medium sensitivity.

***Residential Groups/Dwellings***

7.4.38 Views from private residential properties, although likely to be of high to very high sensitivity to changes in the view, are not protected by national planning guidance or local planning policy. Accordingly, changes to the character, 'quality' and nature of private views are not a material planning consideration in the determination of a planning application. However, they remain relevant to this review of the predicted extent and nature of visual change, so are reviewed briefly below. Refer to Technical Appendix 7.1, Figure 7.6 for locations.

7.4.39 Showell Farm: The farmhouse itself is afforded open views into the Site over the B4528, where vegetation along the internal field boundaries screens any intervisibility with the River Avon corridor along the Site's eastern edge. The recently planted woodland belt can be seen within the foreground, surrounding the disused shelter shed along the Site's western boundary.

7.4.40 Showell Cottages: Lying approximately 90m north-west of the Site, Showell Cottages are afforded oblique views into the Site from upper storeys, with vegetation screening any intervisibility from the ground floors and gardens. The Site is seen with the busy B4528 and ongoing construction at Rowden Park in the foreground.

7.4.41 Showell House: Located approximately 120m to the north of the Site, this receptor is afforded rear and gable end views towards the Site over intervening vegetation. The former nursery forms the main component of the view with the agricultural field parcels identifiable to the south.

7.4.42 Barleigh house, Casamia and Fieldings: Located approximately 175m to the north of the Site and accessed via a private driveway, these three properties are afforded glimpses through to the northern edge of the site through intervening vegetation and built form. As above, the ongoing construction at Rowden Park forms the main component in the overall view, but a visual connection is maintained with the elevated landscape to the south of the Site.

7.4.43 Beaumont: This property abuts the Site's northern boundary and is currently afforded open views into the agricultural fields within the western part of the Site.

7.4.44 Lower Lodge Farm: This receptor sits on elevated land to the east of the River Avon, and due to its proximity (approximately 160m) is afforded open views across the Site.

***Landscape and Visual Sensitivity***

7.4.45 The overall sensitivity of receptors is assessed using the methodology found at Section 7.2 of this Chapter, and within Appendix EDP 2 of Technical Appendix 7.1. The assessed sensitivity of landscape and visual receptors is described within Appendix 7.1, at Sections 4 and 5 respectively and are summarised at Table 7.6.

**Table 7.6: Landscape and Visual Sensitivity**

| Receptor | Representative Viewpoint (PVP) | Sensitivity |
|---|---|---|
| **Landscape** | | |
| Landscape Character and Fabric of the Site | N/A | Medium |
| Site Context: LCA 1 -: Avon Valley Lowland | N/A | Medium |
| Site Context: LCA - LCT 12: Open Clay Vale | N/A | Medium |
| **Visual** | | |
| Local PRoW | 1 – 7 and 9-12 | High |
| Road Users | 8 and 13 | Low/Medium – See above |
| Residential Dwellings/Groups | N/A | Very High |

**The Projected Future Baseline**

7.4.46 The impact of climate change on the landscape and visual resource is assessed through consideration of a potential future baseline scenario and considers how potential climate change may alter the predicted landscape and visual effects contained within this chapter. Whilst it is unlikely that completely new direct impacts would arise as a result of climate change based on the current conditions, the geographic spread or scale of potential impacts might be changed when considered against the future baseline conditions.

7.4.47 The changes to temperature and precipitation predicted would be likely, in time, to change the landscape around us, in a number of ways. However, it is unlikely that the subtle changes would lead to wholescale change to the future landscape baseline within the lifetime of the Proposed Development. Changes might include certain tree species or grasslands becoming more dominant/prevalent, but given the character of the surrounding landscape, which contains mature trees and hedgerow boundaries, these changes would not have a prominent impact. Changes to the landscape effects predicted is considered appropriate.

7.4.48 For visual effects, the future baseline under a climate change scenario would not lead to any greater, or different, effects to those predicted.

## 7.5 POTENTIAL EFFECTS

7.5.1 This section describes the landscape and visual effects during the construction stage following implementation of the design mitigation measures (to reduce the effects of construction activities) and after completion (operational phase), at years 1 and 15, once landscape mitigation measures have matured and building materials have weathered.

7.5.2 The Proposed Development has been designed to consider the sensitivity of the landscape and views within and around the Proposed Development. With the exception of further evolution of the Green Infrastructure Strategy, no further landscape mitigation is proposed subsequent to the delivery of the Proposed Development. The effects of the Proposed Development are considered to be those that persist once the effects of embedded mitigation – be that proposed strategic planting, or the softening of the Proposed Development provided by internal planting and areas of open space – have become established. In planning terms, these are the effects to which most 'weight' should be attached, since they represent the long-term effect on the LVIA.

### Construction Stage

7.5.3 This section details the likely significant effects which arise from either construction activities on-site or from the Proposed Development itself.

7.5.4 As a consequence of the change in land use of the developed land, construction activities will result in adverse landscape and visual effects on the fabric and character of the landscape and on visual amenity within the 1km study area. Construction activities introduce direct and indirect disturbance to both the fabric of the landscape and the surrounding area. These effects could potentially be perceived by people living, working or travelling through the area, while these effects are temporary in nature, they can be partially mitigated against.

7.5.5 At this Outline Planning Application stage, construction methods cannot yet be fully defined. The main elements of the construction operations considered to be of importance to the LVIA are described below:

- Construction-related traffic. This includes vehicle movements associated with the import of building materials, machinery and labour. Construction traffic is likely to access the Site from the B4528. Transportation issues are discussed fully in ES Chapter 5: Transport;
- Earthworks. Noise effects (discussed in Noise Assessment that supports the OPA) have the potential to affect landscape character and residential amenity as audible detractors;

- Construction Activities. Subject to the preferences of individual contractors, it is expected that generic construction methods will be employed in the implementation of the Proposed Development. Traditional residential building methods are anticipated with the periodic use of large cranes and construction platforms (rising above the height of buildings) may be necessary; and
- Construction related effects. Temporary on-site lighting for illumination outside of daylight or in poor weather conditions, noise, dust and vibration from the movement of plant and vehicles.

7.5.6 The construction programme is referred to in ES Chapter 2, it is anticipated it will include a number of primary mitigation measures recognising best practice in modern construction techniques. Further details will be provided in a Construction Environmental Management Plan (CEMP) which will be secured through a planning condition.

7.5.7 Through these conditions, issues specific to landscape and visual effects, such as screening and retention of landscape features, best practice site management, maintenance and housekeeping will be implemented to minimise effects during the construction works. Such measures may include the erection of suitable site hoarding and protective tree/hedgerow fencing, although the incongruous (but temporary) sight of scaffolding is an unavoidable consequence of modern construction practices and mitigation of such effects is not anticipated.

7.5.8 It is not possible at this stage to make any definitive statement of where such mitigation would be required, nor what the specific reduction in effect would be at individual locations.

7.5.9 Landscape and visual amenity effects resulting from the construction stages are considered to be consistently adverse. However, these effects would be temporary, short term and not long lasting.

7.5.10 Tables in Technical Appendix 7.2 describe the effects of the construction phase of the Proposed Development on landscape character and visual amenity, with these summarised below. Effects on residential areas, PRoWs, other recreational routes and public highways are also described below.

***On-site Landscape Character***

7.5.11 Within the Site, the construction works would lead to a loss of some trees and hedgerows, where access would be necessary, and include localised ground remodelling. Some of the effects would be temporary in nature, as it is proposed that the ground disturbed during the creation of the attenuation feature would be revegetated. The works would require temporary lighting where previously there was little street lighting.

7.5.12 Invariably, the development on a 'greenfield' site, and at the scale of the Proposed Development, will result in the loss of farmland and removal of characteristic landscape features, in particular agricultural land, at a level that materially alters the character of the receiving environment within the Site. In essence, there will be a wholescale change at this stage from an operational agricultural landscape to a construction site. Construction activities will be stark and not benefit from the softening effects of strategic landscape planting, as the planting will not have had time to mature. Taking these matters into account, the overall magnitude of change at site level is considered to be very high leading to a major/moderate adverse direct effect, which is significant.

***Surrounding Context and Landscape Character***

7.5.13 Construction activities would not directly affect the local landscape character and host LCA (but would indirectly affect it), as the physical effects of construction (i.e. changes to fabric and character) would be contained within the Site, as described above. However, indirect perceptual effects would occur in close proximity to the Site, within the 1km study area, principally in relation to lighting, noise, vibration and the movement of materials to/from the Proposed Development. Generally, noise/vibration effects would be most acutely perceived by residents adjacent to the Site during the early stages of construction, or by those using recreational resources (e.g., PRoW) nearby.

7.5.14 In the wider context, higher-level construction activities may be perceptible in medium distance views from the surrounding context. Together, these construction operations would lead to an incremental increase in effects on the local landscape as construction draws to completion. Geographically, these changes would be experienced at the Site level and result in a low magnitude of change to this medium sensitivity receptor, giving rise to a minor, short-term and temporary effect, which is not significant.

7.5.15 In consideration of the character beyond the defined study area (1km), there would be no significant effects during the construction stage.

7.5.16 During construction, trees to be retained would be protected in accordance with those measures outlined within the Arboricultural Impact Assessment (Technical Appendix 8.2). Tree loss would be minimal to facilitate good urban design and allow for access. A high proportion of existing trees and tree groups would be retained and protected in line with best national practice *BS 5837:2012* (BSI, 2012). Therefore, it is anticipated the Proposed Development would benefit from the retention of existing landscape features, helping to mitigate construction effects.

***Public Rights of Way***

7.5.17 During the construction stage, the level of effect to PRoW users is expected to be in the worst-case major adverse, which is significant. This effect, however, is limited to Footpath LAC09 (high sensitivity), which runs directly through the centre of the Site, where users are afforded uninterrupted views into the Site across the arable field parcels. As users move to the south, effects reduce slightly as boundary vegetation helps to provide some screening, however it is anticipated the magnitude of change will reduce to only high due to the route's elevated nature, which results in a major/moderate adverse level of effect which is significant. Further south, as the route connects to the A350 the intervening topography and mature vegetation helps to heavily filter views where it is only anticipated that the taller elements of the construction activities will be identifiable, and effects reduce to moderate/minor which is not significant. As the route heads northwards outside of the Site boundary, effects begin to reduce as boundary vegetation on the ongoing construction of Rowden Park is likely to screen some of the lower elements of the construction phase, where the magnitude of change is likely to reduce to medium, which results in a moderate adverse effect which is significant.

7.5.18 Footpath LACO39 runs through the eastern extent of the Site. As built form has been restricted to ensure it lies west from the slightly elevated land visible in this view and further set back to accommodate drainage and open space features, it is likely that construction activity will generally be screened from view, however, there is potential for some elements of taller construction activities, largely relating to the use of cranes, to be visible over the intervening vegetation. During construction, where taller elements are visible, the Proposed Development would form a noticeable element in an otherwise agricultural landscape across a medium geographical extent, giving rise to a high magnitude of change which is significant.

7.5.19 A key masterplanning principle as the layout has evolved has been to ensure built form does not breach the hedgerow located at the eastern edge of the agricultural field parcels. Therefore, all built form benefits from the screening/filtering properties of intervening internal hedgerow when seen by users of Footpath CHIP110, which is to be retained within the green infrastructure and brought into appropriate management. The Site is located on elevated land when compared to the level of this receptor, therefore lower level and taller construction elements will be visible in the middle distance to users of this route. During construction, where the taller elements are visible, the Proposed Development would form a noticeable element in an otherwise agricultural landscape across a medium geographical extent, giving rise to a medium magnitude of change which is significant. It is likely any effects would be temporary and short term, and result from the movement and activities of construction vehicles and operations.

7.5.20 The level of effect to other PRoW users would be no greater than moderate/minor adverse, which is not significant. This is due to screening provided by mature hedgerows and trees

along the Site and field boundaries and along the roadside, which when combined with the gently undulating topography of the landscape, provide limited additional opportunities for views towards the Site from the surrounding PRoW network.

***Road Users***

7.5.21 Vehicles running along the B4528, although of low sensitivity, are likely to have open views across the western half of the Site where all construction activities are likely to form a new and recognisable feature within the available view. This is likely to result in a very high magnitude of change where the road passes the Site's western boundary due to the lack of boundary planting. This results in a moderate adverse level of effect which is significant. This level of effect reduces quickly as users of the road pass the Site boundary, both to the north and the south.

7.5.22 The remaining roads identified within the study area are considered to have a worst case moderate/minor adverse level of effect during the construction stage which is not significant. This is due largely to the screening effects of the surrounding woodland/field boundaries which helps to screen most low-level construction activities.

***Residential Dwellings/Groups***

7.5.23 The effect on residences would be very localised, restricted to those with views directly over the Site. Beaumont is a single storey property directly abutting the Site's northern edge, where the rear of the dwelling has direct and open views across the western edge of the Site. Built form has been set back approximately 50m from this property, so the rear of the elevation and garden is likely to have open views across the construction stage of the development, resulting in a high magnitude of change. Combined with the high sensitivity of the receptor, this results in a major adverse level of effect which is significant.

7.5.24 Showell Farm, a high sensitivity receptor lies to the west of the Site, with the front elevation approximately 125m from the proposed built form. As above, the north-western edge of the Site has been identified as open space, providing a buffer between the receptor and the proposed built form. It is likely that construction activities would be clearly noticeable, and the view eastwards would be fundamentally altered, leading to a high magnitude of change. This results in a major/moderate adverse level of effect which is significant.

7.5.25 The remaining residential receptors identified within the study area are likely to be able to glimpse construction activities through intervening vegetation, with taller elements of the construction stage identifiable. This is likely to give rise to a worst case moderate level of effect which is significant. Due to the high sensitivity of all residential receptors, it is anticipated that all receptors identified are likely to be subject to significant effects as a result of the construction stage. This is also due to their close proximity to the Site boundary. The effects are likely to reduce in summer due to screening provided by vegetation along

the Site boundary which is to be retained and enhanced where possible as part of the Proposed Development. It is likely any effects would be temporary and short term, and result from the movement and activities of construction vehicles and operations.

***Summary of Effects of the Construction Stage***

7.5.26 The highest levels of effect would be experienced by the removal of the existing greenfield/agricultural landscape for a new residential land use with the associated built form and ancillary development. This direct effect would inevitably be major/moderate adverse and significant, and would be limited to the Site through the retention of mature landscape features, intervening landscape and local topography.

7.5.27 There would be significant effects to Public Footpath LACO9 and LACO39 as they pass through the Site, effects lessen as the route continues north and south, however these are generally considered to be significant. Effects are not significant to PRoW users beyond these locations.

**Table 7.7: Summary of Effects of the Construction Stage**

| Receptor | Sensitivity | Magnitude of Change | Significance of Effect |
|---|---|---|---|
| **Landscape** | | | |
| Landscape Character and Fabric of the Site | Medium | Very High | Major/Moderate Adverse - Significant |
| Site Context: LCA 12b -: Avon Open Clay Vale | Medium | Low | Minor Adverse – Not Significant |
| **Visual** | | | |
| Public Footpath LACO9 | High | Very High | Major Adverse - Significant |
| Public Footpath CHIP1 | High | Medium | Moderate Adverse - Significant |
| Public Footpath LACO39 | High | High | Major/Moderate Adverse - Significant |
| Public Footpath CHIP110 | High | Medium | Moderate Adverse - Significant |
| Public Footpath CHIP109 | High | Low | Moderate/Minor Averse - Not Significant |
| Bridleway CHIP5 | High | No Change | No Effect |
| Public Footpath CHIP49 | High | No Change | No Effect |

| Receptor | Sensitivity | Magnitude of Change | Significance of Effect |
|---|---|---|---|
| Public Footpath CALW82 | High | Very Low | Minor Adverse – Not Significant |
| **Road Users** | | | |
| B4528 | Low | Very High | Moderate Adverse – Significant |
| A350 | Low | Medium | Minor Adverse – Not Significant |
| Access Track to Lackham College | Medium | Medium | Moderate/Minor Adverse – Not Significant |
| **Residential Dwellings/Groups** | | | |
| Showell Farm and Beaumont | High | High | Major/Moderate Adverse - Significant |
| Showell Cottages | High | Medium | Moderate Adverse – Significant |
| Barleigh House, Casamia and Fieldings | High | Medium | Moderate Adverse – Significant |
| Lower Lodge Farm | High | Medium | Moderate Adverse – Significant |

**Post-completion Stage**

7.5.28 This section details the anticipated effects of the Proposed Development from Year 1 to Year 15 to demonstrate the likely effect of the Proposed Development over the short to medium term.

7.5.29 In practical terms, the 'operational lifetime' of the Proposed Development is measured in decades, as it will result in a permanent change to the character of the Site. Given that the Proposed Development includes landscape proposals which will take time to mature, and that all new development can seem 'raw' until it has softened and established into its landscape context, the assessment of operational effects for specific areas and views will consider the effects at two distinct points in time:

- At the completion of the Proposed Development (referred to here as Year 1); and
- At 15 years after completion of the Proposed Development (such that mitigation planting may have matured, and materials weathered).

7.5.30 It is often the case that initial short-term (Year 1) effects will be greater than those at medium-term Year 15 due to the limited initial effect of the strategic landscape proposals incorporated into the Proposed Development.

7.5.31 It is anticipated that by Year 15 substantial growth would have occurred and these features should be fulfilling their roles more effectively. Furthermore, enhanced mitigation should be achieved beyond Year 15 as trees, in particular, reach mature size and provide greater visual screening.

***On-site Landscape Character***

7.5.32 The on-site landscape character relates to the Site boundary itself as identified within Technical Appendix 7.1, Figure 7.1 and is assessed as being of medium sensitivity.

7.5.33 Invariably, the development of a 'greenfield' site, and the scale of the Proposed Development, will result in the unavoidable loss of farmland and removal of a limited quantum of characteristic landscape features, at a level that materially alters the character of the receiving environment. In essence, there will be a wholescale change at this stage from an operational agricultural landscape to a residential development.

7.5.34 However, in the case of this Site, few existing landscape features will be affected by the Proposed Development; indeed, the potential exists to deliver a net gain in the number of trees, and the quality of hedgerows, although at Year 1 these would not have achieved their full potential value.

7.5.35 This change will result in a very high magnitude of change in a medium sensitivity landscape, which will generate a major/moderate, short term, reversible and locally significant adverse effect. This is not the effect upon the wider landscape character area, but solely reflective of the Site-based change.

7.5.36 In the medium term at 15 years, landscape mitigation will have matured which is considered to reduce the overall magnitude of change to high, resulting in a moderate adverse effect, which is significant.

***Surrounding Context and Landscape Character***

7.5.37 The landscape context relates to the detailed study area as identified within Technical Appendix 7.1, Figure 7.1, and is assessed as being of medium sensitivity. This context includes the ongoing construction of residential and mixed use built form to the north at Rowden Park.

7.5.38 Whilst the Proposed Development will result in some indirect change to the perception of the surrounding context, the extent of change, both in terms of the perceived effects and the extent of the area indirectly affected, the overall magnitude of change is considered to be medium. This will result in effects on the surrounding context being moderate/minor adverse (not significant), and will decrease rapidly with distance from the Site boundary, and where existing intervening development, vegetation and landform provide screening.

7.5.39 The limited effects result from the changes experienced within the Site boundary which are limited geographically (beyond the Site boundary) by the existing vegetation and proposed landscape mitigation, as well as the proposed layout, which attempts through good design to achieve a successful integration with the existing settlement pattern and the wider woodland landscape to the south. Essentially, the Proposed Development will only exert a limited influence on the wider context when considered as a whole.

7.5.40 In consideration of the character beyond the detailed study area, at Year 1 the magnitude of change is considered to remain at medium, leading to a moderate/minor adverse effect which is not significant. In the medium term at 15 years, the magnitude of change will reduce to low resulting in a minor adverse effect which is also not significant.

7.5.41 Over the intervening time period from Year 1, the retention of the woodland, mature trees and hedges, the maturing of mitigation landscape planting and other green enhancement would culminate in a positive or beneficial change from Year 1. The 'setting' of the Site would reach maturity at Year 15 and bring with it further mitigation benefits of screening whilst reinforcing landscape character, where possible.

***Public Rights of Way***

7.5.42 It is anticipated that significant effects would remain (major adverse) during Year 1 along the section of Public Footpath LACO9 within the Site as the magnitude of change remains very high during the operational phase, before mitigation planting has matured. In the medium term at 15 years, the magnitude of change will reduce to high, resulting in a major/moderate adverse effect, which is significant.

7.5.43 It is anticipated that significant effects would reduce slightly to major/moderate adverse (significant) during Year 1 along the section of Public Footpath LACO39 within the Site as the magnitude of change drops to medium resulting in a moderate adverse level of effect (significant) during the operational phase, before mitigation planting has matured. In the medium term at 15 years, the magnitude of change will reduce to low, resulting in a moderate/minor adverse effect, which is not significant.

7.5.44 For users of Footpath CHIP110 in the short-term (Year 1), although the Proposed Development has been set back from this corridor, built form will be noticeable in views.

Although the planting of new hedgerows, hedgerow trees and other associated landscaping will provide some softening to the view, it is unlikely that the landscape scheme will have matured sufficiently to provide a complete visual screen. The Proposed Development will be noticeable, and despite the presence of urbanising elements, the view would be altered, giving rise to a medium magnitude of change and a moderate adverse level of effect which is significant. In the medium term at 15 years, the magnitude of change will reduce to low, resulting in a moderate/minor adverse effect, which is not significant.

7.5.45 The level of effect to other PRoW users would be no greater than moderate/minor adverse, which is not significant. This is due to screening provided by mature hedgerows and trees along the Site and field boundaries and along the roadside, which when combined with the gently undulating topography of the landscape, provide limited additional opportunities for views towards the Site from the surrounding PRoW network.

***Road Users***

7.5.46 Vehicles running along the B4528, although of low sensitivity, are likely to have open views across the western half of the Site where all the proposed landscape strategy is yet to mature. Residential and mixed-use development will form a new and recognisable feature within the available view. This is likely to result in a very high magnitude of change where the road passes the Site's western boundary. This results in a moderate adverse level of effect at Year 1 which is significant. This level of effect reduces quickly where the road does not abut the boundary of the Site. In consideration of the maturation of the landscape strategy, and the general acceptance of the Proposed Development over the 15-year timeframe, the proposals would be partially assimilated into the landscape. However, given the proximity of the receptor to the Proposed Development, the magnitude of change is likely to reduce to high, resulting in a moderate/minor adverse level of effect which is not significant.

7.5.47 The remaining roads identified within the study area are considered to have a worst case minor adverse level of effect during operation which is not significant. This is due largely to the screening properties of the surrounding woodland/field boundaries which helps to screen most low-level construction activities.

***Residential Dwellings/Groups***

7.5.48 The effect on residences would be very localised, restricted to those with views directly over the Site. At Beaumont in the short-term, although the Proposed Development has been set back from this edge, built form will be noticeable in views. Although the planting of new hedgerows, hedgerow trees and other associated landscaping will provide some softening to the view, it is unlikely that the landscape scheme will have matured sufficiently to provide a visual screen. The Proposed Development will remain clearly noticeable in the view and the magnitude of change would remain at high, resulting in a major adverse level of effect which

is significant. In consideration of the maturation of the landscape strategy across 15 years, and the general acceptance of the Proposed Development over this timeframe, the proposals would appear partially assimilated into the landscape. However, given the proximity of the receptor to the Proposed Development, the magnitude of change is likely to reduce to medium, resulting in a major/moderate adverse level of effect which is significant.

7.5.49 At Showell Farm (high sensitivity), in the short-term, although the Proposed Development has been set back from this edge, built form will be noticeable in view. Although the planting of new hedgerows, hedgerow trees and other associated landscaping will provide some softening to the view, it is unlikely that the landscape scheme will have matured sufficiently to provide a visual screen. The Proposed Development will be noticeable, and the view would be altered, giving rise to a high magnitude of change. This results in a major/moderate adverse level of effect which is significant. In consideration of the maturation of the landscape strategy, and the general acceptance of the Proposed Development over this timeframe, the proposals would appear assimilated into the receiving landscape, resulting in the magnitude of change reducing to low, resulting in a moderate/minor adverse level of effect which is not significant.

7.5.50 The remaining residential receptors identified within the study area are likely to be able to glimpse built form through intervening vegetation. This is likely to give rise to a worst case moderate/minor adverse level of effect which is not significant. The effects are likely to reduce further in summer months due to screening provided by vegetation along the Site boundary which is to be retained and enhanced where possible as part of the Proposed Development. In the medium term, the maturing landscape strategy will help to assimilate the Proposed Development into the surrounding landscape, which will reduce the magnitude of change, resulting in adverse levels of effect that are not significant.

***Summary of Effects at the Operational Stage***

7.5.51 Generally, the landscape and visual effects during the operational phase of the Proposed Development would be difficult to mitigate in the short term (Year 1) due to the nature of these operations. However, as described above, the maturation of the proposed landscape mitigation will, in the medium (Year 15) to long-term (Year 15+), aid in reducing the perception of the Proposed Development for those receptors most likely to be affected.

7.5.52 To summarise, significant adverse effects would apply to the following receptors during the operational stage of the Proposed Development:

- The landscape character and fabric of the Site itself;
- Public Footpath LACO9;
- Public Footpath CHIP1;

- Public Footpath LACO39;
- Public Footpath CHIP110; and
- All identified residential receptors.

**Table 7.8: Summary of Effects on the Operation Phase**

| Receptor | Sensitivity | Operational Effect Year 1 | Operational Effect Year 15 |
|---|---|---|---|
| **Landscape** | | | |
| Landscape Character and Fabric of the Site | Medium | Major/Moderate Adverse – Significant | Moderate Adverse - Significant |
| Site Context: LCA 12b -: Avon Open Clay Vale | Medium | Moderate/Minor Adverse – Not Significant | Minor Adverse – Not Significant |
| **Visual** | | | |
| Public Footpath LACO9 | High | Major Adverse - Significant | Major/Moderate Adverse - Significant |
| Public Footpath CHIP1 | High | Moderate Adverse - Significant | Moderate/Minor Adverse - Not Significant |
| Public Footpath LACO39 | High | Moderate Adverse - Significant | Moderate/Minor Adverse – Not Significant |
| Public Footpath CHIP110 | High | Moderate Adverse - Significant | Moderate/Minor Adverse - Not Significant |
| Public Footpath CHIP109 | High | Moderate/Minor Adverse – Not Significant | Minor Averse – Not Significant |
| Bridleway CHIP5 | High | No Effect | No Effect |
| Public Footpath CHIP49 | High | No Effect | No Effect |
| Public Footpath CALW82 | High | No Effect | No Effect |

| Receptor | Sensitivity | Operational Effect Year 1 | Operational Effect Year 15 |
|---|---|---|---|
| **Road Users** | | | |
| B4528 | Low | Moderate Adverse - significant | Moderate/Minor Adverse – Not Significant |
| A350 | Low | Minor adverse – Not Significant | Minor/Negligible Adverse – Not Significant |
| Access Track to Lackham College | Medium | Minor/Negligible Adverse – Not Significant | Minor/Negligible Adverse – Not Significant |
| **Residential Dwellings/Groups** | | | |
| Beaumont | High | Major/Moderate Adverse - Significant | Moderate Adverse - Significant |
| Showell Farm | High | Major/Moderate Adverse - Significant | Moderate/ Minor Adverse - Significant |
| Showell Cottages | High | Moderate/Minor Adverse – Not Significant | Minor Adverse – Not Significant |
| Barleigh House, Casamia and Fieldings | High | Moderate/Minor Adverse - Not Significant | Minor Adverse – Not Significant |
| Lower Lodge Farm | High | Moderate/Minor Adverse – Not Significant | Minor Adverse – Not Significant |

## 7.6 MITIGATION MEASURES

7.6.1 The Proposed Development includes embedded mitigation, as described in Chapter 2 (Description of the Proposed Development) of this ES, to reduce the likely impacts and effects on landscape and visual receptors. No additional (secondary) mitigation is considered to be necessary.

7.6.2 A Landscape and Ecological Management Plan (LEMP) for the Site will set out various management regimes for all of the green infrastructure (e.g. retained and new habitats). This will include initial establishment and on-going maintenance and aftercare. This will be prepared as part of a planning condition and subject to agreement with Wiltshire.

7.6.3 The CEMP will include methods in which to protect the retained vegetation within the Site. This also includes appropriate 'stand offs' from landscape features to ensure that there is no impact upon these elements. The CEMP will be prepared in accordance with the information contained within BS 5837 Trees in Relation to Construction. With regards to visual amenity mitigation measures are expected to include the use of perimeter hoardings and fencing to screen construction activities, whilst appropriate locations for site huts and compounds will be located away from sensitive landscape and visual receptors.

## 7.7 RESIDUAL EFFECTS

7.7.1 Residual effects are those that remain once the landscape mitigation measures have taken effect. However, during operation, at Year 1, effects are likely to be higher than at Year 15 when any mitigation planting will have matured to some degree, albeit these effects are likely to diminish further with time and as vegetation continues to mature. At construction and completion, the principal effects resulting from the Proposed Development will be as a result of the transition of the Site from an agricultural landscape to a predominantly urban scene, in an undesignated landscape, and before maturation of mitigation planting.

7.7.2 However, it should be noted that it has never been the intention to screen the Site with planting; instead the aim has been to soften and filter views to the Proposed Development and ensure that they integrate with their context. Consequentially it will inevitably be apparent that this currently agricultural landscape has been changed to a residential development, particularly for those receptors within close proximity.

7.7.3 The residual impacts of the scheme are described and assessed in Technical Appendix 7.2. In summary, the anticipated effects at Year 15 of operation are residual. The Site will be visible from a number of locations despite mitigation planting and the management of existing planting. However, over time (after 15 Years as assessed) the Proposed Development will become generally accepted as part of the landscape, with only a limited number of landscape and visual receptors experiencing a long-term significant effect.

7.7.4 The development of this Site is a logical extension to Chippenham's southern edge when considered in the geographical sense - due to the topography and containment of the Site - the effects of the proposal would be limited to a small number of visual receptors over a limited surrounding area.

7.7.5 To summarise, residual significant effects that are presented in Tables 7.7 and 7.8 would apply to the following receptors at Year 15 of the operational phase, as detailed in the assessment tables at Technical Appendix 7.2:

- Landscape character and fabric of the Site;
- Public Footpath LACO9; and
- Residential properties Beaumont and Showell Farm.

## 7.8 CUMULATIVE EFFECTS

7.8.1 Cumulative effects can arise from the intervisibility of operational or consented developments and/or from the combined effects of individual components of the Proposed Development occurring in different locations or over a period of time. The separate effect of such individual components or developments may not be significant, but in-combination they may create a degree of adverse effect on the landscape resource or visual receptors within their combined visual envelopes, such that cumulative effects may be significant.

7.8.2 In this cumulative assessment, the focus is on the additional effects of the Site. Existing and/or approved developments may have significant effects in their own right, but significant cumulative effects do not automatically arise on a single receptor following the addition of the Proposed Development; the significance is determined by the degree of change that the Proposed Development would introduce into the theoretical cumulative baseline.

7.8.3 Cumulative effects arise in two principal ways – in combination and sequentially. Combined effects occur when: 1) two or more schemes appear simultaneously in the same arc of view without the need for an observer to turn; and 2) in succession, where it is necessary for the observer to turn the head to see the multiple schemes. Sequential effects occur where the observer has to move from one location to another to be able to see the different developments, and typically arise when the observer is travelling through a landscape, for example on a road or footpath.

7.8.4 Cumulative schemes have been considered for the assessment of effects potential relevant to the Proposed Development. The cumulative schemes are provided in Chapter 2 of this ES.

7.8.5 Based upon the distribution of landscape and visual receptors for the Site, and the likely extent of landscape and visual effects presented within this Chapter, it is only in combination with the following schemes that any cumulative landscape and visual effects are likely to occur:

- ID 3 – 14/12118/OUT Rowden Park;
- ID 4 - 16/12493/FUL Hunters Moon;
- ID 8 – N/13/00308/OUT Land at Showell Farm;
- ID 9 - 16/09277/OUT Land at Patterdown Road; and
- ID 10 - 17/08554/OUT Land at Showell Nurseries.

7.8.6 The remaining schemes (1, 2, 5, 6, 7, 11), are considered too distant from the Site, obscured by existing intervening development, topography and vegetation, and any cumulative

landscape and visual effect would be minimal, if experienced at all. Further, Scheme 12 has not been considered as it has no planning status.

***Landscape Character***

7.8.7 The Proposed Development is assessed above as having a worst-case major/moderate adverse effect on the Site and a worst case moderate/minor effect on the host landscape character areas of the district and county. The Proposed Development adopts the landscape strategy for this LCA by conserving and enhancing the well-defined pattern of hedgerows and hedgerow trees within the Site.

7.8.8 Views of the Proposed Development, including cumulative sites 3, 8, 9 and 10, are likely to be possible from within the host LCA, but it is not the view that defines the landscape effect, rather it is changes to the physical and wider perceptual qualities (including visual) that lead to the level of effect. Cumulative site 3 forms a large urban extension, which would clearly have a noticeable effect on landscape character. However, assuming the development of all cumulative sites within the host LCA, the Proposed Development would increase the quantity of land developed but have a limited cumulative effect with regards to the future urban developed context. Further development such as the Proposed Development would be a notable addition, but confined by a mature landscape framework on the Site boundaries. It is therefore considered that, while the Proposed Development would form a notable addition to the local context, it would not lead to a significant cumulative landscape effect, especially given the size of the sites named above.

***Visual Amenity***

7.8.9 It is pertinent to note that the cumulative baseline consists of a number of areas of development. Taking into account the size and distribution of cumulative developments, it is possible that there would be locations within the landscape from which views of more than one development site may be gained either in combination or sequentially, particularly in views from the long, linear PRoW routes which run north to south within the surrounding landscape. A detailed assessment of the cumulative impact on each Photoviewpoint is provided in Technical Appendix 7.3.

7.8.10 The cumulative assessment (see Technical Appendix 7.3) has identified that some significant cumulative effects are predicted, predominantly where receptors are in close proximity to, or within, the adjacent strategic development sites. In consideration of these cumulative developments, it is assessed that there would be a proportional increase of 'in combination' effects as a result of a change to views to currently undeveloped land. However, the level of effect on views to the Site would be proportionately less because:

- The landscape context would be more urbanised and therefore less susceptible to change and less sensitive to the introduction of urban components within the landscape;
- Generally, as a result of intervening landscape features, combined with undulating topography, although there are predicted to be some in-combination views of taller elements of construction activity, on completion there are likely to be few locations where views of the Site would be seen in combination with the cumulative sites named above. Where in-combination views are possible, due to the distribution of the cumulative sites named above, these views are often heavily filtered or informed by existing urbanising features within the local context. See Technical Appendix 7.3 for details; and
- Some viewpoints that are likely to experience change as a result of development of the Site would have views blocked or modified by cumulative baseline development. This is largely restricted to Footpaths LACO9 and CHIP1 to the north of the Site as they run through the Rowden Park development.

7.8.11 Overall, as a result of the implementation of the Site and cumulative developments, there would be an increase in massing of built development within the local context as a whole. The committed schemes, cumulatively, will create an urbanised context in which the development site sits, leading to a more edge of settlement surrounding character. In the wider context, at no locations would the cumulative level of effect be made significant by the addition of the Proposed Development.

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## 8.1 INTRODUCTION

8.1.1 This Chapter has been prepared by The Environmental Dimension Partnership Ltd (EDP) and assesses the likely significant effects of the Proposed Development on features of ecological and biodiversity value. In particular, it considers the potential effects of the Proposed Development on the Important Ecological Features (IEFs).

8.1.2 This Chapter is supported by, and should be read in conjunction with, the following material:

- Appendix 8.1 Ecological Baseline Report;
- Appendix 8.2 Shadow Habitat Regulation Assessment;
- Appendix 8.3a Indicative Biodiversity Net Gain Feasibility Report;
- Appendix 8.3b Indicative Biodiversity Net Gain Metric;
- Appendix 8.3c Proposed Habitat Conditions;
- Appendix 8.4a Arboriculture Baseline Note;
- Appendix 8.4b Arboriculture Impact Assessment; and
- Appendix 8.5 Ecological Parameters Plan.

8.1.3 This Chapter provides a brief summary of relevant legislation, planning policy and guidance, and a description of the methodology adopted for the assessment. This is followed by a description of the relevant baseline conditions of the Site and the surrounding area, and an assessment of the potential effects of the Proposed Development during construction and, once the development is completed, occupation. Mitigation measures are identified, where appropriate, to avoid, reduce, mitigate or compensate for any adverse effects, following which a summary of the likely significant residual effects of the Proposed Development is provided, having regard to mitigation adopted.

### Competency

8.1.4 The Chapter has been prepared with reference to The Chartered Institute of Ecology and Environmental Management's (CIEEM) Ecological Impact Assessment Guidelines (CIEEM, 2018 version 1.2 - updated April 2022). The Chapter has been prepared by Peter Newbold, an Associate Ecologist, Chartered Ecologist and full member of CIEEM with over 15 years of experience as an ecological consultant and EIA author. The Chapter was reviewed by Tom Wigglesworth, a Director at EDP, and a full member of CIEEM with over 20 years as an ecologist and EIA contributor.

## 8.2 RELEVANT POLICY AND LEGISLATION

### Legislative Framework

8.2.1 The Conservation of Habitats and Species Regulations 2017 (as amended) enacts, within the UK, European Union (EU) Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Fauna and Flora (as amended) and Directive 2009/147/EC on the Conservation of Wild Birds. Although these are European directives, the legislation and legal protection offered to the habitats and species that it protects has been ratified into UK law. These Regulations provide for the designation and protection of statutory designated wildlife sites of European value ('European sites'), and the protection of a number of rare and vulnerable species in a European context ('European Protected Species' (EPS)). European sites, including Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsar Sites are recommended for designation in the UK by the Joint Nature Conservation Committee (JNCC).

8.2.2 The Environment Act 2021 was passed into law in November 2021. The Act requires that a Planning Condition for a Biodiversity Gain Plan is added to all planning permission approvals that are subject to the provisions of the Act. The Biodiversity Gain Plan, which demonstrates a minimum of 10% Biodiversity Net Gain (BNG), must be submitted to the Local Planning Authority (LPA) and approved prior to the commencement of the development. Planning Practice Guidance on BNG states that an application for planning permission, for a development subject to the biodiversity gain condition, must be accompanied by minimum biodiversity gain information.

8.2.3 The Wildlife and Countryside Act 1981 (as amended, principally by the Countryside and Rights of Way Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006) enshrines the protection of statutory designated wildlife sites of national importance (Sites of Special Scientific Interest (SSSIs)) in England and Wales. The Act also sets out varying degrees of protection and offences with regard to native species and their habitats that are rare and vulnerable in a national context. The Act also provides for the control, management, and offences in respect of invasive non-native species. Sites of national importance (SSSIs and National Nature Reserves (NNRs)), are designated by Natural England under the Act and are protected from any development that may destroy or adversely affect them, either directly or indirectly.

8.2.4 Section 40 of the NERC Act 2006 places a statutory duty on Local Planning Authorities (LPAs) to consider the effects upon biodiversity when exercising their functions in England. In addition, Section 41 of the Act makes for the provision of a list of habitats and species of principal importance for the conservation of biodiversity.

8.2.5 In addition, the Animal Welfare Act 2006 further protects wild animals from unnecessary suffering when under the control of man and combines with the Wild Mammals (Protection) Act 1996, which protects wild mammals from intentional cruelty.

8.2.6 The Protection of Badgers Act 1992 (as amended) affords protection specifically to badger (*Meles meles*) and their setts.

8.2.7 Finally, 'important' hedgerows, for which there are specific ecological criteria, are protected from removal (up-rooting or otherwise destroying) by the Hedgerows Regulations 1997.

**National Planning Policy Framework**

8.2.8 Chapter 15 of the National Planning Policy Framework (NPPF, December 2024 (updated February 2025)) advocates a presumption in favour of sustainable development that enhances the natural environment by avoiding, adequately mitigating, or as a last resort, compensating for 'significant harm to biodiversity', and which deliver net gains for biodiversity (Paragraphs 187, 188, 192, 193, 194 and 195).

8.2.9 The ODPM Circular 06/2005 'Biodiversity and Geological Conservation' contains further guidance in respect of biodiversity conservation and its impact within the planning system. This document covers areas including internationally and nationally designated sites, habitats, and species outside of designated sites, and protected species. The NPPF therefore affords indirect policy protection to ecological features of value (statutory and non-statutory designated sites, certain habitats, and protected/notable species).

8.2.10 In addition to the requirements of the NPPF, Natural England, as the statutory nature conservation organisation for England, provides specific 'Standing Advice' regarding various protected species as 'material considerations' (Natural England, 2015). This advice contains details on potentially significant impacts and recommended survey effort to support planning applications.

**Local Planning Policy**

8.2.11 The Wiltshire Core Strategy Development Plan Document (adopted January 2015) provides the overarching planning policy framework for Wiltshire for the period up to 2026. The following policies are of particular relevance to the ecological assessment of the Proposed Development:

- 'Core Policy 50: Biodiversity and Geodiversity' which requires features of nature conservation to be protected or mitigated where this is not possible, and for developments to seek opportunities to enhance biodiversity; and

- 'Core Policy 52: Green Infrastructure' which requires the retention and enhancement of Wiltshire's green infrastructure network, with creation of new/replacement functional green infrastructure if damage or loss of the existing resource is unavoidable.

8.2.12 Given the presence of several SACs designated for bats within the county, Wiltshire Council in collaboration with Natural England, has also produced a Bat SAC Planning Guidance for Wiltshire (2015) document and several local strategies, the closest of which is the Corsham Batscape Strategy 2016-2026. The planning guidance document details certain 'consultation zones' around 'core roosts' that have been identified, within which impacts on the Bat and Bradford upon Avon Bat SAC could occur. The Site is not within these consultation zones, with the closest zone located approximately 2km west of the Site boundary. However, during the Local Plan review, 2 Bechstein's bat maternity roosts were identified outside of the SAC that were considered to be Functionally Linked to the Bath and Bradford on Avon Bat SAC. We are not aware of any adopted document that identifies any consultation zones relating to these roosts. The Site does, however, fall within the draft 'consultation zones' of these roosts as identified in the draft Local Plan's supporting documentation.

8.2.13 Habitats within the Site, including the grassland pasture and connective hedgerows, have been identified within the Corsham Batscape Strategy Phase 2 Batscape Map, which shows landscape features that may be of potential importance to bat populations associated with the SAC. The River Avon immediately adjacent to the Site is also noted as a Strategic Flyway within the Strategy's Batscape Map. Surveys for bats in these areas must therefore be part of any application to confirm if any features within a development are likely to be important for these species.

**Any Other Relevant Guidance**

8.2.14 This assessment has been undertaken with reference to the industry's recognised guidelines published by CIEEM in 2018 (and last updated in 2022). In addition, the following best practice guidance in relation to survey techniques and mitigation measures have been taken into account:

- British Standards Institute (2013) BS 42020 - Biodiversity - Code of Practice for Planning and Development;
- Joint Nature Conservation Committee (2010) Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit;
- Marchant, J.H. (1983) Common Birds Census instructions, British Trust for Ornithology, Tring;

- Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition) The Bat Conservation Trust, London;
- Stone, E.L. (2013) Bats and lighting: Overview of current evidence and mitigation;
- Bat Conservation Trust and Institute of Lighting Professionals (2018) Bats and Lighting in the UK: Bats and the Built Environment Series. Version 3;
- Harris, S., Cresswell, P., and Jeffries, D.J. (1989) Surveying Badgers, Mammal Society, London;
- Joint Nature Conservation Committee (1999) Bat Workers Manual;
- Froglife (1999) Reptile survey: an introduction to planning, conducting, and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10, Froglife, Halesworth;
- Oldham, R.S., Keeble, J., Swan M.J.S. & Jeffcote M. (2000) Evaluating the suitability of habitat for the Great Crested Newt (Triturus cristatus). Herpetological Journal 10 (4), 143- 155;
- Williams, P. (2013) GCN eDNA protocol, Freshwater Habitats Trust;
- Highways Agency et al. (1999) Design Manual for Bridges and Roads Volumes 10 and 11;
- Bright, P.W, Morris, P.A. and Mitchell-Jones, T. (2006) The Dormouse Conservation Handbook Second Edition. English Nature, Peterborough.
- Wells, D., Chanin, P. & Gubert, L., (2025) Hazel Dormouse Mitigation Handbook. The Mammal Society.
- Chanin P (2003) Monitoring the Otter Lutra lutra. Conserving Natura 2000 Rivers Monitoring Series No. 10, English Nature, Peterborough.
- Strachan R., Moorhouse T and Gelling M. (2011) Water Vole Conservation Handbook (Third Edition). Wildlife conservation unit, Oxford; and
- Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016) The Water Vole Mitigation Handbook (Mammal Society Mitigation Guidance Series) Mammal Society, London.

## 8.3 ASSESSMENT METHODOLOGY

### Ecological Zone of Influence or Spatial Scope (Study Area)

8.3.1 The Ecological Zone of Influence (ZoI) is an area defined by the assessment in which there may be receptors subject to effects as part of the Proposed Development, both those which may occur as a result of land-take and habitat loss and those which may occur through disturbance such as noise. Such receptors are likely to include designated sites, notable habitats and protected species, and these could be affected directly, e.g. works affecting a receptor within the Site, such as removal of a tree occupied by bats, or indirectly, e.g. a designated site downriver of a development being affected by sediment deposition, etc.

8.3.2 The ZoI was determined through:

- A review of existing baseline conditions in comparison with that proposed by the development;
- Consideration of the proposed activities (during all phases);
- Desk study information including an examination of mapping data; and
- Findings of the survey work.

8.3.3 The ZoI is defined as the areas/resources that may be affected by the biophysical changes caused by activities associated with the Proposed Development. Due to the scale and nature of the proposals, the ZoI includes all land within the Site. When assessing the potential effects of the development proposals on statutory sites of international importance, the Zol includes all land within 10km of the development proposals. For all other statutory and non-statutory sites, a Zol of 5km and 2km respectively was considered to be adequate. With respect to protected species surveys, the ZoI for great crested newts included all land within 250m of the Site boundary, and for all other protected species included all land within the Site. However, the desk study area extended to greater distances for protected species to inform the need for survey work and add context to the baseline considerations.

### Desk Study

8.3.4 The desk study is an important element of an Ecological Impact Assessment of any site proposed for development, enabling the initial collation and review of contextual information such as designated sites, together with known records of protected and Priority Species and habitats.

8.3.5 The desk study involved collating biodiversity information from the following sources in January 2026:

- Wiltshire and Swindon Biological Records Centre (WSBRC);

- Multi-Agency Geographic Information for the Countryside (MAGIC) website; and
- A review of the previous Baseline Ecology Report produced for this Site by EDP during 2022 (report reference: edp2272_r009).

8.3.6 The desk study requested the following information within the associated buffers from the Site boundaries:

- International statutory designations (10km);
- National statutory designations (5km) and non-statutory local sites (2km);
- Annex II bat species records (4km);
- All other protected/notable species records (2km); and
- All other notable habitat records (500m).

8.3.7 These search areas are considered sufficient to cover the potential ZoI for the Proposed Development in relation to designated sites, habitats, and species. The zones reflect due consideration that was given to a variety of factors including the nature conservation value of the ecological features (receptors) listed above, the distances over which certain species can disperse, the potential routes for effects to occur (effect-receptor pathways by land, water, or air), and the distances across which such effects may occur.

8.3.8 In addition to the above, freely available web-based Ordnance Survey plans and aerial photographs of the area surrounding the Site were reviewed to identify key habitat features in and around the Site (up to a distance of 250m), including ponds that could offer potential breeding habitat for great crested newts.

**Baseline Surveys**

8.3.9 Using professional judgement and experience, as well as industry guidance, baseline information was collated through a comprehensive suite of detailed ecology surveys of the Site, as set out below and described in further detail within the Baseline Ecology Report (Appendix 8.1):

- Extended Phase 1 Survey (May 2015, April 2021, and March 2023);
- UK Habitat Classification Survey (May 2025);
- River Condition Assessment Survey (March 2023 and July 2025);
- Hedgerow Regulations Assessment Survey (July 2021);
- Winter bird surveys (January to February 2022 and December 2024 and February 2025);

- Breeding bird surveys (April to June 2022 and April to July 2025);
- Bat preliminary roost assessment (April 2021 and May 2025);
- Ground level tree assessment for roosting bats (November 2024);
- Bat roosting, aerial tree inspection surveys (May to June 2022);
- Bat activity transect and automated monitoring surveys (August to September 2021, April to July 2022; and September and October 2024, and between April and August 2025);
- Dormouse (Muscardinus avellanarius) nest tube surveys (July 2021 to May 2022 and April and September 2025);
- Water vole (Arvicola amphibius), otter (Lutra lutra) and beaver (Castor fiber) surveys (August and October 2021; and May and July 2025);
- Badger (Meles meles) survey (April 2021 and May 2025);
- Great crested newt eDNA surveys of ponds within 250m of the Site (April 2022 and April 2025); and
- Reptile surveys (August to September 2021 and April to May 2025).

8.3.10 In addition to the detailed field surveys undertaken as above, any additional species observations were recorded during the range of Site visits undertaken.

8.3.11 Full details of the methodologies employed in relation to all ecological investigations undertaken at the Site (as listed above) are included within the Baseline Ecology Report (Appendix 8.1). Further details on the value of the trees on-site are provided in Appendix 8.4: Arboricultural Impact Assessment.

8.3.12 Table 8.3.1 summarises the other surveys which, while commonly undertaken as part of an ecological assessment for development sites, were not considered necessary/appropriate in this case.

**Table 8.3.1**: Ecology Surveys Scoped Out

| Survey Type | Reasons for Scoping Out |
|---|---|
| Botanical Survey | Phase 1 survey information was sufficient to confirm habitat value, with no indication of particularly high value habitat present. |

| Survey Type | Reasons for Scoping Out |
|---|---|
| Invertebrates | The habitats on-site are not considered to be of value to support a notable assemblage of invertebrates and the anticipated retention of suitable features (e.g. river corridor and majority of trees/hedgerows) and mitigation in relation to grassland habitats, is considered sufficient to mitigate for any potential limited impacts to invertebrates. |
| White-clawed Crayfish (*Austropotamobius pallipes*) | Although the River Avon has some potential to support white-clawed crayfish, the stream which runs through the pasture field and along the northern boundary is considered to be unsuitable due to its low flow and muddy substrate. Provided that a generous corridor of open space is retained along the River Avon, then it is not considered necessary to undertake presence/absence surveys for this species (which have undergone a dramatic decline both locally and nationally). |
| Other Mammals | The Site contains habitat suitable for supporting polecat (*Mustela putorius*), hedgehog (*Erinaceus europaeus*), and water shrew (*Neomys fodiens*). The habitats on-site are of lower suitability for these species, and those areas of greater value are proposed to be retained within the greenspace. Therefore, further assessment/surveys of these species is considered disproportionate to the likely impacts. However, any incidental sightings of these species made during the other ecological surveys will be recorded. |

**Assumptions/Limitations**

8.3.13 There were no significant limitations to the survey work in terms of access to the Site. All surveys have been undertaken in suitable weather conditions at optimum times of year, following recognised guidance. Non-significant limitations are identified in Appendix 8.1.

8.3.14 It should, however, be noted that owing to the seasonality of some species, as well as the ability for some species to quickly colonise sites, the absence of evidence of any particular species from within the Site should not necessarily be taken as conclusive proof that the species is not present, or that it will not be present in the future if land management practices change. Nonetheless, it is considered that the results of the habitat and species surveys undertaken in 2025 are sufficient to have allowed for the identification of habitats and the presence or absence of legally protected species within the Site.

**Biodiversity Evaluation**

8.3.15 An evaluation of IEFs has been made with reference to CIEEM's Ecological Impact Assessment Guidelines (hereafter referred to as 'the guidelines'), a summary of which is provided below.

8.3.16 The guidelines advocate an approach to valuing features that involves professional judgement based on available guidance and information, together with advice from experts who know the locality of the Proposed Development and/or the distribution and status of the species or features that are being considered.

8.3.17 The guidelines recommend that the value or potential value of an ecological resource or feature should be determined within a defined geographical context and recommends that the following frame of reference should be used, or adapted, to suit local circumstances:

- International and European;
- National;
- Regional;
- County;
- District; and
- Local.

8.3.18 For the purposes of this Ecological Impact Assessment, the following adapted geographic frame of reference has therefore been used:

- International;
- National (England);
- Regional (South-West England);
- County (Wiltshire);
- District (North Wiltshire); and
- Local (Chippenham).

8.3.19 Any feature of Less than Local level importance is considered to be of Site level or Negligible importance.

**Valuing Designated Sites**

8.3.20 Within the UK, certain valued habitats have been assigned a level of nature conservation value through designation, and the guidelines recommend that the reasons for this designation need to be taken into account in the assessment. Such designations include:

- Internationally important sites such as SACs, SPAs and Ramsar sites;
- Nationally important sites such as SSSIs and NNRs; and

- Regional/County/District important sites such as Local Nature Reserves (LNRs), or Local Wildlife Sites (LWSs). LWSs are non-statutory designated sites.

8.3.21 Where a feature has value at more than one designation level, its overriding value is that of the highest level.

**Valuing Habitats**

8.3.22 The guidelines recommend that the value of areas of habitat and plant communities should be measured against published selection criteria where available, such as those listed on Annex I of the Conservation of Habitats and Species Regulations 2017 (as amended), or those listed as habitats of principal importance under Section 41 of the NERC Act 2006. Where areas of a habitat or plant community do not meet the necessary criteria for designation at a specific level, the guidelines recommend that the ecologist may consider the local context if appropriate. It also emphasises the importance of not under-estimating habitats in sub-optimal condition where there is potential for restoration.

**Valuing Species**

8.3.23 The guidelines require consideration of all protected species as 'important' features where there is the potential for a breach in legislation. Additionally, species should be assessed according to their biodiversity value, measured against published selection criteria where available (such as those listed under the Conservation of Habitats and Species Regulations 2017 (as amended) and those listed as habitats of principal importance under Section 41 of the NERC Act 2006).

8.3.24 In assigning value to a species, it is necessary to consider its distribution and status, including a consideration of trends based on available historical records, as well as their legal protection. The valuation of populations should make use of any relevant published evaluation criteria.

**Ecosystem Services and Natural Capital**

8.3.25 The guidelines recommend that where ecosystem service provision (benefits people derive from the natural environment) might be affected as a result of a proposed development's ecological effects, this should be recognised, and the relevant data collected during the EcIA to inform separate specialist assessments of social and economic value. This can enable the social and economic implications of ecological changes to be taken into account.

**Assessment of Potential Impacts**

8.3.26 The assessment of the potential impacts of the Proposed Development takes into account both on-site impacts and those that may occur to adjacent and more distant ecological features. Impacts can be positive or negative. Negative impacts can include:

- Direct loss of wildlife habitats;
- Fragmentation and isolation of habitats;
- Disturbance to species from noise, light, or other visual stimuli;
- Changes to key habitat features; and/or
- Changes to the local hydrology, water quality and/or air quality.

8.3.27 Direct, indirect, secondary, and cumulative negative and positive impacts on nature conservation features have been characterised based on predicted changes as a result of the proposed activities.

8.3.28 In order to characterise the impacts on each feature, the following parameters are taken account of:

- The magnitude of the impact;
- The spatial extent over which the impact would occur;
- The temporal duration of the impact;
- Whether the impact is reversible and over what timeframe; and
- The timing and frequency of the impact.

**Criteria For Assessment**

8.3.29 The assessment identifies those positive and negative impacts which would be 'significant', based on effects that either support or undermine the conservation objectives of the ecological feature or biodiversity in general. Significant effects encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent abundance and distribution). Such significant effects are qualified with reference to an appropriate geographic scale and based on the best available scientific evidence. Where it is not possible to robustly justify that no significant effect will occur, a significant effect is assumed.

8.3.30 The integrity of 'designated' sites is described as follows and is taken from the Guidelines for Ecological Impact Assessment in the UK (CIEEM, 2018). It has been used in this

assessment to determine whether the impacts of the proposals on a designated site are likely to be significant:

*"Significant effects encompass impacts on the structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species…... The following need to be determined: For designated sites - is the Proposed Development and associated activities likely to undermine the conservation objectives of the site, or positively or negatively affect the conservation status of species or habitats for which the site is designated, or may it have positive or negative effects on the condition of the site or its interest/qualifying features?"*

8.3.31 The conservation status of habitats and species within a defined geographical area is described as follows (CIEEM, 2018), and has been used in this EcIA to determine whether the impacts of the proposals on non-designated habitats and species are likely to be significant:

*''Habitats - conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions as well as its distribution and its typical species within a given geographical area;*

*Species - conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area.''*

8.3.32 On the basis of the above, residual ecological effects are described as:

- Significant or not significant;
- Significance of effect (Negligible, Minor, Moderate, or Major) based on the likely potential impacts and the geographic value of the receptor;
- Direct and/or indirect;
- Permanent or temporary; and
- Adverse or positive.

8.3.33 Mitigation measures have been incorporated into the assessment Parameter Plan (drawing reference: edp2272_d024) and therefore have been taken into account during the assessment of potential effects so that the residual effects reflect the Completed Development, with any mitigation that is in addition to that being delivered by the Proposed Development. These measures include those required to achieve the minimum standard of established practice, plus additional measures to further reduce the residual effects of the Proposed Development. The assessment takes into account the likely success of the mitigation.

8.3.34 Impacts are unlikely to be significant where features of local importance or sensitivity are subject to small-scale or short-term impacts. However, where there are a number of small-scale impacts that are not significant alone, it may be that, cumulatively, these result in an overall significant impact.

8.3.35 Although certain species and habitats may not constitute IEFs based upon their nature conservation value, they may still warrant consideration during the design of the development (and any mitigation identified) on the basis of their legal protection, their implications for policies and plans, or other issues, such as animal welfare.

8.3.36 The significance of the potential impacts upon IEFs has been assessed both before and after consideration of additional mitigation measures. The latter represents the assessment of the residual impacts of the Proposed Development.

**Cumulative Assessment**

8.3.37 Cumulative effects have been considered and updated, based upon the list of schemes provided in Chapter 2, with respect to the potential for in-combination impacts to arise upon the IEFs pertinent to the development proposals.

## 8.4 BASELINE CONDITIONS

### Current Baseline

8.4.1 As identified in paragraphs above, only features of Local level or above, or those that are legally protected have been taken forward for further assessment.

8.4.2 Table 8.4.1 sets out a summary of all IEFs within the Study Area that are scoped into further assessment. Table 8.4.2 sets out all remaining ecological features that have been scoped out of further assessment.

8.4.3 Full results of the surveys undertaken are provided within Appendix 8.1.

**Table 8.4.1**: Summary of all IEFs within the Study Area that are scoped into further assessment

| Habitat or Feature | Distribution within Site | Level of Intrinsic Importance |
|---|---|---|
| **Statutory Designations** | | |
| Bath and Bradford-on-Avon Bats SAC | A hibernation site for a large number of greater horseshoe bat (15% of UK population) and a smaller number of Bechstein's bat. The bat surveys have confirmed that the Site is not Functionally Linked to this SAC. | International Off-site (6.6km west) |
| Spye Park SSSI | An extensive mosaic of habitats, an important breeding bird site with a diverse insect community. | National Off-site (3.5km south-east) |
| Bencroft Hill Meadows SSSI | A species-rich unimproved pasture of exceptional botanical quality, supporting a variety of butterflies. | National Off-Site (4.8km east) |
| Mortimore's Wood LNR/LWS | A small, ancient semi-natural broadleaved woodland (ASNW). | County Off-site (0.4km north-east) |
| **Non-statutory Designations** | | |
| Bristol Avon River LWS | A river system draining north-west Wiltshire. | County Off-site (adjacent to the east) |
| Mortimore's Wood LWS | A small ASNW on a steep north-west facing slope above a bend in the River Avon. | County Off-site (0.4km north-east) As this site forms part of the Mortimore's Wood LNR it is assessed as part of that. |
| Lackham Wood LWS | Ancient, semi-natural broadleaved woodland. | County Off-site (1km south-east) |

| Habitat or Feature | Distribution within Site | Level of Intrinsic Importance |
|---|---|---|
| Notton (near Lacock) Verge. PV 3-25 PRV | A road verge. | County<br>Off-site (1.27km south) |
| Middle Lodge Wood LWS | A small, semi-natural oak wood bisected by a brook. | County<br>Off-site (1.28km east) |
| Tacklemore Wood, Wheeler's Wood Hazel Copse LWS | Ancient woodland, planted broadleaves and conifer. | County<br>Off-site (1.84km south-east) |
| Baydons Meadow LWS | A small area of neutral grassland bordered by the River Avon. | County<br>Off-site (1.95km north) |
| Mynte Wood LWS | Mature broadleaved woodland with ornamental planting. | County<br>Off-site (1.96km west) |
| Long Copse, Lacock LWS | Ancient woodland site. | County<br>Off-site (1.97km south-east) |
| **Off-site Habitats** | | |
| Wood-pasture and parkland | A large area of wood-pasture and parkland, located 426m away. | District<br>Off-site (426m away) |
| Traditional orchard | One pocket of traditional orchard located 282m away. | District<br>Off-site (282m away) |
| Lowland mixed deciduous woodland | There are several areas of lowland mixed deciduous woodland. The closest area of deciduous woodland is located 382m away. | District<br>Off-site (382m away) |
| Ancient Semi-Natural Woodland (ASNW) | There are several pockets of ASNW in the wider landscape; however, all of these are associated with the Local Wildlife Sites listed above. The nearest is Mortimore's Wood LNR/LWS, located 0.4km away from the Site.<br>It also includes Vincient Woodland ASNW, which is owned and managed by the Wildlife Trust. | County<br>Irreplaceable Habitat<br>Off-site (0.4km away)<br><br>As the pockets of this habitat forms part of the LWSs they are assessed as part of those, with the exception of Vincient Woodland ASNW. |
| **Habitats** | | |
| Mixed scrub | A parcel of mixed scrub is present in the north-east boundary of field F3. | Local |
| Lowland mixed deciduous woodland | There is a small patch of woodland central along the northern hedgerow boundary, connecting hedgerows H10 and H11. | Local (Priority Habitat) |

| Habitat or Feature | Distribution within Site | Level of Intrinsic Importance |
|---|---|---|
| Reedbeds | A patch of reedbed is bounded by hedgerow within the north-east corner of field F6. | Local (Priority Habitat) |
| Other swamp | There are two parcels across fields F3 and F6, other swamp is present to the south and east of the reedbeds. | Local |
| Native hedgerows | All native hedgerows within and around the boundary of the Site. | Local (Priority Habitat) |
| River Avon | The River Avon lies outside of the eastern boundary. | County<br>Off-site (on Site boundary)<br><br>As this habitat forms part of the Bristol Avon LWS, it is assessed as part of that. |
| Stream | A tributary of the River Avon flows across the Site between fields F4 and F5 and north of fields F3, F6 and F7. | Local |
| Veteran trees | Trees T10 (along hedgerow H14), T15 (in field F6) and T33 (in field F5). | District (Irreplaceable Habitat) |
| **Species** | | |
| Breeding birds | The diversity of the species recorded was moderate but with a low abundance for a Site of this size and type. Most notably the presence of greenfinch and reed bunting. | Breeding Birds |
| Bats | 11 trees and a single building with bat roosting potential.<br>Moderate to high levels of foraging and commuting activity along the Site boundaries by relatively common and widespread species. However, rarer species (including Annex II species) were recorded but generally in inconsistent and low numbers. | County |
| Greater horseshoe bat | Due to the rarity of this species, the presence of this species (even in the very low numbers recorded) is considered to be of Local level importance. | Local<br><br>As this species will have the same impacts as bats in general, they are assessed collectively. |

| Habitat or Feature | Distribution within Site | Level of Intrinsic Importance |
|---|---|---|
| Lesser horseshoe bat | A large peak count of lesser horseshoe on a single night during April, indicates that hedgerows H3 and H1 are an important connection and foraging route during the dispersal months. | District<br><br>As this species will have the same impacts as bats in general, they are assessed collectively. |
| Barbastelle | Due to the rarity of this species, the presence of this species (even in the very low numbers recorded) is considered to be of Local level importance. | Local<br><br>As this species will have the same impacts as bats in general, they are assessed collectively. |
| Serotine | Serotine are not considered an abundant bat within the UK or Wiltshire. Given the numbers recorded on and adjacent to the Site, it is likely the population is of Local importance. | Local<br><br>As this species will have the same impacts as bats in general, they are assessed collectively. |
| Otter | The habitats on-site are of moderate suitability for otter. Signs of otter spraint, feeding and a holt were recorded during the surveys. | Local<br>(off-site River Avon is County) |
| Beaver | A few feeding and foraging signs found in the off-site River Avon. This population is likely expanding. | Likely absent on-site<br>(off-site River Avon is County) |
| Badger | Two outlier setts were identified on-site. An additional sett is also present off-site to the north. Badger have a common status within the country and district. | Less than Local<br>(but legally protected) |
| Reptiles | Habitats of moderate suitability but only a limited density within the Site (one adult slow worm recorded in 2025 and one juvenile grass snake recorded in 2021) and relative widespread distribution across the County. | Less than Local<br>(but legally protected) |

**Table 8.4.2**: Summary of Ecological Features Within the Study Area that are Scoped Out of Further Assessment

| Species or species group | Distribution within Site | Level of Importance |
|---|---|---|
| **Habitats** | | |
| Arable | There are three large arable fields to the south-west of the Site, namely fields F1, F25 and F3. | Less than Local |
| Developed land | The B4528 runs along the western boundary of the Site, and a single building is present within field F7 (Building B1). | Less than Local |
| Bare ground | A patch of bare ground is present at the entrance to field F2. | Less than Local |
| Tall forbs | Dominated by nettles in the corners of fields F3 and F4. With an additional strip present within the centre of the Site. | Less than Local |
| Modified grassland | Dominates the north and east of the Site, namely fields F4, F5, F6 and F7 with small margins surrounding the arable fields. | Less than Local |
| Bramble scrub | A patch present to the north of field F7 surrounding the stream. | Less than Local |
| Reedbeds | A patch of reedbed is bounded by hedgerow within the north-east corner of field F6. | Local (Priority Habitat) |
| Line of trees | A line of trees runs along the River Avon defining the eastern boundary. | Less than Local |
| Non-native and Ornamental Hedgerow | A section of ornamental hedgerow runs along the boundary of the residential curtilage to the north-west of the Site. | Less than Local |
| Individual rural trees | Mature trees present across the Site. | Less than Local |
| **Species** | | |
| Wintering birds | Low diversity and abundance of any species of notable wintering bird. | Less than Local |
| Dormouse | The habitats on-site are of moderate suitability for dormice, but no dormouse or evidence of dormouse were recorded during the surveys. There are limited historic records of dormouse within the local area. | Likely absent |
| Water vole | The habitats on-site are of moderate suitability for water vole; however, the surveys recorded no evidence of water vole. | Likely absent |
| Other mammals | Historic records for polecat, harvest mouse, European hedgehog and brown hare in the local area. None of these species have been recorded on-site. | Less than Local |
| Other amphibians | Potential to be present in terrestrial phase, restricted to suitable habitat on-site. | Less than Local |

**The Projected Future Baseline**

8.4.4 In the absence of development, the arable fields and associated field boundaries in the south of the Site and the grassland within the other fields will continue to be managed as they are. The ecological value of this Site would therefore remain broadly unchanged.

8.4.5 It should be acknowledged that with the uncertain effects from climate change, the habitats on-site (and therefore the species they support) may change. This could include a change in the groundwater condition of the Site, causing certain areas to have a reduced water level (e.g. the River Avon) or dry out completely (stream and any off-site ponds). It could also have an impact on botanical diversity, with some species preferring damper but milder conditions, and others preferring drier conditions. Finally, direct impacts on species may occur, for example reptiles prefer warm dry conditions, and amphibians prefer damper milder conditions.

## 8.5 POTENTIAL EFFECTS

8.5.1 An assessment of likely significant effects of the Proposed Development on those IEFs identified above has been undertaken based on the submitted Parameter Plan and Green Infrastructure Strategy Plan.

8.5.2 Any discussion throughout this Chapter on the SPAs, SACs and Ramsars, will make reference to the supporting Shadow Habitats Regulations Assessment (sHRA) in Appendix 8.2. However, this is without prejudice to the assessment of impacts on these sites as set out in the sHRA.

### Inherent And Embedded Mitigation

8.5.3 During the design evolution for the Proposed Development, the initial findings of the ecology work were carefully considered and the mitigation hierarchy of avoid, mitigate and compensate was used to minimise impacts.

8.5.4 The quantum and layout of the Proposed Development set out in the Parameter Plan therefore incorporates inherent or embedded ecological mitigation as a result of an iterative assessment and design process, namely:

- Retention of the majority of the hedgerow network (with only minor losses required for road and pedestrian access points between parcels);
- Retention of the stream, lowland mixed deciduous woodland, mixed scrub, reedbed and other swamp;
- Retention of Veteran Trees (with 15m buffer from the residential area);
- Retention and protection (including a 25m buffer from the residential area) to the northern boundary hedgerow and stream (drainage infrastructure may occur within 10m of the stream);
- Retention and protection (including a 10m buffer from the residential area) to the southern boundary hedgerow; and
- Retention of the River Avon LWS with Natural Greenspace buffer of at least 100m from the residential area.

8.5.5 The drainage strategy will utilise the stream running east-west along the northern boundary of the development to ensure that any outfall into the River Avon does not remove natural habitats, nor impact any protected or notable species associated with the River Avon LWS watercourse. The drainage strategy will be designed to ensure that all surface water will go

through a bespoke system of SuDS features (e.g. swales/water gardens) into a series of retention basins before discharging at greenfield rates of run-off.

8.5.6 All pollution control mechanisms, which include engineered (e.g. interceptors) and natural filtration systems (e.g. wetlands/reedbeds) as appropriate, will be included to ensure that any water entering the ditch that leads to the River Avon is clean and has no potential to increase nutrients or chemical pollutants into the River Avon LWS and Priority Habitat. See Chapter 11 for more detail on the drainage strategy. Any works, as well as the overall drainage strategy (including impacts to the stream), will be detailed within the reserved matters application, but will be designed in agreement with an ecologist to ensure that no significant adverse impacts occur on any of the ecological features identified within this report.

8.5.7 The likely effects are assessed with the inherent mitigation included, but in the absence of the additional mitigation measures required to address potentially significant effects. Anticipated effects during the construction and post-completion stage of the Proposed Development are discussed in turn below.

**Construction Stage**

8.5.8 Generalised potential significant effects on important ecology features resulting from the construction of the Proposed Development are listed in Table 8.5.1 below.

**Table 8.5.1**: Potential Construction Related Effects

| Effect | Possible Causes/Mechanisms |
|---|---|
| Habitat Loss | Intentional or accidental felling of trees, removal or disturbance of vegetation or soils by heavy plant, materials storage/stockpiling, etc., during Site preparation and construction. |
| Habitat Degradation | Pollution by dust, fuels, lubricants, hydraulic fluid, cement or silt resulting in toxic effects to plants/animals.<br>Damage to soils or vegetation by physical damage, soil compaction (resulting in changes in flora), change in hydrology resulting in the drying of wetland areas or reductions in local populations of wetland animals or plants. |
| Habitat Fragmentation | Temporary or permanent reduction in habitat connectivity through severance of habitat corridors or isolation of patches of habitats, e.g. by severance of hedgerows or the removal/felling of woodland, installation of features or land-use that presents a barrier or hostile environment (such as a roads, urban areas, bridges or culverts). |
| Killing, Injury, or Disturbance of Animals | Digging, vegetation/tree removal, movement of vehicles/heavy plant, and entrapment of animals in trenches, pits or pipes. |

| Effect | Possible Causes/Mechanisms |
|---|---|
| Displacement of Animals | Visual, noise or vibration-related disturbance from vehicles/heavy plant, lighting, digging or piling.<br>Habitat loss and degradation (see above) may also displace resident animals. |

8.5.9 Table 8.5.2 describes the potential significant effects resulting during the construction of the Proposed Development for each of the IEFs identified previously in Table 8.4.1.

**Table 8.5.2**: Ecological Effects from Construction Phase

| Ecological Feature | Potential Effect | Relevant Development Activity | Detail of Ecological Effects from Construction Phase |
|---|---|---|---|
| Bath and Bradford-on-Avon Bats SAC | Habitat loss/degradation (including for qualifying species). | Site clearance and construction. | There is no anticipated direct loss of, or damage to this feature as a result of the Proposed Development, as the designated site is not within or directly adjacent to proposed works. ***Negligible***. |
| | Removal of functional land for qualifying species. | Site clearance and construction. | The SAC is over 6km from the Site, and outside the core sustenance zone of any of the bat species, and SSSI impact risk zone for this SAC. Bat surveys within the Site have identified that although both species of horseshoe bat and Bechstein's bat do very occasionally use the Site, it is not used by significant numbers on a regular basis by any of the bat species that are qualifying species of this SAC. The Site is therefore not considered to be functional land or of significance to the SAC. The importance for bats (independently from the SAC) is assessed and mitigated for in the species group section for bats below. ***Negligible***. |
| Spye Park SSSI | Habitat loss/degradation. | Site clearance and construction. | There is no anticipated direct loss of, or damage to this feature as a result of the Proposed Development, as the designated site is not within or directly adjacent to proposed works. ***Negligible***. |
| Bencroft Hill Meadows SSSI | Habitat loss/degradation. | Site clearance and construction. | There is no anticipated direct loss of, or damage to, this feature as a result of the Proposed Development, as the designated site is not within or directly adjacent to proposed works. ***Negligible***. |
| Mortimore's Wood LNR (and LWS) | Habitat loss/degradation. | Site clearance and construction. | There is no anticipated direct loss of, or damage to, this feature as a result of the Proposed Development, as the designated site is not within or directly adjacent to proposed works. ***Negligible***. |

| Ecological Feature | Potential Effect | Relevant Development Activity | Detail of Ecological Effects from Construction Phase |
|---|---|---|---|
| Bristol Avon River LWS | Habitat loss/degradation. | Intentional habitat removal during Site clearance and construction. | There is no anticipated direct loss of, or damage to, this feature as a result of the Proposed Development, as the designated site is buffered by over 100m of greenspace between the residential development and the LWS. Minor works may occur for drainage, but these will not result in significant loss of habitats (see inherent and embedded mitigation).<br>***Negligible***. |
| | | Accidental physical damage during Site clearance and construction. | Without adequate protection there is some risk of accidental damage to the LWS by machinery during construction, leading to damage to this designated site.<br>***Minor adverse***. |
| | | Accidental pollution during Site clearance and construction. | Without adequate pollution prevention measures, there is some risk of pollution from concrete, silt, or oil discharges via surface water.<br>***Minor adverse***. |
| All other LWSs between 1km and 2km from the Site | Habitat loss/degradation. | Site clearance and construction. | There is no anticipated direct loss of, or damage to, these features as a result of the Proposed Development, as these designated sites are not within or directly adjacent to proposed works.<br>***Negligible***. |
| Vincient Woodland ASNW | Habitat loss/degradation. | Site clearance and construction. | There is no anticipated direct loss of, or damage to, these features as a result of the Proposed Development, as these designated sites are not within or directly adjacent to proposed works.<br>***Negligible***. |
| Off-site Priority Habitats | Habitat loss/degradation. | Site clearance and construction. | There is no anticipated direct loss of, or damage to, these features as a result of the Proposed Development, as these designated sites are not within or directly adjacent to proposed works.<br>***Negligible.*** |

| Ecological Feature | Potential Effect | Relevant Development Activity | Detail of Ecological Effects from Construction Phase |
|---|---|---|---|
| Mixed scrub | Habitat loss/degradation. | Intentional mixed scrub removal during Site clearance and construction. | There is no anticipated direct loss of, or damage to, this feature as a result of the Proposed Development, as the mixed scrub is being retained (see inherent and embedded mitigation).<br>***Negligible***. |
| | | Accidental physical damage during Site clearance and construction. | Without adequate protection there is some risk of accidental damage to the retained mixed scrub by machinery during construction, leading to damage to this habitat.<br>***Minor adverse***. |
| Stream | Habitat loss/degradation. | Intentional habitat removal during Site clearance and construction. | The majority of this habitat is retained and buffered by over 25m of greenspace between the residential development and the stream. Minor works will occur for drainage and enhancements, these may include short sections of outfalls/headwalls but these will not result in significant loss of habitats, with enhancements detailed in the mitigation section below. Details of this will be provided in the reserved matters application.<br>***Minor adverse***. |
| | | Accidental physical damage during Site clearance and construction. | Without adequate protection there is some risk of accidental damage to the stream by machinery during construction, leading to damage to this designated site.<br>***Minor adverse***. |
| | | Accidental pollution during Site clearance and construction. | Without adequate pollution prevention measures, there is some risk of pollution from concrete, silt, or oil discharges via surface water.<br>***Minor adverse***. |
| Reedbeds | Habitat loss/degradation. | Intentional reedbed removal during Site clearance and construction. | There is no anticipated direct loss of, or damage to, this feature as a result of the Proposed Development, as the reedbed is being retained (see inherent and embedded mitigation).<br>***Negligible***. |

| Ecological Feature | Potential Effect | Relevant Development Activity | Detail of Ecological Effects from Construction Phase |
|---|---|---|---|
| | | Accidental physical damage during Site clearance and construction. | Without adequate protection there is some risk of accidental damage to the retained reedbed by machinery during construction, leading to damage to this habitat. ***Minor adverse***. |
| | | Accidental pollution during Site clearance and construction. | Without adequate pollution prevention measures, there is some risk of pollution from concrete, silt, or oil discharges via surface water. ***Minor adverse***. |
| Other swamp | Habitat loss/degradation. | Intentional 'other swamp' removal during Site clearance and construction. | There is no anticipated direct loss of, or damage to, this feature as a result of the Proposed Development, as the 'other swamp' is being retained (see inherent and embedded mitigation). ***Negligible***. |
| | | Accidental physical damage during Site clearance and construction. | Without adequate protection there is some risk of accidental damage to the retained 'other swamp' by machinery during construction, leading to damage to this habitat. ***Minor adverse***. |
| | | Accidental pollution during Site clearance and construction. | Without adequate pollution prevention measures, there is some risk of pollution from concrete, silt, or oil discharges via surface water. ***Minor adverse***. |
| Hedgerows | Habitat loss/degradation. | Intentional hedgerow removal and breaches during Site clearance and construction. | The Proposed Development will cause the loss of a maximum of 100m of native species-poor hedgerow; half of this amount is defunct hedgerows. ***Moderate adverse***. |
| | | Accidental physical damage during Site clearance and construction. | Without adequate protection there is some risk of accidental damage to the retained hedgerows by machinery during construction, leading to damage to this habitat. ***Minor adverse***. |

| Ecological Feature | Potential Effect | Relevant Development Activity | Detail of Ecological Effects from Construction Phase |
|---|---|---|---|
| | | Changes to hydrological regime resulting from construction and drainage. | Hedgerows are not considered to be groundwater dependent. The roots of trees and shrubs forming hedgerows at the Site are likely to depend entirely on soil moisture. Therefore, no hydrological impacts on the retained hedgerows are anticipated.<br>***Negligible***. |
| | Habitat fragmentation. | Hedgerow breaches during construction. | The Proposed Development will cause the loss of a maximum of 100m of native species poor hedgerow; half of this amount is defunct hedgerows. This will potentially fragment the remaining hedgerow within the Site.<br>***Moderate adverse***. |
| Lowland mixed deciduous woodland | Habitat loss or degradation. | Intentional woodland removal during Site clearance and construction. | There is no anticipated direct loss of, or damage to, this feature as a result of the Proposed Development, as the woodland is being retained (see inherent and embedded mitigation).<br>***Negligible***. |
| | | Accidental physical damage during Site clearance and construction. | Without adequate protection there is some risk of accidental damage to the retained woodland by machinery during construction, leading to damage to this habitat.<br>***Minor adverse***. |
| Veteran trees | Habitat loss or degradation. | Intentional Veteran tree removal during Site clearance and construction. | There is no anticipated direct loss of, or damage to, these trees as a result of the Proposed Development, as all Veteran trees are being retained (see inherent and embedded mitigation).<br>***Negligible***. |
| | | Accidental physical damage during Site clearance and construction. | Without adequate protection there is some risk of accidental damage to the retained Veteran trees by machinery during construction, leading to damage to this habitat.<br>***Minor adverse***. |

| Ecological Feature | Potential Effect | Relevant Development Activity | Detail of Ecological Effects from Construction Phase |
|---|---|---|---|
| Birds (breeding) | Reduction in breeding habitat at the Site. | Site clearance and construction. | The Site currently supports predominantly general scrub/tree/hedge/woodland. No ground nesting birds were recorded breeding on-site. Fourteen of the 48 species recorded during the breeding bird surveys are Priority Species, red or amber listed species, or Schedule 1 species. The Proposed Development will retain habitats of importance to breeding birds such as woodland, reedbeds and hedgerow. There will, however, be a loss of some areas of bird habitat, including the loss of hedgerow as identified above. There is the potential for a reduction in the populations within the Site. ***Minor adverse***. |
| | Killing or injury of individual birds and damage or destruction of active nests. | Site clearance and construction. | There is potential for the killing and injury of individual birds and damage or destruction of their nests during vegetation clearance (i.e. of scrub, tall ruderal vegetation and hedgerows) or other works to trees. ***Minor adverse***. This would also constitute a breach of wildlife legislation. |
| | Disturbance of Schedule 1 species. | Site clearance and construction. | Barn owl were recorded roosting in Building B1, and Trees T10 and T33 within the Site. Although no evidence of breeding was recorded, there is suitability for potential breeding in future years. Kingfisher are assumed to be breeding on the River Avon, immediately adjacent to the Site. Although these trees and the river are retained there is potential, in the absence of mitigation, for disturbance of these species. ***Negligible***. However, would constitute a breach of wildlife legislation. |
| Bat roosting | Reduced population of EPS through reduction in roosting opportunities or disturbances to potential roosts. | Tree felling or arboricultural works. | The Proposed Development does not require the felling of any mature trees. However, if trees with bat roosting suitability (T8, T9, T10, T15, G29, G29a, T33, T45, T46, T49, T50 and H43a, as per Plan EDP 1 in Appendix 8.1) are required to be felled or managed, for example for health and safety reasons, this may result in the loss of potential locations for tree roosts, if proven to be used by roosting bats. ***Minor adverse***. This would constitute a breach of wildlife legislation. |

| Ecological Feature | Potential Effect | Relevant Development Activity | Detail of Ecological Effects from Construction Phase |
|---|---|---|---|
| | | Light spillage onto mature trees and building from floodlighting during construction. | Without adequate mitigation, light spillage onto potential tree roosts in mature trees and building, from floodlighting during construction, could cause a loss of a relatively small number of tree roosts.<br>***Minor adverse***, and may constitute a breach of wildlife legislation. |
| | Reduced population of EPS caused by killing and injury of individuals. | Tree felling or arboricultural works. | The Proposed Development does not require the felling of any mature trees. However, if trees with bat roosting suitability are required to be felled or managed for health and safety reasons, in the absence of mitigation this may result in the killing or injury of individual bats. ***Minor adverse*** and would constitute a breach of wildlife legislation. |
| Bat foraging and commuting | Reduction in population of EPS by habitat loss, degradation and fragmentation (through reduction in foraging and commuting opportunities). | Site clearance and construction. | The Proposed Development will result in the replacement of grassland and arable land with areas of urban development. However, the Proposed Development will retain the majority of habitats of particular value to foraging bats (woodland, most of the hedgerow network and watercourses) and therefore there is likely to be minimal fragmentation of foraging and commuting habitats for bats.<br>The hedgerow that is considered most important for bats (notably lesser horseshoe) is the northern boundary hedgerow (H3 and H11). This is proposed to be retained and buffered.<br>***Minor adverse***. |
| | | Increased light spillage onto bat foraging habitats due to floodlighting during construction. | Without adequate mitigation, light spillage onto retained habitats from floodlighting used during construction has the potential to reduce the value of these habitats as bat foraging and commuting habitat.<br>***Minor adverse***. |

| Ecological Feature | Potential Effect | Relevant Development Activity | Detail of Ecological Effects from Construction Phase |
|---|---|---|---|
| Beaver | Reduction in population of nationally protected species through deliberate habitat removal or fragmentation. | Site clearance and construction. | There is no anticipated direct loss of, or damage to the habitat of this species as a result of the Proposed Development, as the Bristol Avon River LWS is buffered by over 100m of greenspace between the residential development and the LWS, with only very minor works anticipated within this corridor (see inherent and embedded mitigation).<br>***Negligible***. |
| | Reduction in population through accidental physical damage to habitats. | Site clearance and construction. | Without adequate protection during construction there is some risk of physical damage to habitat suitable for this species.<br>***Minor adverse***. |
| Otter | Reduction in population of nationally protected species through deliberate habitat removal or fragmentation. | Site clearance and construction. | There is no anticipated direct loss of, or damage to the habitat of this species as a result of the Proposed Development, as the Bristol Avon River LWS is buffered by over 100m of greenspace between the residential development and the LWS, with only very minor works anticipated within this corridor (see inherent and embedded mitigation). The stream that a single otter spraint was recorded on, is also being retained and buffered by 25m from any residential development.<br>***Negligible***. |
| | Reduction in population through accidental physical damage to habitats. | Site clearance and construction. | Without adequate protection during construction there is some risk of physical damage to habitat suitable for this species.<br>***Minor adverse***. |
| | Reduced population of nationally protected species caused by killing, injury or disturbance of individuals. | Site clearance and construction. | Without mitigation, accidental encroachment into the Bristol Avon River LWS or the on-site stream could cause the disturbance of small numbers of otter or damage to a potential holt.<br>***Minor adverse*** and may constitute a breach of wildlife legislation. |

| Ecological Feature | Potential Effect | Relevant Development Activity | Detail of Ecological Effects from Construction Phase |
|---|---|---|---|
| Badger | Loss of outlier badger sett. | Site clearance and construction. | All badger setts are proposed to be retained through the development.<br>**Negligible**. |
| | Damage to active badger sett. | Site clearance and construction. | There are no works proposed within 30m of S2 or the off-site sett. However there are building works within 30m of S1.<br>Without mitigation, encroachment into the areas surrounding the badger setts could cause damage to (/interference with) an active badger sett or disturbance to a sett.<br>***Negligible**,* however would constitute a breach of wildlife legislation. |
| Reptiles | Removal of suitable habitat used by individual reptiles. | Site clearance and construction. | The Proposed Development will result in the loss of small areas of low suitability habitats that are used by individual slow worms.<br>However, given that only individual slow worms or grass snakes use the Site, this is considered to be a ***negligible*** effect on the conservation status of this species at anything above Site level. |
| | Reduction in population through accidental physical damage to habitats. | Site clearance and construction. | Without mitigation, accidental encroachment into the retained areas of suitable reptile habitat could cause loss or degradation to reptile habitats used by individuals. However, given that only individual slow worms or grass snakes use the Site, this is considered to be a ***negligible*** *effect* on the conservation status of this species at anything above Site level. |
| | Reduced population of nationally protected species caused by killing, injury of individuals. | Site clearance and construction. | Without mitigation, clearance of areas of suitable reptile habitat may cause the killing or injury of small numbers of reptiles.<br>***Negligible**,* however would constitute a breach of wildlife legislation. |

**Post-completion Stage**

8.5.10 Generalised potential significant effects on important ecology features resulting from the Completed Development are listed in Table 8.5.3 below.

**Table 8.5.3**: Potential Post-completion Related Effects

| Effect | Possible Causes/Mechanisms |
|---|---|
| Habitat degradation | Increased recreational pressure (e.g. damage to vegetation and compaction/disturbance of soils through additional footfall, dog fouling) on habitats.<br>Management/gardening of vegetation close to gardens (causing damage to habitats).<br>Fly tipping of litter or polluting materials by new residents.<br>Introduction of invasive species by new residents.<br>Light spillage from street lighting or other artificial lighting. |
| Habitat fragmentation | Reduction in habitat connectivity through road traffic, permanent changes of land use and permanent structures or barriers.<br>Light spillage from street lighting or other artificial lighting. |
| killing, injury, or disturbance of animals | Killing or injury of animals by collisions with traffic.<br>Additional traffic, new roads and paths. Increased predation pressure or disturbance from cats and dogs. |
| Reduction in animal populations | Permanent loss of habitat. Increased predation pressure or disturbance from cats and dogs. |
| Displacement of animals | Visual (especially lighting), noise or vibration-related disturbance. Habitat loss and degradation (see above) may also displace resident animals.<br>Light spillage from street lighting or other artificial lighting. |

8.5.11 Table 8.5.4 describes the potential significant effects resulting from the Completed Development for each of the IEFs identified previously in Table 8.4.1.

**Table 8.5.4**: Ecological Effects from Post-completion Phase

| Ecological Feature | Potential Effect | Relevant Activity | Detail of Ecological Effects from Completed Development |
|---|---|---|---|
| Bath and Bradford-on-Avon Bats SAC | Disturbance of qualifying species (internationally important bat roosts). | Increased recreational pressure. | The SAC may experience a very slight, non-significant increase in visitor numbers from a residential development at this distance. The embedded mitigation of the large areas of Public Open Space (POS) being provided with the development will aid in reducing this increase in visitor pressure. Finally, many of the important areas of the SAC (the important roost sites) are not publicly accessible, either being on private land, or in the case of the tunnels and cave systems, physically blocked off from public access. It is therefore thought that any increase in visitor numbers, and therefore recreational pressure/disturbance, would be ***negligible***. |
| | Habitat degradation. | Reduction in air quality through increased traffic. | Traffic modelling has confirmed that there is a potential increase of 356 Average Annual Daily Traffic flow (AADT) from the proposal along the A4. As detailed in the sHRA (Appendix 8.2) this increase is less than the threshold whereby the increase in AADT would cause a noticeable change (over 1% of the Critical Load) in the nitrogen loading of the woodlands within the SAC. This level of increase is therefore not considered likely to have an effect through the degradation of air quality around the SAC.<br>Therefore any air quality effects on this site are ***negligible***. |
| Spye Park SSSI | Habitat degradation. | Increased recreational pressure. | This designated site, of predominantly alder woodlands, is located 4km from the Site. Woodland habitat is not considered especially susceptible to recreational impacts (unlike, for example, heathland that supports ground nesting birds and more sensitive ground flora), although there is some potential for trampling of ground flora, littering and fly-tipping. There are, however, no public footpaths providing access to the woodland and therefore any potential effects can be managed by the Woodland Trust, who provide permissive access. The Proposed Development includes the provision of open space. This is likely to ameliorate any increase in visitors to the SSSI. Therefore, given the magnitude of the Proposed Development, provision of on-site footpaths, and distance to the designated site, recreational impacts on this SSSI are ***negligible***. |

| Ecological Feature | Potential Effect | Relevant Activity | Detail of Ecological Effects from Completed Development |
|---|---|---|---|
| | | Reduction in air quality through increased traffic. | This SSSI is located over 200m from any main road. Natural England internal operation guidance advises that traffic related impacts on air quality need to be considered for designated sites located within 200m of relevant roads. The guidance states that "*With regard to potential risks from road traffic emissions, Natural England and Highways England are in agreement that protected sites falling within 200 metres of the edge of a road affected by a plan or Proposed Development need to be considered further."* The guidance goes on to note that "*where (unusually) there is a credible risk that air quality impacts might extend beyond 200 metres from a road, Natural England may advise that additional sites should also be scoped into the HRA*." It is not considered that any traffic from a residential development of 400 residential units would be considered an unusual scenario and therefore have air quality impacts extending beyond 200m.<br>No increase in traffic on the minor roads adjacent to this site are anticipated, therefore any air quality effects on this site are ***negligible***. |
| Bencroft Hill Meadows SSSI | Habitat degradation. | Increased recreational pressure. | This designated site, of predominantly alder woodlands, is located about 5km from the Site. There is no public access to this SSSI and therefore, no potential for recreational pressure.<br>***Negligible***. |
| | | Reduction in air quality through increased traffic. | This SSSI is located over 200m from any main road.<br>No increase in traffic on the minor roads adjacent to this site are anticipated, therefore any air quality effects on this site are likely to be ***negligible***. |
| Mortimore's Wood LNR (and LWS) | Habitat degradation. | Increased recreational pressure. | Although there is no public access to this LNR, there is permissive access allowed by the Chippenham Borough Lands Charity. As this is permissive access and strictly controlled, there is not considered to be an increased risk from an increase in recreational pressure.<br>***Negligible***. |

| Ecological Feature | Potential Effect | Relevant Activity | Detail of Ecological Effects from Completed Development |
|---|---|---|---|
| | | Reduction in air quality through increased traffic. | This designated site is located over 200m from any main road. No increase in traffic on the minor roads adjacent to this site are anticipated, therefore any air quality effects on this site are ***negligible***. |
| Bristol Avon River LWS | Habitat degradation. | Increased recreational pressure. | There are Public Rights of Way (PRoW) immediately adjacent to this designated site, which lead directly from the Site. This PRoW will likely see an increase in recreation. However, the presence of increased visitors on the banks of a river LWS is unlikely to cause a significant impact, except through the potential increase of littering. This impact is not likely to be significant; however, precautionary mitigation will be put in place to protect the LWS.<br>***Negligible***. |
| | | Reduction in air quality through increased traffic. | This designated site is mainly located over 200m from any main road, with only the A350 coming into closer proximity to this designated site at discrete bridges. The A350 southbound, where it runs in closer proximity to the Avon, is anticipated to see an increase of 265 Average Annual Daily Traffic Flow (AADT) through the development (as identified in the Traffic Modelling undertaken for this EcIA). Natural England have set a basic screening threshold for air quality assessment of 1000 AADT, whereby any increase in traffic below this level will cause emissions which are widely considered to be imperceptible and undetectable. This figure is also below JNCC's more advanced thresholds as set out in their Guidance on Decision-making Thresholds for Air Pollution (2021). In addition, no increase in traffic on the minor roads adjacent to this site are anticipated, therefore any air quality effects on this site are likely to be negligible.<br>***Negligible***. |

| Ecological Feature | Potential Effect | Relevant Activity | Detail of Ecological Effects from Completed Development |
|---|---|---|---|
| | | Changes to hydrological regime. | The Proposed Development will be restricted to the pre-existing greenfield rates of run-off. Calculations undertaken by the hydrologists (see Chapter 11) show that discharge will not exceed that. It is therefore considered that there will not be a significant change to the hydrological regime of this watercourse.<br>***Negligible***. |
| | | Pollution events. | The residential areas of the development are set over 100m from this designated site. In addition, no surface water (grey water) from the Site is going to be directly discharged into the Avon River (see embedded mitigation). It is therefore not anticipated that any significant pollution events that occur within the residential development will likely impact this designated site.<br>***Negligible***. |
| All other LWSs between 1km and 2km from the Site | Habitat degradation. | Increased recreational pressure. | Although there is some public access to some of these designated sites, in all cases it is limited to discrete PRoWs. With the exception of Baydons Meadow, all the LWSs are woodland, which are not considered especially susceptible to recreational impacts.<br>Baydons Meadow is situated in close proximity to the centre of Chippenham and therefore already receives a high level of recreational pressure. Any increase from the Site, 2km away from this designated site, is likely to be unnoticeable compared to current levels.<br>Due to the distance from the Site to the designated sites, it is unlikely that significant recreational impacts will occur on any of these sites.<br>***Negligible***. |
| | | Reduction in air quality through increased traffic. | These designated sites are located over 200m from any main road. No increases in traffic on the minor roads adjacent to these sites are anticipated, therefore any air quality effects on this site are ***negligible***. |

| Ecological Feature | Potential Effect | Relevant Activity | Detail of Ecological Effects from Completed Development |
|---|---|---|---|
| Vincient Woodland ASNW | Habitat degradation. | Increased recreational pressure. | Although there is public access to this ancient woodland designated site, it is limited to discrete Permissive Footpaths controlled by Wiltshire Wildlife Trust.<br>Due to the distance from the Site to the designated site, it is unlikely that significant recreational impacts will occur on this habitat.<br>***Negligible***. |
| | | Reduction in air quality through increased traffic. | This patch of Ancient Woodland is the only one that lies within 200m of a road that is expected to see an increase in AADT through the proposal.<br>An Air Quality assessment has been completed for this ASNW, which has shown that any impact on this habitat is 'negligible' and 'not significant' from the development alone.<br>***Negligible*.** |
| Off-site Priority Habitats | Habitat degradation. | Increased recreational pressure. | There are no PRoW that give access to these off-site Priority Habitats (those that are not discussed as part of the sites listed above).<br>This is with the exception of less than 50m of PRoW that runs through the Wood-Pasture and Parkland and adjacent woodland, to the south of the Site. These habitats are not considered to be especially sensitive to recreational pressure, especially when limited to a very short section of footpath (less than 50m). No recreational impacts are anticipated.<br>***Negligible*.** |
| | | Reduction in air quality through increased traffic. | These priority habitats are located over 200m from any main road. No increase in traffic on the minor roads adjacent to these habitats are anticipated, therefore any air quality effects on this site are likely to be negligible.<br>***Negligible.*** |

| Ecological Feature | Potential Effect | Relevant Activity | Detail of Ecological Effects from Completed Development |
|---|---|---|---|
| Hedgerows | Habitat degradation. | Poor management. | Without a suitably detailed conservation management regime for retained and new hedgerows, there is a risk of lack of management (eventually resulting in tall spindly shrubs, offering little cover near ground level, which will reduce their biodiversity value) or excessive (i.e. annual) cutting which will largely prevent fruiting or flowering, and will limit their structural complexity.<br>***Minor adverse***. |
| Lowland mixed deciduous woodland | Habitat degradation. | Poor management. | Without a suitably detailed conservation management regime for retained woodland, there is a risk of lack of management or excessive cutting which will reduce the value of this habitat.<br>***Minor adverse***. |
| Mixed scrub | Habitat degradation. | Poor management. | Without a suitably detailed conservation management regime for retained habitat, there is a risk of lack of management or excessive cutting which will reduce the value of this habitat.<br>***Minor adverse.*** |
| Stream | Habitat degradation. | Poor management. | Without a suitably detailed conservation management regime for retained habitat, there is a risk of either a lack of, or excessive management, which will reduce the value of this habitat.<br>***Minor adverse.*** |
| Reedbeds | Habitat degradation. | Poor management. | Without a suitably detailed conservation management regime for retained habitat, there is a risk of either lack of, or excessive management, which will reduce the value of this habitat.<br>***Minor adverse.*** |
| Other swamp | Habitat degradation. | Poor management. | Without a suitably detailed conservation management regime for retained habitat, there is a risk of either lack of, or excessive management, which will reduce the value of this habitat.<br>***Minor adverse.*** |

| Ecological Feature | Potential Effect | Relevant Activity | Detail of Ecological Effects from Completed Development |
|---|---|---|---|
| Veteran trees | Habitat degradation. | Poor management. | Without a suitably detailed conservation management regime for retained habitat, there is a risk of either lack of management or over cutting, which will reduce the value of this habitat.<br>***Minor adverse.*** |
| Birds (breeding) | Reduced population of Priority Species birds caused by killing and injury of individuals. | Increased predation pressure from increased populations of domestic cats. | Where residential areas will be in proximity to retained/new habitat, and in particular to retained or new areas of rough grassland, woodland and scrub, there is likely to be an increased predation rate by domestic cats. Considered in isolation, this effect could possibly reduce the local populations of generalist bird species, which will be nesting/foraging in proximity to developed areas.<br>***Minor adverse****.* |
| | Reduced population of Priority Species birds caused by killing, injury or displacement of individuals. | Increased recreational pressure. | Recreational disturbance is not considered likely to affect tree and scrub nesting bird species.<br>***Negligible****.* |
| Bat roosting | Reduced population of EPS through reduction in roosting opportunities or disturbances to potential roosts. | Tree felling or arboricultural works. | Long term management of POS may require the removal of mature trees (e.g., for safety reasons). This may result in the loss of potential locations for tree roosts; if proven to be used by roosting bats this would result in a ***minor adverse*** effect and may constitute a breach of wildlife legislation. |
| | | Light spillage onto mature trees and building. | Without adequate mitigation, light spillage onto potential tree roosts, in mature trees and the building, from floodlighting during construction could cause a loss of a relatively small number of tree roosts. ***Minor adverse*** and may constitute a breach of wildlife legislation. |
| | Reduced population of EPS caused by killing and injury of individuals. | Tree felling or arboricultural works. | Long term management of POS may require the removal of mature trees (e.g., for safety reasons). If proven to be used by roosting bats, and in the absence of mitigation, this would result in a ***minor adverse*** effect and may constitute a breach of wildlife legislation. |

| Ecological Feature | Potential Effect | Relevant Activity | Detail of Ecological Effects from Completed Development |
|---|---|---|---|
| Bat foraging and commuting | Reduced population of EPS through degradation of foraging, roosting or commuting habitat. | Increased levels of light pollution. | Currently, light pollution at the Site is limited, due the lack of buildings or street lighting. The Completed Development will have inclusion of house and street lighting and without specific mitigation to minimise light spill from external lighting (especially from street lighting), a reduction in the value of commuting and foraging corridors is likely to occur. This light spill may be from surrounding residential areas and also from the main access roads.<br>This is particularly important for the natural greenspace around the River Avon, and the northern and southern boundary hedgerows that form dark connected corridors for commuting and foraging bats.<br>***Minor adverse***. |
| | Reduced population of EPS caused by killing and injury of individuals. | Increased numbers of collisions with road vehicles. | The Completed Development will result in an increased level of traffic through the Site. The average speeds of these roads is low and traffic volumes are expected to be limited since these roads will serve solely the new development. No effect on bat populations is anticipated from collisions.<br>***Negligible***. |
| Otter | Reduced population of nationally protected species caused by disturbance of individuals. | Increased pressure from recreation. | Without appropriate access management, there will likely be an increase in public access alongside the River Avon. There is therefore a risk of disturbance causing displacement from commuting and foraging habitats or a slight reduction of the population within the local area.<br>***Minor adverse.*** |
| Beaver | Reduced population of nationally protected species caused by disturbance of individuals. | Increased pressure from recreation. | Without appropriate access management, there will likely be an increase in public access alongside the River Avon. There is therefore a risk of disturbance causing displacement from commuting and foraging habitats or a slight reduction of the population within the local area.<br>***Minor adverse.*** |

| Ecological Feature | Potential Effect | Relevant Activity | Detail of Ecological Effects from Completed Development |
|---|---|---|---|
| Badger | No long-term impacts from the post-completion phase of the development are considered likely on this widespread species, especially as the population within the Site is limited to foraging, commuting and the presence of two outlier setts. ***Negligible***. | | |
| Reptiles | Reduced population of a nationally protected Priority Species caused by killing and injury of individuals. | Increased predation pressure from increased populations of domestic cats. | Where new and retained habitat suitable for reptiles is present in proximity to residential areas, there is likely to be an increased predation rate by domestic cats, potentially leading to a reduction in the population of reptiles in certain areas of the Site. However, given that only individual reptiles use the Site, this is considered to be ***negligible***. |

## 8.6 MITIGATION MEASURES

8.6.1 Overall, negative effects have been avoided or reduced through inherent mitigation incorporated into the Parameter Plan accompanying the application. However, not all potential negative effects can be avoided or reduced in severity through inherent mitigation alone. This section identifies any additional mitigation measures required to avoid, reduce, or offset the potential for such significant negative impacts. The key mechanisms described include measures to:

- Conform with relevant and pertinent legislative requirements, particularly those associated with legally protected species; and
- Deliver and, where possible, maximise opportunities for biodiversity enhancement and gain through the Proposed Development.

8.6.2 The key mitigation delivery mechanisms to be implemented are summarised below.

**Construction Stage**

8.6.3 An Ecological Construction Method Statement (ECMS) should be produced by a professional ecologist subject to a planning condition and approved by the LPA. The ECMS will describe ecology mitigation works (excluding habitat creation, which will be provided as part of a Landscape and Ecology Management Plan (LEMP)) that will precede and accompany the construction phase of the Proposed Development.

***Designated Sites***

8.6.4 Impacts anticipated on designated sites during the construction phase are restricted to accidental physical damage or accidental pollution events during Site clearance and construction on the Bristol Avon River LWS. These will be detailed within the reserved matters application but will be designed in agreement with an ecologist to ensure they have no significant impact on the designated site, nor its supported habitats and species.

8.6.5 Ecological Protection Zones (EPZs) will be set up around all retained sensitive ecological features including the LWS. In this instance, the EPZs will include the LWS and all retained habitat within at least 50m of the boundary of the designated site and 10m from the stream that flows into the locally designated site. EPZs will be protected by suitable fencing (e.g. Heras fencing) and signage to prevent activities such as the incursion by vehicles or personnel, fires and stockpiling of materials near to watercourses. Where there is a discrepancy between the ecology protection fence and any arboricultural protection fence,

the greater area of protection will be adopted. Work within EPZs will need to be signed off by an ecologist and where appropriate an arboriculturist.

8.6.6 The risk of potential pollution events including spills, leaks and other incidents during the construction phase will be minimised through key measures included within the ECMS, including adherence to best practice such as the 'former' Environment Agency's Pollution Prevention Guidance Notes (PPGs).

***Habitats***

8.6.7 EPZs (as described above) will be set up around all retained sensitive ecological features including the Veteran trees, river, stream, hedgerows reedbeds, other swamp, and mixed scrub, woodland, as well as a 5m buffer where possible. Where there is a discrepancy between the EPZ and any arboricultural protection zones, the greater area of protection will be adopted.

8.6.8 Risk of pollution will be mitigated as identified above for designated sites.

*Mitigation for Loss of Habitats*

8.6.9 Mitigation for the loss of habitats (i.e. habitat creation or enhancement to achieve overall net gains) will take place following the completion of construction activities and is therefore addressed below in the mitigation for 'Post-completion Stage' below.

***Species***

8.6.10 The protection and buffering of the ecologically valuable habitats including the hedgerow, reedbeds, scrub woodland, and (off-Site) river will also protect the protected and notable species associated with these habitats.

*Breeding Birds*

8.6.11 Areas of vegetation which require clearance to facilitate the construction of the Site, such as hedgerows and scattered bramble scrub, provide nesting opportunities for birds, and standard precautions will be taken during clearance works to avoid impacts. Such precautions will include carrying out vegetation clearance outside the bird breeding season (March to August inclusive). If clearance during the breeding season cannot be avoided, it may be possible for a suitably experienced ecologist to search vegetation for nesting birds prior to clearance. If nesting birds are found, the nest (and a suitable buffer around the nest) would need to be retained until any young have fledged or the nest is otherwise disused. No ground nesting birds were identified during any of the surveys.

8.6.12 A pre-construction survey must be undertaken to ensure that any Schedule 1 bird species on or within close proximity to the Site are not disturbed during the development. This will mainly target barn owl and kingfisher, both of which were recorded during the breeding bird survey, although not considered to be breeding on the Site. This will mitigate for any minor works that may need to occur near the River Avon corridor (e.g. the modification of the stream where it enters the River Avon) or works near the trees or building where barn owls have been identified roosting.

8.6.13 Mitigation for the loss of habitats suitable for breeding birds is addressed in the mitigation for 'Post-completion Stage' below.

*Bat Roosting*

8.6.14 The Proposed Development does not require the felling of any mature trees suitable for roosting bats. However, if trees with bat roosting suitability are required to be felled or managed (such as for health and safety reasons) this may result in the loss of potential locations for tree roosts, and if proven to be used by roosting bats, may result in the loss or damage to a bat roost or killing, injury or disturbance of an individual bat.

8.6.15 Prior to any arboricultural works on trees with potential to support roosting bats, additional assessment will be required to ensure that no unmitigated impacts to individual roosting bats or bat roosts occur. If impacts are considered likely, then an appropriate licence must be sought for these works.

8.6.16 Lighting will be sensitively used during the construction phase of the Site along and around trees and the building with suitability to support roosting bats, to minimise the risk to bat conservation through abandonment of roosting sites. Lighting will be either facing directly downwards or away from the features, using directional shields where required. Particular care will be taken to minimise light spill onto the retained and newly created vegetation as well as the building. Reference to current good practice guidance should be made, such as that provided by the Institute of Lighting Professionals (2018).

*Bat Commuting and Foraging*

8.6.17 As identified above, lighting will be sensitively used during the construction phase of the Site along and around these features of value for bats, to minimise disruption to bats through habitat degradation. This lighting strategy (and retaining dark zones) is particularly important: along the southern boundary of the Site; along the off-site woodland corridor to the south of the Site that runs east-west; along the northern boundary hedgerow; and along the River Avon and adjacent grassland area.

8.6.18 Mitigation for the loss or partial fragmentation of habitats suitable for commuting and foraging bats is addressed in the mitigation for 'Post-completion Stage' below.

*Otter and Beaver*

8.6.19 The protection of the habitats valuable to otter and beaver, notably the (off-site) Avon River LWS, will also protect the other protected and notable species associated with these habitats including otter and beaver.

8.6.20 In advance of any minor works within the River Avon corridor (e.g. the modification of the stream where it enters the River Avon or the creation of footpaths), a detailed riparian mammal (water vole, otter and beaver) survey must be undertaken. If any species are located in close proximity to the works and may be impacted, then further mitigation (under the appropriate licence as required) will be implemented.

*Badger*

8.6.21 All current badger setts are being retained through the Proposed Development. There are no works proposed within 30m of S2 or the off-site sett. However there are building works within 30m of S1.

8.6.22 For all existing (S2 and the off-site sett) or new setts that are to be retained, then Heras fencing will be provided at a minimum of 30m from the badger setts as part of the EPZs and this will provide protection to badgers and their setts from any construction vehicles.

8.6.23 A pre-construction badger survey will be completed to check there has been no expansion or relocation of the setts closer to the Proposed Development. This will also confirm if S1 is active.

8.6.24 Where works are to occur within 30m of any new setts or the current active badger setts (for example S1), then further assessment will be required at the detailed design stage. Mitigation will be put in place to retain and protect the setts where possible, under a non-licenced method statement. If retention is not possible, then the outlier setts (or any new setts) will be closed under licence from Natural England, as required. Any mitigation if setts are lost, will be identified through the licencing process.

8.6.25 Badger protection measures will be put in place during the construction of the Proposed Development to protect them from killing or injury as a result of entrapment. This will include:

- Where possible, all trenches, pits and other diggings at the Site will be sealed before nightfall. Where these must be left overnight, they should be completely covered

with boards, or an escape ramp should be provided using boards or suitably compacted earth;

- All pipework and ironworks larger than 35mm will be sealed or covered overnight; and
- Alternatively, such trenches, pipes or other workings may be fenced off to prevent badgers coming into contact with them.

8.6.26 Mitigation for the loss or fragmentation of habitats suitable for commuting and foraging badger is addressed in the mitigation for 'Post-completion Stage' below.

*Reptiles*

8.6.27 It is considered that a small population of reptiles are present at the Site (only single individual slow worms were recorded in 2025, and in 2021 only a single grass snake was recorded). The more suitable habitat, and where reptiles were recorded, is being retained in the areas of POS. Any retained areas of suitable reptile habitat will be protected by inclusion within the EPZ.

8.6.28 Areas of suitable terrestrial habitat (i.e. some of the field margins) are proposed to be removed. Although this is not likely to impact the population of any species of reptile, to ensure compliance with ecological legislation it is recommended that a phased approach to vegetation clearance is undertaken rather than a trapping and translocation exercise. This will be the suitable approach if vegetation clearance is to take place outside of the hibernation period (i.e. from March - October; weather dependent).

8.6.29 The first phase of vegetation clearance would be for the ecologist to advise a contractor on the areas of suitable reptile habitat on-site. This habitat would then require strimming down to a height of approximately 10-15cm. The second phase would be undertaken three days later and would involve further strimming (down to 5cm) and, in highly suitable areas, stripping the turf to make the habitat unsuitable for reptiles. Any habitat piles on-site will be destructively searched. This mitigation strategy can only be adopted in suitable weather conditions when reptiles are considered to be active.

8.6.30 If vegetation clearance is planned in the winter (November - February), when reptiles are hibernating, then the focus would be on avoiding harm to reptiles by avoiding clearance of materials which reptiles could use for hibernation purposes, such as habitat piles or cracked ground. An appointed ecologist will advise the contractors what vegetation and material can and cannot be cleared during the hibernation period.

8.6.31 Loss and fragmentation of suitable reptile habitats is addressed in the mitigation for 'Post-completion Stage' below.

**Post-completion Stage**

8.6.32 An LEMP will be prepared, which will describe habitat creation works (as outlined below) that will precede or accompany the construction phase of the Proposed Development, and detail habitat management and monitoring works that will follow the completion of the construction phase (as outlined below). As part of the standard pre-commencement condition, a Habitat Management and Monitoring Plan (HMMP) will also be created; this will identify the works required to achieve the Biodiversity Net Gain within the Site.

***Designated Sites***

8.6.33 The POS designed within the scheme will encourage recreational use within the Site and therefore, reduce recreation within the wider area. This will reduce recreational impacts (where identified above) on any designated site to insignificant levels. This is discussed in more detail in the sHRA (Appendix 8.2) for the SAC and any of its Functionally Linked habitat or roosts.

8.6.34 The LEMP will identify the management of habitats adjacent to the River Avon LWS, and will also identify a routine for litter picking/checking to ensure that this does not become a significant issue adjacent to the development. The detailed design will also confirm the location and types of footpaths throughout the development to ensure that no impacts occur on the adjacent River Avon LWS (and its species/habitats), throughout the creation and use of these footpaths.

***Habitats***

8.6.35 Appropriate management and subsequent monitoring of habitats, both retained and created, will be set out within the above LEMP to ensure that the habitats are managed as they are or enhanced for ecology. This is particularly important for those locally important habitats present on-site including: mixed scrub, lowland mixed deciduous woodland, reedbeds, other swamp, native hedgerows, the stream, the Veteran trees and the area alongside the River Avon.

8.6.36 Sensitive habitats, both retained (such as the reedbeds and woodland) and any newly created 'biodiversity' habitats, will be protected through the use of (post and rail) fences or habitat (e.g. scrub/rough grassland) planting and management to reduce recreational pressure from people and dogs.

*Mitigation for Loss of Habitats and Biodiversity Net Gain*

Area Habitats

8.6.37 The higher distinctiveness area habitats (for example the woodland, hedgerows, reedbeds and scrub) are being retained as part of the development. The loss of area habitats is limited to low distinctiveness habitats such as the grassland and arable fields.

8.6.38 In addition to biodiversity enhancements throughout the residential areas of the Proposed Development, a large open greenspace is being provided. Some of this area is being put aside for POS, to improve the development for the new residents and also to attract recreational pressure away from sensitive designated sites in the local area. A large proportion of this area will be enhanced, and then managed and maintained for biodiversity, including a mosaic of species-rich grasslands and scrub; alongside enhancements to the stream corridor. This will provide significant gains to mitigate for the loss of any 'area' habitats within the Site, but also provide significant gains for species that use this habitat type, including the reptiles, amphibians, notable mammals (including badger) and foraging and breeding bird species recorded using the Site, as well as more common and widespread species including many invertebrates. It should be noted that many of the habitats proposed within the calculator are set as lower distinctiveness or condition than will be targeted for through management. This is due to the fact that this Proposed Development is at outline stage, so details of exactly what is going to be proposed are not fixed. The calculator has been run to provide a fair and slightly conservative estimate of Biodiversity Net Gain for the development.

River Habitats

8.6.39 No loss or degradation of the river habitat is proposed (see embedded mitigation section). Due to being a main watercourse, no works (ecological enhancements) that will potentially impact its water flow will be allowed. Enhancements are therefore limited to the removal of non-native species (as discussed below) and the 're-naturalising' of the bank-top habitats (enhancing the grassland diversity). These enhancements, although of benefit to ecology, will not be sufficient to increase the condition of the river according to current guidance. The full assessment will be carried out through the reserved matters application, ensuring no significant negative impacts occur on this watercourse and that any gains are provided where possible.

8.6.40 The stream within the Site is to be retained and enhanced where possible. The enhancement of the stream will be detailed in the reserved matters. However, enhancements should target its ecological condition through minor reprofiling to create a more naturalised edge to the watercourse. The over-deepening of this channel is the main reason this section of the stream is in 'Fairly Poor' condition, and is therefore the easiest way to improve its condition. The reprofiled edge will then be planted with a diverse mix of wetland and marginal species.

Hedgerow Habitats

8.6.41 A total loss of 100m of hedgerow is proposed. This is up to 50m of species-rich hedgerows (including small sections associated with banks or ditches) and 40m of species-poor hedgerows. Although there is some loss of 'hedgerows with trees', none of the mature trees within these hedgerows are being lost.

8.6.42 To mitigate for this loss and potential fragmentation of the hedgerow network, a total of 665m of new native species-rich hedgerow with trees (including sections associated with banks or ditches) is proposed as part of the masterplan, alongside the enhancement of 100m of the currently species-poor hedgerow into better condition. This will provide significant gains in the hedgerows on-site, both in area but also infilling connectivity which isn't currently present on-site. This will have significant enhancements for those species associated with the hedgerows, including foraging and commuting bats, breeding and foraging birds, reptiles, amphibians and notable mammals (including badger), all recorded using the Site, as well as more common and widespread species including many invertebrates.

*Summary of Net Gain*

8.6.43 The Defra Metric Biodiversity Calculator was undertaken to provide a feasibility assessment of the Project and ensure that the proposals can provide a significant net gain in line with planning policy and legislation. The feasibility assessment yielded the following key results:

**Table 8.6.1**: Statutory Biodiversity Metric Headline Indicative Results

| | **Habitat Units** | **Hedgerow Units** | **Watercourse Units** |
|---|---|---|---|
| On-site Baseline | 68.57 | 36.38 | 11.55 |
| On-site Post-intervention | 107.63 | 42.43 | 12.89 |
| On-site Net Unit Change | +39.07 | +6.04 | + 1.34 |
| **On-site Net % Change** | **+ 56.98% (gain)** | **+ 16.61% (gain)** | **+ 11.60% (gain)** |
| **Trading Rules Satisfied** | **Yes** | **Yes** | **Yes** |

8.6.44 The initial feasibility calculations show that a net gain for the Site post-development (with all trading rules satisfied), is possible, which is in line with Paragraph 170 of the NPPF and local planning policy, and will exceed the future requirements of the Environment Act 2021.

8.6.45 The full calculations are provided in Appendix 8.3(a-c).

8.6.46 The precise Biodiversity Net Gain score will be secured through consideration of reserved matters schemes; however, the proposals demonstrate that a gain of at least 10% can be achieved as per the future requirements of the Environment Act 2021.

***Species***

8.6.47 The habitat protection, creation and enhancement outlined above, will provide an increase in suitable habitat available for a range of protected and notable species (including those listed as IEFs), likely resulting in an increase in their populations. This increase will likely outweigh the possible decrease in populations resulting from predation from domestic cats, killing from vehicle collisions or disturbance by recreational use of the Site. Additional species-specific mitigation measures are set out below.

*Breeding Birds*

8.6.48 Any vegetation management will be completed at appropriate times of year (i.e. between September and February) so as not to impact nesting birds and therefore potentially breech wildlife law.

8.6.49 As an enhancement, nesting opportunities in the form of bird boxes will be provided within the Completed Development. This will include nesting boxes on retained trees, on new buildings and a barn owl box within the natural greenspace (and potentially within the retained building if it is safe to do so). Their specification, number and positioning will be advised by an ecologist and identified within the LEMP.

*Bat Roosting*

8.6.50 A sensitive lighting strategy will be produced and agreed with the LPA prior to development, with input from the project ecologist. The strategy will be designed to minimise the spread of illumination and to ensure that any features potentially used by roosting bats remain unlit; this will include newly installed bat roosting features as identified below, as well as any currently suitable features in mature trees and the building. Where it is not possible to avoid lighting in these areas (i.e. for safety reasons), low level bollard lighting will be used in order to avoid light spillage into habitats to minimise the risk of disturbance to bats. This complies with Paragraph 180 of the NPPF which states that "*decisions should limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation*".

8.6.51 Prior to any arboricultural works on trees with potential to support roosting bats, additional assessment will be required to ensure that no unmitigated impacts to individual roosting

bats or bat roosts occur. If impacts are considered likely, then an appropriate licence must be sought for these works.

8.6.52 As an enhancement, roosting opportunities in the form of bat boxes (both tree and building mounted) will be provided within the Completed Development. Their number and positioning will be advised by an ecologist and identified within the LEMP.

*Bat Foraging and Commuting*

8.6.53 A sensitive lighting strategy will be produced and agreed with the LPA prior to development, with input from the project ecologist. The strategy will be designed to minimise its spread and the illumination of features such as hedgerows and woodland to ensure that habitats potentially used by foraging bats remain unlit. Where it is not possible to avoid lighting in these areas (i.e. for safety reasons), low level bollard lighting will be used in order to avoid light spillage into habitats to minimise the risk of disturbance to bats. This complies with paragraph 180 of the NPPF which states that "*decisions should limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation*". This lighting strategy (and retaining dark zones) is particularly important: along the southern boundary of the Site along the off-Site woodland corridor to the south of the Site that runs east-west; along the northern boundary hedgerow; and along the River Avon and adjacent grassland area.

*Otter and Beaver*

8.6.54 Any long-term management of habitats along the River Avon (to be identified in the LEMP) will be set out sensitively, so as not to disturb any riparian mammal or their resting places. Habitat enhancements along the River Avon and the on-site stream will focus on enhancing these areas for the suitability for these species.

8.6.55 In areas of higher sensitivity, for example near identified resting places, habitat planting and management will be used to exclude public access. These areas will be identified in the LEMP.

*Badger*

8.6.56 Any long-term management (as identified in the LEMP) will be set out sensitively so as not to damage or destroy any badger setts and therefore potentially contravene wildlife law.

*Reptiles*

8.6.57 Any vegetation management will be completed sensitively so as not to kill or injure reptiles and therefore potentially contravene wildlife law.

8.6.58 Enhancements in the form of habitat piles (a minimum of three refugia and three hibernacula) will be included as part of the LEMP.

## 8.7 RESIDUAL EFFECTS

8.7.1 Residual effects are those that are predicted to remain after implementation of the secondary mitigation and enhancement measures described above. The significance of any residual effects are summarised in Table 8.7.1.

**Construction Stage**

***Designated Sites***

8.7.2 The ECMS will set out the provision of EPZs around all ecologically sensitive features, including the proximate designated sites (e.g., the River Avon), which will protect these sites from any accidental damage (including from pollution events) during construction.

8.7.3 No residual effects are anticipated.

***Habitats***

8.7.4 Mitigation for the loss of any habitat (particularly the short section of hedgerows) is dealt with in the post-completion stage below.

8.7.5 The provision of EPZs around all retained ecologically sensitive features (hedgerows and woodland) will protect these habitats from any accidental damage and pollution during construction.

8.7.6 No residual effects are anticipated.

***Species***

8.7.7 Mitigation for the loss of any habitat for protected or notable species is dealt with in the post-completion stage below.

8.7.8 The provision of EPZs around all retained habitats, will protect these habitats and their associated species from any accidental damage during construction.

8.7.9 Mitigation has been put in place to ensure that Site clearance does not impact protected or notable species and that any legislation protecting these species is adhered to. This includes protection of nesting birds, roosting bats, badger, riparian mammals and reptiles.

8.7.10 A lighting plan will ensure that any lighting during construction does not impact protected or notable species.

8.7.11 No residual effects are anticipated.

**Post-completion Stage**

***Designated Sites***

8.7.12 As discussed above, recreational impacts will be reduced on designated sites (and any Functionally Linked Land) due to the creation of POS within the Site. In addition, given the scale of the development, the increase in pressure is anticipated to be marginal.

8.7.13 No residual effects are anticipated.

***Habitats***

8.7.14 A net gain in biodiversity is achievable within the Proposed Development, with a net gain of over 10% for Habitat Units, and Hedgerow Units. For River Units it is considered that a net gain is provided, and through detailed design it may be feasible to achieve the required 10% net gain (as discussed above). This is a beneficial effect and is significant at the Local level.

8.7.15 Appropriate protection, management and subsequent monitoring of habitats, both retained and created, will be set out within the LEMP to ensure that the habitats are managed as they are or enhanced for ecology.

8.7.16 Minor-moderate beneficial residual effects are anticipated.

***Species***

8.7.17 The habitat protection, creation and enhancement outlined above, will provide an increase in suitable habitat available for a range of protected and notable species.

8.7.18 The management outlined in the LEMP will ensure that works are undertaken sensitively with regard to protected and notable species.

8.7.19 A sensitive lighting strategy will be produced and agreed with the LPA prior to development, with input from the project ecologist to ensure that no significant lighting impacts occur on protected or notable species. This is particularly important along the off-site woodland corridor to the south of the Site that runs east-west; along the northern boundary hedgerow; and along the River Avon and adjacent grassland area.

8.7.20 Minor beneficial residual effects are anticipated.

**Summary of Effects**

8.7.21 The effects identified are summarised in Table 8.7.1 below.

**Table 8.7.1:** Summary of Effects

| Potential Effect | Significance (pre-mitigation) | Mitigation Measure | Significance of Residual Effect |
|---|---|---|---|
| **Construction Stage** | | | |
| Accidental physical damage during Site clearance and construction on Bristol Avon River LWS. | **Temporary minor adverse effect.** | EPZs will be set up around all sensitive ecological features. | **Negligible effect anticipated.** |
| Accidental pollution of Bristol Avon River LWS or on-site sensitive habitats during Site clearance and construction. | **Temporary minor adverse effect.** | Adherence to best practice pollution guidance set out in an ECMS. | **Negligible effect anticipated.** |
| Removal of hedgerow causing habitat loss and fragmentation. | **Permanent moderate adverse effect.** | Mitigation for the loss and fragmentation of this habitat type is addressed in the Post-completion Stage below. | **Negligible effect anticipated.** |
| Creation of drainage features (headwalls/ outfalls) within Stream | **Permanent minor adverse effect.** | Mitigation for the loss and fragmentation of this habitat type is addressed in the Post-completion Stage below. | **Negligible effect anticipated.** |
| Accidental physical damage of retained important habitats during Site clearance and construction. | **Temporary minor adverse effect.** | EPZs will be set up around all sensitive ecological features. | **Negligible effect anticipated.** |
| Clearance of vegetation causing reduction in breeding habitat for birds at the Site. | **Permanent minor adverse effect.** | Mitigation for the loss of habitats suitable for this species group is addressed in the Post-completion Stage below. | **Negligible effect anticipated.** |

| Potential Effect | Significance (pre-mitigation) | Mitigation Measure | Significance of Residual Effect |
|---|---|---|---|
| Disturbance of nesting Schedule 1 bird species. | **Negligible effect; however, would constitute a breach of wildlife legislation.** | Pre-construction survey to ensure that no nesting Schedule 1 bird species are disturbed during construction.<br>Update kingfisher surveys will be required to ensure any minor works within the River Avon corridor will not impact this species. | **Negligible effect anticipated.** |
| Clearance of vegetation causing killing or injury of individual birds and damage or destruction of active bird nests. | **Temporary minor adverse effect and would constitute a breach of wildlife legislation.** | Method Statement set out for sensitive vegetation clearance.<br>Update kingfisher surveys will be required to ensure any minor works within the River Avon corridor will not impact this species. | **Negligible effect anticipated.** |
| Tree felling or arboricultural works causing reduced population of bat species through reduction in roosting opportunities or disturbances to potential roosts. | **Permanent minor adverse effect and would constitute a breach of wildlife legislation.** | Trees to be retained where possible. Method Statement (including licence if required) set out for sensitive vegetation clearance. | **Negligible effect anticipated.** |
| Light spillage onto mature trees from floodlighting during construction, causing reduced population of bat species through reduction in roosting opportunities or disturbances to potential roosts. | **Permanent minor adverse effect and would constitute a breach of wildlife legislation.** | Sensitive construction lighting strategy to be utilised. | **Negligible effect anticipated.** |
| Tree felling or arboricultural works causing potential killing or injury of bats. | **Temporary minor adverse effect and would constitute a breach of wildlife legislation.** | Trees to be retained where possible. Method Statement (including licence if required) set out for sensitive vegetation clearance. | **Negligible effect anticipated.** |

| Potential Effect | Significance (pre-mitigation) | Mitigation Measure | Significance of Residual Effect |
|---|---|---|---|
| Clearance of vegetation causing reduction in population of bats by habitat loss, degradation and fragmentation (through reduction in foraging and commuting opportunities). | **Permanent minor adverse effect.** | Mitigation for the loss of habitats suitable for this species group is addressed in the Post-completion Stage below. | **Negligible effect anticipated.** |
| Accidental damage to riparian mammal habitats along River Avon, causing reduction in population. | **Temporary minor adverse effect.** | EPZs will be set up around all sensitive ecological features. | **Negligible effect anticipated.** |
| Accidental encroachment causing potential disturbance of individual riparian mammals. | **Temporary minor adverse effect and would constitute a breach of wildlife legislation.** | EPZs will be set up around all sensitive ecological features. Update surveys will be required to ensure any minor works within the River Avon corridor will not impact these species. | **Negligible effect anticipated.** |
| Damage to active badger sett. | **Negligible effect; however, would constitute a breach of wildlife legislation.** | EPZs will be set up around all sensitive ecological features. If closure is deemed required at reserved matters stage, then a licence will be applied for. | **Negligible effect anticipated.** |
| Site clearance causing potential for killing or injury of reptiles. | **Negligible effect; however, would constitute a breach of wildlife legislation.** | Method statement set out for sensitive vegetation clearance. | **Negligible effect anticipated.** |
| **Post-completion Stage** | | | |
| Habitat degradation of retained habitats due to poor management. | **Permanent minor adverse effect.** | LEMP and HMMP to secure appropriate management and monitoring of new and created habitats. | **Permanent minor beneficial effect anticipated.** |
| Ecological enhancements of habitats. | | Creation of new biodiversity habitats, enhancement of retained habitats and | **Permanent moderate beneficial effect anticipated.** |

| Potential Effect | Significance (pre-mitigation) | Mitigation Measure | Significance of Residual Effect |
|---|---|---|---|
| | | management, maintenance and monitoring of all wildlife habitats secured through the LEMP. A net gain of over 10% for Habitat Units, Hedgerow Units and River Units is feasible, exact value to be assessed during the reserved matters application. | |
| Habitat degradation of woodland or reedbeds due to recreational pressure. | **Permanent minor adverse effect.** | Recreational strategy to be secured through LEMP. | **Negligible effect anticipated.** |
| Increased predation of protected and notable species. | **Permanent minor adverse effect.** | LEMP to secure appropriate management and monitoring of new and created habitats, which will offset any minor loss of individual animals. | **Negligible effect anticipated.** |
| Long-term management of mature trees may remove roosting sites for bats, or kill, injure or disturb individual bats. | **Permanent minor adverse effect and may constitute a breach of wildlife legislation.** | Method Statement set out for sensitive long-term management (including licencing where required). | **Negligible effect anticipated.** |
| Light spill onto mature trees may reduce suitability of roosting sites for bats. | **Permanent minor adverse effect.** | Sensitive lighting strategy to be set out and agreed with LPA. | **Negligible effect anticipated.** |
| Degradation of habitats for protected and notable species due to increased level of light pollution. | **Permanent minor adverse effect.** | Sensitive lighting strategy to be set out and agreed with LPA. | **Negligible effect anticipated.** |
| Recreational disturbance of riparian mammals or their resting places | **Permanent minor adverse effect.** | Habitat planting and management, to be secured through LEMP. | **Negligible effect anticipated.** |

| Potential Effect | Significance (pre-mitigation) | Mitigation Measure | Significance of Residual Effect |
|---|---|---|---|
| Ecological enhancements of habitats for protected and notable species. | | Creation of new biodiversity habitats, enhancement of retained habitats and management, maintenance and monitoring of all wildlife habitats secured through the LEMP. | **Permanent moderate beneficial effect anticipated.** |

## 8.8 CUMULATIVE EFFECTS

8.8.1 The assessment of the Proposed Development concludes that, through the adoption of appropriate mitigation measures, the Proposed Development would not give rise to any significant negative residual effects on ecology. However, this does not exclude the potential for insignificant effects to become significant in combination with other consented/proposed developments and associated infrastructure within the surrounding landscape, on sensitive habitats, fauna and flora. A range of sites have been identified in the wider landscape which warrant further consideration in terms of their potential to give rise to cumulative effects, owing to their size or proximity to the Site.

8.8.2 These planning applications are either approved, or pending approval, and will therefore be required to comply with national and local planning policy in regard to avoidance, mitigation or compensation ecological impacts, and enhancement of biodiversity assets.

8.8.3 The applications considered for cumulative impact are summarised below:

- Birds Marsh, N/12/00560/OUT. 750 dwelling residential development and 2.7 hectares (ha) of employment land;
- Rawlings Green, 15/12351/OUT. 650 dwelling residential development and 5 hectares (ha) of employment land;
- Rowden Park, 14/12118/OUT. 1000 dwelling residential development;
- Hunters Moon, 16/12493/FUL. 450 dwelling residential development and 2.41ha of employment land;
- Langley Park, 16/04269/FUL. 0.0174ha of employment land;
- Langley Park - Additional, 16/03515/OUT. 400 dwelling residential development and 1.4ha of employment land;
- Land at Hungerdown Lane, 17/09445/FUL. 35 dwelling residential development;
- Land at Showell Farm, N/13/00308/OUT. 5ha of employment land;
- Land at Patterdown Road, 16/09277/OUT. 72 dwelling residential development;
- Land at Showell Nurseries, 17/08554/OUT. 120 dwelling residential development; and
- Land off the B4069 East of Barrow Farm, Langley Burrell. PL/2022/04681. 230 dwelling residential development and 0.06 hectares (ha) of employment land.

**Designated Sites**

8.8.4 The main impact pathways for cumulative impacts on off-site designated sites, are normally restricted to air quality impacts or a degradation in habitats through an increase in recreation.

8.8.5 The provision of significant amounts of POS as part of the development will reduce the already negligible increases of recreation on any publicly accessible designated site within proximity to the Site. It is considered that any increase in visitor pressure on any designated site will be imperceptible from the Proposed Development. Therefore, the Proposed Development will not add to any cumulative impacts from other developments for recreation impacts on designated sites.

8.8.6 The majority of designated sites within the ZoI of the Proposed Development are set over 200m from any main road and therefore are only likely to see air quality impacts from road traffic in exceptional circumstances.

*Cumulative Air Quality Impacts on the Bradford-on-Avon Bats SAC*

8.8.7 The Transport Assessment shows that the only main road that runs within 200m of the Bath and Bradford-on-Avon Bats SAC, which is likely to see any significant increase in vehicle levels from the Proposed Development, is the A4. This road lies 81m from the SAC at its nearest point.

8.8.8 The Air Quality Assessment was undertaken in accordance with the IAQM's A Guide to the Assessment of Air Quality Impacts in Designated Nature Conservation Sites (IAQM, 2019). This guidance (as well as the guidance produced by both JNCC and Natural England on air quality impact assessments) sets out a *de minimis* threshold, where any increase of greater than 1% of the Critical Level of an atmospheric pollutant, would require further assessment.

8.8.9 None of the qualifying bat species are known to be sensitive to air quality effects from vehicle emissions. However, the woodlands within the SAC that they rely on are. According to the Air Pollution Information System, from those pollutants likely to occur through an increase in traffic, these broadleaved mixed and yew woodlands are only sensitive to nitrogen loading. The minimum critical loading for Nitrogen is 10kg N/ha/yr and the maximum is 15kg N/ha/yr.

8.8.10 Natural England has adopted guidance from the JNCC that sets out what levels of increase in the AADT would likely trigger an increase above 1% of the critical levels of nitrogen. Within the JNCC guidance, Table 5.3 identifies that at 50m from the road (the SAC is 81m at its closest point), to achieve a 1% of the critical Load of nitrogen (10kg/ha/yr) an increase of 606 AADT would need to be achieved.

8.8.11 Although the traffic models were not undertaken for the point location of the SAC, they were undertaken for the junction for the A4 (westbound) from the A350. At this point, the traffic models have shown a potential increase of 356 Average Annual Daily Traffic flow (AADT) from the Proposed Development, or 513 AADT as a cumulative increase from this project with all other known projects. This would therefore be the maximum increase in traffic in proximity to the SAC according to the traffic modelling (Chapter 5 of the ES).

8.8.12 This has confirmed that both the Proposed Development increase (356 AADT) and the in-combination increase (513 AADT) along the westbound A4 would be less than the threshold (606AADT).

8.8.13 As discussed in Chapter 6 (Air Quality), the impacts to Vincient Wood ASNW have been modelled and it has been confirmed that any impact, both alone and in-combination with other projects, to air quality to this site are negligible and non-significant.

*Summary of Cumulative Impacts on Designated Sites*

8.8.14 The Proposed Development is not anticipated to add to any cumulative impacts from any of the developments identified above on designated sites.

**Habitats**

8.8.15 A net gain in habitats is proposed through the Proposed Development. Negative cumulative impacts will, to an extent, be slightly offset by the Proposed Development assessed within this EcIA.

**Species**

8.8.16 Any impacts on protected or notable species associated with the Site are expected to be readily mitigated, and therefore will be imperceptible. The net gain of habitats and other wildlife enhancements being provided as part of the Proposed Development, are considered more likely to provide an increase in populations of those protected and notable species associated with the Site. Therefore, any negative cumulative impacts will not be added to through the Proposed Development, and in some cases may even be slightly offset.

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**APPENDICES**

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## 9.1 INTRODUCTION

9.1.1 This chapter of the Environmental Statement (ES) describes the indirect effects of the proposals for planning permission for the development of up to 400 residential dwellings, commercial business and service use, local community use and amenity green space and play on land at Showell Farm, Chippenham in Wiltshire. It considers above ground heritage receptors only.

9.1.2 The chapter describes the method used to assess the impacts/effects, the baseline conditions currently existing at the Site and in its surroundings, the potential direct and indirect impacts of the Proposed Development arising from the construction and the operational phase, the mitigation measures required to prevent, reduce, or offset the impacts and the residual impacts.

### Competency

9.1.3 This chapter has been prepared by Dr Chris Miele who is a chartered town planner (MRTPI) and full member of the Institute of Historic Building Conservation (IHBC) and has more than thirty years of experience providing advice on the interaction of development with the historic environment. Florence Loader, who is an Associate member of the IHBC, has also assisted in the preparation of this chapter.

### Purpose of the ES Chapter

9.1.4 The chapter provides an assessment of likely indirect significant effects of the Proposed Development on heritage (the historic environment).

9.1.5 This chapter has been produced alongside a Heritage Impact Assessment, which should be viewed in conjunction with this chapter and can be found at **Appendix 9.1**. The Heritage Impact Assessment comprises a discursive and detailed analysis of the historic environment considerations engaged by the application. Accordingly, this chapter will cross-reference the Heritage Impact Assessment throughout. The Site does not contain or comprise any designated heritage receptors.

9.1.6 The courts have held that the special regard is to be paid to avoiding harm to designated heritage assets/receptors attracts great weight, effectively engaging a presumption against development harming the special interest of a listed building. The judgment on harm is a judgment made in relation to the whole of the development. For the purposes of reporting in an ES context, material effects on the architectural or historic significance of the house will tend to be ones that are minor to minor moderate in extent. Generally, in ES terms minor effects are not significant, but judgment is required to relate the results obtained through the application of the ES-methodology to the category of less than substantial harm

as defined in the NPPF (2024). This is why this chapter needs to be read together with the Heritage Impact Assessment.

## 9.2 RELEVANT POLICY

9.2.1 This section sets out the relevant legislation, planning policy and guidance on the historic environment context for the redevelopment of the Site, including national and local guidance.

9.2.2 The statutory duties of the decision-maker when considering development proposals which affect listed buildings and conservation areas are provided by the Planning (Listed Building and Conservation Areas) Act 1990 ('the 1990 Act').

9.2.3 This is a setting case involving listed buildings and accordingly the following statutory provision applies:

9.2.4 Section 66 (1) of the Planning (LBCA) Act 1990. This states:

*In considering whether to grant planning permission for development which affects a listed building or its setting, the local planning authority or, as the case may be, the Secretary of State shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.*

9.2.5 The Proposed Development does not comprise any buildings or other land in a conservation area and, therefore, section 72 of the Planning (Listed Buildings and Conservation Areas) Act 1990 is not engaged. We are mindful that the impact on the setting of a CA, as a designated heritage asset, is treated in policy (see the NPPF).

### National Planning Policy Framework (2024)

9.2.6 At the national level, policies are set out in the National Planning Policy Framework (2024).

9.2.7 The National Planning Policy Framework (2024) ('NPPF') sets out the government's planning policy. Chapter 16 sets out the approach to the historic environment, and its provisions will frame much of the approach to the assessment.

9.2.8 If a proposal meets the terms of the NPPF then it is highly likely to comply with the corresponding development plan policies identified later in this section:

- Paragraph 207;
- Paragraph 212;
- Paragraph 213;
- Paragraph 214;
- Paragraph 215; and
- Paragraph 216.

9.2.9 The glossary to the Framework defines 'conservation' as:

*'The process of maintaining and managing change to a heritage asset in a way that sustains and, where appropriate, enhances its significance.'*

9.2.10 The approach to the assessment of heritage impacts as set out in the NPPF is summarised below:

9.2.10.1 First, the significance of all designated heritage assets needs to be identified in a manner proportionate to their importance (paragraphs 207 and 208 of the NPPF). The heritage interest of any asset may be archaeological, architectural, artistic or historic (Annex 3: Glossary, NPPF). The setting of a heritage asset may contribute to that significance or an appreciation thereof. Hence a change to setting can harm significance (I treat setting as defined in the NPPF further below).

9.2.10.2 Second, the assessment must consider the impact of the development and its effect on the significance of the identified assets.

9.2.10.3 If the proposals have no harmful effect on the significance of any identified designated asset, then 'conservation' (as defined in the Glossary to the NPPF) is achieved. If the proposals enhance or benefit that significance, or enhance our ability to appreciate that, then these benefits attract significant weight as a matter of policy.

9.2.10.4 If, on the other hand, the proposed development is held to cause harm to the significance of a designated heritage asset, such harm should be categorised as either less than substantial or substantial (NPPF paragraphs 214 and 215 respectively), and within each category the extent of harm should be clearly articulated (Planning Practice Guidance or 'PPG' paragraph 18).

9.2.10.5 The nature and extent of harm will be important to ascertain because that analysis informs the balancing out of any harm under the terms of paragraph 215. Underpinning this approach is the principle of proportionality. Whilst any harm to a designated asset is 'weighted harm', it is important for the assessor to assess the extent, nature or degree of harm through the exercise of expert judgement.

9.2.10.6 Any harm to the significance of a designated heritage asset should require 'clear and convincing justification', as per NPPF paragraph 213. A clear and convincing justification does not create a freestanding test requiring the demonstration of less damaging alternatives. To the extent that there is a test it is to be found in NPPF paragraphs 214 (in the case of substantial harm) and 215 (in the case of less than substantial harm).

9.2.10.7 In either case, and particularly looking at less than substantial harm, the clear and convincing justification the NPPF requires is thus made out through countervailing public benefits delivered by a proposal. Public benefits can include heritage benefits (which are weighted) and any other planning benefit (housing, for example).

9.2.10.8 The specific policy on non-designated heritage assets within the NPPF is 216:

*'The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.' (paragraph 216).*

**Development Plan**

9.2.11 The Development Plan here comprises the Wiltshire Core Strategy (2015).

9.2.12 The following are relevant policies from the Wiltshire Council's adopted Local Plan:

- Core Policy 57: Ensuring High Quality Design and Place Shaping; and
- Core Policy 58: Ensuring the Conservation of the Historic Environment.

9.2.13 Policy 57 states that high-quality development is expected to create a strong sense of place by drawing on the local context, complementing locality. New development must make a positive contribution to the character of Wiltshire by responding to the historic environment, as outlined in part (i) of the policy:

*'enhancing local distinctiveness by responding to the value of the natural and historic environment, relating positively to its landscape setting and the existing pattern of development and responding to local topography by ensuring that important views into, within and out of the site are to be retained and enhanced'*

9.2.14 Part (iv) also addresses heritage assets, stating that proposals should be sympathetic to and conserve historic buildings and historic landscapes.

9.2.15 Policy 58 treats the historic environment, including the setting of heritage assets, and states that *'designated heritage assets and their settings will be conserved, and where appropriate enhanced in a manner appropriate to their significance'*

**Material Considerations**

9.2.16 The following are relevant material considerations:

- National Planning Practice Guidance (online);
- National Design Guide (2019);
- Historic England, Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment (2015); and
- Historic England, Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (2017);
- Rowden Conservation Area Strategy (1999); and
- Wiltshire and Swindon Historic Environment Record (HER).

## 9.3 ASSESSMENT METHODOLOGY

9.3.1 This section describes the framework for heritage assessment. The method for the discipline is the product of legislation, policy and best practice guidance set out in **Section 9.2**. The assessment is proportionate and no longer than is necessary to assess properly the potential likely significant effects of the Proposed Development. All impacts deemed relevant or material to planning are identified and the consequent effects appraised.

9.3.2 Throughout this analysis, and across all disciplines, the reader will be presented with the words impact and effect. 'Impact' is defined as the action being taken, and 'effect' is the change resulting from the action. The overall effect is also given a nature of effect (beneficial, adverse or neutral). There is no direct correlation between magnitude of impact and nature of effect, since change is by definition not necessarily adverse or beneficial. Similarly, and dependent on context, one can have a high magnitude of impact which is neutral in effect, which may strike some readers as peculiar or perverse. For example, however, it is possible for a major change to be so similar to others that have occurred and are anticipated that practically speaking it is neither beneficial or detrimental to the value of the receiving receptor (and hence is neutral).

### Scope

9.3.3 This assessment has scoped in heritage receptors with a setting relationship to the Site or where the wider setting has the potential to be affected. The Grade II listed Front Lodge, Lackham College has not included these heritage receptors due to distance, landscape, orientation and interposing development and / or vegetation which prevents any potential for there to be a setting impact affecting the interest of the asset. It has therefore been scoped out of the assessment.

### Site Visits and Personnel

9.3.4 Montagu Evans has visited the Site on two separate occasions, first in November 2024 and again in February 2026. The staff who undertook these visits, and have prepared the supporting reports, have appropriate qualifications in heritage, history and town planning, with experience of landscape design and architectural or urban design. They have prepared numerous ES chapters concerning both heritage and townscape (or on some occasions landscape).

### Study Area

9.3.5 The study identifies all heritage receptors within a 500m radius from the Site, and are illustrated on the Heritage Asset Plan at **Appendix 9.3**. Site observations, a manual desk-based review of OS maps, characterisation studies and relevant heritage receptors were

used to determine the study area. It has been informed by building locations and heights, topography and landscape features, and an understanding of the scale of the Proposed Development.

**Assessment Approach**

***Heritage***

9.3.6 The term 'heritage receptor' is used within this assessment to describe a designated or non-designated heritage asset, as defined by the National Planning Policy Framework (2024) (the NPPF).

9.3.7 The assessment does not consider below-ground archaeological receptors, including scheduled monuments, unless the archaeological feature has been scoped into the assessment. This occurs in some cases where the understanding of an archaeological feature with no upstanding remains is affected by perceptions of its setting.

***Heritage Value***

9.3.8 Planning policy requires an applicant to describe the significance of any heritage receptors affected by a proposed development, including any contribution made by their setting. 'Significance' (for heritage policy) is defined in the NPPF Annex 2 as:

> *The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.*

9.3.9 The term 'heritage value' is interchangeable in this assessment with 'heritage significance' and has been adopted to avoid conflation between 'EIA significance'. Heritage value is assessed against the criteria contained in **Table 9.1**; the categories allow some flexibility in their practical application to the facts of any case. The typical examples for each category are indicative, mindful that the buildings/sites/areas cover a wide spectrum of character, history, features, and group relationships. The reader is referred to the qualitative assessment which outlines the particular nature of the value.

9.3.10 Paragraph 207 of the NPPF states that the "level of detail [to describe the significance of heritage assets] should be proportionate to the assets' importance". Great weight has been given to the conservation of all designated heritage receptors, although a gradation of value is appropriate. This is reinforced by the 2018 DCMS Principles for Selection of Listed Buildings which states "listed buildings are graded to reflect their relative special architectural and historic interest":

- Grade I buildings are of exceptional special interest;

- Grade II* buildings are particularly important buildings of more than special interest; and
- Grade II buildings are of special interest, warranting every effort to preserve them.

9.3.11 The value of heritage receptors may be expressed with reference to their historical or architectural value identified in the Planning (Listed Buildings and Conservation Areas) Act 1990 (the '1990 PLBCA Act'), or the other values set out in the NPPF: archaeological, architectural, artistic or historic. For World Heritage Sites, the cultural value described within each site's Statement of Outstanding Universal Value forms part of its value.

9.3.12 Where a proposal may affect the surroundings in which the heritage receptor is experienced, a qualitative assessment is made of whether, how and to what degree setting contributes to the value of heritage receptors. The assessment is informed by the check-list approach contained in Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets (2017) (hereafter 'GPA3'). Setting is defined in the NPPF as:

*"The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral."*

9.3.13 Construction phase heritage impacts generally attract less weight in the planning decision making process, because heritage values endure over a much longer period than construction impacts which are indirect and temporary. The more important effects for our purposes are permanent ones arising from the operational phase of the development.

9.3.14 The heritage baseline articulates the contribution made by relevant aspects of setting towards value. Again, the level of detail is proportionate to the receptors' importance and no more than is sufficient to understand the potential impact of the proposal to their value; however, each heritage receptor's susceptibility to change derives from the particular nature of its heritage value, the existing character of its setting and the type of development proposed. The baseline assessment therefore describes what is sensitive about each heritage receptor and its setting without providing a sensitivity rating, which follows later in the assessment stage.

**Table 9.1 Heritage Value Criteria**

| **HERITAGE VALUE** | | |
|---|---|---|
| **VALUE** | **TYPICAL CRITERIA** | **TYPICAL EXAMPLES** |
| Very High | Building/site/area of international heritage value | World Heritage Sites, grade I statutorily listed buildings and registered parks and gardens, and some scheduled monuments, grade II* statutorily listed buildings and registered parks and gardens. |
| High | Building/site/area of national heritage value | Some scheduled monuments, Grade II* and II registered parks and gardens, grade II* and II statutorily listed buildings and conservation areas. |

| | | |
|---|---|---|
| Medium | Building/site/area of lower national or particular local heritage value | Some grade II registered parks and gardens, grade II statutorily listed buildings and conservation areas. |
| Low | Building/site/area of local heritage value | Locally listed buildings (or equivalent non-designated heritage assets). |
| Very Low | Building/site/area of low local heritage value | Receptors not formally identified, but which may have a degree of value meriting consideration in planning decisions |

*Heritage Sensitivity*

9.3.15 The first stage in assessing the impact of the Proposed Development upon the heritage value of a receptor is to identify its sensitivity to change. Sensitivity is identified by calibrating the baseline value of the receptor with its susceptibility to change, defined as the ability of the heritage receptor to accommodate the type and/or nature of development without change to its value (see **Table 7.2**). In relation to heritage setting, paragraph 17 of GPA3 provides guidance on the relationship between heritage value and the potential impact of development upon that value by virtue of changes to its setting:

> *"All heritage assets have significance, some of which have particular significance and are designated. The contribution made by their setting to their significance also varies. Although many settings may be enhanced by development, not all settings have the same capacity to accommodate change without harm to the significance of the heritage asset or the ability to appreciate it. This capacity may vary between designated assets of the same grade or of the same type or according to the nature of the change. It can also depend on the location of the asset: an elevated or overlooked location; a riverbank, coastal or island location; or a location within an extensive tract of flat land may increase the sensitivity of the setting (ie the capacity of the setting to accommodate change without harm to the heritage asset's significance) or of views of the asset. This requires the implications of development affecting the setting of heritage assets to be considered on a case-by-case basis".*

9.3.16 Cases of direct changes to the fabric of heritage receptors may be more likely to be susceptible to change, although this may be moderated according to the facts of the case. The qualitative text should clearly articulate where any deviation is made from this judgement.

**Table 9.2 Susceptibility of Heritage Receptor to Change Criteria**

| **HERITAGE SUSCEPTIBILITY TO CHANGE CRITERIA** | |
|---|---|
| **High** | The setting of the receptor or receptor itself has a low ability to accommodate the type of change without change to its value. |
| **Medium** | The setting of the receptor or receptor itself has a moderate ability to accommodate the type of change without change to its value. |

| | |
|---|---|
| **Low** | The setting of the receptor or receptor itself has a high ability to accommodate the type of change without change to its value. |

9.3.17 The value of the receptor and its susceptibility are calibrated using the matrix at **Table 9.3**. Sensitivity is recorded in a verbal scale (high, medium or low), supported by a clear narrative linked to evidence from the baseline study and an assessment of susceptibility.

**Table 9.3 Heritage Sensitivity (Nature of Receptor Likely to be Affected)**

| **HERITAGE SENSITIVITY** | | | |
|---|---|---|---|
| **RECEPTOR VALUE** | **SUSCEPTIBILTY OF RECEPTOR TO CHANGE** | | |
| | **LOW** | **MEDIUM** | **HIGH** |
| **Very Low** | Low | Low | Low/Medium |
| **Low** | Low | Low/Medium | Medium |
| **Medium** | Low/Medium | Medium | Medium/High |
| **High** | Medium | Medium/High | High |
| **Very High** | Medium/High | High | High |

*Heritage Magnitude*

9.3.18 The magnitude of change to the receptors' heritage value is then considered. In relation to setting impacts, although the change arising from the Proposed Development may be large in physical scale or geographical extent, there may nonetheless be little or no impact on heritage value, and vice versa. The heritage impacts of the Proposed Development have been considered in relation to the degree of change caused to those parts of the receptor and/or its setting which contribute to its heritage value. In terms of direct impacts, establishing the magnitude of change is less susceptible to judgment than is the case with indirect impacts.

9.3.19 The judgement of magnitude considers the size or scale, geographical extent or duration and reversibility of the impact and whether the Proposed Development:

- Conforms with the pattern, scale, mass, grain and historic features of the receptor;
- Creates a loss or restoration of key features of the receptor;
- Contributes to the identified receptor character; and
- Accords with national, regional and local planning policy and guidelines.

9.3.20 The magnitude of impact is a qualitative judgement supported by the narrative text within the assessment. The professional judgement is quantified using criteria at **Table 9.4**.

**Table 9.4 Magnitude of Impact to Heritage Receptor Criteria**

| **HERITAGE MAGNITUDE OF IMPACT** |
|---|

| | |
|---|---|
| **High** | Major change to the value of the receptor. Loss of or major alteration to key elements/features/characteristics that contribute to value. The duration of this impact may be permanent and non-reversible. |
| **Medium** | Moderate change to the value of the receptor. Alteration to one or more key elements/features/characteristics that contribute to value. The duration of this impact may be semi-permanent and partially reversible. |
| **Low** | Minor change to the value of the receptor. Minor alteration to one or more elements/features/characteristics that contribute to value. The duration of this impact may be temporary and reversible. |
| **Very Low** | Negligible change to the value of the receptor. Very minor alteration to one or more key elements/features/characteristics of the baseline. The duration of this impact may be temporary and reversible. |
| **Nil** | No change to the value of the receptor. |

*Heritage Likely Effects*

9.3.21 Likely effects are determined by combining the judgements of sensitivity and the magnitude of impact (**Table 9.5**). It is generally considered that moderate to major effects are 'significant' in the context of the EIA Regulations. Criteria defining the scale of effect is provided at **Table 9.6**.

**Table 9.5 Likely Effect on Heritage Receptor Matrix**

| **HERITAGE LIKELY EFFECT ON RECEPTORS** | | | |
|---|---|---|---|
| **MAGNITUDE** | **SENSITIVITY** | | |
| | **LOW** | **MEDIUM** | **HIGH** |
| **Nil** | None | None | None |
| **Very Low** | Negligible | Negligible | Negligible / Minor |
| **Low** | Minor | Minor / Moderate | Moderate |
| **Medium** | Minor / Moderate | Moderate | Moderate / Major |
| **High** | Moderate | Moderate / Major | Major |

9.3.22 The scale of effect requires a qualitative discussion to describe and elucidate this judgement to the reader. This is necessary because heritage assessment is not a strict quantitative process and some of these considerations will depend on expert judgements. Accordingly, there is an emphasis on qualitative text throughout the assessment to describe the receptors and the judgements in regard to the significance of the identified effects.

**Table 9.6 Scale of an Effect**

| **HERITAGE SCALE OF AN EFFECT** | |
|---|---|
| **Major** | The change resulting from the impact of the Proposed Development upon the heritage value of the receptor would give rise to a very significant effect. |
| **Moderate** | The change resulting from the impact of the Proposed Development upon the heritage value of the receptor would give rise to a significant effect. |

| | |
|---|---|
| **Minor** | The change resulting from the impact of the Proposed Development upon the heritage value of the receptor would give rise to an effect, but this would not be significant. |
| **Negligible** | The change resulting from the impact of the Proposed Development upon the heritage value of the receptor would give rise to a barely discernible effect. This would not be significant. |
| **None** | The change resulting from the impact of the Proposed Development upon the heritage value of the receptor would have no effect. |

9.3.23 Professional judgement is also required to determine the nature of the likely effects. For example, there will be cases where a high magnitude of impact produces a major scale of effect, on the basis that the component is prominent or noticeable, but notwithstanding that the quality of effect is beneficial as a consequence of design quality or other benefits. This approach arises most often as a consequence of major developments in areas positively identified for transformational change. Often, such impacts will have varied effects such that a hard and fast categorisation is finely balanced as between beneficial or harmful. In many instances, therefore, the final identification of impact and effect will turn on discursive analysis. Criteria defining the nature of effect is provided at **Table 9.7**.

**Table 9.7 Nature of an Effect**

| HERITAGE NATURE OF AN EFFECT | |
|---|---|
| **Beneficial** | An enhancement to a receptor |
| **Neutral** | An effect that on balance, is neither beneficial nor adverse to a receptor, and therefore preserves the receptor. |
| **Adverse** | A harmful impact to a receptor |

**Cumulative**

9.3.24 The cumulative schemes for assessment were agreed with the Council during the pre-application process. They comprise:

- Birds Marsh, Chippenham, 19/02906/OUT
- Rawlings Green, Chippenham, 12/12353/OUT
- Rowden Park, Chippenham, 14/21151/OUT
- Hunters Moon, Chippenham, 16/14395/FUL
- Langley Park, Chippenham, 18/05565/FUL
- Langley Park, Chippenham (Additional), 18/05575/OUT
- Land at Hungerdown Lane, 17/09445/FUL
- Land at Showell Farm, Chippenham, N/13/00308/OU T
- Land at Showell Nurseries, 17/08554/OUT
- Land off the B4069 East of Barrow Farm, Chippenham, L/2022/04681

9.3.25 Paragraph 36 of GPA3 states:

*"Cumulative assessment is required under the EU Directive on EIA. Its purpose is to identify impacts that are the result of introducing the development into the view in combination with other existing and proposed developments. The combined impact may not simply be the sum of the impacts of individual developments; it may be more, or less."*

9.3.26 The word 'cumulative' in this context should be taken to mean incremental and the practical effect of this would generally be to increase the degree of harmful impact in specific cases, judged on a qualitative basis. In all cases a freestanding assessment is required.

9.3.27 GPA3 states:

*"Where the significance of a heritage asset has been compromised in the past by unsympathetic development affecting its setting, to accord with NPPF policies consideration still needs to be given to whether additional change will further detract from, or can enhance, the significance of the asset. Negative change could include severing the last link between an asset and its original setting; positive change could include the restoration of a building's original designed landscape or the removal of structures impairing key views of it."*

9.3.28 Paragraph 40 of GPA3 states:

*"Where attributes of a development affecting setting may cause some harm to significance and cannot be adjusted, screening may have a part to play in reducing harm. As screening can only mitigate negative impacts, rather than removing impacts or providing enhancement, it ought never to be regarded as a substitute for well-designed developments within the setting of heritage assets."*

9.3.29 GPA3 and other guidance (for example, the Greater London Authority's guidance on World Heritage Sites) uses the word cumulative differently, and in relation to past impacts which have been negative. Thus, according to this approach (which is accepted in decision making), the assessor should consider whether past changes are positive or negative and, if the latter, whether the proposed new change adds to pre-existing harm, and so increases the overall harm caused by proposals. This form of assessment is fact specific and often relies on published documents confirming there has been past harm and why. There is no requirement, however, for such external validation and the matter can arise in individual assessments or through discussions with the competent authority and other stakeholders.

## 9.4 BASELINE CONDITIONS

9.4.1 The Site is approximately 30ha and is located to the south of Chippenham and lies to the east of the B4528 which forms a main thoroughfare into Chippenham from the south. The Site extends from the B4528 to the River Avon to the east. The Site consists of a number of large enclosed pasture fields, and it bounded by mature hedges. The Site is described within the Design and Access Statement prepared by EDP.

9.4.2 The Site contains a historic shelter shed which is listed on within the Wiltshire and Swindon Historic Environment (WHER) (ref: MWI53876) and is considered a non-designated heritage asset (NDHA) within this assessment. The site is not located within a conservation area but is situated approximately 45.6m south of the Rowden Conservation Area at the nearest point. The Site is also located approximately 40m east of the Grade II listed Showell Farmhouse (NHLE ref: 1022145), barn to the southeast of Showell Farmhouse (Grade II) (NHLE ref: 1198151) and a granary to the south of Showell Farmhouse (Grade II) (NHLE ref: 1363926). They are shown on the Heritage Asset Plan at **Appendix 9.3** and their list entry descriptions are at **Appendix 9.2**. A related unlisted building, comprising a single storey structure with associated pens is located on the opposite side of the road from the group and proximate to the area of housing. This is not curtilage listed and is in a poor state of repair.

9.4.3 Located approximately 1.5km north of the Site is the Chippenham Conservation Area. Due to the substantial separating distance between the two, as well as intervening development and vegetation, there would be no intervisibility between the conservation area and the Proposed Development and therefore the receptor is scoped out of the assessment. There are no other heritage assets within the wider area that share a setting relationship with the Site and are therefore not taken forward for assessment within this Heritage Impact Assessment.

***Sensitive Receptors***

9.4.4 The characteristics of the area are instrumental in defining the experience and appreciation of the heritage receptors discussed in this Chapter.

9.4.5 As described in above, professional judgment has been used to identify those heritage receptors which may experience a change to their setting and so have been scoped into the assessment in this Chapter.

9.4.6 The receptors listed in **Table 9.8** below have the potential to be affected by effects arising from the Proposed Development. The assessment in this Chapter has considered the effects listed in the table upon the identified sensitive receptors. Each are considered in turn below.

**Table 9.8 Heritage Receptors Scoped into the Assessment**

| RECEPTOR | RECEPTOR VALUE |
|---|---|

| | |
|---|---|
| Rowden Conservation Area | High |
| Showell Farmhouse (Grade II) | High |
| Barn to South East of Showell Farmhouse (Grade II) | High |
| Granary to South of Showell Farmhouse (Grade II) | High |
| Shelter Shed, Showell Farm | Low |

**The Current Baseline**

***Rowden Conservation Area***

9.4.7 The heritage value of Rowden Conservation Area is described at paragraphs 4.3 – 4.12 of the Heritage Impact Assessment at **Appendix 9.1**.

9.4.8 In summary, the heritage value of the Rowden Conservation Area is **High**.

9.4.9 Paragraph 4.13 of the accompanying Heritage Impact Assessment at **Appendix 9.1** set out the contribution made by the Application Site to the heritage value to the Rowden Conservation Area.

***Showell Farmhouse (Grade II); Barn to Southeast of Showell Farmhouse (Grade II); Granary to South of Showell Farmhouse (Grade II)***

9.4.10 The heritage value of Showell Farm listed building cluster is described at paragraphs 4.14 – 4.24 of the Heritage Impact Assessment at **Appendix 9.1**.

9.4.11 Paragraphs 4.25 – 4.42 of the accompanying Heritage Impact Assessment at **Appendix 9.1** set out the contribution made by the Application Site to the heritage value to the listed buildings.

9.4.12 In summary, the heritage value of Showell Farmhouse, the barn and the granary is **High**.

***Shelter Shed, Showell Farm (NDHA)***

9.4.13 The heritage value of the shelter shed is described at paragraphs 4.40 – 4.43 of the Heritage Impact Assessment at **Appendix 9.1**.

9.4.14 Paragraph 4.44 of the accompanying Heritage Impact Assessment at **Appendix 9.1** set out the contribution made by the Application Site to the heritage value to the shelter shed.

9.4.15 In summary, the heritage value of shelter shed is **Low**.

**The Projected Future Baseline**

9.4.16 If the Proposed Development were not to come forward, the Site would be expected to remain broadly in its existing condition, comprising open agricultural land associated with no active proposals for redevelopment identified. In the absence of development, the Site

would continue to function as part of the wider rural setting of the Rowden Conservation Area and the listed building cluster at Showell Farm, with some public access in the form of a Public Right of Way that crosses the Site from north to south. There would be no enhancement to landscape management beyond baseline agricultural use.

9.4.17 The future baseline would, however, reflect ongoing and consented development in the surrounding area, including previously approved residential schemes that would continue to alter the wider landscape character and setting of heritage assets irrespective of the Proposed Development. These changes would occur independently of the application Site and would contribute to a gradual evolution of the local context over time.

9.4.18 Without the Proposed Development, there would be no planned mechanism to secure long-term landscape management, public access, or enhanced appreciation of the Site's relationship with nearby heritage assets. The Site would remain privately managed, with no additional buffers or design-led interventions introduced to control or respond to ongoing development pressures in the area.

## 9.5 POTENTIAL EFFECTS

### Construction Stage

9.5.1 It is considered appropriate for the heritage assessment to consider the effects of the completed Proposed Development in greater detail than those of demolition and construction, because completed development effects on heritage significant are permanent and long-term, so having greater impacts on significance than construction works, which are temporary in relative terms. Accordingly, a qualitative assessment of the later will be undertaken based on professional judgment and experience.

#### *Rowden Conservation Area*

9.5.2 The construction phase of the Proposed Development would introduce new environmental conditions into the one part of Rowden Conservation Area's wider setting. For instance, there would be increased noise, vibration, dust and traffic that would cause a direct impact to the Site and in the surrounding area arising from ground-breaking, earth moving and excavation stages of the construction period. There will also be impacts associated with the increased vehicular movement (including HGVs) through the Site.

9.5.3 As the works are temporary in nature and some distance from the receptor, it has a **Low** susceptibility to this phase of work. When calibrated with the High heritage value, the sensitivity is **Medium**. When considering the area size of the conservation area, the construction phase is judged to have a **Very Low** magnitude of impact. This is due to separating distance and intervening development and vegetation between the conservation area and the area of the Site where housing will be located, where much of the construction activity will take place. The area of the Site closest to the conservation area that shares the most intervisibility will be left as open space and therefore reduces the overall magnitude of impact. Furth more, the intrinsic character and appearance of the conservation area are not affected. When calibrated with the sensitivity, the likely effect is **Negligible**. The nature of this effect is **Adverse**. The effect would be short-term, indirect and temporary.

#### *Showell Farmhouse; Barn to Southeast of Showell Farmhouse and Granary to South of Showell Farmhouse*

9.5.4 Owing to their similarity in age and character, proximity and shared setting and heritage value, the cluster consisting of three listed buildings at Showell Farm has been grouped within this assessment.

9.5.5 In respect of the Showell Farm listed building cluster, the construction phase of the Proposed Development would introduce the factors cited above into one part of their wider setting.

9.5.6 Construction works are by their nature temporary and must be considered in relation to the lifetime of the heritage receptor as a whole. We consider them here in this context. The susceptibility of the receptors to the construction effects is **Medium**. This is due to the proximity and shared intervisibility between the farmstead and the Site. When calibrated

with the High heritage value, the sensitivity is **Medium/High**. The intrinsic historic and architectural qualities of the listed building are not affected or their group relationship to one another. For the reasons set out above, the proposals will therefore have a **Low** magnitude of impact on the heritage receptors when considering the temporary nature of the construction phase. When calibrated with the sensitivity, the likely effect on an appreciation of the special interest of the receptor during the construction phase would be Minor/Moderate - Moderate. Using professional judgement, the likely effect is **Minor**. The effect would be **Adverse**. The effect would be short-term, indirect and temporary.

***Shelter Shed, Showell Farm***

9.5.7 In respect of the shelter shed, the construction phase of the Proposed Development would introduce the factors cited above into one part of their wider setting.

9.5.8 Construction works are by their nature temporary and must be considered in relation to the lifetime of the heritage receptor as a whole. We consider them here in this context. The susceptibility of the receptor to the construction effects is **Medium**. This is due to the proximity and shared intervisibility between the shelter shed and the Site. When calibrated with the Low heritage value, the sensitivity is **Low/Medium**. It is considered that the magnitude of impact of the construction phase is **Low**. This is because the intrinsic historic and architectural qualities of the shed are not affected, or its spatial relationship to the Showell Farm complex, and considering the temporary nature of the construction phase. When calibrated with the sensitivity, the likely effect on an appreciation of the special interest of the receptor during the construction phase would be Minor-Minor/Moderate. Using professional judgement, the likely effect is **Minor**. The effect would be **Adverse**. The effect would be short-term, indirect and temporary.

**Post-Completion Stage**

***Rowden Conservation Area***

9.5.9 The baseline identified the Rowden Conservation Area as having a **High** heritage value. It is considered that the conservation area has a **Low** susceptibility to the type of change proposed. This is due to an existing awareness of modern residential development on the boundaries of the conservation area, as well as limited intervisibility between the conservation area as a whole and the part of the Site containing the residential development. When calibrated with the value, the sensitivity is **Medium**.

9.5.10 We refer the reader to **Section 5.0** of the Heritage Impact Assessment at **Appendix 9.1**, which treats the impact in detail.

9.5.11 Overall, it is considered that the magnitude of impact of the Proposed Development on the conservation area is **Low**. When calibrated with the sensitivity, the likely effect is **Minor** and

the nature of this effect is **Beneficial**. This is, as outlined in the Heritage Impact Assessment, for the following reasons, as summarised below:

- The principal significance of the Rowden Conservation Area derives from its association with the Grade II* listed Rowden Manor and related historic structures, from which the proposed housing is separated by approximately 1.2 km, with intervening landform and vegetation preventing any intervisibility.
- The conservation area's rural and historic landscape character, including the River Avon, enclosed fields, and the setting of the listed buildings and scheduled monument, would be preserved, as any potential intervisibility with the Site would be limited to the southern edge of the conservation area only.
- A substantial proportion of the Site (approximately 10.66 ha) closest to the River Avon would be retained as open green space, with housing set at least 360 m south of the conservation area and screened by existing vegetation, significantly reducing any visual relationship.
- The siting of development to the south of the approved Rowden Park scheme ensures that the Proposed Development would not introduce new visual change within the conservation area, where residential development is already visible in the wider landscape context.
- The scheme would secure the long-term preservation of land with a character complementary to the conservation area, helping to preserve one of the few remaining areas outside of the conservation area boundary that retains its open, rural and riverside character.
- The retained open land would be managed sympathetically to the historic landscape character, reinforcing the conservation area's rural and riverside setting and enhancing opportunities for its appreciation.
- Overall, the Proposed Development would not affect the ability to appreciate the value of the Rowden Conservation Area and would deliver a net heritage benefit by providing a meaningful landscape buffer to the west of the River Avon and the south of the conservation area, protecting this sensitive aspect of the conservation area's setting from future encroachment.

***Showell Farmhouse; Barn to Southeast of Showell Farmhouse and Granary to South of Showell Farmhouse***

9.5.12 Owing to their similarity in age and character, proximity and shared setting and heritage value, the cluster consisting of three listed buildings at Showell Farm has been grouped within this assessment.

9.5.13 The baseline assessment identifies a **High** heritage value for each of the three listed buildings that comprise the Showell Farm cluster. It is considered that the listed buildings have a **Medium** susceptibility to the type of change proposed. This reflects the historic relationship between the listed buildings and the Site, together with the visual relationship arising from the orientation of the principal frontage of Showell Farm towards the Site.

However, susceptibility is assessed as medium rather than high because the historic functional relationship between the farmstead and the Site has been lost, with Showell Farm no longer operating as an agricultural unit. In addition, the setting of the listed buildings already contains elements of modern change, including visible research facilities in key views and the presence of residential development encroaching from the north. When considered in combination with the high heritage value of the assets, this results in an overall **Medium/High** sensitivity.

9.5.14 We refer the reader to **Section 5.0** of the Heritage Impact Assessment at **Appendix 9.1**, which treats the impact in detail.

9.5.15 Overall, it is considered that the magnitude of impact of the Proposed Development on the listed buildings is **Low**. When calibrated with the sensitivity, the likely effect is Minor-Minor/Moderate. Using professional judgement, the likely effect is **Minor** and the nature of this effect is **Adverse**. This is, as outlined in the Heritage Impact Assessment, for the following reasons, as summarised below:

- The Proposed Development would result in a general change in character in part of the setting of the listed buildings, from open agricultural land to residential development. This would lead to a degree of harm to the setting of the listed buildings, as the historic spatial relationship between the farmstead and the Site would be altered and the wider rural context within which the listed buildings are experienced would be reduced.
- Although the Site lies within the setting of the listed buildings at Showell Farm, the heritage value of the farmstead is derived primarily from the intrinsic architectural quality, age-value and group value of the buildings, all of which would be preserved by the Proposed Development.
- The listed buildings derive strong group value from their close spatial and functional relationship as a coherent historic farmstead, and this spatial relationship would remain unaffected by the Proposed Development.
- Showell Farm no longer functions as an agricultural unit, and this change is already evident through the conversion of historic buildings to residential use and the presence of modern outbuildings. As a result, the historic functional relationship between the Site and the farmstead has already been lost, limiting the sensitivity of the Site within the listed buildings' setting.
- The Proposed Development would not feature in any significant or important views of the listed buildings, as the new housing would be set back and the farmstead is contained within a well-defined curtilage, enclosed by boundary walls and ancillary buildings.
- The B4643 road forms a strong physical and visual barrier between the listed buildings and the Site, further reducing visual connectivity and reinforcing the separation between the farmstead and the Proposed Development.

- The wider setting of Showell Farm has already been compromised by the consented SouthPoint Business Park development to the west, which introduces large-scale commercial built form into key views. In this context, the Proposed Development would not introduce a more harmful form of change.
- The Proposed Development proposes sensitively designed residential buildings, which are more consistent with the historic pattern of settlement at rural edges than the existing commercial development, and would respond to local character through scale, materials and architectural treatment at Reserved Matters stage.
- The housing has been deliberately sited to the north-west of the Site and tapered towards the east, creating greater openness and longer views towards Showell Farm, enhancing the ability to appreciate the architectural qualities of the listed buildings.
- The provision of open space reflecting historic field divisions, aligned with the depth and geometry shown on the historic Tithe Map, would maintain an open character in the parts of the Site closest to the farmstead and reflect its historic landscape context.
- Proposed orchard planting and landscape buffering would soften the transition between the historic farmstead and new development, further screening the SouthPoint Business Park development and creating a more focused and coherent setting for Showell Farm.

***Shelter Shed, Showell Farm***

9.5.16 The baseline identified the shelter shed as having a **Low** heritage value. It is considered that the NDHA has a **Low** susceptibility to the type of change proposed. This is because the shelter shed primarily derives value from its setting through its relationship with Showell Farm, with which it shares an intrinsic historic and spatial relationship and not the rural land to the east that forms the Site. When calibrated with the value, the sensitivity is **Low**.

9.5.17 We refer the reader to **Section 5.0** of the Heritage Impact Assessment at **Appendix 9.1**, which treats the impact in detail.

9.5.18 Overall, it is considered that the magnitude of impact of the Proposed Development on the shelter shed is **Nil**. This is because the development does not affect the shed's principal setting relationship with Showell Farm, which is the primary aspect contributing to its heritage value. When calibrated with the sensitivity, the likely effect is **None**.

## 9.6 MITIGATION MEASURES

### Construction Stage

9.6.1 The following embedded mitigation which has been evaluated as part of the construction phase assessment are outlined below:

- Enclosure of the Site with hoardings;
- Compliance with the requirements of the Construction Management Plans; and
- Supervision of construction activities, as well as appropriate environmental monitoring, in accordance with the CLP.

### Post-Completion Stage

9.6.2 Given the Proposed Development is submitted in outline, any identified effects may be mitigated through the detailed design submitted at reserved matters stage. However, for the purposes of this assessment, the effects of the maximum parameter Development have been assessed. Once the detailed design is fixed it will be possible to assess more accurately how the development is appreciated positions within the surrounding landscape. The application of detailed design in terms of façade articulation, materiality and fenestration patterns can help to mitigate the visual impact of the buildings, thus reducing the magnitude of the overall effect, and even reversing the quality of the judgement where the design is of such high quality that a contrasting element is seen as a positive addition in an otherwise consistent context.

9.6.3 The proposals have developed in accordance with a series of governing principles:

- The Site has been deliberately structured so that built development is located away from the most sensitive heritage assets, with housing sited to the west and south-west and extensive areas of open green space retained to the east and north-east, closest to the Rowden Conservation Area and the River Avon. This spatial arrangement ensures that heritage assets are separated from built form by substantial open land.
- A substantial area of open green space (approximately 10.66 ha) is retained closest to the River Avon and the Rowden Conservation Area, providing a meaningful landscape buffer that preserves the rural and riverside setting of the conservation area and limits intervisibility with development.
- Housing is set back by approximately 360 m from the southern boundary of the Rowden Conservation Area at the nearest point, while a separation distance of approximately 1.2 km is maintained between the proposed housing and the Grade II* listed Rowden Manor, eliminating intervisibility and protecting key elements of significance.
- Existing bands of vegetation and historic field boundaries are retained and reinforced to screen development and reduce potential views, particularly between the southern edge of the Rowden Conservation Area and the Site.

- Development has been consciously set back and tapered towards the east to create longer, more open views between the Site and the listed buildings at Showell Farm. This approach reflects historic field divisions and maintains openness in the parts of the Site closest to the farmstead.
- Open space adjacent to Showell Farm is designed to reflect the depth, proportions and geometry of historic fields shown on the Tithe Map, maintaining an agricultural character and reinforcing the historic landscape context of the listed buildings.
- Orchard planting within the enclosed meadow area closest to Showell Farm provides a soft transition between historic agricultural character and new development, acting as a visual filter and reinforcing a focused and legible setting for the listed building cluster.
- The design takes account of existing modern development within the wider setting of Showell Farm, including the consented SouthPoint Business Park, ensuring that new residential development does not introduce a more discordant form of change and instead reflects traditional settlement patterns at rural edges.
- The scale, form and outward appearance of new buildings will be controlled through reserved matters, ensuring that materials and design respond sympathetically to local character and are visually recessive when experienced in relation to heritage assets.
- Retained open land is intended to be subject to long-term landscape management arrangements, maintaining its rural character, reinforcing the setting of the Rowden Conservation Area and Showell Farm, and safeguarding against future encroachment.

## 9.7 RESIDUAL EFFECTS

### Construction Stage

9.7.1 It is considered that the residual effects would remain as those assessed above, as the embedded mitigation measures are designed to manage construction activity but would not materially alter the nature or significance of the effects identified.

### Post-Completion Stage

9.7.2 At the post-completion stage, embedded design mitigation forms an integral part of the Proposed Development and has been taken into account within the assessment of effects. As such, the residual effects would remain as assessed above.

### Summary of Effects

9.7.3 The effects identified are summarised in **Table 9.9**.

**Table 9.9 Summary of Effects in Construction and Post-Completion Stage**

| POTENTIAL EFFECT | SIGNIFICANCE (PRE-MITIGATION) | MITIGATION MEASURE | SIGNIFICANCE OF RESIDUAL EFFECT |
|---|---|---|---|
| **Construction Stage** | | | |
| Setting impacts to built heritage assets and conservation area from groundwork and traffic | Minor Adverse | Adoption of standard construction management practices, including controlled routing of construction traffic and best-practice site management | Minor adverse |
| Setting impacts to designated built heritage receptors (Showell farmhouse, granary and barn) from groundwork and traffic | Negligible Adverse | Adoption of standard construction management practices, including controlled routing of construction traffic and best-practice site management | Negligible adverse |
| Setting impacts to non-designated heritage receptors (shelter shed) from groundwork and traffic | Minor Adverse | Adoption of standard construction management practices, including controlled routing of construction traffic and best-practice site management | Minor Adverse |
| **Post-Completion Stage** | | | |

| | | | |
|---|---|---|---|
| Setting impacts to Rowden Conservation Area | Minor Beneficial | Retention and long-term management of substantial areas of open green space, and siting of built development away from the conservation area | Minor beneficial |
| Setting impacts to designated built heritage receptors (Showell farmhouse, granary and barn) | Minor Adverse | Design-led mitigation including building setback, stepped massing towards the listed buildings, landscape buffering, orchard planting and retention of open space | Minor adverse |
| Setting impacts to non-designated heritage receptors (shelter shed) | None | N/A | None |

## 9.8 CUMULATIVE EFFECTS

9.8.1 The cumulative schemes for assessment were agreed with the Council during the pre-application process. They comprise:

- Birds Marsh, Chippenham, 19/02906/OUT
- Rawlings Green, Chippenham, 12/12353/OUT
- Rowden Park, Chippenham, 14/21151/OUT
- Hunters Moon, Chippenham, 16/14395/FUL
- Langley Park, Chippenham, 18/05565/FUL
- Langley Park, Chippenham (Additional), 18/05575/OUT
- Land at Hungerdown Lane, 17/09445/FUL
- Land at Showell Farm, Chippenham, N/13/00308/OU T
- Land at Showell Nurseries, 17/08554/OUT
- Land off the B4069 East of Barrow Farm, Chippenham, L/2022/04681

9.8.2 When considered cumulatively with other consented developments within the wider setting of the identified heritage receptors, the Proposed Development would not result in significant adverse cumulative effects on the identified heritage assets, including the Rowden Conservation Area and the listed building cluster at Showell Farm. The principal contributors to cumulative change arise from existing and consented development have already introduced modern built form into the wider setting of these heritage assets, particularly residential development and commercial uses. In this context, the Proposed Development would represent a limited and proportionate addition to an already evolving baseline.

9.8.3 The intensification of urban development in the setting of the heritage receptors and the visual impact of the cumulative scenario would not combine with the impact of the Proposed Development so that it would alter its setting to the point that the cumulative scenario would alter the assessment of the Proposed Development in isolation.

9.8.4 As such, it is considered that the assessment set out above in relation to the Proposed Development's potential effect on heritage impacts, remains the same as the likely effects arising from the Proposed Development in isolation.

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**APPENDICES**

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## 10.1 INTRODUCTION

10.1.1 This chapter assesses the likely significant effects of the Proposed Development to the archaeology within and surrounding the site. It is informed by an archaeological desk-based assessment (Orion March 2026, **Appendix 10.1**), a geophysical survey (Archaeological Surveys, 2021, **Appendix 10.2**) and a summary of the results of a programme of evaluation trenching carried out in February and March 2026 (Avon Archaeology Ltd, 2026, **Appendix 10.3**).

### Competency

10.1.2 This chapter has been produced by Orion Heritage Ltd. Sophie Honey BA MSc, a Senior Archaeology Consultant, has prepared this Chapter on archaeology. She has 2 and a half years of experience in the archaeology sector and has recently started preparing ES Chapters. The preparation of this Chapter has been overseen by Rob Bourn, Managing Director at Orion Heritage Limited and a full member (MCIfA) of the Chartered Institute for Archaeologists (CIfA) with 26 years' experience preparing ES Chapters.

## 10.2 RELEVANT POLICY

### National Planning Policy Framework and Planning Policy Guidance

10.2.1 Government policy in relation to the historic environment is outlined in Section 16 of the National Planning Policy Framework (NPPF) (2024), entitled Conserving and Enhancing the Historic Environment. This provides guidance for planning authorities, property owners, developers and others on the conservation and investigation of heritage assets. Overall, the objectives of Section 16 of the NPPF can be summarised as seeking the:

- Delivery of sustainable development;
- Understanding the wider social, cultural, economic and environmental benefits brought by the conservation of the historic environment;
- Conservation of England's heritage assets in a manner appropriate to their significance; and
- Recognition of the contribution that heritage assets make to our knowledge and understanding of the past.

10.2.2 Section 16 of the NPPF recognises that intelligently managed change may sometimes be necessary if heritage assets are to be maintained for the long term.

10.2.3 Paragraph 207 refers to the determination of applications and requires applicants to describe the significance any heritage assets affected, including contribution made to their settings, and that the level of detail supplied by an applicant should be proportionate to the importance of the asset and should be no more than sufficient to understand the potential impact of the proposal upon the significance of that asset. It also refers to proportionate assessment where there is potential to include heritage assets with archaeological interest.

10.2.4 As the heritage assets relating to archaeology are non-designated, paragraph 216 is relevant when considering potential impacts. This paragraph requires the decision-maker to take into account the effect on the significance of non-designated heritage assets and to take a balanced judgement having regard to the scale of harm or loss and the significance of the asset(s) potentially affected.

10.2.5 In relation to the historic environment, paragraph 002 (002 Reference ID: 18a-002-20190723) states that:

"*Where changes are proposed, the National Planning Policy Framework sets out a clear framework for both plan-making and decision-making in respect of applications for planning permission and listed building consent to ensure that heritage assets are conserved, and where appropriate enhanced, in a manner that is consistent with their significance and thereby achieving sustainable development. Heritage assets are either designated heritage assets or non-designated heritage assets."*

10.2.6 Paragraph 18a-013 (Paragraph: 013 Reference ID: 18a-013-20190723) outlines that although the extent and importance of setting is often expressed in visual terms, it can also be influenced by other factors such as noise, dust and vibration. Historic relationships between places can also be an important factor stressing ties between places that may have limited or no intervisibility with each other. This may be historic as well as aesthetic connections that contribute or enhance the significance of one or more of the heritage assets.

10.2.7 Paragraph 18a-013 concludes:

*"The contribution that setting makes to the significance of the heritage asset does not depend on there being public rights or an ability to access or experience that setting. This will vary over time and according to circumstance. When assessing any application for development which may affect the setting of a heritage asset, local planning authorities may need to consider the implications of cumulative change. They may also need to consider the fact that developments which materially detract from the asset's significance may also damage its economic viability now, or in the future, thereby threatening its on-going conservation."*

10.2.8 The key test in NPPF paragraphs 212-215 is whether a Proposed Development will result in substantial harm or less than substantial harm to a designated asset. However, substantial harm is not defined in the NPPF. Paragraph 212 states:

*"When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance."*

10.2.9 The relevant part of Paragraph 213 states:

*"Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification."*

10.2.10 Paragraph 18a-017 (Paragraph: 018 Reference ID: 18a-018-20190723) of the PPG provides additional guidance on substantial harm. It states:

*"What matters in assessing whether a proposal might cause harm is the impact on the significance of the heritage asset. As the National Planning Policy Framework makes clear,*

*significance derives not only from a heritage asset's physical presence, but also from its setting.*

10.2.11 Proposed Development affecting a heritage asset may have no impact on its significance or may enhance its significance and therefore cause no harm to the heritage asset. Where potential harm to designated heritage assets is identified, it needs to be categorised as either less than substantial harm or substantial harm (which includes total loss) in order to identify which policies in the National Planning Policy Framework (paragraphs 200-202) apply.

10.2.12 Within each category of harm (which category applies should be explicitly identified), the extent of the harm may vary and should be clearly articulated.

10.2.13 Whether a proposal causes substantial harm will be a judgment for the decision-maker, having regard to the circumstances of the case and the policy in the National Planning Policy Framework. In general terms, substantial harm is a high test, so it may not arise in many cases. For example, in determining whether works to a listed building constitute substantial harm, an important consideration would be whether the adverse impact seriously affects a key element of its special architectural or historic interest. It is the degree of harm to the asset's significance rather than the scale of the development that is to be assessed. The harm may arise from works to the asset or from development within its setting.

10.2.14 While the impact of total destruction is obvious, partial destruction is likely to have a considerable impact but, depending on the circumstances, it may still be less than substantial harm or conceivably not harmful at all, for example, when removing later additions to historic buildings where those additions are inappropriate and harm the buildings' significance. Similarly, works that are moderate or minor in scale are likely to cause less than substantial harm or no harm at all. However, even minor works have the potential to cause substantial harm, depending on the nature of their impact on the asset and its setting.

10.2.15 Paragraph 214 of the NPPF outlines that where a proposed development results in less than substantial harm to the significance of a designated heritage asset, the harm arising should be weighed against the public benefits accruing from the proposed development. Paragraph 18a-020 of the PPG (Paragraph: 020 Reference ID: 18a-020-20190723) outlines what is meant by public benefits:

*"Public benefits may follow from many developments and could be anything that delivers economic, social or environmental objectives as described in the National Planning Policy*

*Framework (paragraph 8). Public benefits should flow from the proposed development. They should be of a nature or scale to be of benefit to the public at large and not just be a private benefit. However, benefits do not always have to be visible or accessible to the public in order to be genuine public benefits."*

10.2.16 Paragraph 216 states:

*"The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset."*

10.2.17 In considering any planning application for development, the planning authority will be mindful of the framework set by government policy, in this instance the NPPF, by current Development Plan policy and by other material considerations.

**Adopted Development Plan**

10.2.18 Local planning policy is provided by the Wiltshire Core Strategy (Adopted January 2015). The Core Strategy policy relevant to this assessment is:

*Core Policy 58: Ensuring The Conservation Of The Historic Environment*
*Development should protect, conserve and where possible enhance the Historic Environment.*

*Designated heritage assets and their settings will be conserved, and where appropriate enhanced in a manner appropriate to their significance, including:*
*I. Nationally significant archaeological remains*
*ii. World heritage sites within and adjacent to Wiltshire*
*iii. Buildings and structures of special architectural or historic interest*
*iv. The special character or appearance of conservation areas*
*v. Historic Parks and Gardens*
*vi. Important landscapes, including registered battlefields and townscapes.*

*Distinctive elements of Wiltshire's Historic Environment, including non-designated heritage assets, which contribute to a sense of local character and identity will be conserved, and where possible enhanced. The potential contribution of these heritage assets towards wider social, cultural, economic and environmental benefits will also be utilised where this can be delivered in a sensitive and appropriate manner in accordance with Core Policy 57 (ensuring high quality design and place shaping).*

*Heritage assets at risk will be monitored and development proposals that improve their condition will be encouraged. The advice of statutory and local consultees will be sought in consideration of such applications.*

**Any other relevant policy, legislation or guidance**

***Historic Environment Good Practice Advice In Planning Note Managing Significance in Decision-Taking in the Historic Environment (Historic England 2015)***

10.2.19 The purpose of this document is to provide information to assist local authorities, planning and other consultants, owners, applicants and other interested parties in implementing historic environment policy in the NPPF and NPPG. It outlines a 6-stage process to the assembly and analysis of relevant information relating to heritage assets potentially affected by a proposed development.

- Understand the significance of the affected assets;
- Understand the impact of the proposal on that significance;
- Avoid, minimise and mitigate impact in a way that meets the objectives of the NPPF;
- Look for opportunities to better reveal or enhance significance;
- Justify any harmful impacts in terms of the sustainable development objective of conserving significance and the need for change;
- Offset negative impacts on aspects of significance by enhancing others through recording, disseminating and archiving archaeological and historical interest of the important elements of the heritage assets affected.

***Historic Environment Good Practice Advice In Planning Note 3 The Setting of Heritage Assets (Historic England 2017).***

10.2.20 Historic England's Historic Environment Good Practice Advice in Planning Note 3 provides guidance on the management of change within the setting of heritage assets.

10.2.21 The document restates the definition of setting as outlined in Annex 2 of the NPPF. Setting is also described as being a separate term to curtilage, character and context; while it is largely a visual term, setting, and thus the way in which an asset is experienced, can also be affected by noise, vibration, odour and other factors. The document makes it clear that setting is not a heritage asset, nor is it a heritage designation, though land within a setting may itself be designated. Its importance lies in what the setting contributes to the significance of a heritage asset.

10.2.22 The Good Practice Advice Note sets out a five staged process for assessing the implications of proposed developments on setting:

1. Identification of heritage assets which are likely to be affected by proposals
2. Assessment of whether and what contribution the setting makes to the significance of a heritage asset
3. Assessing the effects of proposed development on the significance of a heritage asset
4. Maximising enhancement and reduction of harm on the setting of heritage assets
5. Making & documenting the decision and monitoring outcomes.

***Ancient Monuments & Archaeological Areas Act 1979***

10.2.23 The Ancient Monuments & Archaeological Areas Act 1979 (as amended) protects the fabric of Scheduled Monuments but does not afford statutory protection to their settings.

## 10.3 ASSESSMENT METHODOLOGY

### Scope

10.3.1 The assessment process involved the production of an archaeological desk-based assessment contained within **Appendix 10.1** and geophysical survey contained within **Appendix 10.2**. An archaeological evaluation has also been undertaken across the site (Avon Archaeology Ltd, 2026, **Appendix 10.3**).

10.3.2 The first step in the assessment process is the identification of known and potential archaeological receptors that may be affected by the proposed development. Archaeological receptors are either designated heritage assets (scheduled monuments or registered battlefields) which are identified on the National Heritage List for England (NHLE) or areas of importance identified in local planning policy, or non-designated heritage assets.

10.3.3 Non-designated heritage assets can comprise identified heritage receptors, for example finds or features recorded on the Historic Environment Record (HER) or previously unrecorded archaeological remains.

10.3.4 There are no strict parameters for the setting of study areas. This has been defined based on professional judgement and experience of potential significant direct and indirect effects likely to arise from the Proposed Development. A buffer of 1km from the study site boundary has been used to identify designated and non-designated archaeological assets which might be directly or indirectly impacted by the Proposed Development and to inform the potential for previously unrecorded archaeological remains.

10.3.5 An initial study area of 1km from the site boundary was considered in the desk-based assessment (**Appendix 10.1**).

10.3.6 The results of a geophysical survey are included as **Appendix 10.2**. The geophysical survey was undertaken in accordance with the CIfA's Standard and Guidance for geophysical survey.

10.3.7 An archaeological evaluation was undertaken across the site between February and March 2026 (Avon Archaeology Ltd, 2026, **Appendix 10.3**). The report is largely complete save for the results of the environmental sampling, and has been used to inform this Chapter. An addendum can be prepared if deemed necessary following receipt of the environmental sampling report.

**Data sources**

10.3.8 Baseline data was collected in accordance with the Chartered Institute for Archaeologists (CIfA) Standard and Guidance for Historic Environment Desk-Based Assessments (2020). The following sources were used in the assessment:

- Historic Environment Record (HER) Data held by Wiltshire Council (February 2026).
- The National Heritage List for England (NHLE) held by Historic England (February 2026).
- Historic England Archive.
- Local studies and record office research.
- Review of historic mapping.
- Aerial photographic sources including Cambridge University Collection of Aerial Photography, Google Earth 2002-2023, Bing Maps.
- National Lidar Programme digital terrain mapping at 1m resolution.
- National Mapping Programme database.
- Portable Antiquities Scheme database.
- Reports on the results of geophysical survey at Showell Nurseries (Archaeological Surveys 2017; WHER EWI9270) and subsequent archaeological evaluation (Cotswold Archaeology 2017); field evaluation at Milford Farm and Showell Nurseries (Oxford Archaeology 1991; WHER EWI6543) – this area was also subject to a subsequent evaluation by Cotswold Archaeology in 2015 (WHER EWI7873); archaeological evaluation on land at Showell Farm (Cotswold Archaeology 1998; WHER EWI3573) and excavations along the Chippenham Western Bypass (Cotswold Archaeology 1998; WHER EWI3412).
- Geophysical survey of the site (Archaeological Surveys 2021; **Appendix 10.2**).
- Archaeological evaluation of the site in February and March 2026 (Avon Archaeology Ltd, 2026, **Appendix 10.3**).
- Site inspection.

**Assessment approach**

***Non-designated heritage assets***

10.3.9 As defined in PPG "Non-designated heritage assets are buildings, monuments, sites, places, areas or landscapes identified by plan-making bodies as having a degree of heritage significance meriting consideration in planning decisions but which do not meet the criteria for designated heritage assets."

10.3.10 In terms of non-designated assets, PPG states that there are two categories of non-designated sites of archaeological interest:

1) *Those that are demonstrably of equivalent significance to scheduled monuments and are therefore considered subject to the same policies as those for designated heritage assets...*
2) *Other non-designated heritage assets of archaeological interest (Department of Communities and Local Government, 2014, Paragraph: 041 Reference ID: 18a-041-20190723).*

10.3.11 The value or significance of a non-designated heritage asset may change following assessment and evaluation prior to a planning decision and move from the second to the first category.

10.3.12 PPG states that applicants should, if required, submit an appropriate desk-based assessment (**Appendix 10.1**) and, where necessary, a field evaluation, in order to aid in understanding the significance of non-designated archaeological heritage assets.

10.3.13 Non-designated heritage assets comprise finds or features of local significance identified on the HER, and previously unrecorded finds, features or buildings identified through an appraisal of sources or identification through a site visit. As outlined in Managing Significance in Decision-Taking in the Historic Environment (Historic England 2015) Historic Environment Records include "assets that are known to have been demolished or destroyed or known only from antiquarian sources, assets which do not meet the criteria for national or local designation, and those which have yet to be formally assessed as such". As such an assessment is undertaken to establish the significance and relevance of the HER entries within the study area, supplemented by information from field evaluations where available.

***Designated heritage assets***

10.3.14 Heritage assets and potential effects through changes to setting have been assessed using best practice, including that set out in HE's 'Good Practice Advice Note 3, The Setting of Heritage Assets' (Historic England 2017). The heritage assets which require assessment have been selected with reference to the National Heritage List for England (NHLE) database held by Historic England.

10.3.15 Not all designated heritage assets will require full assessment for impacts on an individual basis. Where a designated heritage asset has been excluded, a clear justification is provided, for example if the asset is sufficiently far away, and well screened from the study area. Also, not all assets require the same level of assessment. As set out in paragraph 194 207 of the NPPF, the level of detail is sufficient to inform the nature and degree of effect of development within the study area on the significance of the heritage asset in question.

**Significance criteria**

10.3.16 The significance of a heritage asset is defined in the NPPF as "The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting." In the case of many heritage assets their importance has already been established through the designation (i.e. scheduling, listing and register) processes applied by Historic England.

10.3.17 To assess the heritage significance of previously unrecorded or non-designated heritage assets, the criteria used by the Department of Culture, Media, and Sports publication, 'Principles for Selection of Listed Buildings' (DCMS 2010), and the Scheduled Monuments Policy Statements published by the same body (DCMS 2013), are used. The criteria for establishing significance of heritage assets for this assessment are presented in **Table 10.1** below.

**Table 10.1: Determining the heritage significance of a Heritage Asset**

| Importance | Description |
|---|---|
| International | Archaeological sites or monuments of international importance, including World Heritage Sites. |
| National | Ancient monuments scheduled under the Ancient Monuments and Archaeological Areas Act 1979, or archaeological sites and remains of comparable quality, assessed with reference to the DCMS's principles of selection for scheduled monuments (DCMS 2013). |
| Regional/ County | Archaeological sites and remains which, while not of national importance, score well against most of the DCMS's principles of selection for scheduled monuments (DCMS 2013). |
| Local | Archaeological sites that score less well against the DCMS's principles of selection for scheduled monuments (DCMS 2013). |
| Negligible/None | Areas in which investigative techniques have produced negligible or only minimal evidence for archaeological remains, or where previous large-scale disturbance or removal of deposits can be demonstrated. |

10.3.18 The nature and likelihood of the impacts of the Proposed Development is assessed in both the long and short term, on archaeological and heritage features against clearly defined criteria.

10.3.19 Archaeological resources are susceptible to a range of direct impacts during site preparation as well as construction related activities and during the lifetime of the development, for example:

- Site clearance or preparation activities that disturb archaeological remains;

- Excavation that extends into archaeological sequences, for example deep foundations, basements or re-landscaping resulting in the removal of the resource;
- Piling activities resulting in disturbance and fragmentation of the archaeological resource; and
- Dewatering activities resulting in desiccation of waterlogged remains and deposits.

10.3.20 In terms of non-physical impacts on heritage, the impacts of the development include the impact on the contribution that setting of Scheduled Ancient Monuments and non-designated heritage assets provides to the significance of a designated or non-designated archaeological heritage asset.

10.3.21 The magnitude of the impact is a product of the extent of development impact on an asset. Impacts are rated as Large, Moderate, Small and Negligible. Impacts can be direct or indirect, adverse or beneficial. The criteria for assessing the magnitude of impact are set out in **Table 10.2** below.

**Table 10.2 Magnitude of Impacts**

| | Large | Moderate | Small | Negligible |
|---|---|---|---|---|
| Physical Effects (adverse) | Complete removal of an archaeological site. | Removal of a major part of an archaeological site and loss of research potential /significance. | Removal of an archaeological site where a minor part of its total area is removed but the site retains significant future research potential. | Negligible impact from changes in use, amenity or access. |
| Effects to Setting (adverse) | Radical transformation of the setting of an archaeological monument. | Partial transformation of the significance of an archaeological site e.g. the introduction of significant noise or vibration levels to an archaeological monument leading to changes to amenity use, accessibility or appreciation of an archaeological site. | A lower level of less than substantial harm to the significance of an archaeological monument due to a change in setting. | Negligible perceptible change to the significance of an archaeological site due to a change in setting. |
| Physical Effects (beneficial) | Land use change resulting in improved conditions for the protection of archaeological remains. | Land use change resulting in improved conditions for the protection of archaeological remains plus interpretation measures (heritage trails, etc.) | Land use change resulting in improved conditions for the protection of archaeological remains. | Negligible impact from changes in use, amenity or access. |

| | | | | |
|---|---|---|---|---|
| Effects to Setting (beneficial) | Archaeological site, its cultural heritage amenity and access or use. | Significant reduction or removal of visual or noise intrusion on the setting of an archaeological site or monument.<br><br>Improvement of the wider landscape setting of an archaeological site or monument.<br><br>Improvement of the cultural heritage amenity, access or use of an archaeological site or monument. | Decrease in visual or noise intrusion on the setting of an archaeological site or monument. | Decrease in visual or noise intrusion on the setting of an archaeological site or monument. |

10.3.22 It is acknowledged that, with regards to setting, **Table 10.2** above primarily deals with visual factors affecting setting. Whilst the importance of visual elements of settings, e.g. views, intervisibility, prominence etc., are clear, it is also acknowledged that there are other non-visual factors which could potentially result in impacts to setting. Such factors could be other sensory factors, e.g. noise or odour, or could be associative. In coming to a conclusion about magnitude of change upon setting, this assessment makes reference to traffic, noise, air quality, and townscape and visual assessments, reported in the ES, as appropriate.

10.3.23 It is widely recognised that the heritage significance of an asset is not the same as its sensitivity to changes to its setting (Historic England 2017, p. 9). Thus, in determining effects upon the setting of assets by a proposed development, both importance and sensitivity to changes to setting need to be considered. Factors considered when assessing sensitivity to change include, but are not limited to, heritage significance (**Table 10.1**), condition, type and period of asset and landscape positioning.

10.3.24 The significance of effect has been assigned to effects relative to the heritage significance, its sensitivity to change and the magnitude of impact in accordance with best practice.

**Table 10.3: Significance of Effects**

| **MAGNITUDE** | **SENSITIVITY** | | | | |
|---|---|---|---|---|---|
| | **International** | **National** | **Regional/ County** | **Local** | **Negligible** |
| **Large** | Substantial/ Major | Major | Major/ Moderate | Minor | Negligible |
| **Moderate** | Major | Moderate | Moderate | Minor | Negligible |
| **Small** | Major | Minor | Minor | Negligible | Negligible |

| | | | | | |
|---|---|---|---|---|---|
| **Negligible** | Negligible | Negligible | Negligible | Negligible | Negligible |

10.3.25 Effects of moderate or above are considered significant in terms of the EIA Regulations 2017, unless otherwise stated. However, professional judgement is also used in considering the significance of effects.

10.3.26 The judgement of the significance of effects takes into consideration the impact on the heritage asset's heritage significance (as defined in Annex 2 of the NPPF). As part of this assessment, the impact on the contribution that the setting of a heritage asset makes to its significance is also considered. The nature of the contribution that the setting of an asset makes to its heritage significance varies from asset to asset (i.e. the setting of some assets has a greater contribution to the significance and vice versa). Consequently, where there are effects from a development on the setting of an asset that has only a limited contribution to the significance of that asset, the effect on the significance of the asset itself may be very limited or even potentially non-existent. Where a heritage asset has a setting that has a large contribution to the significance of that asset, effects on the significance of the asset itself will be greater.

**Uncertainties and limitations**

10.3.27 The assessments are based on data available from the Wiltshire Historic Environment Record (Wiltshire Council, February 2026), as well as the results of the geophysical survey and trial trenching carried out within the site (Archaeological Surveys 2021; **Appendix 10.2**; Avon Archaeology Ltd, 2026, **Appendix 10.3**).

10.3.28 The catalogues of the archives and libraries mentioned above have been checked for relevant material. As such, the research undertaken is considered sufficient for the assessment.

## 10.4 BASELINE CONDITIONS

### The current baseline

10.4.1 The archaeological desk-based assessment outlines the archaeological and historical background of the site (**Appendix 10.1**). The following provides a summary of the key points in relation to the current baseline. The locations of all heritage assets with the study area are presented in **Figure 10.2**.

### *Brief Historical Background*

10.4.2 The site is in an area considered to have potential for prehistoric and Roman archaeological remains due to the density of records for the study area, including the site, in the Wiltshire HER and the results of a geophysical survey of the site in 2021. The geophysical survey identified numerous archaeological anomalies across the study site, including rectilinear enclosures in the southern site, ring ditches in the northern part of the site, which are recorded by the Wiltshire HER (MWI78521; 78522), and a large D-shaped enclosure in the eastern part of the site joined by a rectilinear enclosure, which in turn contains a smaller D-shaped enclosure.

10.4.3 These features were targeted by the evaluation of the site in February and March 2026, which confirmed the accuracy of the geophysical survey in mapping the position and orientation of the archaeological features within the site.

10.4.4 Beyond the site boundary the WHER records prehistoric occupation evidence including a Mesolithic flint scatter at Showell Nurseries immediately north of the site (WHER ST97SW058). Various archaeological investigations have occurred at Showell Nurseries which recorded occupation evidence from the Neolithic to the Roman periods. The approach to archaeological investigation included geophysical survey and evaluation, which largely confirmed the results of the preceding geophysical survey.

10.4.5 Two prehistoric ring ditches, thought to be funerary or ritual monuments, and associated features (WHER MWI76688, MWI76691) were recorded c.30m north of the site.

10.4.6 Excavations at Showell Farm revealed the poorly-preserved remains of a round barrow and a possible henge. An archaeological evaluation on Land at Showell Farm (WHER EWI3573) in 1998 revealed two concentrations of prehistoric worked flint and a series of Romano-British ditches.

10.4.7 The National Archaeological Identification Survey (NAIS) recorded the presence of a Romano-British field system (WHER ST97SW302) in the north-eastern area of the site. These remains extend further west, outside the site, and were archaeologically investigated

in 1991 (WHER EWI6543) and 2015 (WHER EWI7873). The investigations revealed late Neolithic/early Bronze Age settlement evidence, the cremated remains of an adult (Bronze Age/Iron Age) and the field system was dated to the Iron Age/Roman periods. It was concluded that the majority of the archaeological remains appeared to be associated with stock/field enclosures of Iron Age/Roman date, perhaps separated by a series of drove ways.

10.4.8 The site lies in the agricultural hinterland between the medieval settlements of Rowden (c.800m north/north-east), Norton (c.800m south) and Lackham (c.900m south-east). Chippenham lies c.2.5km north-east of the site and was an established Saxon strategic and economic centre. The WHER recorded remains of medieval ridge and furrow cultivation in the west, south-east and north-east of the site (WHER MWI74015, WHER MWI74014 and WHER MWI784016).

10.4.9 The scheduled remains of Rowden Manor (NHLE1013876) are located c.750m north/north-east of the site.

10.4.10 Based on the results of a site walkover there is little or no intervisibility between the study site and this designated archaeological asset. Given the lack of intervisibility, it is clear that no harm to its significance would result from the proposed development. As such further assessment is not necessary.

10.4.11 Showell Farm (WHER MWI66147) is located immediately west of the site and dates to the 17th century. The farm complex comprises the grade II listed farmhouse (NHLE1022145), barn (NHLE1198151) and a granary (NHLE1363926) and a number of non-designated structures recorded on the WHER including a shelter shed (WHER MWI53876), which lies within the site.

10.4.12 Detailed historic mapping for the site dates from the mid-18th century, which records the site as enclosed agricultural land. Internal field boundary loss has occurred, and the layout of the site has been noticeably altered.

***Archaeology***

10.4.13 The desk-based assessment identified the following archaeological assets recorded on the Wiltshire Historic Environment Record (WHER) within the site:

- Possible Prehistoric ring-ditches (WHER MWI78521; 78522) in the central northern part of the study site;
- Medieval ridge and furrow south of Windsmeet Nursery (WHER MWI74015), in the western part of the site

- Medieval ridge and furrow north-west of Plucking Grove (WHER MWI74014), in the south-eastern part of the site
- Medieval ridge and furrow east of Windsmeet Nursery (WHER MWI784016), in the north-eastern part of the site and
- Romano-British field system, Showell Nurseries (WHER ST97SW302), in the north-eastern part of the site
- Romano-British linears and enclosures south-east of Showell Farm (WHER MWI77445) in the central and southern part of the site
- Roman ditches, enclosures and pits southeast of Showell Farm (WHER MWI78454; 78455), in the northeastern part of the study site;
- Roman ditches southeast of Showell Farm (WHER MWI78456), in the central eastern part of the study site;
- A shelter shed (WHER MWI53876), associated with the Showell Farm complex, and likely of post-medieval date, is located within the study site, adjacent to the western site boundary

10.4.14 Adjacent to the site the WHER records the following finds or features:

- Showell Farm (WHER MWI66147) is located to the west of the B4528 and dates to the 17th century. The farm complex comprises the grade II listed farmhouse (NHLE1022145), barn (NHLE1198151) and granary (NHLE1363926) and a number of non-designated+ structures recorded on the WHER including a shelter shed (WHER MWI53876), which lies within the site.
- Prehistoric ring ditches, which were interpreted as funerary/ritual features, and associated features (WHER MWI76688) and undated ditches (WHER MWI76691) north of the site.
- Romano-British field system Showell Nurseries (WHER MWIST97SW302) north of the site.
- Lower Lodge Farm (WHER MEWI66146), a partially extant 19th century farmstead, is located c.140m east of the study site's eastern boundary.

10.4.15 A geophysical survey comprising detailed magnetometry was carried out by Archaeological Surveys within the site in 2021 (**Appendix 10.2**). The results indicated the presence of archaeological features of suspected prehistoric and Roman date across the site, which were subsequently targeted by the archaeological evaluation of the site in February to March 2026. In general, the evaluation trenching found the results of the geophysical survey to be very accurate in mapping the position and orientation of archaeological features in the site. A summary of the evaluation results, based on the report (Avon Archaeology Ltd, 2026, **Appendix 10.3**).is below:

- Northwestern Area: The natural substrate in this area was variable, consisting of limestone brash in the east and transitioned to river terrace gravel in the west. In

the western extent of this area, these were overlain by a deposit of silty clay with manganese/mineralisation inclusions, into which the recorded archaeological features were cut. Geoarchaeological assessment may confirm whether this deposit was formed through alluvial/colluvial activity (this will follow as an addendum to the report in due course). Topsoil and subsoil were also observed in the upper site stratigraphy, of which the latter was observed to be both sealed and cut by archaeological features. The features sealed by the subsoil are considered of prehistoric or Romano-British date, while those cutting the subsoil date to the medieval, post medieval and modern periods. The geophysical survey showed only scattered anomalies within this area, primarily consisting of disjointed linear features and a small number of discrete features. The trenching recorded features in most of the trenches in this area.

- Central Northern Area: This part of the site was shown by the geophysical survey to be an area of dense archaeological anomalies, including two ring ditches, which are recorded by the Wiltshire HER and were concluded by the evaluation to be likely round house drip gullies. The underlying natural was consistent throughout the area, consisting of river terrace gravels. All trenches were sealed by a layer of topsoil and turf. A 'light touch' was agreed with the LPA archaeologist, with a view to obtaining dating evidence at a later date. All deposits and features were recorded and postholes were not excavated. All trenches in this area were found to contain archaeological features of prehistoric and Roman date, with the features in one particular trench (trench 32) of likely post medieval to modern date.

- Southern Area: the natural geology in the southern part of the site was observed as similar to the northwestern part, comprising river terrace gravels and an overlying clay silt deposit, into which archaeological features in this area were observed to be cut. Linear anomalies were identified in this area by the geophysical survey, which have been interpreted as probable enclosure ditches and a potential ring ditch/drip gulley. A number of trenches in this area were archaeologically blank.

- Eastern Area: Archaeological features in this area of the site were observed to be cut into a clay silt layer and sealed by subsoil. A number of anomalies were identified in this area by geophysical survey, most notably a large enclosure, which appears roughly D-shaped at its southern end and sub-rectangular at the north. A sub-ovoid inner enclosure was identified within the northern portion of the enclosure by geophysical survey. Middle Bronze Age pottery was retrieved from the fill of the upper part of the enclosure ditch. An area of in-situ burning was observed inside the enclosure, where geophysical survey had detected a positive discrete anomaly. From the burning deposit, a flint bladelet and blade were recovered which are of likely Mesolithic to Early Neolithic date. Linear anomalies detected by the geophysics

within the area inside the large enclosure were also targeted by trenches in this area, from which several fragments of Mesolithic to Early Neolithic flint were recorded, although these are likely to have been re-deposited. A number of trenches in this area were not found to contain archaeological features.

10.4.16 Overall, the earliest activity on the site, as indicated by the evaluation trenching is during the Later Mesolithic and Early Neolithic, by the presence of flint artefacts, which are likely to be residual rather than *in situ*. Part of a Later Bronze Age/Early Iron Age settlement is considered to be present in the northern part of the site, where at least two probable round houses are located. These are recorded as prehistoric ring ditches by the WHER (MWI78521; 78522). Large enclosure ditches to the southeast of this area appear to date to the Middle Bronze Age (Avon Archaeology Ltd, 2026).

10.4.17 In the western part of the evaluation area, ditches relating to Romano-British field systems in the site were recorded. It appears to be a more formal field system and is orientated northeast to southwest and northwest to southeast (Avon Archaeology Ltd, 2026).

***Past Impacts & summary of identified/potential archaeological assets and statement of significance***

10.4.18 The geophysical survey and archaeological evaluation of the site (**Appendices 10.2 and 10.3**) identified a number of anomalies of potential archaeological origin. The geophysical survey results indicate the utilisation of the site in the prehistoric and Roman periods, with potential funerary/ritual evidence as well as evidence for the agricultural use of the site later during the post medieval and modern periods.

10.4.19 The archaeological anomalies identified through the geophysical survey were investigated further through a programme of archaeological evaluation across the site between February and March 2026. Features of prehistoric and Roman date were identified during the trenching in the northern and eastern parts of the study site, as indicated by dateable material such as pottery and flint fragments. Ridge and furrow and possible former field boundaries of probable post medieval date were also identified during the evaluation trenching.

10.4.20 It is considered that the archaeological remains have evidential value in relation to the development of the agricultural landscape in the area and would be considered of local to regional significance.

**The projected future baseline**

10.4.21 The assessment is based on desk-based assessment and the results of a geophysical survey and programme of evaluation trenching within the site. Archaeological evaluation of the site

was found to conform with the anomalies detected through geophysical survey, demonstrating its accuracy in recording the location and orientation of archaeological features within the site.

10.4.22 Changes to the baseline may result from the designation (scheduling) of heritage assets within the study area or the discovery of new assets within or adjacent to the site during intrusive archaeological investigations.

10.4.23 Without implementation of the proposed mitigation measures outlined in para 10.6, the baseline will remain unchanged.

## 10.5 POTENTIAL EFFECTS

### Construction stage

10.5.1 Pre-determination geophysical survey and evaluation trenching have shown that there are archaeological remains considered to be of local to regional significance, present within the site. The locations of the Proposed Development parcels within the site coincide with the known archaeological features within the site. The construction of the proposed development will result in the removal of both known and previously unrecorded below ground archaeological remains within the site, as well as the loss of the research potential and significance of archaeological deposits. This will result in a major overall magnitude of impact and a moderate to minor significance of effect.

### Post-completion stage

10.5.2 Effects on potential archaeological remains will be limited to the ground works during the construction phase and therefore no effects will occur from the completed development.

## 10.6 MITIGATION MEASURES

### Construction stage

10.6.1 Geophysical survey and archaeological evaluation have shown that there are prehistoric and Roman archaeological remains present in various areas across the site. Further mitigation excavation will be required prior to construction due to the known presence of archaeological remains within the site and potential for further unknown archaeological remains to be present. The required mitigation works will take place in line with a scope agreed with Wiltshire Council's archaeology advisor and secured by an appropriately worded condition attached to planning consent.

### Post-completion stage

10.6.2 No mitigation measures are required for below ground archaeological deposits as part of the post-completion stage of the development.

## 10.7 RESIDUAL EFFECTS

### Construction stage

10.7.1 The programme of archaeological mitigation will preserve archaeological deposits by record, from which the resulting research will contribute to the increased knowledge and understanding of the prehistoric, Roman and post medieval landscape within the site, with the potential to contribute to regional research objectives. Whilst the proposed development will result in the removal of areas of archaeological interest, the archaeological mitigation will result in the preservation of the archaeological deposits by record.

10.7.2 Although a programme of archaeological mitigation will be undertaken to increase knowledge and understanding of archaeological remains in the site, the residual effects would remain unchanged, leading to a minor to moderate adverse significance of effect upon archaeological deposits.

### Post-completion stage

10.7.3 Effects upon below ground archaeological deposits will have occurred during the construction stage and no further effects are anticipated once the proposed development is completed and operational.

### Summary of effects

10.7.4 The effects identified are summarised in **Table 10.4** below:

**Table 10.4: Summary of effects**

| Potential effect | Significance (pre-mitigation) | Mitigation measure | Significance of residual effect |
|---|---|---|---|
| **Construction stage** | | | |
| Complete or partial removal of non-designated archaeological remains within the site (known and unknown) | **Moderate to Major** | Programme of archaeological recording in the form of mitigation excavation, secured as a condition of planning consent to preserve archaeological deposits by record | **Minor to Moderate** |
| **Post-completion stage** | **None** | None | **None** |

## 10.8 CUMULATIVE EFFECTS

10.8.1 The cumulative effects on heritage assets during either the construction or completed development stage are predicted to be negligible. Any as yet unrecorded archaeological remains within the site will only be affected by the proposed development.

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**APPENDICES**

Appendix 11.1 Flood Risk Assessment

## 11.1 INTRODUCTION

11.1.1 This Chapter of the Environmental Statement ('ES') has been prepared by Brookbanks on behalf of the applicant, Hallam Land Management Ltd (HLM). It assesses the Site described in Chapter 2 in relation to hydrology and hydrogeology.

11.1.2 The baseline situation is considered before the likely environmental effects of the Site are identified during its construction and operational phases. Mitigation measures to reduce any negative environmental effects are identified as appropriate before the residual environmental effects are assessed.

11.1.3 This Chapter is supported by the following technical appendices provided at Volume 2 to this ES: -

- Appendix 11.1: 10741 FRA

**Competency**

11.1.4 This chapter has been undertaken by Katherine Miller BSc (Hons) MSc. I have worked at Brookbanks for 5 years as a Project Consultant specialising in Flood Risk and Drainage producing over 150 Flood Risk Assessments and over 40 EIA Chapters.

## 11.2 RELEVANT POLICY

11.2.1 This section sets out legislation, national and local policy and guidance of relevance to the technical assessment in this Chapter.

### National Planning Policy Framework (NPPF)

11.2.2 The NPPF, December 2024 (with an alteration in February 2025), sets out Governmental Policy on a range of matters, including Development and Flood Risk.

11.2.3 The NPPF advocates the steering of development away from areas at high risk of flooding. However, the document acknowledges that development is necessary and that a key aim should be to ensure that flood risk is not increased elsewhere.

11.2.4 The NPPF requires that developments covering an area of greater than one hectare prepare a Flood Risk Assessment (FRA). The FRA is required to be proportionate to the risk and appropriate to the scale, nature and location of the development.

### Planning Practice Guidance (PPG, 2025)

11.2.5 Detailed guidance on flood risk has been provided in the Government's Planning Practice Guidance. This guidance reiterates that allocation and planning of development must be considered against a risk-based search sequence. In terms of fluvial flooding, the guidance categorises flood zones into four principal levels of risk, as follows:

**Table 11.1 PPG Flood Risk Parameters**

| Flood Zone | Annual Probability of Flooding | Definition |
|---|---|---|
| Zone 1:<br>Low probability | < 0.1 % | Land having a less than 1 in 1,000 annual probability of river or sea flooding.<br>(Shown as 'clear' on the Flood Map – all land outside Flood Zones 2 and 3) |
| Zone 2:<br>Medium probability | 0.1 – 1.0 % | Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or Land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.<br>(Land shown in light blue on the Flood Map) |

| | | |
|---|---|---|
| Zone 3a:<br>High probability | > 1.0 % | Land having a 1 in 100 or greater annual probability of river flooding; or<br>Land having a 1 in 200 or greater annual probability of sea flooding.<br>(Land shown in dark blue on the Flood Map) |
| Zone 3b:<br>Functional Floodplain | > 1.0 % | This zone comprises land where water has to flow or be stored in times of flood.<br>Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. |

11.2.6 The guidance sets out categories of flood risk vulnerability, using the classifications: essential infrastructure, highly vulnerable, more vulnerable, less vulnerable and water compatible. According to this scale, residential and education development would fall within the 'more vulnerable' category, while buildings used for shops or non-residential institutions would be considered 'less vulnerable' and amenity open space, space for nature conservation, outdoor sports and recreation areas would fall into the 'water compatible' category.

11.2.7 According to the guidance, development within the 'more vulnerable' category should be located outside Flood Zone 3b and Flood Zone 3a, unless on application of the 'Sequential Test', the site is demonstrated to be the most appropriate for the Site and satisfactory flood mitigation can be provided. Additionally, 'more vulnerable' development proposed within Flood Zone 3a is required to pass the 'Exception Test'.

11.2.8 The development provides wider sustainability benefits to the community that outweigh the flood risk; and

11.2.9 The development will be safe, not increase flood risk and where possible reduce flood risk overall.

11.2.10 Development in the 'less vulnerable' category should be directed towards Flood Zones 1, 2 or 3a, while water compatible development may be appropriate in any flood zone.

**Adopted Local Plan**

11.2.11 The Wiltshire Core Strategy Development Plan Document ('the plan) was adopted on 20th January 2015. The following policies, quoting only relevant aspects, relate directly to flood risk and drainage.

***Core Policy 67 Flood Risk***

*Development proposed in Flood Zon es 2 and 3 as identified within the Strategic Flood Risk Assessment will need to refer to the Strategic Housing Land Availability Assessment when providing evidence to the local planning authority in order to apply the sequential test in line with the requirements of national policy and established best practice.*

*All new development will include measures to reduce the rate of rainwater run-off and improve rainwater infiltration to soil and ground (sustainable urban drainage) unless site or environmental conditions make these measures unsuitable.*

***Core Policy 68 Water Resources***

*Development must not prejudice the delivery of the actions and targets of the relevant River Basin or Catchment Management Plan and should contribute towards their delivery where possible.*

*Non-residential development will be required to incorporate water efficiency measures. Developers will be expected to submit details of how water efficiency has been taken into account during the design of proposals.*

*Development proposals within a Source Protection Zone, Safeguard Zone or Water Protection Zone must assess any risk to groundwater resources and groundwater quality and demonstrate that these would be protected throughout the construction and operational phases of development.*

***Core Policy 69 Protection of the River Avon SAC***

*In order to avoid and reduce potential environmental effects on the River Avon SAC, development will need to incorporate measures during construction and operation to avoid and prevent pollution and mitigate potential disturbance effects; appropriate measures may include consideration of suitable buffer zones along watercourses, habitat enhancements and river access management measures.*

*All development within 20m of the riverbanks should submit a construction management plan to the local planning authority to ensure measures proposed during construction are satisfactory.*

*Where additional sewage discharges to a STW cannot be accommodated without measures to offset phosphate loading, development will be required to undertake proportionate measures (which may include contributions towards those measures identified in the Nutrient Management Plan) to demonstrate that the proposals would have no adverse effects upon the SAC.*

**Water Framework Directive**

11.2.12 To improve the quality of water bodies, European legislation known as the Water Framework Directive (WFD) has been introduced to promote a new approach to water management through river basin planning. One aim of the Water Framework Directive is to improve the ecological health of inland and coastal waters and to prevent further deterioration. A

requirement has been placed on nearly all inland and coastal waters to achieve 'Good Status' by 2015.

11.2.13 The stretch of the Bristol Avon from the confluence with the River Marden to the confluence with Semington Brook, which bounds the east of the Site has the following classifications:

- Moderate ecological status (2022 assessment)
- Fail chemical status (2019, did not have an assessment in 2022)

11.2.14 A WFD compliance assessment be completed to ensure that there will be no significant adverse hydrological or morphological effects on the River Avon and, accordingly, would not cause deterioration in the status of any Water Framework Directive (WFD) water body, including the River Avon, either during construction or operation.

**Any other relevant policy, legislation or guidance**

11.2.15 In addition to the legislation and policy identified above, the following documents provide relevant guidance on measures to control effects on hydrology and flood risk and have been considered in this assessment:

- CIRIA (2004) Sustainable Urban Drainage Systems - Hydraulic, Structural and Water Quality Advice: C609.
- CIRIA (2015) The SuDS Manual: C753.
- CIRIA (2010) Planning for SuDS Making it Happen: C687.
- CIRIA (2014) Site Handbook for the Construction of SuDS: C698.
- CIRIA (2017) Guidance on the Construction of SuDS: C768.
- Environment Agency Pollution Prevention Guidance: PPG1 Understanding Your Environmental Responsibilities – Good Environmental Practices (Environment Agency et al. 2013).
- Environment Agency Pollution Prevention Guidance: PPG3 Pollution Prevention Guidelines: Use and Design of Oil Separators in Surface Water Drainage Systems (Environment Agency et al. 2006).
- Environment Agency Pollution Prevention Guidance: PPG 5 Works and Maintenance in or Near Water (Environment Agency et al. 2007).
- Environment Agency Pollution Prevention Guidance: PPG6 Working at Construction and Demolition Sites (Environment Agency et al. 2012).
- Environment Agency Pollution Prevention Guidance: PPG21 Pollution Incident Response Planning (Environment Agency et al. 2009); and
- Water UK (2021) Design and Construction Guidance for Foul and Surface Water

11.2.16 Whilst now archived, in the absence of alternative 'good practice' guidance, it is recognised that the Environment Agency Pollution Prevention Guidance (PPG) notes still provide up to date and appropriate guidance for assessing contamination from the Site.

## 11.3 ASSESSMENT METHODOLOGY

### Scope

11.3.1 Baseline conditions at the site relating to hydrology, hydrogeology, flood risk and drainage have been established using both published information and detailed site investigations.

11.3.2 The scope of potentially significant effects included within the assessment is identified below:

- Impact on the floodplain on the proposal in terms of the location of built development.
- The potential for flood compensation measures if any infrastructure or water related
- development is constructed.
- A surface water drainage strategy to minimise impacts on the watercourses and
- hydrology in the area; and
- Potential for contamination of nearby watercourses during the construction work.

### Data sources

11.3.3 As part of the assessment process, the following statutory bodies and interested parties have been consulted regarding the proposals:

- British Geological Society (BGS) Published geology mapping (2023)
- Environment Agency - storm and foul drainage requirements and policies (2023).
- Wessex Water - asset location and foul water capacity (2023); and
- North Wiltshire Council - storm drainage requirements and policies (2023).

### Assessment approach

11.3.4 Methods of assessment have been employed that are consistent with current guidance and recommendations in the form statutory documents, such as the NPPF, PPG and recognised publications. By reviewing receptors against these policies and advice this will ensure that the final assessment provided for the Site is as robust and accurate as possible.

### Significance criteria

11.3.5 The significance of effects will be assessed by considering the sensitivity of receptors (i.e., their importance and ability to tolerate and recover from change) and the likely magnitude

of the impact. By combining sensitivity and magnitude, the significance of the effect is established.

11.3.6 The tables below outline the criteria for determining the magnitude and significance of the identified impacts.

**Table 11.2: Magnitude of Impacts**

| | Large | Moderate | Small | Negligible |
|---|---|---|---|---|
| Loss of attribute | X | | | |
| Losses on integrity or partial loss of attribute | | X | | |
| Minor impact / minor loss of attribute | | | X | |
| Insignificant loss of attribute that does not affect use or integrity | | | | X |

**Table 11.3: Sensitivity of Receptors**

| | High | Medium | Low | Negligible |
|---|---|---|---|---|
| Water body of very good chemical or biological quality. | X | | | |
| Water dependent SSSI, SPA/SAC, Ramsar sites or highly sensitive aquatic ecosystem. Protected areas including designated bathing waters, shellfish and salmonid fisheries. | X | | | |
| A source used for public or local potable water supply. | X | | | |
| Water body of high amenity value, including areas of bathing and where water immersion sports are regularly practised. | X | | | |
| Areas which are 'highly vulnerable' to flooding as defined in the Planning Practice Guidance (Ref: 7-066-20140306). | X | | | |
| Essential Infrastructure' as defined in the Planning Practice Guidance (Reference ID: 7-066-20140306). | X | | | |
| Water body of good or fairly good chemical and biological quality and/or non-public water supply. | | X | | |
| Water body of nature conservation importance at the regional level or a | | X | | |

| | | | | |
|---|---|---|---|---|
| moderately sensitive aquatic ecosystem. | | | | |
| Water body of a moderate amenity value including public parks, boating, non-contact water sports, popular footpaths adjacent to watercourses, or watercourses running through housing developments/town centres. | | X | | |
| Receptors which are considered 'more vulnerable' to flooding, as defined in the Planning Practice Guidance. | | X | | |
| Water body of poor or fair chemical or biological quality. | | | X | |
| Areas which are 'less vulnerable' to flooding or 'water compatible', as defined in the Planning Practice Guidance. | | | X | |
| Receptors which are considered to be 'water compatible', as defined in the Planning Practice Guidance. | | | | X |
| Receptors which are outside of the Site catchment. | | | | X |
| Water body of no or only local social interest. | | | | X |
| Water body of low amenity value with only casual access. | | | | X |

**Table 11.4: Significance of Effects**

| **MAGNITUDE** | **SENSITIVITY** | | | |
|---|---|---|---|---|
| | **High** | **Medium** | **Low** | **Negligible** |
| **Large** | Major | Major | Moderate | Minor |
| **Moderate** | Major | Moderate | Minor | Negligible |
| **Small** | Moderate | Minor | Minor | Negligible |
| **Negligible** | Minor | Negligible | Negligible | Negligible |

**Table 11.5: Definition of Significance of Environmental Impacts**

| **Significance of** | **Definition** |
|---|---|
| Major | An effect which in isolation could have a material influence on the decision-making process. |
| Moderate | An effect which on its own could have moderate influence on decision making, particularly when combined with other similar effects. |
| Minor | An effect which on its own is likely to have a minor influence on decision making, but when combined with other effects could have a more material influence. |
| Negligible | An effect which on its own or in combination with other effects will not have an influence on decision making. |

11.3.7 EIA considers significant effects to be a major or moderate environmental impact and/or a high sensitivity of receptor.

**Uncertainties and limitations**

11.3.8 Third party information has been used in the preparation of this report, which Brookbanks, by necessity assumes is correct at the time of writing. While all reasonable checks have been made on data sources and the accuracy of data, Brookbanks accepts no liability for same.

## 11.4 BASELINE CONDITIONS

### The current baseline

11.4.1 The following paragraphs are based upon the findings of the FRA contained at Appendix 11.1.

#### *Geology*

11.4.2 With reference to the British Geological Survey (BGS) mapping, the Site is shown to be underlain by limestone bedrock geology belonging to the Cornbrash Formation in the western third of the Site and sandstone, siltstone and mudstone in the eastern two thirds belonging to the Kellaways Formation.

11.4.3 There are superficial deposits of alluvium (clay, silt, sand and gravel) adjacent to the River Avon and river terrace deposits (sand and gravel) in the north and east.

#### *Hydrogeology*

11.4.4 Groundwater vulnerability for the Site is shown to be situated within an unproductive to medium-low risk, with only part of the western area being medium to high risk.

11.4.5 The west of the Site is shown to be situated within a Zone II (Outer Protection Zone) Source Protection Zone being either 25% of the source area or a 400-day travel time, whichever is greater. In addition, the west of the Site is also shown to be situated within a Zone III (Total Catchment), being the total area needed to support the discharge from the protected groundwater source.

#### *Watercourses*

11.4.6 The Site is currently undeveloped agricultural land, which lies within the catchment of the River Avon, which forms the eastern boundary of the Site.

11.4.7 Neither the land drainage ditch that runs through the site or the section of the River Avon that runs alongside the site are designated ecological sites, such as Sites of Special Scientific Interest (SSSIs) or Special Areas of Conservation (SACs). The nearest designated site is the Kellaways – West Tytherton, River Avon SSSI, located approximately 4.4km north of the Site.

11.4.8 The River Avon has a WFD status of 'Moderate'.

***Topography***

11.4.9 A topographical survey of the Site was undertaken by Greenhatch Group in February 2023. A review of the levels across the Site indicates a moderate fall west to east, with a high point of circa 51.23m above ordnance survey (AOD) in the south west corner of the Site and a low of circa 40.03m AOD along the north eastern boundary of the Site.

***Fluvial and Pluvial Flood Risk***

11.4.10 The Environment Agency's (EA) National Generalised Modelling (NGM) Flood Zones Plan (EA Flood Map for Planning, 2022) indicates predicted flood envelopes of Main Rivers across the UK.

11.4.11 The west of the Site lies within Flood Zone 1; being an area of Low Probability of flooding and outside both the 1 in 100 (1% AEP) and 1 in 1,000 (0.1% AEP) year flood events. The east of the Site lies within flood zone 2 and 3.

11.4.12 The Site lies within an area that has a very low to high risk of flooding from surface water. The areas identified as high risk are located within depressions across the Site and on land adjacent to the River Avon where surface water flows into.

11.4.13 The FRA concludes that the Site is suitable for development from a flood risk viewpoint in terms of satisfying the requirements within the NPPF and PPG. Its allocation for the strategic mixed use community proposal is testament to its suitability for development in planning and drainage terms.

***Groundwater Flood Risk***

11.4.14 Review of the Wiltshire Level 1 and Level 2 Strategic Flood Risk Assessments (SFRA) indicates that parts of the wider POL7 allocation, particularly towards the west of the Site, may experience shallow groundwater levels during extreme events, with groundwater predicted to be at or within 0.025m of the ground surface during a 1% AEP event. Site-specific groundwater monitoring undertaken between December 2023 and May 2024 across 10 boreholes recorded shallow groundwater conditions in places. Although groundwater did not emerge at the surface during the monitoring period and generally remained below existing ground levels. The monitoring results are broadly consistent with the wider SFRA groundwater emergence mapping and reflect the influence of local topography and superficial Principal A Aquifer deposits.

11.4.15 With the appropriate mitigation measures in place, the residual risk associated with groundwater flooding can be appropriately managed, ensuring the development remains safe and resilient throughout its lifetime without increasing flood risk elsewhere.

**Groundwater Vulnerability**

11.4.16 The Environment Agency's Groundwater Vulnerability Zones Map (GVZ) includes five risk categories (High, Medium – High, Medium, Medium – Low and Low).

11.4.17 The map summarises the overall risk to groundwater, considering groundwater vulnerability, the types of aquifer present (superficial and/or bedrock) and their designation status. Most of the Site is within a low or medium-low in terms of GVZ; however, there are areas of unproductive, medium and high risk. The EA (data.gov.uk, 2020) provides the following definition for the underlying GVZ in relation to the Site:

***High -*** *"These are high priority groundwater resources that have very limited natural protection. This results in a high overall pollution risk to groundwater from surface activities. Operations or activities in these areas are likely to require additional measures over and above good practice pollution prevention requirements to ensure that groundwater is not impacted.*

***Medium-high -*** *These are high priority groundwater resources that have limited natural protection. This results in a medium-high overall pollution risk to groundwater from surface activities. Activities in these areas may require additional measures over and above good practice to ensure they do not cause groundwater pollution.*

***Medium -*** *these are medium priority groundwater resources that have some natural protection resulting in a moderate overall groundwater risk. Activities in these areas should as a minimum follow good practice to ensure they do not cause groundwater pollution.*

***Medium-low -*** *these are lower priority groundwater resources that have some natural protection resulting in a moderate to low overall groundwater pollution risk. Activities in these areas should follow good practice to ensure they do not cause groundwater pollution.*

***Low -*** *these are low priority groundwater resources that have a high degree of natural protection. This reduces their overall risk of pollution from surface activities. However, activities in these areas may be a risk to surface water due to increased run-off from lower permeability soils and near-surface deposits. Activities in these areas should be adequately managed.*

11.4.18 The west of the Site is shown to be situated within a Zone II (Outer Protection Zone) Source Protection Zone being either 25% of the source area or a 400 day travel time, whichever is greater.

***Surface Water Drainage***

11.4.19 Surface water from the site currently discharges either directly into the River Avon or via an on-site drainage channel that runs along the northern boundary of the site and continues through the Site and into the River Avon which forms the eastern boundary of the Site.

11.4.20 The quality of the runoff from the site will currently be affected by the agricultural use of the land with artificially high nutrient levels.

***Foul Water Drainage***

11.4.21 The Site is currently not served by foul drainage services given the agricultural use of the land.

11.4.22 There is no existing foul drainage network that is operational across the Site.

11.4.23 Under regulations from Ofwat (The Water Services Regulation Authority), it is an obligation for the incumbent foul water company (Wessex Water) to accommodate the foul drainage from the Site, whilst ensuring nil detriment to the existing foul drainage network and customers.

**The Projected Future Baseline**

11.4.24 Should the Site not proceed it is assumed that the Site will continue to be farmed in similar way to how it currently operates and that the various features and habitats within the Site will remain and will be managed appropriately.

11.4.25 Pluvial flood risk across the Site will increase by 45%, and fluvial flood risk will increase in accordance with the current Environment Agency's climate change allowances guidance (updated 2022).

- 27% climate change for peak river flows from 2020's,
- 38% climate change for peak river flows from 2050's.
- 71% climate change for peak river flows from 2080's.

11.4.26 As the east of the Site lies within flood zones 2 and 3 the Site will be impacted by the increase of climate change.

11.4.27 It is anticipated that none of the receptors identified in Table 11-3 will be any more or less sensitive to the potential change in future baseline conditions should the Site not be delivered.

## 11.5 POTENTIAL EFFECTS

11.5.1 The assessment of potential effect is outlined below.

**Construction stage**

***Potential Contamination of Ground and Surface Water***

11.5.2 Direct and indirect contamination of surface water within the ditches and ponds may occur due to the mobilisation of existing contamination and spillage of oils/fuels etc from construction plant.

11.5.3 Disturbance of the ground during construction phase has the potential to contaminate ground and surface waters due to discharge of solids into water or by the short-term mobilisation of any background contaminants within the soil matrix.

11.5.4 The discharge of suspended solids to watercourses and ground waters will be avoided by prohibiting any temporary construction discharge without the prior approval of the Environment Agency. Discharges of waters resulting from construction activities will generally be directed to foul sewers, subject to approval of the drainage authority, however, the final temporary discharge will be outlined within the CEMP.

11.5.5 The Site topography is such that limited, if any, earthworks will be required to provide gravity surface water drainage and/or development platforms.

11.5.6 Other potential effects relate to the contractor's working practices. For example, there is the potential for fuel oil spillage from stored materials supplying Site plant if plant and vehicles are not stored and maintained appropriately to protect the surface and ground water quality environment.

11.5.7 It is assessed that the proposals could result in short term negative (Moderate adverse) environmental effects if none of the above potential issues are managed and mitigated.

***Flooding and Changes to Baseline Drainage Hydrology***

11.5.8 Direct and indirect flooding and changes to baseline drainage hydrology may occur due to the disturbance of the ground during construction works.

11.5.9 Flooding and changes to the baseline hydrology can occur due to various construction activities, such as temporary diversion of watercourse, infilling of land altering preferential drainage flow paths and flood routes, and dewatering of excavations.

11.5.10 To prevent localised flooding associated with extreme rainfall events during the construction phase, a temporary localised run-off management system will be employed by the contractor. This will comprise temporary surface water run-off facilities such as storage tanks, ditches or ponds and provide on-site attenuation for surface water flows and thereby reducing flood risk.

11.5.11 The contractor will not be permitted to temporarily store materials or introduce 'borrow pits or the like in areas that may affect drainage flow paths.

11.5.12 Any proposed dewatering will be designed to have no material impact on potential receptors such as local watercourse and points of ground water abstraction. Where necessary, the contract will be required to implement ground water recharge as mitigation.

11.5.13 Implementation of appropriate working practices will ensure that no flooding or hydrological environmental effects result from the construction activities.

11.5.14 Such effects can have potentially moderate adverse consequences if not managed and planned properly i.e., unmitigated. The required site-specific mitigation measures will be outlined within the CEMP which will be secured via a planning condition.

11.5.15 Filling of the land, where necessary, will be by way of 'cut and fill' earthworks and imported inert material to trim building levels and highway infrastructure to provide gravity drainage across the land. These works will be completed in a manner that protects the water quality environment and ecological interest of the watercourse. The nature of the works and the proposed implementation methods will be agreed with the Environment Agency in advance, and all works will accord with the recommendations of EA Pollution Prevention Guidance for Works in, Near or Liable to Affect Watercourses.

11.5.16 It is assessed that the proposals could result in short term negative (Moderate adverse) environmental effects if none of the above potential issues are managed and mitigated.

**Post-completion stage**

***On and Off-Site Flooding***

11.5.17 Direct and indirect flooding of surrounding watercourses, the wider catchment area, adjacent land, and property to the Site may occur due to increases in surface water runoff from positively drained hard areas.

11.5.18 Hydrological effects in terms of flooding arise from changes in the catchment drainage characteristics. Urbanisation of a catchment can increase peak storm water discharge from

an area due to the accelerated run-off and reduced times of concentration of the storms associated with hard paved areas, with resulting increase in flood risk.

11.5.19 The Site could potentially create or exacerbate off-Site flooding risks to downstream areas and have major effects on the off-site areas or land-uses.

11.5.20 It is assessed that the proposals could result in long term negative (Moderate adverse) environmental effects if none of the above potential issues are managed and mitigated.

***Contamination of Surface Waters from On-Site Activities***

11.5.21 Direct contamination or deterioration of surface water quality can occur in the operational stages of the Site due to leakages of fuel oils, general spillages, and other contaminants from within the Site and the associated collection of surface water drainage from hardstanding areas.

11.5.22 The prime water receptor at risk of pollution is the River Avon.

11.5.23 Surface water run-off from operational development Sites routinely contains a series of contaminants, including petrochemical compounds, heavy metals and suspended solids, being predominant in car parks. In residential development the small volumes of fuel oils washed from cars represents a far lower pollution risk to surface or ground water quality. The direct discharge of development drainage to adjacent watercourses can potentially lead to a degradation of water quality with associated ecological effects.

11.5.24 Such effects can have potentially moderate adverse consequences if not managed and planned properly i.e., unmitigated.

***Contamination of Surface Water from foul sewer surcharging***

11.5.25 The below ground drainage system will be adopted and maintained by the drainage authority, Wessex Water. Maintenance will ensure that the storm water management system remains functional for the lifetime of the Site and protect the catchment from increased flood risk. Accordingly, it is assessed as having a negligible effect.

***Foul Drainage***

11.5.26 When assessing potential effects of the foul drainage, it is important that the proposed system is designed to convey foul waters safely from the site to a suitable treatment facility, without overloading the existing sewerage systems. Furthermore, it is also important that the treatment facility is designed to accommodate the load from the Site and that this

achieves a discharge quality that does not impact on water quality standards in the receiving watercourse.

11.5.27 In the baseline condition, the site does not benefit from a connection to the foul sewerage network. However, the Building Regulations and Water Industry Act states that the first presumption when considering new development is to provide positive drainage from that development in conjunction with the local sewerage undertaker.

11.5.28 The implementation of an adoptable foul drainage network within the site coupled with the potential upgrading to the existing infrastructure network surrounding the site will ensure that the scheme mitigates the likely effects on foul drainage. Accordingly, it is assessed as having a negligible effect.

## 11.6 MITIGATION MEASURES

### Construction stage

#### *Potential Contamination of Surface Water*

11.6.1 The principal contractor appointed to manage and control all construction activities, including management of water resources and the storage of fuel and chemicals will put a Construction Environmental Management Plan (CEMP) for the site in place. The CEMP will detail the procedures and methods that must be followed to minimise the potential environmental effects of construction activities at the site.

11.6.2 The CEMP will describe the procedure if there is an environmental emergency, such as a fuel or chemical spillage on the site. All contractors and personnel will be briefed on this procedure before construction work commences.

11.6.3 The CEMP would stipulate:

- All construction works would be designed in accordance with the latest relevant EA guidelines and the ADAS Technical Note on Workmanship and Materials for Drainage Schemes (1995).
- Method statements would be agreed with the EA to ensure compliance with PPG prior to the commencement of construction works to ensure that surface run-off quality is managed during the construction process.
- Contractors undertaking earthworks would develop risk assessments and method statements covering all aspects of their work that have the potential to cause physical damage to structures (e.g., water supply and sewerage infrastructure), mobilise large quantities soil/sediments or block open watercourses. Earth moving operations would be undertaken in accordance with BS 6031: 2009 Code of Practice for Earthworks.
- Works affecting soils would follow MAFF's Good Practice Guide for Handling Soils (2000) which provides comprehensive advice on soil handling, including stripping, soil stockpiling and reinstatement.
- Works would comply with DEFRA guidance in the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (2009) which provides guidance on the use, management, and movement of soil on site. This action should prevent the mobilisation of sediment and prevent pollution of watercourses.
- Good practice guidance on erosion and pollution control would be followed, e.g., CIRIA Environmental Good Practice on Site (C650) and Control of Water Pollution from Construction Sites (C532).
- The principal contractor would avoid the storage of plant, machinery fuel or materials (including soil stockpiles) alongside watercourses unless unavoidable.

Construction works should be programmed as far as is practicable to minimise soil handling and temporary soil storage.

- The refuelling of plant, storage of fuels and chemicals and overnight storage of mobile plant would be within the designated contractors compound areas. The compounds would contain appropriate facilities for the storage of fuels and chemicals i.e., bunded and locked storage containers and would also be equipped with spill kits.

11.6.4 Therefore, there is likely to be a negligible effect on the site following implementation of mitigation measures.

***Flooding and Changes to Baseline Drainage Hydrology***

11.6.5 To prevent localised flooding associated with extreme rainfall events during the construction phase, a temporary localised run-off management system will be employed by the contractor.

11.6.6 Implementation of appropriate working practices will ensure that no flooding or hydrological environmental effects result from the construction activities.

11.6.7 Filling of the land, where necessary, will be by way of 'cut and fill' earthworks and imported inert material to trim building levels and highway infrastructure to provide gravity drainage across the land. These works will be completed in a manner that protects the water quality environment and ecological interest of the watercourse. The nature of the works and the proposed implementation methods will be agreed with the Environment Agency in advance, and all works will accord with the recommendations of EA Pollution Prevention Guidance for Works in, Near or Liable to Affect Watercourses.

11.6.8 Therefore, there is likely to be a negligible effect on the site following implementation of mitigation measures.

**Post-completion stage**

***Alteration of the Drainage Regime (On and Off-Site Flooding)***

11.6.9 To mitigate against the potential impact of development on the baseline hydrological characteristics, it is important that the site drainage provision is designed to reflect the pre-development conditions as closely as possible. Both the maximum rate of run-off and the total direct discharge to adjacent watercourses needs to be controlled if the potential impact of the site is to be minimised. This is addressed within the FRA.

11.6.10 The Site has been designed to avoid significant hydrological effects resulting from changes in the catchment drainage characteristics and provides for site run off controlled to the

baseline rate assessed using the IoH124 methodology. By introducing SuDS, the design takes account of the potential accelerated run-off and reduced times of concentration associated with hard paved areas to avoid increasing peak storm water discharge and consequential flood risk.

11.6.11 The FRA calculates the green field run off rates post development and shows the proposed sustainable drainage system to ensure these rates are not exceeded.

11.6.12 The FRA outlines a proposed storm water management system providing SuDS management, incorporating source control and infiltration systems, where viable. The network will convey and attenuate storm water discharges from the Site to the points of discharge along the onsite watercourse.

11.6.13 One of the key principles of SuDS is that the management of flows should be as close as reasonably practicable to the baseline conditions and their location as close as possible to the source.

11.6.14 The outline SuDS scheme has had regard to sustainable methods that are readily accepted for adoption by the relevant authorities in discharging their maintenance responsibilities. The SuDS system will be maintained by way of an appropriate management scheme operated by the Local Authority or private management company. The below ground drainage system will be adopted and maintained by the drainage authority. Maintenance will ensure that the storm water management system remains functional for the lifetime of the Site and protect the catchment from increased flood risk.

11.6.15 To minimise the potential adverse environmental effects on Flood Risk and Drainage related matters, the following specific measures are being incorporated into the Site:

- Compliance with guidance in terms of flood routing and resilience for new developments.
- Provision of a storm water SuDS management system.
- Connection to a point of adequacy on the foul water drainage network.
- Provision of ongoing maintenance for SuDS features, ordinary watercourse, and existing artificial water bodies.

11.6.16 It can therefore be concluded that with the implementation of SuDS, the Site will result in a negligible magnitude of impact upon the drainage regime of medium sensitivity, resulting in a minor beneficial and non-significant effect, as surface water runoff from the Site will be controlled and discharged at a restricted rate.

***Alteration of the Drainage Regime (Groundwater Flooding)***

11.6.17 The following mitigation measures will be provided to manage potential risks from groundwater flooding:

- All storage and conveyance SuDS will be lined to prevent groundwater egress and ingress. In order to mitigate the potential risk of buoyance and the floatation of such lining under high groundwater conditions detailed calculations will be carried out in order to establish the depth of required overburden above the liner. This would dictate the required depth of the liner to manage the risk of floatation and thereby ensure that the SuDS basins/conveyance features would remain intact, resilient and available to receive surface water runoff from the proposed development – which they will be designed to serve. The basin section provided in Appendix E has been included in order to illustrate the aforementioned mitigation, which it is worth noting has also been employed on the adjacent Rowden Park site, for which the design details would need to be submitted and approved at Reserved Matters Stage.
- A review of building foundation options will be undertaken to determine the most appropriate and efficient for the Site and its potential for high groundwater, alongside a full ground investigation which will include further groundwater monitoring.
- Basement structures are not proposed.
- The modification of ground levels, introduction of below ground structures such as building foundations and utilities/drainage infrastructure could have an impact on the groundwater regime but with the carefully considered design of development levels, below ground infrastructure and land drainage systems this can be managed such that the risk of flooding is considered acceptable to future residents, visitors and properties. This includes the design of exceedance routing so that in the event groundwater were to emerge at the surface, at what is likely to be a low flow rate, it can be channelled safely through the site.
- Finished Floor Levels will be a set a minimum of 600mm above highest measured groundwater level, but also 300mm above the adjacent highway or exceedance route level.

11.6.18 With the implementation of the mitigation measures outlined above, any residual risk associated with groundwater flooding can be appropriately managed such that the proposed development will remain safe and resilient for its lifetime, without increasing flood risk elsewhere. The proposed drainage strategy, development levels and foundation design will ensure that groundwater emergence, where it may occur, can be safely controlled and routed through the Site while maintaining the functionality and integrity of the development and associated SuDS infrastructure.

***Contamination of Surface Waters from On-Site Activities***

11.6.19 With mitigation measures, such as the use of SuDS, the operational phase of the Site will have a negligible magnitude of impact to ground and surface water of high sensitivity, resulting in a minor adverse effect, which is not significant.

11.6.20 Guidance published in CIRIA C522, SuDS Design Manual for England & Wales, recommends that surface waters from development being primarily of a residential nature have at least one stage of treatment through an appropriately sized sustainable drainage feature. In any higher polluting areas, two stages of treatment will be employed by implementing a management train approach of pre-treatment prior to discharge to the underlying strata.

11.6.21 Recently published research and procedures, outlined in CIRIA C609, shows that the incorporation of a treatment train as part of a sustainable urban drainage system provides the most effective method of removing polluting materials from surface water. Removal of between 80 - 95% of the suspended solids, heavy metals and oils can be achieved. Corresponding reductions in Chemical Oxygen Demand (COD) and Biological Oxygen Demand (BOD) can also be achieved.

11.6.22 The FRA outlines a proposed storm water management system providing a SuDS management train, incorporating source control measures, conveyancing systems and attenuation drainage systems.

11.6.23 The SuDS scheme will provide both a drainage and ecological function.

11.6.24 The drainage proposals contained within the FRA demonstrate compliance with current guidance by providing appropriate sustainable drainage features that passively treat storm water from the site, ensuring no deterioration in water quality.

11.6.25 Surface water run-off from all hardstanding areas will be collected in either a swale or piped drainage system and conveyed via gravity through the internal road network before out-falling to the proposed basins situated adjacent to the watercourses on site.

11.6.26 By introducing SuDS, the design takes account of the potential accelerated run-off and reduced times of concentration associated with hard paved areas to avoid increasing peak storm water discharge and consequential flood risk.

11.6.27 Therefore, the adoption and integration of SuDS measures into the Site will deliver a range of potential benefits relating to flood-risk and drainage, as set out in the appended FRA report (Appendix 11.1). This will provide benefits both on and off-site by controlling and managing storm water and releasing it into the wider network in a managed, predictable way. This includes in the context of climate change which is generating changing weather

patterns and more dramatic storm events, requiring resilient, well designed and maintained drainage systems.

11.6.28 There are also wider benefits from the creation of new water features and habitats for a range of wildlife.

11.6.29 Therefore, there is likely to be a direct, permanent, long term minor beneficial effect on the site following implementation of mitigation measures.

***Climate Change***

11.6.30 The surface water drainage strategy has been designed to reflect the proposed land use within the Site and to accommodate the increased rainfall climate change allowance of 45%, in accordance with the EA's climate change guidance. This allowance accounts for an expected increase in peak rainfall intensity over the lifetime of the development and has been incorporated into the design of the drainage system, including attenuation storage, conveyance features and discharge controls.

11.6.31 In this case, the drainage system has been sized to manage more intense rainfall events than those currently experienced, helping to ensure it continues to perform under future climate conditions.

## 11.7 RESIDUAL EFFECTS

11.7.1 Following the implementation of the embedded mitigation measures set out, the residual effects of the construction phase and the operation phase are as set out in the paragraphs below.

**Construction stage**

***Flood Risk***

11.7.2 The assessments completed above do not identify any significant adverse effects and thus negligible residual effects are anticipated in terms of hydrology and hydrogeology as surface water and foul water will be effectively managed and controlled.

***Alteration of the drainage regime***

11.7.3 The sensitivity of nearby watercourses is medium and the magnitude of change, following mitigation, is negligible. Therefore, there is likely to be a negligible effect on any nearby watercourses following the implementation of the embedded mitigation measures.

***Contamination of Surface Water and Groundwater***

11.7.4 The sensitivity of the nearby watercourses and onsite groundwater / source protection zone is medium, and the magnitude of change following mitigation is negligible. Therefore, there is likely to be a negligible effect on the surface water following implementation of mitigation measures.

**Post-completion stage**

***Flood Risk***

11.7.5 Following implementation of the proposed mitigation measures and drainage strategy, the residual effects associated with flood risk are considered to be negligible to minor beneficial and not significant.

11.7.6 Residual flood risk has been assessed with regard to the principal sources of flooding relevant to the Site, namely fluvial flooding from the River Avon, pluvial (surface water) flooding, groundwater flooding, sewer flooding and exceedance flows associated with extreme rainfall events.

11.7.7 In respect of fluvial flooding, the developable areas of the Site have been informed by the findings of the FRA and EA flood mapping. All built development, excluding the proposed

outfalls, lies within Flood Zone 1, ensuring that vulnerable development is located outside Flood Zones 2 and 3 and the existing floodplain storage will be maintained. Accordingly, the residual effect associated with fluvial flooding is considered to be negligible.

11.7.8 Residual pluvial flood risk will be managed through the implementation of the proposed SuDS strategy, including attenuation basins, swales, conveyance features and controlled discharge rates based on greenfield runoff conditions. The drainage network has been designed to accommodate the 1 in 100 year rainfall event including a 45% allowance for climate change. Exceedance flow routing will ensure that any rainfall events exceeding the design capacity of the system are directed away from residential properties and critical infrastructure towards designated drainage corridors and open space. As such, the residual effect associated with surface water flooding is considered to be minor beneficial.

11.7.9 Residual groundwater flood risk has been considered through the use of lined SuDS features, the avoidance of basements, appropriate finished floor levels and groundwater monitoring to inform detailed design. Although shallow groundwater conditions may occur locally during prolonged wet periods and extreme groundwater events, the proposed mitigation measures will ensure that groundwater emergence can be managed safely without adverse effects on people, property or infrastructure. The residual effect associated with groundwater flooding is therefore considered to be negligible.

11.7.10 The residual risk of flooding arising from foul or surface water sewer surcharge is considered to be low. The proposed foul drainage network will be designed in consultation with Wessex Water and delivered in accordance with the requirements of the statutory undertaker. The drainage infrastructure will be subject to adoption and ongoing maintenance arrangements to ensure operational performance throughout the lifetime of the development. Consequently, the residual effect associated with sewer flooding is considered to be negligible.

***Alteration of the drainage regime***

11.7.11 The sensitivity of the nearby watercourses is medium and the magnitude of change, following the inclusion of SuDS, is small. Therefore, there is likely to be a direct, permanent, long term minor beneficial effect on the site following implementation of measures.

***Contamination of Surface Water and Groundwater***

11.7.12 The sensitivity of the nearby watercourses and onsite groundwater / source protection zone is medium, and the magnitude of change following mitigation is negligible. Therefore, there is likely to be a negligible effect on the surface water following implementation of mitigation measures.

**Summary of effects**

11.7.13 The effects identified are summarised in Table 11.6 below: It is anticipated that the construction and operation of the Site will result in a Negligible effect in terms of hydrology and hydrogeology as surface water and foul water will be effectively managed and controlled.

11.7.14 A detailed FRA has been undertaken for the proposed site and is set out at Appendix 11.1.

11.7.15 During the construction phase, mobilisation of construction materials and spillages will be controlled by implementation of controlled drainage, good site management and monitoring in the CEMP.

11.7.16 During operation a full drainage system will be installed to control surface water run-off.

11.7.17 During operation a full drainage system will be installed to control foul water collection and discharge.

11.7.18 The effects identified are summarised in Table 11.6.

**Table 11.6: Summary of effects**

| Potential effect | Significance (pre-mitigation) | Mitigation measure | Significance of residual effect |
|---|---|---|---|
| **Construction stage** | | | |
| **Waterbodies**<br>Pollution to the existing watercourses | Surface Water – **Minor**<br>Flood Risk - **Minor** | Development located within Flood Zone 1<br>Implementation of SuDS-based surface water drainage scheme | **Negligible** |
| **Hydrology**<br>Changes to Baseline Hydrology | Watercourse - **Moderate** | Implementation of SuDS-based surface water drainage scheme | **Negligible** |

| | | | |
|---|---|---|---|
| **Hydrogeology**<br>Potential to contaminate the soil and both ground and surface waters due to discharge of solids into water or by the short-term mobilisation of any background contaminants | Groundwater - **Moderate** | Implementation of SuDS-based surface water drainage scheme | **Negligible** |
| **Post-completion stage** | | | |
| **Waterbodies**<br>Additional materials located on the floodplain, and pollution to the existing watercourses | Surface Water- **Moderate**<br>Flood Risk - **Moderate** | Development located within Flood Zone 1<br>Implementation of standard mitigation measures, comprising a SuDS-based surface water drainage scheme | **Minor Beneficial** |
| **Hydrology**<br>Alteration to the Drainage Regime | Watercourse - **Moderate** | Implementation of SuDS-based surface water drainage scheme | **Negligible** |
| **Hydrogeology**<br>Contamination or deterioration of surface water quality due to leakages of fuel oils, general spillages, and other contaminants from within the development | Groundwater- **Moderate**<br>Surface Water - **Moderate** | Implementation of standard mitigation measures, comprising a SuDS-based surface water drainage scheme | **Minor Beneficial** |
| **Foul Drainage Network**<br>Flooding and contamination of the foul and surface water network | Foul Sewer Network - **Moderate** | Implementation of standard mitigation measures comprising a SuDS-based surface water drainage scheme and a fully adopted sewerage scheme | **Negligible** |

## 11.8 CUMULATIVE EFFECTS

11.8.1 A review of cumulative sites, as identified in Chapter 2 of this ES and summarised in Table 12.7, has been undertaken in accordance with Schedule 4, paragraph 5 of the EIA Regulations 2017. This requires consideration of likely significant effects arising from the interaction of the Proposed Development with other existing and approved developments. The assessment has focused on relevant committed residential and mixed-use schemes within Chippenham and the wider catchment, including those with potential hydrological connectivity to the River Avon (Bristol Avon) system.

11.8.2 All developments are subject to a design CEMP, with proposed SuDS strategies which ensure that storm water discharged downstream is at a maximum flow rate of QBAR. Surface water discharge will also have been treated to improve water quality before it leaves the Proposed Development. After mitigation measures have been put into place, there will be a negligible effect on existing and surrounding cumulative development.

# 12 CONCLUSIONS

12.1.1 The Assessment has found that the proposed development would have few residual effects that are not capable of being appropriately mitigated and few effects of more than minor adverse significance following appropriate mitigation. Major to moderate, significant adverse effects are limited to landscape and visual impacts and minor to moderate effects on archaeology.

12.1.2 At Year 1, effects are likely to be higher than at Year 15 when any mitigation planting will have matured to some degree, albeit these effects are likely to diminish further with time and as vegetation continues to mature. At construction and completion, the principal effects resulting from the Proposed Development will be as a result of the transition of the Site from an agricultural landscape to a predominantly urban scene, in an undesignated landscape, and before maturation of mitigation planting.

12.1.3 On landscape and visual impacts, the highest levels of effect would be experienced by the removal of the existing greenfield/agricultural landscape for the built development. This direct effect would inevitably be major/moderate adverse and significant but would be limited to the Site through the retention of mature landscape features, intervening landscape and local topography.

12.1.4 There would be significant effects to Public Footpath LACO9 as users pass through the Site, with effects lessening as the route continues north and south. Effects are not significant to PRoW users beyond these locations.

12.1.5 The effect on residences would be very localised, restricted to those with views directly over the Site. At Beaumont and Showell Farm in the short-term built form will be noticeable in views, although the planting of new hedgerows, hedgerow trees and other associated landscaping will provide some softening to the view. With maturation of the landscape, the proposals will appear partially assimilated into the landscape. The magnitude of change is likely to reduce to moderate adverse level of effect for Beaumont which is significant. For Showell Farm the magnitude of change is likely to reduce to a moderate/minor adverse level of effect (as a visual receptor) which is not significant.

12.1.6 Socio-economic effects will be beneficial, as it will:

- provide a wide choice of housing of a broad range of types and tenures;
- provide short and long-term employment opportunities;
- increase expenditure in new and existing businesses and shops; and
- increase informal green space provision.

12.1.7 On transport impacts, taking account of the inherent mitigation provided by the Travel Plan and set out in the Transport Assessment. The construction and operational phases of the Proposed Development are expected to have a negligible effect on severance, driver delay, pedestrian and cyclist delay and cyclist and pedestrian amenity, accidents and safety and fear and intimidation.

12.1.8 The residual effects of dust and particulate matter on human population and ecological receptors generated by construction, operation and post completion activities will be minimised by mitigation measures included within the Construction Environmental Management Plan (CEMP), to be secured by condition. The residual effects are therefore considered to be negligible.

12.1.9 Effects on ecological features are not considered to be significant with mitigation measures including Ecological Protection Zones around all ecologically sensitive features, including the proximate designated sites (e.g., the River Avon) and ecologically sensitive features (hedgerows and woodland) and habitats, will protect these receptors from any accidental damage (including from pollution events) during construction.

12.1.10 A net gain in biodiversity is demonstrated to be achievable within the Proposed Development, with a net gain of over 10% for habitat units, hedgerow units and river units.

12.1.11 Minor-moderate beneficial residual effects are anticipated post completion. Measures within the Landscape and Ecological Management Plan (LEMP) and Habitat Management and Monitoring Plan (HMMP), to be secured by condition, will ensure appropriate management and monitoring along with the creation of new biodiversity habitats which will have permanent beneficial effects.

12.1.12 A sensitive lighting strategy, with input from the project ecologist to ensure that no significant lighting impacts occur on protected or notable species, will be prepared in agreement with the LPA prior to development.

12.1.13 The Proposed Development will result in a general change in character in part of the setting of the listed buildings, from open agricultural land to residential development. This will lead to a degree of harm to the setting of the listed buildings, as the historic

spatial relationship between the farmstead and the Site would be altered and the wider rural context within which the listed buildings are experienced would be reduced.

12.1.14 The Proposed Development will not feature in any significant or important views of the listed buildings, as the new housing will be set back and the farmstead is contained within a well-defined curtilage, enclosed by boundary walls and ancillary buildings.

12.1.15 The wider setting of the Showell Farm complex of listed buildings has already been compromised by the consented SouthPoint Business Park development to the west, which introduces large-scale commercial built form into key views. In this context, the Proposed Development would not introduce a more harmful form of change.

12.1.16 The masterplan includes embedded design responses that reduce setting impacts to designated built heritage assets (Showell farmhouse, granary and barn) to minor adverse. Design-led mitigation includes a substantial building setback with the provision of open space immediately adjacent to the buildings.

12.1.17 Proposed orchard planting and landscape buffering would soften the transition between the historic farmstead and new development, further screening the SouthPoint Business Park development and creating a more focused and coherent setting for Showell Farm.

12.1.18 No effects are reported on the non-designated shelter shed, which is being retained by the proposals within an element of open space to include orchard and structural hedgerow planting.

12.1.19 The site's north-eastern corner is located some 45m south of the southern boundary of Rowden Conservation Area. The masterplan includes the retention and enhancement of natural green space in the site's north-eastern corner which provides a degree of separation between the site and the asset's southern boundary. Retention and long-term management of substantial areas of open green space, and siting of built development away from the conservation area result in minor beneficial effects on the Rowden Conservation Area.

12.1.20 Geophysical survey and archaeological evaluation have shown that there are prehistoric and Roman archaeological remains present in various areas across the site. A programme of archaeological evaluation and potential subsequent mitigation is recommended in advance of construction and will be secured as a condition of planning. Following the implementation of any subsequent mitigation, there will be minor to moderate residual effects on non-designated archaeological heritage assets.

12.1.21 The construction and operation of the Site will result in Negligible effects on hydrology and hydrogeology. Surface and foul water will be effectively managed and controlled. During the construction phase, mobilisation of construction materials and spillages will be controlled by implementation of controlled drainage, good site management and monitoring in accordance with a CEMP.

12.1.22 During operation a full drainage system will be installed to control surface water run-off. Minor beneficial effects are reported to flood risk and water quality through the creation of a SuDS-based surface water drainage scheme. During operation a full drainage system will be installed to control foul water collection and discharge. The assessments reported above do not identify any likely significant adverse effects. No adverse residual effects are anticipated.

12.1.23 The EIA has considered the potential for cumulative impacts arising as a result of the Proposed Development in combination with other developments in the immediate area. No significant adverse cumulative effects are anticipated.

12.1.24 There are no significant interactive effects predicted. The outcome of the EIA is that significant adverse effects are limited and beneficial effects outweigh adverse effects.



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