Alderholt Meadows, Alderholt, Fordingbridge

Consolidated Environmental Statement, Volume 1: Main text for
Dudsbury Homes (Southern) Ltd
24 November 2023
Our Ref: SRS/22-00541/EScons

ALDERHOLT MEADOWS

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Quality Assurance

This report has been prepared within the quality system operated at Rapleys LLP according to British Standard ISO 9001:2015.

We confirm that the undersigned is an appropriately qualified and experienced Chartered Surveyor/Planner [delete as appropriate] experienced in the commercial property sector.

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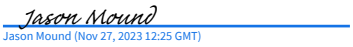
Signature:	 Jason Mound (Nov 27, 2023 12:25 GMT)

INFORMATIVE/PREFACE

An outline planning application for the development of land at Alderholt was submitted to Dorset Council (DC) accompanied, amongst other documents, by an Environmental Statement (ES), prepared in accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (The Regulations).

On 7th July 2022, following consultation with both statutory bodies and the Council, the Council refused the application.

In November 2023, the decision was taken to appeal the refusal of the application. To accompany the S78 appeal, various further work (further information) has been undertaken to address the relevant reasons for refusal, specifically - loss of tranquillity within the Cranborne Chase and West Wiltshire Downs Area of Outstanding Natural Beauty (AONB), unacceptable impact on highway safety and a demonstration that residual cumulative highway impacts would not be severe, retail impact assessment – in accordance with The Regulations, this further information in respect of AONB tranquillity and the retail impact assessment findings has been put together as a Supplementary ES (SES). The work related to transport is still ongoing through negotiation with the Council and as such cannot be reported as yet within the SES. The Supplementary Technical Appendices relative to the AONB tranquillity and a Supplementary Non-Technical Summary (SNTS) have also been prepared.

All of the above supplementary documentation is to be read alongside the original February 2022 ES.

This document, the Consolidated Environmental Statement (CES), represents the combining of both ES February 2022 and the SES November 2023 (subject to amendments and deletions as referenced in the SES). It is a composite document put together for ease of reading and reference for the appeal only. The Scoping Report contained within this CES remains unchanged from November 2022. A Consolidated Non-Technical Summary (CENTS) has similarly been put together.

The basic structure and format of this CES remains unaltered from the original ES February 2022, but where changes have been made and incorporated from the text of the SES they are shown in red, the unaltered text remaining printed in grey. Where Figures were updated or modified from the ES February 2022, the titles are in red and carry the suffix 'a'; those Figures new to the ES are also titled in red with no suffix. Similar principles apply to the Technical Appendices but with the suffix 'sup' where they have been revised or no suffix where completely new.

The following example indicates this:

SES November 2023

This chapter is supported by an LVIA presented as Technical Appendix 8.1 and Technical Appendix 8.1sup, the latter detailing.....

INTRODUCTION

1.1 This Environmental Statement (ES) has been prepared by Rapleys LLP in conjunction with the EIA Team (see paragraph 1.11 below) and forms part of an outline planning application for the creation of a Garden Village of up to 1,700 dwellings, 10,000sqm employment space, village centre with associated retail, commercial, community and health facilities; open space including the provision of Suitable Alternative Natural Greenspace (SANG); biodiversity enhancements; solar array; and new roads, access arrangements and associated infrastructure. (All matters reserved apart from access off Hillbury Road (the Proposed Development). The land subject of this ES is known as Alderholt Meadows (the Site) **(Figure 1.1)**. The application is submitted by Dudsbury Homes (Southern) Ltd (the Applicant) to Dorset Council (the Council).

1.2 This ES has been prepared in accordance with the requirements of The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 and advice contained in the Planning Practice Guidance (PPG).

1.3 The structure of the ES can be summarised as follows:

- Chapter 2 (Methodology) sets out the general methodology of the ES.
- Chapter 3 (Background to Development) provides an overview of the Site, its location and physical characteristics, and planning history.
- Chapter 4 (Planning Policies) summarises the relevant national and local planning policy context.
- Chapter 5 (Development Description) describes the Proposed Development.
- Chapter 6 (Alternatives) describes the alternatives considered by the Applicant.
- Chapters 7 to 14 (incl) (Effects on the Local Environment) comprise the main element of EIA with a series of environmental studies undertaken by the EIA team.
- Chapter 15 (Cumulative Effects) provides an overview of cumulative effects.
- Chapter 16 (Overview/Conclusions) provides an overview and conclusions of the findings of the ES.
- Chapter 17 (Abbreviations) provides a list of abbreviations used in the ES.
- Chapter 18 (References) provides a full reference list for the ES chapters.

1.4 The ES is contained within four volumes. Volume I comprises the main text body of the ES, Volume 2 the ES Figures, Volume 3 contains the ES Technical Appendices and Volume 4 the Non-Technical Summary (NTS).

LEGISLATIVE REQUIREMENTS FOR THE EIA

1.5 The requirement for an EIA is derived from EU Directive no. 2011/92/EU. This directive was transposed into UK law through the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the Regulations'). The Regulations require that prior to the grant of planning permission, the likely significant effects of a project on the environment are assessed.

Screening Opinion

1.6 In preparing development proposals for the Site, consideration was given at an early stage to whether the proposals, by virtue of the location and scale of development, would trigger the requirement for EIA to be undertaken. Reference was made to the Regulations together with guidance contained in the Planning Practice Guidance (PPG). The Applicant has determined that an EIA would be required as the size of the scheme exceeds the determining thresholds in each case set out in Schedule 2, section 10 'urban development project' of the 2017 Regulations, for the following reasons:

- The development includes more than 1 hectare of urban development which is not dwellinghouse development;
- the development includes more than 150 dwellings;
- the overall area of the development exceeds 5 hectares.

1.7 In addition, the Site is located adjacent to a 'sensitive area' as defined by the Regulations, this being a European site, Dorset Heathlands Special Protection Area, Ramsar and Special Area of Conservation.

Consequently, the Applicant is voluntarily submitting an ES and it is not necessary to seek a formal Screening Opinion.

Scoping Opinion

1.8 In order to refine the information and aspects of the environmental topics that the EIA will consider, a Scoping Opinion Report (**Technical Appendix 1.1**) was produced with the intention that the Council could subsequently adopt that document as the formal Scoping Opinion Report confirming the EIA content to accompany the planning application for the Site. The Scoping Opinion Report was submitted to the Council on 17th November 2022, whilst baseline work for the ES was being undertaken. The Scoping Opinion from the Council was received on 21 December 2022 **(Technical Appendix 1.2).**

1.9 The Scoping Opinion Report identifies the following technical topic areas to be included within the ES –

- Transportation
- Landscape, Townscape and Visual Amenity
- Ecology/Conservation
- Society, Population and Economy
- Flooding, Drainage, Water Resources
- Archaeology and Heritage
- Climate Change
- Air Quality
- Cumulative Effects

1.10 The Scoping Opinion Report also identifies technical topic areas that are scoped out of the ES **(Technical Appendix 1.2 paragraphs 6.124-6.169)**.

1.11 The Council Scoping Opinion confirms that as a minimum the topics of Ecology, Historic Environment/Cultural Heritage, Landscape and Visual, and Flooding should be included within the ES. Notwithstanding this, Dudsbury Homes team has committed to including the topics identified in paragraph 1.10 above.

1.12 Additional information over and above that included within the submitted Scoping Opinion Report that the Council has requested be included within the ES, is set out in the table below, together with the Dudsbury Homes team response.

Table 1.1: Scoping Opinion Response

Environmental Topic Area	Council Additional Requirements over and above that already identified in Applicant Scoping Opinion Report	Applicant Response
Ecology	To thoroughly assess impacts on functionally linked land/impact pathways on • Hydrology of River Avon – nutrient loads, • Water quality impacts on Solent Marine Sites.	Included within the Ecology chapter and associated technical appendices.
Landscape, Townscape and Visual Amenity	Recreational impacts on Dorset and New Forest heathlands and Cranborne Chase and West Wiltshire Area of Outstanding Natural Beauty (AONB) Effects on tranquillity, lighting, traffic on the AONB and cumulative effects of other development on all sides.	Provision of SANG included within the scheme to off-set these potential impacts – referenced in the Landscape and Visual chapter, the Ecology chapter and the Society, Population and Economy chapter, and associated technical appendices.
Archaeology/Heritage	Paragraph 6.109 of Scoping Report should reference 'further excavation' rather than 'evaluation'.	Noted and understood. The ES itself references this correctly.
Flood Risk/Drainage	Drainage strategy should be based on 45% climate change rather than the 40% quoted.	The Flood Risk and Drainage chapter and associated technical appendix

Environmental Topic Area	Council Additional Requirements over and above that already identified in Applicant Scoping Opinion Report	Applicant Response
		include assessment and calculations on the 45% basis.
Minerals and Waste	A Minerals Assessment to determine quality/quantity of mineral and possibly a proposal for prior extraction is required should the development progress to a full application. The ES should consider likely effects the development has on these elements.	This is not assessed in the ES at this time. Further commentary is provided within the Planning Statement accompanying the outline application, and in paragraph 1.14 below.

1.13 The Site lies within a Minerals Safeguarding Area for sand and gravel. BSG mapping identifies the Site as being on the edge of a much wider deposit and is therefore likely to be more variable in-depth, quality and extent. No further investigative work has been undertaken at this stage to determine the extent or quality. A separate planning application and ES would likely be submitted should mineral extraction be necessary following any grant of outline planning permission for the Proposed Development. There are both advantages and disadvantages to potential mineral extraction at the Site – for example, providing aggregates from within the Site will significantly reduce HGV movements associated with the construction phase, but this has to be balanced with potential harm of ecological habitats – the likely environmental effects of all of this can only realistically be assessed once more detailed knowledge of the resources has been acquired. Furthermore, the construction of the Proposed Development will be phased over a number of years linked to reserved matters applications, which, as 'subsequent applications' under the EIA Regulations, could require further assessment of environmental effects that were not necessarily known at the time of the original assessment. Any phasing strategy for the potential mineral extraction would need to be combined with the construction phasing of the Proposed Development.

EIA TEAM

1.14 The ES has been prepared by Rapleys LLP in conjunction with the EIA team as summarised below. Two new consultants joined the team in September 2023 and were instructed to appraise the retail impact of the local centre, tranquillity and impact on the AONB.

1.15 A Statement of Expertise/Competence is provided at Technical Appendix 1.3sup.

Table 1.2a: EIA Team

Environmental Topic Area	Responsibility
Transportation	Paul Basham Associates
Landscape, Townscape and Visual Amenity	Urban Initiatives Studio
AONB tranquillity	Allen Pyke Associates
Air Quality	Waterman
Flood Risk/Drainage	Campbell Reith
Ecology and HRA	EPR
Archaeology and Heritage	Wessex Archaeology
Society, Population and Economy	Rapleys
Cumulative Impacts	Rapleys
Climate Change	Hydrock

COMMENTS

1.16 This ES should be made available by the Council for public viewing during normal office hours. For details of where it can be viewed and the times that it is available, the Council's Development Management Department can be contacted via the following contact details:

- Telephone: 01305 838336
- Email: planningeast@dorsetcouncil.gov.uk
- Address: Dorset Council, County Hall, Colliton Park, Dorchester, DT1 1XJ

1.17 The ES and planning application documents will also be available via the Council's website once the planning application has been registered:

https://www.dorsetcouncil.gov.uk/planning-buildings-land/planning/planning-application-search-and-comment

1.18 Comments on the planning application should be submitted to the Council's Development Management Department.

AVAILABILITY OF DOCUMENTS

1.19 Hard copies of the ES can be viewed at the Dorset Council Offices at the following address:

Dorset Council, County Hall, Colliton Park, Dorchester, DT1 1XJ

1.20 Hard copies are also available for purchase at a cost of £550.00 per copy. The ES may also be purchased on CD at a cost of £5.00. Contact should be made with Rapleys LLP:

- Email: info@rapleys.com
- Address: 120 Colmore Row, Birmingham, B3 3BD

1.21 Copies of the NTS are available free of charge from the Planning Department at Dorset Council.

2 METHODOLOGY

2.1 This chapter describes the methodology used for the ES.

2.2 In accordance with Regulation 4(2) of the Regulations the environmental topics will identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the Proposed Development to include the following factors:

- population and human health,
- biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC(a) and Directive 2009/147/EC(b),
- land, soil, water, air and climate,
- material assets, cultural heritage and the landscape, and
- the interaction between the factors referred to in sub-paragraphs (a) to (d).

MAJOR ACCIDENTS AND NATURAL DISASTERS

2.3 The EIA Regulations refer to the consideration of major accidents and natural disasters. The definition of a 'major accident' for this ES draws on the Control of Major Accident Hazards Regulations 2015 (COMAH2015). These are applicable in this context as their purpose is to prevent major accidents and limit the consequences to people and the environment. A major accident is one such as fire, emission, or explosion resulting from uncontrolled developments in the course of the operation of any establishment and leading to serious danger to human health or the environment inside or outside the establishment.

2.4 A naturally occurring event such as extreme weather or ground-related hazard event (landslip) can also meet the definition of major accident.

2.5 Assessment of major accidents and hazards was scoped out of the EIA on the basis that the likely significant effects on human health and the environment from major accidents or disasters given mitigation measures being put in place are not significant. Various risk management legislation will apply to the Proposed Development including the Health and Safety at Work Act, etc and various design and technical specifications which require consideration of potential hazards. As part of the detailed design risk assessments will be undertaken and will consider maintenance and operational activities. Proposed Development is not considered to be vulnerable to major accidents or disasters and, therefore, no significant effects are identified in this regard. It is not considered further in this ES.

HUMAN HEALTH

2.6 A separate chapter on Human Health is not considered necessary as the individual topic chapters presented within this ES assess potential impacts on human receptors where relevant. Consequently, this is scoped out of the ES.

CUMULATIVE EFFECTS

2.7 The EIA assesses the potential cumulative effects of the Proposed Development combined with existing and approved developments both during the construction phase and following completion. A broad assessment of cumulative effects is contained within the individual ES chapters where relevant.

2.8 In addition, a more comprehensive consideration of cumulative effects is provided within chapter 15 of this ES, in accordance with the Scoping Opinion Report, focussing on those relating to air quality and ecology. The list of sites/developments considered in relation to cumulative effects are –

- Whitsbury Road, Station Road and Burgate, Fordingbridge,
- Edmundsham Road, Verwood,
- North of Ringwood Road, Alderholt, and
- Daggons Road, Alderholt.

CONSULTATION

2.9 Pre-application advice was sought in respect of highway matters in the Autumn of 2021 and Natural England in 2022. Discussions have also taken place with the planning policy team at Dorset Council, but no formal pre-application has been submitted. This detail of this is provided within the separate Statement of Community Involvement (SCI) which accompanies the Application.

EIA PARAMETERS

2.10 This EIA assesses potential significant environmental effects having regard to the Illustrative masterplan and parameter plans, which are described in detail in chapter 4 of this ES. Of particular importance in this context are:

- the road alignment changes, and
- the green infrastructure, particularly SANG.

TEMPORAL SCOPE

2.11 Construction of the Proposed Development is also considered in combination with other identified developments/sites which are further described in the relevant technical chapters and the cumulative effects chapter of the ES.

2.12 Construction of the Proposed Development is expected to take place over a circa 14 year period following the grant of planning permission, commencing during circa 2027 and completing/becoming operational in 2041.

EIA METHODOLOGY

2.13 The methodology used to assess the relative magnitude of significance of the effects reviewed in this ES is based on a standardised scale, as set out in Table 2.1 below. Figure 2.1 sets out in simple diagrammatic form the key stages of the EIA process. Each of the specialist consultants has based their assessment on this general approach, but the accepted good practice criteria within each topic have led, in some cases, to modifications to this general approach.

2.14 The magnitude of an impact is judged by comparing the extent of the change with particular standards and criteria relevant to each environmental topic. The magnitude is generally estimated as a combination of the magnitude of the impact and the sensitivity or value of the affected receptor. The process is described in Tables 2.1 and 2.2.

Table 2.1: Magnitude of Impact

Magnitude of Impact	Description – include subject specific examples
High	Very large or large change in environmental conditions (e.g. pollution levels, destruction of habitat). This could result in exceedance of Statutory objectives and/or breaches of legislation.
Medium	Intermediate change in environmental conditions.
Low	Small change in environmental conditions.
Negligible	No discernible change in environmental conditions.

Table 2.2: Sensitivity/Value of Receptor

Sensitivity/Value of a Receptor	Description
Very High	Change resulting in a high degree of deterioration or improvement.
High	Change resulting in a material deterioration or improvement.
Medium	Change resulting in a low degree of deterioration or improvement.
Low	Change resulting in a negligible degree of deterioration or improvement.
Neutral	No change.

2.15 Table 2.3 provides a matrix showing impact significance and magnitude of change.

2.16 The effect is determined by combining the predicted magnitude of impact with the assigned sensitivity of the receptor. The level at which a significant effect arises is provided within the topic method section of each chapter of the ES. Unless stated otherwise, effects of moderate significance or above are considered to be significant in EIA terms.

Table 2.3: Impact Significance Matrix

Sensitivity/ value of a Receptor	Magnitude of Impact			
	High	Medium	Low	Negligible
Very High	Substantial	Substantial	Moderate	Slight
High	Substantial	Moderate	Slight	Negligible
Medium	Moderate	Slight	Negligible	Negligible
Low	Slight	Negligible	Negligible	Negligible

2.17 There is no statutory definition of significant. For the purpose of the EIA, Table 2.4 below provides a general description of significance.

Table 2.4: General Definition of Significant

Significance	Description
Substantial	These effects represent key factors in the decision-making process and will have a major influence on key decision-making issues.
Moderate	These effects are likely to be important considerations at a local scale. If adverse these effects have a moderate influence on key decision-making issues.
Slight	These effects may be raised as local issues but are unlikely to be of importance in the decision-making process. Nevertheless, they are of relevance in the detailed design of the project. When combined with other effects these effects may have a moderate influence on decision making issues.
Negligible	Effects which are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error. These effects will not have an influence on decision making issues.

2.18 The likely significant effects of the Proposed Development are described as:

- Adverse or beneficial
- Direct or indirect
- Temporary or permanent
- Reversible or irreversible
- Cumulative.

MITIGATION

2.19 The key objective of mitigation is to avoid, offset or reduce the significant adverse effects of the development. The mitigation strategy follows the following hierarchy:

- Avoid
- Reduce
- Remedy

2.20 Mitigation can be carried out through design (inherent mitigation) or management (additional mitigation), the latter often being considered separately for construction and operation.

2.21 Measures that avoid environmental impacts and effects and which form part of the assessed Proposed Development (as set out in the scheme description or shown on the Site Layout Plan) are known as inherent mitigation that is included in the design of the Proposed Development. Inherent mitigation is taken into account in the assessments.

2.22 Additional Mitigation is defined as a proposed measure that is additional to the assessed Proposed Development in response to environmental impacts identified through the assessment. These aspects may not be capable of representation on the Site Layout Plan as they may involve off-site measures and/or be delivered by a third party via financial contributions.

2.23 Mitigation measures are broadly described in Table 2.5 below.

Table 2.5: Mitigation Measures

Category		Description
Design (Inherent)		Measure incorporated into design in order to minimise specific effects.
Construction (Additional)	Management	Commitment to undertake the construction works in a specific way, for example the use of particular plant, phasing of the works, regular monitoring and management of works.
Operational (Additional)	Management	Features specific to the particular technical category including management practices, Environmental Management Systems etc.

STRUCTURE OF ES CHAPTERS

2.24 In order to ensure consistency in the presentation and methodology contained within the ES the following structure and key sub-headings are used for each technical chapter:

- Introduction
- Context: A general legislative and policy context is provided.
- Methodology: A description of the methodology adopted is provided. Unless otherwise stated the methodology used to assess the relative magnitude of significance of the effects reviewed in this ES is based on a general standardised scale contained within this chapter of the ES.
- Baseline Conditions: The baseline situation is the prevailing environmental conditions against which the potential environmental impacts of the proposals are assessed. The conditions refer to the present time and with no significant change predicted during the interim period before the Proposed Development works are programmed to commence.
- Impacts: Identifies the likely significant impacts resulting from the Proposed Development and considers impacts during construction and once the development is completed (Construction Impacts and Operational Impacts).
- Mitigation: Summarises mitigation required to avoid, offset or reduce the significant adverse effects of the Proposed Development.
- Residual Impacts: A summary of residual impacts i.e. the impacts remaining after mitigation following the form within the Impact section.
- Cumulative Impacts: Identifies the likely significant cumulative effects.
- Summary

ASSUMPTIONS AND LIMITATIONS

2.25 The principal assumptions that have been made and any limitations that have been identified, in undertaking the EIA are set out below. Assumptions specifically relevant to each topic have been set out in the relevant chapter.

- The assessments contained within each of the technical chapters are based on the design parameters, highway drawings and Illustrative Masterplan (described in Chapter 4 of this ES), for which planning approval is sought,
- Baseline conditions have been established from a variety of sources, including historical data. Due to the dynamic nature of the environment, conditions may change during the construction and operation of the Proposed Development,
- For the purposes of the ES, it has been assumed development would start in 2027 and would take circa 14 years to build out, with the overall development completing and becoming operational during 2041.
- Construction activities will take place to a pre-determined schedule and are likely to be conditioned as part of any planning permission, and
- A commitment is made to the delivery of a Construction Environmental Management Plan (CEMP), which would form a planning condition to permission.

3 BACKGROUND TO THE DEVELOPMENT

3.1 This chapter describes the Site and the surrounding area and sets out the background to the Proposed Development. Relevant planning history is also identified.

SITE

3.2 The Site (as shown in Figure 1.1) is approximately 122ha in area located either side of the Ringwood Road, immediately south of the settlement of Alderholt. The land within the Site to the north and west of the existing solar array will be used for SANG purposes. Its eastern extent is formed by the Hillbury Road; to the south are agricultural fields and Ringwood Forest (Site of Interest for Nature Conservation (SINC)); the western extent is also agricultural fields and the SSSI of Cranborne Common (part of the Dorset Heathlands Special Protection Area (SPA), Ramsar and Special Area of Conservation (SAC)), and to the north is the built up area of Alderholt.

3.3 The Site comprises three farmsteads – Sleepbook Farm in the northern part of the Site accessed via a gravel track from Ringwood Road, Warren Park to the south and Oak Tree Farm to the east of Ringwood Road – and is predominantly in arable production with some improved grassland for animal husbandry. Land classification identifies the land as grade 3.

3.4 The Alderholt Riding and Livery Yard located to the west of Ringwood Road is excluded from the Site, although the menage and several associated paddocks are included within it. The existing community recreation ground and playing fields on the other side of the road are similarly excluded from the Site boundaries.

3.5 The Site is gently undulating at heights ranging from 60m AOD on its northern edge to 50m AOD on its southern and eastern boundaries.

3.6 The Site lies within Flood Zone 1. Within the Site there are several drains that flow to two ponds just south of the Site, which in turn flow to the Hamer Brook and onto the River Avon and Avon Valley. Sleep Brook runs north to south on the western edge of the Site also to the Hamer Brook. There are four distinct drainage catchments across the Site.

3.7 Trees are present along the Site boundaries and around field edges where hedgerows predominate.

SURROUNDINGS

3.8 Alderholt is located in the north-east of Dorset close to its boundary with Hampshire and the New Forest District. To the north-west of the settlement the land rises to Cranborne Chase and the West Wiltshire Area of Outstanding Natural Beauty (AONB); to the east is the New Forest National Park and to the south the South-East Dorset Green Belt.

3.9 The settlement lies on land that rises up from the valleys of the River Avon and Ashford Water to a height of circa 75m.

3.10 Alderholt lies approximately three kilometres to the south-west of Fordingbridge, which provides much of Alderholt's day to day service needs. Ringwood is approximately nine kilometres to the south and Verwood eight kilometres to the south-west.

3.11 Alderholt is a settlement of circa 3,000 population which has primarily developed to the south of the B3078 which runs between Shaftesbury to the north-west and Fordingbridge to the north-east. Both Hillbury Road and Ringwood Road head south from this road. It comprises predominantly twentieth century suburban development with a primary school, recreation field, community hall, churches, a pub and a Co-op store.

PLANNING HISTORY

3.12 There is no planning history of relevance associated with the Site.

3.13 The Site, or parts thereof, has been promoted within a number of local plan policy document reviews, including -

- The call for sites of the Christchurch and East Dorset Local Plan Review, November 2016 – two parcels comprising some 15ha for 450 dwellings and 16ha as SANG,
- East Dorset Local Plan Review – Options Consultation, September 2018 – a self-sustaining settlement of circa 1,700 dwellings,
- Dorset Local Plan Regulation 18 Consultation, March 2021 – 'transformational development' as a garden village, now the subject of this Scoping Report.

4 PLANNING POLICY

4.1 A detailed review of the Proposed Development against the background of the planning policy context is set out in the Planning Statement accompanying the Application. This chapter lists those policies that are most relevant to the Site and the Proposed Development.

4.2 Specific policies relating to individual issues are referred to in the relevant topic chapters.

NATIONAL PLANNING POLICY FRAMEWORK (NPPF) 2023

4.3 Relevant national planning policy and guidance are set out in the NPPF and PPG. The NPPF was revised in September 2023. The following sections of the NPPF are relevant to the Site and the Proposed Development.

- The presumption in favour of sustainable development
- Building a strong, competitive economy
- Promoting sustainable transport
- Making effective use of land
- Achieving well-designed places.

Building a strong, competitive economy

4.4 Paragraph 81 explains that planning decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development.

Promoting sustainable transport

4.5 Paragraph 104 explains that transport issues should be considered from the earliest stages of development proposals so that, inter alia, the potential impacts of development on transport networks can be addressed, opportunities for promoting walking, cycling and public transport can be pursued in parallel with mitigating any adverse effects on the environment, and contributing to making high quality places.

4.6 Paragraph 111 states that development should only be prevented or refused on highway grounds if there would be an unacceptable impact on highway safety, or if the residual cumulative impacts on the road network would be severe.

Achieving well-designed places

4.7 Paragraph 130 sets out a number of design criteria applicable to new developments covering matters such as function, visual attractiveness, local character (whilst not preventing or discouraging appropriate innovation or change, including increased densities), a sense of place, accessibility and security.

PLANNING PRACTICE GUIDANCE (PPG)

4.8 The PPG was first published in March 2014 and has been updated over time to reflect the latest Government guidance supplementing national planning policy. The last update was made in March 2019.

4.9 The NPPF sets out the Government's planning policies for England and is underpinned by the presumption in favour of sustainable development that meets the needs of the present without compromising the ability of future generations to meet their own needs. In order to achieve sustainable development, three overarching objectives – economic, social and environmental – would need to be pursued in mutually supportive ways.

ADOPTED DEVELOPMENT PLAN

4.10 The adopted Development Plan comprises the Joint Christchurch and East Dorset Local Plan Part 1 Core Strategy 2013-2028 (2014), the saved policies of the East Dorset Local Plan 2002 and the Bournemouth, Dorset and Poole Minerals Strategy 2014.

4.11 Alderholt is classified as a Rural Service Centre village under Core Strategy policy KS2 where residential development will be allowed on a scale that reinforces its role as a provider of leisure and retail services.

4.12 Other Core Strategy policies that are or may be of relevance to the development proposed at Alderholt from an environmental perspective, as opposed to principle, include –

- KS1 Presumption in favour of sustainable development
- KS11 transport and development
- ME1 safeguarding biodiversity and geodiversity
- ME2 protection of Dorset Heathlands
- ME3 sustainable development standards for new development
- ME4 renewable energy provision for residential and non-residential development
- ME5 sources of renewable energy
- ME6 food management and mitigation
- HE1 valuing and conserving historic environment
- HE3 landscape quality
- HE4 open space provision
- LN2 design, layout and density of new housing development
- LN3 provision of affordable housing
- LN7 community facilities and services.

4.13 Similarly, the saved policies include –

- HODEV2 form of development
- LTDEV1 lighting
- TEDEV3 local cabling
- DES6 landscaping
- DES7 tree removal
- DES11 design of roads, cycle and pedestrian routes.

4.14 The Minerals Strategy Policy SG1 identifies the Site as lying within a Minerals Safeguarding Area. Development will be resisted unless it can be demonstrated that the sterilization of proven mineral resources will not occur. Extraction prior to development may be required where practicable.

Supplementary Planning Documents/Guidance

4.15 There are a number of supplementary planning documents that apply to the Alderholt/East Dorset area that will also need to be taken into account within the planning application, such as the Dorset Heathland Planning Framework 2020-25, Dorset Heathland Interim Air Quality Strategy 2020-25.

4.16 Within the ES, the individual environmental technical topic chapters will detail the policies, both national and local, relevant to the topic at hand.

5 DEVELOPMENT DESCRIPTION

5.1 This chapter of the ES describes the Proposed Development, the parameters and provides an overview of its construction.

DESCRIPTION OF DEVELOPMENT

5.2 The Proposed Development is the creation of a garden village settlement adjoining the southern edge of Alderholt either side of the Ringwood Road, on a total Site area of 122ha, comprising:

- up to 1,700 dwellings,
- 10,000sqm employment space,
- village centre with associated retail, commercial, community and health facilities,
- green infrastructure including provision of Suitable Alternative Natural Greenspace (SANG),
- biodiversity enhancements,
- solar array, and
- new roads, access arrangements and associated highway/drainage/other services.

LAND USE QUANTUM

5.3 Table 5.1 below identifies the proposed land uses and site area as described. This table should be read in conjunction with the Parameter Plans.

Table 5.1: Land Use Budget (approximate figures)

Land Use	Area (Hectares)	Amount	%
Residential (Class C3) (including an 80 bed care home)	38.8	1,700 dwellings	32%
Green/Blue Infrastructure (including amenity, green corridors, semi-natural and natural, allotments, play and sports recreational space, etc)	19.1		15.6%
SANG provision	51.4		42.1%
Primary road infrastructure within the built development	3.4		2.8%
Solar array	6.4		5.2%
Village Centre	1.2	4,000sqm	1%
Employment	1.7	10,000sqm	1.3%
Site Area	**122**		

KEY DESIGN PRINCIPLES AND PARAMETER PLANS

5.4 The design of the development is based on the Garden Village philosophy combined with the 15 minute neighbourhood concept in order to deliver an attractive and high-quality, mixed and sustainable place that will also significantly enhance the overall Alderholt settlement. It is built on the following key design principles –

- Preserving the strong connection with the local vernacular architecture of Alderholt,
- Creating a strong sense of place, character and identity by ensuring development of highest quality,
- Preserving existing site characteristics such as trees, hedgerows, habits, key views,
- Establishing a clear and safe network of interlined vehicular and non-vehicular routes, and
- Creating parcels of development in a strong landscape framework that provides a network of green infrastructure.

5.5 The indicative masterplan (Figure 5.5) creates a place with a clear identity through the creation of a series of neighbourhoods linked together by footpaths and cycleways, green infrastructure corridors and open space that also make connections back to the existing Alderholt village and surrounding countryside.

Land Use Parameter Plan (Figure 5.1)

5.6 The key land uses being provided as part of the Proposed Development are -

- Residential, circa 1,700 dwellings both market and affordable, self-build,
- Retail – shops, public house,
- Commercial – enterprise hub for desk and local workspace as well as larger units for rent, all totalling circa 10,000sqm,
- Community – health, community café, community buildings,
- Solar array,
- Open space/green infrastructure, including sports centre, community gardens, allotments, orchards and SANG, and
- Highways.

5.7 The new village centre of the settlement on the Ringwood Road will provide a range of services clustered round a village square. Such uses will include the doctor's surgery/health centre, local shops, public house, community café, new community buildings. It will be within 1200m of nearly every house.

5.8 An enterprise hub providing desk and workspace for local businesses, meeting rooms are to be located within the local centre, alongside larger spaces to rent for companies and employees and other employment space located on Hillbury Road within 400m of the village centre.

5.9 The local centre will also act as a mobility hub with a car club, cycle hire, electric charging points. A bus route will pass through and around the settlement.

5.10 The existing sports facility will be enhanced with the provision of all-weather surfaces, upgraded changing facilities. Exercise trails will extend through the settlement, community gardens, allotments and orchards will be created.

5.11 Buildings will be designed to incorporate the latest technology and will be flexible; electric charging for every home.

5.12 Building heights have been informed by early landscape analysis and inputs and have been prepared having regard to the design approach. Overall maximum building heights are 3.5 storey (flats) at circa 14m AOD to ridge, but 2 storeys (circa 9m to ridge) will dominate the development.

5.13 Where the Site adjoins existing residential areas to the north, maximum building heights have been set as 'up to 2 storeys' in order to preserve the amenity of adjoining residents.

5.14 Proposed heights will reach a maximum of 2.5 storeys to the south of the primary access route through the Site.

5.15 Buildings will be energy and carbon efficient through construction and enduring lifespan, reducing their running costs and environmental impact. Renewable energy sources will provide the settlement with energy - including from the solar farms to the west of the Site and at Warren Park Farm, district heating systems and ground source heat pumps.

Access and Movement Parameter Plan (Figure 5.2)

5.16 Two main access points into the Site are proposed -

- Off the northern end of Ringwood Road through the creation of a re-prioritized junction through the Site as the primary route, which will cross the southern end of Ringwood Road through the eastern part of the Site to...
- A three arm roundabout junction on Hillbury Road.

5.17 The existing section of Ringwood Road between the two new Development junctions will be retained but traffic calmed to allow access only to existing properties as well as pedestrian and cycle access through to the local centre, recreation ground and school.

5.18 A network of pedestrian and cycle routes to prioritize these modes throughout the Proposed Development, connecting it to the existing settlement and surrounding countryside, will be prevalent throughout the Development, providing opportunities for non-car use for daily life.

Density Parameter Plan (Figure 5.3)

5.19 The proposed density parameters have been set primarily between 30-33 dwellings per hectare, although even within this range densities will vary – for example, higher densities where flatted development is proposed and around the local centre, with lower densities at circa 20sdp on the more rural fringes. The density is informed by the Site analysis and surrounding development, in addition to Site topography and technical constraints.

Green Infrastructure Parameter Plan (Figure 5.4)

5.20 Existing vegetation across the Site and along its boundaries (predominantly trees and hedgerows) has been retained as far as possible for biodiversity and visual amenity value (Figure 5.4 should be cross referenced and read in conjunction with Technical Appendix 8.2 Figures 4256/LS/013 Existing and Proposed Trees and 012 Landscape Strategy Plan). Some loss of hedgerow and trees has been necessary to facilitate access to the Proposed Development particularly at the new junction arrangement on Ringwood Road and the new roundabout on Hillbury Road.

5.21 Over 19ha of publicly accessible open space/green infrastructure will be provided through a network of spaces, parks, green routes and corridors, using and retaining the natural features of hedgerows, mature trees and watercourses. Allotments are also a feature. A further circa 51.4ha of SANG is provided, some 43.4ha on the western edge of the Proposed Development and an area of 9ha on the south-eastern edge. Improvements and enhancements to the adjacent heathland will also be provided.

5.22 A network of Suds, rain gardens, and attenuation ponds will manage the surface water and an on-site water treatment plant will manage waste-water, phosphate/nitrate levels and enable recycling of water to homes.

PHASING

5.23 It is difficult at this stage to be precise in respect of the phasing of the Proposed Development and as a result, a detailed phasing strategy is not therefore, confirmed. The planning application approval would likely be subject to a condition requiring the submission of a phasing plan prior to commencement in any event.

5.24 Notwithstanding this, and subject to the timing of planning permission, the broad anticipated timetable of construction over a period of circa 14 years is as follows:

- Commencement on site (site clearance and preparatory works) late 2027/early 2028,
- Construction of the Ringwood Road access 2027,
- Construction of the Hillbury Road access 2027,
- Commencement of construction of residential dwellings winter 2029,
- Completion of full site during 2041.

UTILITIES AND SERVICES

5.25 A programme of new utilities infrastructure, upgrades and diversions will be required to facilitate the scale of development proposed. This will include works to electricity, gas, potable water and foul drainage networks as appropriate. A separate Utilities Report accompanies the planning application.

CONSTRUCTING THE DEVELOPMENT

5.26 Construction methods are influenced by a combination of factors including the existing ground conditions and the preferred methods of the building contractor that will be appointed. As such, a programme for the delivery of the Proposed Development has not yet been established.

5.27 The identification of potentially significant effects at the construction stage (and the identification of suitable mitigation measures) assumes that a generic construction methodology will be adopted based on standard construction methods and timings derived from similar developments in similar locations. The assumptions made will need to be realistic and appropriate to the development proposed, and many will ultimately be defined in the CEMP.

5.28 It is assumed that construction of built development will be more or less continuous throughout this time and will include the following activities:

- Enabling works and site preparation: to include earth moving (cut and fill) and arboricultural works,
- Provision of infrastructure: to include the provision of the access road and access points into the Proposed Development,

- Construction of substructure: to include localised re-grading, excavation for foundations and installation of ground slabs where necessary,
- Construction of superstructure: comprising the construction of the main building envelope,
- Fit out of buildings: to include the installation of insulated timber frames or block work party walls, surfaces finishes, internal division walls, mechanical and electrical installations; and internal fixtures,
- Landscaping: soil preparation; tree and vegetation planting, seeding, and construction of footpaths/ cycle routes.

5.29 Enabling works and site preparation will include:

- Earth moving – excavation and grading,
- Arboricultural works – including the protection of trees/vegetation to be retained and removal of trees/vegetation to be lost, and
- Some new structural planting may also be implemented as part of the Site.

5.30 As the Site is relatively flat, there will be little requirement for cut and fill to facilitate the Proposed Development.

Hours of Work

5.31 It is anticipated that the working hours for works audible at the Site boundary will be as set out below:

- 0730 – 1800 Monday to Friday,
- 0800 – 1300 Saturday, and
- No working on Sundays or Bank Holidays.

5.32 These hours will be agreed with the Council prior to the commencement of the works. All work outside of these hours will be subject to prior agreement, and/ or reasonable notice, to the Council, who may impose certain restrictions and will have regard to any planning conditions attached to any grant of permission. Night-time working will be restricted to exceptional circumstances.

Construction Environmental Management Plan

5.33 A CEMP, which will clearly set out the methods of managing environmental issues for all involved with the construction works, including supply chain management, will be provided to the Council prior to commencement of the relevant phase of works.

5.34 Throughout the ES measures are set out to mitigate the effects of the Proposed Development during construction. These would be collated in, and implemented by, the CEMP where appropriate.

Waste Management, Recycling and Disposal

5.35 Waste will be generated during all stages of the construction works. Sources of waste within the construction process include:

- Packaging – tins, plastics, pallets, expanded foams etc,
- Dirty water, for example from silt, and
- Timber, off-cuts etc.

5.36 All relevant contractors will be required to investigate opportunities to minimise waste arisings at source and, where such waste generation is unavoidable, to maximise the recycling and re-use potential of construction materials. Wherever feasible, such arisings will be dealt with in a manner that reduces environmental impact and maximises potential re-use of materials.

5.37 A SWMP will be implemented specifically to mitigate the effects of waste arisings during the construction of the Proposed Development. Measures will include:

- Making efficient use of materials, including the use of recycled and existing materials on site when and where appropriate, and
- Screening and crushing of surplus material generated during site clearance (where the opportunity exists) prior to relocation in order to reduce the amount of waste generated on the Site.

5.38 For those materials removed from the Site, notification by the Construction Liaison Officer for approval (via consultation with the authorities) will take place. The Construction Liaison Officer will ensure that any water that may have come into contact with any contaminated materials during construction will be

disposed of in accordance with the Water Resources Act (1991) and other legislation and to the satisfaction of the EA. In addition, any risk will be reduced by adopting good management practices.

5.39 All liquids and solids of a potentially hazardous nature (for example diesel fuel, oils, solvents) will be stored on surfaced areas, with bunding, to the satisfaction of the EA.

ENERGY AND SUSTAINABILITY STATEMENT

5.40 This EIA has been prepared having regard to the design parameters described above. The Application is accompanied by a DAS which contains the overall design principles to promote a sustainable development consistent with national and local planning policies and guidance. A separate Energy and Sustainability Statement has also been prepared to accompany the application.

5.41 A separate Energy Strategy Report identifies that a 6.2MVA supply is necessary to accommodate the anticipated annual energy requirement of more than 700,000kWh. The introduction of microgrids serving approximately 200 homes each will ensure efficient energy distribution and management for each phase of the development. These microgrids will be equipped with advanced Battery Energy Storage Systems and intelligent control mechanisms providing resilience and optimising the local energy economy. Predicted energy consumption models demonstrate these microgrids could increase site energy self-consumption from 33% to 55% , reducing the dependency on the local and national grid.

5.42 The detailed design of the Proposed Development, including measures to promote energy efficiency and carbon reduction, will be determined at the reserved matters stage. This will include, amongst other matters, consideration of building orientation, windows, and building materials.

5.43 The Proposed Development will adopt the nationally recognised energy hierarchy, which places emphasis on reducing energy demands in the first instance, using energy efficiently and, only then, providing renewable and low carbon energy generation technologies where it is appropriate to do so.

5.44 The suitability of renewable and low carbon technologies will be reviewed as the design process progresses at the reserved matters stage. The Proposed Development will aim to meet national and local requirements to reduce CO2 emissions, enhancing energy efficiency, and provision of renewable energy where appropriate and viable.

6 ALTERNATIVES

6.1 This chapter of the ES outlines the main alternatives considered by the Applicant. This is a requirement of The Regulations: Schedule 4, Part 1 (ref: 5.1), which states:

> *"An outline of the main alternatives studied by the applicant and an indication of the main reasons for the choice, taking into account the environmental effects".*

6.2 This section outlines the need for the Proposed Development and the main alternatives considered.

NEED FOR THE DEVELOPMENT AND ITS OBJECTIVES

6.3 The Council has a duty to provide a sufficient and continuous five year supply of housing to meet its identified needs. There is a continuing need for housing to be delivered in the Council area and the Site represents an opportunity on which to provide this. (Further commentary on this is provided in the Planning Statement accompanying the application).

6.4 The key objectives of this Application can be summarised as follows:

- Creation of an attractive, deliverable, sustainable development in accordance with the planning policy, and
- Provision of necessary housing to meet identified needs.

ALTERNATIVES

6.5 The alternatives considered within this ES are summarised as follows:

- Do nothing,
- Alternative site location, and
- Alternative design and site layouts for the Proposed Development.

Do Nothing

6.6 Guidance on the preparation of an EIA suggests that the evaluation of a site in the absence of specific proposals should be addressed, which can be described as the "do nothing" alternative. The do nothing scenario is a hypothetical alternative, conventionally considered in EIA as a basis for comparing the development proposal under consideration.

6.7 The do nothing scenario would result in the Site's baseline remaining unchanged thus avoiding any associated adverse impacts identified within this EIA. However, the do nothing scenario is not a reasonable alternative in the context of the need for housing within District.

Alternative Site Location

6.8 The Site is owned by the Applicant. In this context, there is not an alternative location for the Proposed Development to take place. The Site is being promoted through the Local Plan process as a suitable and sustainable location for residential development.

Alternative Design and Layouts

6.9 Figures 6.1 and 6.2 identify an earlier and later 2018 concept scheme. The Proposed Development has been evolving over a number of years as knowledge of environmental constraints and opportunities has improved. In early 2018, the concept scheme, whilst built around many of the design principles now seen in the 2022 scheme, involved a much smaller land area in two blocks for circa 1,000 dwellings, immediately adjacent to the existing built-up area of Alderholt. The key differences between these and the final scheme as presented in Figure 5.5 are -

- A greater area of land that has now been acquired,
- the proposed built-up area extends further southwards to the west of, and along the length of, Ringwood Road to accommodate circa 1,600 dwellings (late 2018) and 1,700 in the final scheme,
- the inclusion of 43ha of SANG along the western flank of the scheme, and 9ha in the south-east,
- the inclusion of a defined village centre west of Ringwood Road, complimented on the eastern side of the road by a recreation hub built around the existing sports facility,
- the re-alignment of Ringwood Road through the western parcels of land, the old alignment was downgraded to allow vehicular access only to existing properties.

7 TRANSPORTATION

INTRODUCTION

7.1 This chapter, which has been prepared by Paul Basham Associates, considers the likely effects of the proposals upon traffic and transportation conditions within the vicinity of the development. The assessment considers the environmental effects of traffic generated by the Proposed Development which comprises a mixed use development of up to 1700 dwellings including affordable housing and care provision; 10,000sqm of employment space in the form of a business park; village centre with associated retail, commercial, community and health facilities; open space including the provision of SANG; biodiversity enhancements; solar array; and new roads, access arrangements and associated infrastructure.

7.2 The Site is located to the south and west of the existing Alderholt Village, to the south of Ringwood Road and west of Hillbury Road.

7.3 A comprehensive Transport Assessment (TA) has been prepared (Technical Appendix 7.1). The TA examines in detail the transport effects of the Proposed Development on the transport system and provides the basis for this assessment.

7.4 A Travel Plan (TP) (Technical Appendix 7.2) and Walking Cycling Horse-Riding Assessment & Review (WCHAR) (Technical Appendix 7.3) have also been prepared to support the planning application. The TP sets out a range of policies and targeted measures designed to promote sustainable travel and reduce car dependency, which forms part of the overall transport strategy and contributes towards the mitigation of the Proposed Development. The WCHAR reviews walking and cycling conditions and identifies opportunities to provide improvements to these links to help mitigate the impact of the Proposed Development.

CONTEXT

7.5 The assessment has been carried out with reference to the national and local policy as well as the following:

- Guidelines for the Environmental Assessment of Road Traffic, Institute of Environmental Assessment (1993);
- Manual for Streets, Department for Transport (2007), & Manual for Streets 2, Chartered Institution of Highways & Transportation (2010); and
- The Government's Planning Practice Guidance to the NPPF (2019).

ASSESSMENT METHODOLOGY

Predicting effects

7.6 The NPPF, published in July 2021, states that all developments that will generate significant amounts of movement should be required to provide a Travel Plan and the application should be supported by a Transport Statement or Transport Assessment so that the likely impacts of the proposal can be assessed.

7.7 The TA accompanying the planning application has been prepared in consultation with Dorset Council, in its capacity as the local highway authority (LHA), Hampshire County Council, as the neighbouring LHA, and National Highways, which is responsible for operating, maintaining and improving the strategic road network in England, including the A31.

7.8 This assessment has been based upon the Institute of Environmental Management & Assessment's Guidelines for the Environmental Assessment of Road Traffic (the IEMA Guidelines). The IEMA Guidelines paragraph 3.15 suggest that two broad rules-of-thumb could be used as a screening process to delimit the scale and extent of the assessment. These are:

- Rule 1: include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%,
- Rule 2: include any other specifically sensitive areas where traffic flows have increased by 10% or more.

7.9 These rules-of-thumb form the starting point for the assessment of effects. The significance of the effects of the Proposed Development will be considered in respect of the following subject areas based on the IEMA Guidelines:

- Driver Delay,
- Pedestrian Delay and Amenity,
- Fear and Intimidation,
- Severance, and
- Accidents and Safety.

7.10 Based on the criteria set out above the following study area has been determined. The junctions and links which form part of this assessment include:

- Junctions:
  - Proposed Site Access Junction onto Hillbury Road,
  - Station Road/Ringwood Road junction,
  - Pressey's Corner junction,
  - Provost Street junction, and
  - Verwood Road/A31 Eastbound Off-slips.
- Links:
  - Harbridge Drove,
  - B3078 Daggons Road,
  - Batterley Drove, and
  - B3078 Fordingbridge Road.

Receptor Sensitivity

7.11 A Magnitude of Change Scale in respect of each of the IEMA guideline subject areas is defined in Table 7.1, whilst the relevant sensitivity of receptors scale is identified in Table 7.2. The thresholds have been derived with reference to the IEMA Guidelines, best practice and professional judgment.

Table 7.1: Magnitude of Impact (Based on IEMA Guidelines)

Subject	Magnitude of Impact			
	Major	Moderate	Minor	Negligible
Severance	Change in highway link traffic flow of over 60%	Change in highway link traffic flow of 30% to less than 60%	Change in highway link traffic flow of 10% to less than 30%	Change in highway link traffic flow of less than 10%
Driver Delay	Increase in driver delay by over 90 seconds	Increase in driver delay by 30-90 seconds	Increase in driver delay by 10-30 seconds	Increase in driver delay by less than 10 seconds
Pedestrian Delay	Change in highway link traffic flow of over 60%	Change in highway link traffic flow of 30% to less than 60%	Change in highway link traffic flow of 10% to less than 30%	Change in highway link traffic flow of less than 10%
Pedestrian Amenity	Change in highway link traffic flow of over 60%	Change in highway link traffic flow of 30% to less than 60%	Change in highway link traffic flow of 10% to less than 30%	Change in highway link traffic flow of less than 10%
Fear and Intimidation	Change in highway link traffic flow of over 60%	Change in highway link traffic flow of 30% to less than 60%	Change in highway link traffic flow of 10% to less than 30%	Change in highway link traffic flow of less than 10%
Accidents and Safety	Change in highway link/junction traffic flow of over 30%	Change in highway link/junction traffic flow of 10% to less than 30%	Change in traffic flow through junction of 5% to less than 10%	Change in traffic flow through junction of less than 5%

Table 7.2: Value/sensitivity assessment

Receptor value / sensitivity	Receptor type
High	Sensitive groups such as children and elderly
	Accident 'hot spots'
	Schools and town centres
	Pedestrians on roads with no footways
Medium	Pedestrians on roads with footways
	Cyclists
	Highway junctions operating close or over capacity
	Parks and recreational areas
	Retail areas
Low	Roads with active frontages
	Distributor roads
Negligible	Open space (agricultural land)

7.12 The predicted level of effect is based on the consideration of magnitude of impact and sensitivity of the resource/receptor to come to a professional judgement as to how important this effect is.

Table 7.3: Level of effect

Receptor Sensitivity	Magnitude of Impact			
	Major	Moderate	Minor	Negligible
High	Major	Major	Moderate	Negligible
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Minor	Negligible
Negligible	Negligible	Negligible	Negligible	Negligible

7.13 For the purposes of this assessment the level of impact is considered significant in circumstances when the overall magnitude of effect is moderate or above. In addition to the significance of the impact, the nature of the impact, being either beneficial, negligible, or adverse, has also been considered accordingly.

7.14 The above tables have been derived with reference to the IEMA Guidelines, such that locations in the study area that would experience an increase in traffic flow of 10% or more are considered in respect of Severance, Pedestrian Delay and Amenity, and Fear and Intimidation. In respect of accidents and safety, locations with a poor collision record are considered where they would experience an increase in traffic flow of 5% or more. In respect of Driver Delay, the corresponding figure is also >5%. Professional judgement has been exercised in determining the degree of the effect and whether or not mitigation in the form of an improvement to the existing road layout is required and, if required, what that improvement should comprise.

BASELINE CONDITIONS

Current Baseline

7.15 Baseline information collected during the preparation of the TA included existing highway network information, informed by a site visit, collision records obtained from CrashMap and traffic surveys undertaken in 2021 (2018 in respect of the A31 junction).

Local Highway Network

7.16 The Site is located north and south of Ringwood Road and west of Hillbury Road, with access taken from a new roundabout junction on Hillbury Road and a new priority junction on Ringwood Road.

7.17 Ringwood Road routes on a north-west – south-east alignment between Station Road to the north and Hillbury Road to the south. It currently forms the western boundary of the existing Alderholt settlement

and is utilised by traffic routing between the south and western areas of Alderholt. It can be split roughly into two sections of varying characteristics.

7.18 Ringwood Road can be categorised into approximately two sections of varying characteristics. From Station Road to the easternmost properties on the southern side, the speed limit is 30mph and is suburban in nature, with footways and street lighting present. At its northern end, Ringwood Road meets Station Road at a priority junction. Ringwood Road splits to provide separate access/egress points for vehicles travelling to/from the west and east.

7.19 Further east, Ringwood Road is more rural in nature, measures c. 5-6m in width, is subject to a 40mph speed limit, is not street-lit, and does not have formalised kerbs and footways. It provides direct access to a number of residential properties, Alderholt Recreation Ground, Foxhill Farm and Warren Park Farm campsites and a consented residential development of 45 dwellings (REF: 3/16/1446/OUT). Ringwood Road then joins Hillbury Road in the form of a simple priority junction to the south-east.

7.20 Hillbury Road itself routes on a north-south alignment and routes between Alderholt to the north and provides connections towards Ringwood and the A31 approximately 8km to the south.

7.21 Hillbury Road can also be broadly categorised into two sections. From the edge of the settlement northwards, the speed limit is 40mph, reducing to 30mph just before Windsor Way. Within the settlement, Hillbury Road provides access to a number of residential side roads and direct access to residential properties. A footway is provided on the western side of the carriageway and further north, occasional street lighting is provided. At its northern end, Hillbury Road meets Station Road (B3078) at a priority junction.

7.22 South of the existing settlement edge, Hillbury Road is fairly rural in nature. It measures approximately 6m in width, is subject to the national speed limit, is not street lit and does not provide footways, instead soft verges and hedgerows abut the carriageway.

7.23 Station Road forms part of the B3078 which locally routes between Cranborne to the west and Fordingbridge to the east. Within Alderholt it shapes the northern settlement boundary, linking Ringwood Road with Hillbury Road serving residential properties directly as well as via residential side roads. It measures approximately 6m in width, is subject to a 30mph speed limit, is street lit, and has footways along both sides of the carriageway for the majority of its length. Travelling east, Station Road turns to the left adjacent to the junction with Hillbury Road. Approximately 75m to the north, Station Road turns right adjacent to a junction with Sandleheath Road.

7.24 To the east, the B3078 becomes Fordingbridge Road. Fordingbridge Road is a local distributor road which routes between Alderholt and Fordingbridge. It is subject to a 30mph speed limit changing to a 60mph limit as it exits Alderholt and is relatively rural in nature, with soft verges and no formalised kerbs. The width of the carriageway varies, particularly where it curves in either direction.

7.25 To the west, between Alderholt and Cranborne, Batterley Drove meets the B3078 via a priority junction and provides an alternative route to Verwood, providing onward connections beyond towards Wimborne. Batterley Drove is of reasonable width given its rural nature. It is typically subject to a 60mph speed limit and has no footways alongside.

Traffic Conditions

7.26 Traffic survey data was obtained at key links and junctions as part of the highway assessment work undertaken in 2021 (and 2018 with regards to the A31 junctions). This data informed the 2021 baseline traffic scenarios which are available within the TA.

Collision Data

7.27 Collision data has been obtained from CrashMap for the highway network in the vicinity of the Site for the 5-year period ranging from 2017-2021 inclusive. An analysis of the collision data is provided within the TA.

7.28 The analysis confirmed that there have not been any collisions within the vicinity of the two proposed points of access, and that across the network generally the majority of collisions which occurred were categorised as slight and occurred through driver error. There were some serious collisions. However, the majority appeared to be as a result of highway design and for the most part there are no pre-existing conditions which would be worsened following the implementation of the development. The exception to this is the A31 on-slip/Verwood Road junction, where five accidents occurred in a similar manner, suggesting a potential safety issue.

Public Transport

7.29 The TA identifies existing public transport services that operate within the vicinity of the Site. The nearest bus stops to the Site are located along Birchwood Drive providing access to one bus service, the 97, which routes 3 times per direction on a Tuesday, Wednesday and Friday. It routes between Alderholt and Ringwood via Fordingbridge and is provided by Community Transport Services. Public Transport is therefore lacking within Alderholt within the baseline scenario.

Walking and Cycling

7.30 The TA details the existing walking and cycling routes within the vicinity of the Site. Immediately within the vicinity of the Site, Ringwood Road and Hillbury Road do not have footways, respectively terminating to the north of the Site at the settlement boundary.

7.31 The nearest footway to the Site is the footway which routes through the Recreation Ground which abuts the Site and provides a connection north into Birchwood Drive. Birchwood Drive and the majority of the roads within Alderholt settlement boundary have pedestrian infrastructure in the form of footways and dropped kerbs which provide pedestrian access within the village. The condition of these footway links within Alderholt is appraised in greater detail within the WCHAR.

7.32 Cycling infrastructure within the vicinity of the Site is limited, with the exception of the Bridleway which routes between Alderholt and Verwood to the west of the Site, and various forestry tracks. Given the lightly trafficked nature of the residential roads within Alderholt, on-street provision is considered appropriate.

Future Baseline

7.33 Future baseline flows have been forecast by taking the 2021 baseline year and factoring it up to a future year of 2033 using TEMPRO growth factors, as agreed with DC during the scoping stage. These TEMPRO Growth Factors are set out within the TA.

7.34 The need to include committed development traffic was confirmed through discussions with Dorset Council at the scoping stage. These discussions confirmed that the committed development in neighbouring Fordingbridge was unlikely to materially affect the study area and that any residual growth would be captured through application of the TEMPRO Growth Factors.

7.35 It is noted that for the purposes of the TA, sensitivity assessment scenarios of 2027 Forecast (Scenario 2) and 2028 Forecast plus 500 dwellings (Scenario 3) were assessed to determine trigger points for any mitigation works. However, for the purposes of this assessment the 2033 Forecast has been referred to only.

7.36 This 2033 forecast scenario was used for the comparison of traffic impact 'with' and 'without' development, with the detailed methodology set out within the TA. In summary the following scenarios have been considered as part of the assessment:

- Scenario 1: 2021 Baseline;
- Scenario 4: 2033 Forecast; and
- Scenario 5: 2033 Forecast plus Proposed Development.

IMPACT ASSESSMENT

Construction Phase

7.37 The Proposed Development construction period is likely to take in the region of 14 years, although this is dependent on the number of sale outlets, market conditions and types of housing being built. The employment land and market square will be built out as required subject to S106 agreements to support the development and local environment.

7.38 Construction working periods are expected to be 0800-1700 Monday to Friday and 0800-1300 on Saturdays with no night-time shifts. Deliveries will be made on weekdays only and the car driver mode share for staff is considered to be 70%. This mode share assumption is robust because there is likely to be much higher car occupancy with construction workers arriving in multiple occupancy vehicles.

7.39 During the busiest construction phase (assumed to be c. 125 dwellings per year), it is predicted that there will be some 100 vehicle arrivals (85 cars/vans and 15 HGVs) per day. It is important to highlight that as working periods begin at 0800, the majority of on-site workers are likely to travel outside the AM peak period.

7.40 The other associated land uses are expected to be built alongside the residential construction programme. It is estimated that the other land uses will generate on average in the region of 40 vehicle arrivals (30 cars/vans and 10 HGVs) per day during the busiest period of construction. Again, workers are likely to arrive prior to 0800, to start work at 0800 and thus would travel outside the traditional morning peak travel period when traffic volumes and flows are at their highest.

7.41 In combination, for the entirety of the Proposed Development, the construction of up to 125 dwellings a year and the other land uses, during the busiest periods the Site could be expected to generate 140 vehicle arrivals, 115 of which would be in cars/vans and 25 as HGVs. Such figures are substantially lower than the total anticipated traffic generation of the development once fully built and occupied. Effectively, construction traffic associated with 125 properties per annum is less traffic than generated by 125 occupied dwellings and a lesser peak period impact.

7.42 When comparing the likely maximum construction traffic trip generation of 280 trips per day during construction this will equate to a maximum increase of 22% on Ringwood Road whilst impacts on other links will be lower still at less than 10% (based on trip generation and traffic flows set out in Tables 7.4 and 7.5 below). On this basis, the impact of construction traffic on severance, pedestrian delay, pedestrian amenity, and fear and intimidation, all for which a maximum 22% increase would equate to a minor impact, for a medium receptor would have a **minor adverse** impact. Furthermore, this impact is less than that associated with the operational stage of the development, therefore no mitigation specifically in relation to these impacts has been identified in relation to construction.

7.43 Regarding both driver delay, accidents and road safety, the magnitude of effects thresholds is lower, and therefore the impact along Ringwood Road, Sandleheath Road, Batterley Drove, B3078 to Cranborne, and Hillbury Road North would equate to a moderate magnitude of effect, whilst all other links would experience a **minor adverse impact** or less due to the percentage impact at these links being less than 10%.

7.44 Ringwood Road, Sandleheath Road, Hillbury Road, and Batterley Drove all house medium receptors as they are not collision hot spots nor contain junctions over capacity, and therefore the overall impact of construction would be **moderate adverse** in the absence of any mitigation (medium x moderate = moderate adverse).

7.45 The above figures represent the highest average daily construction vehicle trips across the entire construction programme. There is likely in practice to be some variation depending on the particular construction phase and activities taking place on site.

7.46 Based on the above it has been identified that some mitigation is required to minimise the impacts of the traffic associated with the construction phases. These are set out in paragraphs 7.81-7.86 within the mitigation section.

Operational Phase

7.47 The Proposed Development includes a wide range of local facilities, employment land and amenities, which will reduce the need to travel than would otherwise be the case for a solely residential development. On this basis a detailed review of the likely vehicular trip generation was undertaken. This involved analysis of the current trip journey purposes made by Alderholt residents with regards to education, employment, and retail/recreational needs. This then led to appropriate bespoke reductions applied to these proportions of trips in the AM and PM peak periods, taking into account the mixed use nature of the scheme.

7.48 The methodology and resulting trip generation is detailed within a separate report which is summarised within the TA and was agreed by Dorset Council during the scoping stage. The resulting trip generation is set out in Table 7.4.

Table 7.4: Proposed Trip Generation

	AM Peak (0800-0900)		PM Peak (1700-1800)	
	Arrivals	Departures	Arrivals	Departures
Proposed Residential	58	559	605	230
Existing to be Discounted	-123	-209	-114	-54
Net Impact	**-66**	**351**	**493**	**175**
Employment	188	36	41	176
Total	**123**	**387**	**533**	**350**
	510		**884**	

7.49 The distribution of the Proposed Development traffic onto the surrounding highway network has been assigned based on 2011 Census Journey to Work data, as set out within the TA and agreed with DC.

7.50 The resulting distribution is that 31% of trips route to the east along B3078 Fordingbridge Road, 35% south along Harbridge Drove and 34% along B3078 Daggons Road west. Subsequent breakdowns of assignment on wider highways links and the traffic flows for scenarios 1, 4 and 5 are set out within the TA which is included within Technical Appendix 7.1.

7.51 As a result of the Proposed Development the following increases in AADT are anticipated to occur along the following links:

Table 7.5: Proposed Trip Generation By Link

Link	2033 Forecast	Development Flows	Total	% Impact
B3078 South of Cranborne	3597	684	4282	19.0%
B3078 South of Verwood	9293	1021	10315	11.0%
B3078 Cranborne - Batterley Drove	2672	684	3356	25.6%
B3081 Batterley Drove	2665	2162	4827	81.1%
B3078 Batterley Drove - Alderholt	4797	2846	7643	59.3%
B3078 Station Road	4081	2144	6225	52.5%
Ringwood Road	1240	1886	3126	152.1%
Hillbury Road (North)	2411	3555	5967	147.4%
Harbridge Drove	3529	2930	6459	83.0%
A31 West	105662	1758	107420	1.75
A31 East	108669	1172	109841	1.1%
B3078 Fordingbridge Road	6729	1588	8317	23.6%
Sandleheath Road	2690	1007	3697	37.4%
A338 North of Fordingbridge	13329	524	13853	3.9%
B3078 Southampton Road (New Forest)	3722	17	3738	0.4%

7.52 As a result of the trip generation forecasts above, the following junctions and links have been considered and assessed:

- B3078 South of Cranborne,
- B3078 South of Verwood,
- B3078 Cranborne - Batterley Drove,
- B3081 Batterley Drove,
- B3078 Batterley Drove – Alderholt,
- B3078 Station Road,
- Ringwood Road,
- Hillbury Road (North),
- Harbridge Drove,
- B3078 Fordingbridge Road, and
- Sandleheath Road.

Driver Delay

7.53 Chapters 8-10 of the TA detail the modelled impact of the Proposed Development on driver delay at junctions and links throughout the study area. The capacity assessments review junction operation under various scenarios pre and post development and provides outputs relating to junction performance including a Ratio of Flow to Capacity (RFC) for priority junctions and roundabouts, or Degree of Saturations (DoS) for signal junctions, as well as vehicle queue lengths and delay in seconds.

7.54 The scope of the junction assessments was agreed with Dorset Council as follows:

- The proposed site access with Hillbury Road,
- Hillbury Road / Station Road,
- Ringwood Road / Station Road (B3078),
- High Street / Provost Street (B3078) in Fordingbridge;,and
- Verwood Road / A31 Off-East bound off and on slips.

7.55 The Site access junction with Hillbury Road has been designed to accommodate future traffic and therefore the impact is negligible. The Ringwood Road/Station Road junction will experience very minor increases in driver delay with additional delay totalling less than 10 seconds, and therefore, given the junction will operate below capacity and the absence of any high sensitive receptors the impact at this junction will be negligible. Finally, the Hillbury Road/Station Road will experience increases in delay of between 10-30 seconds. However, the junction itself will continue to perform under capacity and the sensitivity of the receptor totals medium, therefore the impact upon driver delay at this junction is minor adverse.

7.56 For the High Street/Provost Street junction the impact was more substantial due to the junction being more constrained and experiencing higher base flows prior to the Proposed Development being added. As a result, the impact without any mitigation on the worst performing arm totalled an increase in 45 queuing vehicles which equates to a further 601 seconds delay during the AM peak period. The sensitivity receptor at this junction is high given the sensitivity of the junction operation and the location being within a 'town centre', therefore without any mitigation, it is considered the impact would be major adverse given the delay increases by an additional 90 seconds. Mitigation at this junction was therefore identified and is discussed later in this chapter.

7.57 For the A31 Eastbound off-slip junction with Verwood Road, the assessment identified that there was to be extensive queuing and delay at the junction before the development traffic was added. With the Proposed Development queues and delays would increase and begin to interact with vehicles on the mainline of the A31 with additional delay in excess of 90 seconds (major magnitude of effect) at a junction that was operating above capacity (high sensitivity receptor). Therefore, without any mitigation it is considered that the impact of the Proposed Development on driver delay would be major adverse. On this basis a mitigation scheme has been designed and is considered later in this chapter.

7.58 In addition to the assessment of driver delay at junctions, the TA also assessed the impact on specific links. The links in question included The B3078 between Cranborne to the west via Alderholt to Fordingbridge to the east. In addition, Harbridge Drove to the south of Alderholt up to the A31 was also considered in detail, whilst Batterley Drove between the B3078 and Verwood to the west of the Site was also briefly considered.

7.59 This assessment concluded that there are some areas on the road network where two large vehicles could not pass and would therefore result in minor delays of less than 30 seconds whilst the two vehicles give way to another. Given the general absence of accident hot spots or capacity sensitivity junction the impact on these links is considered to be minor adverse. However, mitigation is considered appropriate and is therefore proposed in the form of localised widening where necessary.

Pedestrian Delay and Amenity

7.60 The percentage increases in traffic flow along links in the study area are set out in Table 7.5 above. This has the potential to decrease the pedestrian amenity along them and cause greater delay as pedestrians wait to cross.

7.61 Specifically links which will experience a greater than 60% increase (and therefore the development has the potential to have a major magnitude of impact) including Ringwood Road, Hillbury Road (north of the access), Harbridge Drove, and B3081 Batterley Drove.

7.62 Links which will experience a greater than 30% increase (and therefore the development has the potential to have a medium magnitude of impact) include B3078 between Batterley Drove and Alderholt, B3078 Station Road, and Sandleheath Road. It is pertinent to note that these links primarily comprise routes either within Alderholt (Station Road, Ringwood Road and Hillbury Road), or are distributor roads towards the A31 (Harbridge Drove) or Verwood (B3078 and Batterley Drove).

7.63 Of these links, Batterley Drove, the B3078 between Batterley Drove and Alderholt, Sandleheath Road, and Harbridge Drove are all distributor roads, where minimal pedestrian infrastructure exists and

demand for pedestrian trips is low. For this reason, the level of effect on pedestrian amenity/delay is considered to be **negligible**, despite the high and medium sensitivity of receptors.

7.64 Within Alderholt itself Ringwood Road can be broadly split into two sections, the northern existing section within the residential built up area, and the southern section adjacent to the Proposed Development. The northern section will experience a 152% increase in traffic flows resulting from the Proposed Development which equates to a major magnitude of effect. Therefore, when applied to the medium receptor along this link equates to a **major adverse** impact for pedestrian delay and amenity without any mitigation. On this basis, mitigation has been proposed later in this chapter.

7.65 To the south, Ringwood Road will be replaced by the Proposed Development spine road, and Ringwood Road repurposed to be a 'quiet lane', which will be low speed, low traffic, no through route for vehicles and therefore suitable for pedestrians and cyclists in a way it currently is not. Therefore, given this section of Ringwood is a high sensitivity receptor and the change in traffic level is in excess of a 60% reduction in trips the impact upon this section of Ringwood Road is considered to be **major beneficial**.

7.66 Hillbury Road north is expected to experience a 147% increase in traffic flow (a major magnitude) and will therefore experience a **major adverse** effect (based on a medium/high receptors in locations where footways are or are not present). Therefore, mitigation has been proposed and is detailed later in this Chapter.

7.67 Within Alderholt along Station Road, the traffic flow along the local road network will increase by 52.5%, which constitutes a **moderate adverse** impact on pedestrian delay and amenity (based on a moderate magnitude impact upon medium receptors). Mitigation has therefore been proposed to address this and is detailed later in this Chapter.

Fear and Intimidation

7.68 As above it is noted that a number of the links which would experience the greatest increase in flow are not pedestrian friendly at present, with a number being rural distributor roads. As a result of low pedestrian demand, fear and intimidation along these links would be effectively **negligible**.

7.69 Ringwood Road and Hillbury Road will be the only links to experience a **major adverse** impact, based on the combination of the substantial percentage increase in flow (being over 60% and therefore a major magnitude) and sensitivity of the receptor being medium/high depending upon the location and presence of footways. On this basis mitigation has been proposed and is detailed later in the Chapter.

7.70 Of the links to experience moderate magnitude of impact (30-60% increase in traffic flow), only Station Road experiences any significant pedestrian and/or cycle demand. On this basis and to negate a **moderate adverse** impact mitigation has been identified along this stretch and is also detailed later in this Chapter.

7.71 In addition, there are two links whereby Pedestrian demand exists which experience a minor impact (as defined by traffic increases 10-30%) which include the B3078 through Cranborne and into Fordingbridge. In these two locations existing provision is provided which ensures that the impact in this location will be **minor adverse** based on medium receptors but that no mitigation is considered necessary given the minor impact overall.

Severance

7.72 As outlined within the methodology section above, the impact of the Proposed Development upon the severance experienced on the surrounding community is determined with reference to the change in traffic flow. In relation to magnitude of effect a 10% increase is considered minor, 30% considered moderate and a 60% increase considered major respectively, although allowance needs to be made for the presence of crossing facilities.

7.73 Traffic flow percentage increases have been calculated for all links within the assessment scenario and these are shown within Table 7.5. The figures in Table 7.5 illustrate that the Ringwood Road, Hillbury Road, Harbridge Drove and Batterley Drove links all experience increases in more than 60% of traffic flows and therefore the Proposed Development will have a major magnitude of effect upon Severance. The B3078 between Batterley Drove and Alderholt, Station Road and Sandleheath Road experience traffic flow increases of 30-60% and therefore have moderate effect

7.74 It is therefore recognised that Ringwood Road North, Hillbury Road, will experience **major adverse** impacts in relation to severance due to the medium receptors along these links. Harbridge Drove and Batterley Drove will also experience major effects. However given the minimal pedestrian facilities that exist and pedestrian demand is low at best, the sensitivity of the receptor is negligible and therefore the overall impact upon these links is **negligible**. Hillbury Road is also expected to experience a major magnitude of effect resulting from the Proposed Development due to an increase in traffic flow in excess

of 60%. At present there is minimal demand to cross Hillbury Road due to it forming the eastern boundary of Alderholt. However, the proposals raise the potential to improve cycling connection across to the east to connect into Midgham Lane. Therefore, should these proposals come forward, mitigation may well be required. However, at present given the low level of demand the overall impact is considered to be moderate adverse.

Accidents and Safety

7.75 Within the TA the collision data on the surrounding road network has been analysed with it determined that there were only a few areas which presented a road safety concern for the existing baseline scenario. One of the few areas where there was a cluster of collisions was at the A31 off-slips.

7.76 The guidelines suggest that any link which experiences an increase in traffic flow of over 30% has the potential to have a major magnitude on road safety. Therefore, a number of links and junctions have the potential to experience adverse impacts as a result of the Proposed Development.

7.77 Hillbury Road and Ringwood Road both experience the greatest increases in terms of traffic flow, however there is not a pre-existing road safety issue along these links or at the junctions. Furthermore, the junctions at either end are expected to operate within capacity and not experience any substantial queues and the roads themselves are typically low speed roads with residential frontage. On this basis the receptor for these links and junctions is low and therefore the overall impact is considered to be moderate adverse.

7.78 To the south of Alderholt, Harbridge Drove experiences a substantial increase in traffic following the implementation of the Proposed Development in excess of 30% which would therefore equate to a major magnitude of effect due to trips routing south to join the A31. At the junction between Harbridge Drove and Verwood Road there is an unfortunate collision history. However, as set out within the TA these were either unfortunate circumstances or occurred through driver error. There is not an existing highway safety issue which would be impacted through the additional increase of vehicles along this link and through this junction. Therefore, although the magnitude of effect is major, the receptor is low and therefore the overall impact is considered moderate adverse. No mitigation is proposed separate to any mitigation being undertaken for highway capacity.

7.79 Along Batterley Drove there is a cluster of locations in the vicinity of the 'S' bend to the middle of the link which are not considered to be as a result of carriageway alignment and design. The Proposed Development will result in increases of in excess of 30% in traffic flow, and therefore the magnitude of effect is major. However, the receptor is low given the lack of road safety issue and therefore the resulting impact is considered moderate adverse.

7.80 In addition to the links above, additional increases are expected to occur between Batterley Drove and Alderholt, along Station Road and along Sandleheath Road. No substantial collision history has been identified along these links, whilst analysis and vehicle tracking of the B3078 generally identifies no areas of concern which would create a road safety issue. Therefore, the major magnitude of effect combined with the low receptor value results in a moderate adverse impact.

MITIGATION

Construction Phase

7.81 As set out above, the overall effects of construction traffic are considered to be less than those of the operational development, whilst specifically having a minor adverse impact upon severance, pedestrian delay, pedestrian amenity, and fear and intimidation. In relation to driver delay and road safety Ringwood Road, Sandleheath Road, Batterley Drove, B3078 to Cranborne, and Hillbury Road North would all experience moderate adverse impacts. Therefore, in order to manage and mitigate the impacts a Construction Traffic Management Plan will be produced in due course which will look to manage the arrival of HGVs and construction staff.

7.82 As a result, construction vehicle traffic would travel via the Strategic Road Network (SRN), and from there travel on the local road network to reach the Site. It is likely that travel to/from the A31 would be most appropriate, to minimise inconvenience to Alderholt residents. The specific routes would be confirmed as part of the Construction Traffic Management Plan secured via condition. Once complete, construction traffic would utilise the new internal spine road to avoid routing through the existing Alderholt village where possible. On this basis, the predicted increases in flow will be managed and the Proposed Development would have minor/negligible adverse effects in terms of:

- Driver Delay,

- Severance,
- Pedestrian Delay,
- Pedestrian Amenity, and
- Accidents and Safety.

7.83 The exception to this will remain Ringwood Road. However, given Ringwood Road is intertwined with the development it will be impacted by Construction Traffic in any event and the impact will be managed and minimised as best as possible.

7.84 Regarding driver delay, the construction activity period would continue whilst certain sections of the Site are occupied. The residents and users of the Proposed Development once occupied would also generate some travel demand and would thus place additional traffic movements on the local highway network whilst the construction period continues. Therefore, there is the potential for a combined **minor adverse** effect, in terms of driver delay.

7.85 The construction of the Proposed Development is not expected to involve the transfer of hazardous loads to or from the Site.

7.86 The overall effect of the construction of the Proposed Development will therefore be **minor adverse** once mitigation measures are taken into account, will be managed accordingly through construction management practices and the effects will be temporary.

Operational Phase

Driver Delay

7.87 The section above identified major adverse impacts at the A31 Off-slip junction and the Provost street junction, as well as some links. It is considered mitigation is necessary in order to prevent unacceptable adverse impacts on driver delay.

7.88 With regards to the A31 Eastbound Off-slip, this mitigation involves the signalisation of the off-slip to ensure vehicles have gaps to be able to turn onto Verwood Road heading north. The details of design and operation for this mitigation are provided within the accompanying TA. Following the implementation of the proposed mitigation scheme the resulting delay along the A31 off-slip reduces substantially from 3350 seconds (previously 1364 seconds before development) to 42 seconds, whilst the associated queue no longer blocks onto the A31 mainline. This not only mitigates the impact of the Proposed Development, but also provides substantial betterment over the future baseline operation for both driver delay and safety given the link is forecast to queue onto the A31 mainline. On this basis, following implementation of the Proposed Development and mitigation the effect is considered to be **major beneficial**.

7.89 Mitigation at the Provost Street / High Street junction within Fordingbridge was determined necessary given the impact of the Proposed Development upon driver delay. This mitigation is detailed within the accompanying TA and comprises widening to provide two lanes at the give way line. The resulting impact is that queues and delay are comparable to without the Proposed Development, and therefore the resulting effect is considered to be negligible. An alternative to create a one-way system has also been suggested.

7.90 Further mitigation is proposed along a series of links including the B3078 and Harbridge Drove to locally widen the road to ensure two large vehicles can pass. This mitigation will help mitigate against any adverse effects experienced along these links resulting in a **negligible** effect on driver delay along these links.

Pedestrian Delay and Amenity

7.91 As noted above, links within Alderholt itself such as Station Road, Ringwood Road, and Hillbury Road, will experience major adverse impacts in the absence of any mitigation. In order to mitigate pedestrian delay and amenity, pedestrians have been considered from the very outset of design in terms of the principles of the Proposed Development. The Proposed Development will incorporate a network of pedestrian routes through the Site, either as carriageway adjacent footways or footway/cycleways. In addition, external pedestrian connections between the Site and the wider Alderholt village are to be improved with new links provided and existing connections enhanced, including specifically new footways along Ringwood Road and Hillbury Road (together with crossing facilities as appropriate) and additional connections as well as new advisory cycle lanes along Station Road. These measures will combine to minimise impact on pedestrian amenity and delay. Following implementation of these proposals the effect is considered to be **negligible** such is the scale of the permeability of the proposals.

Fear and Intimidation

7.92 Ringwood Road/Hillbury Road are considered to experience major adverse impacts in relation to fear and intimidation due to the increase in traffic volume along these links. To mitigate against this impact two new footways along Hillbury Road and Ringwood Road are proposed which will ensure pedestrians have dedicated space. In addition, traffic free pedestrian routes are proposed through to Birchwood Drive towards the primary school which is a far less heavily trafficked route and therefore provides a more pleasant and less intimidating route for pedestrians to utilise within Alderholt itself. The resulting impact is that the major adverse impact is considered to be mitigated. However due to traffic flow increases following the mitigation it is considered the residual effect upon pedestrian fear and intimidation along these links will be **minor adverse**.

7.93 Station Road will also experience moderate adverse impacts without any mitigation. Therefore, mitigation along this link is proposed to minimise Fear and Intimidation experienced as a result of the increase in traffic. This includes the provision of advisory cycle lanes and removal of centreline of the carriageway, which will provide cycling infrastructure to give greater confidence for cyclists, whilst also removing any existing cyclists from the carriageway. This will also help to control speeds along Station Road, as it is noted that removal of centrelines on carriageway often induces a slight reduction in vehicles travelling speed. Mitigation for pedestrians is not considered necessary given the existing footways in this location are of reasonable width (c. 2m on both sides of the carriageway, and that pedestrian crossing facilities through dropped kerbs are provided along the southern side of the carriageway to cross southern side roads. Therefore, the resulting effect is anticipated to be **moderate adverse** but given the nature of the link is acceptable.

Severance

7.94 Ringwood Road/Hillbury Road are considered to experience major adverse impacts in relation to fear and intimidation due to the increase in traffic volume along these links. Mitigation has therefore been provided in terms of the downgrading of Ringwood Road, details to be confirmed, footways provided and speed limit reduced to 30mph and extended to include the development. Further mitigation along Hillbury Road to facilitate a crossing has not yet been provided due to the low level of demand at present. However, should cycle opportunities be delivered, crossing facilities will be provided as part of the works. Further wider mitigation in terms of severance has been undertaken through the design of the Proposed Development to ensure permeability through the development to existing local residential roads within Alderholt ensuring the increase in traffic only results in **minor adverse** effects on severance.

Accidents and Safety

7.95 As noted above, although there is not a collision history along Ringwood Road and Hillbury Road, both are expected to experience a moderate adverse impact in relation to road safety. Therefore, speed limit reductions are proposed to ensure the entirety of Alderholt and the development are 30mph. Furthermore, the link along Batterley Drove has a small recorded collision history in the vicinity of the 'S' bend to the middle of the link. Therefore, given the increase in traffic volume mitigation has been provided in the form of additional advisory signage which will mitigate against any potential impact which may arise from the Proposed Development and resulting increase in traffic. As a result of this mitigation and improvements to the link, the effect of the Proposed Development is expected to be **minor adverse** due to the proposed improvements which will improve the safety of this link but traffic volume will increase substantially.

7.96 Finally, the proposed junction improvement scheme at the A31 off/on-slips will also seek to address the small collision history where right turners currently have to turn in gaps in traffic. As a result of the Proposed Development, traffic will have dedicated right turn green time, therefore reducing conflicts and adding to the **moderate beneficial** effects experienced on this junction.

RESIDUAL EFFECTS

Construction Phase

7.97 During the construction phase of Proposed Development, the effects of construction traffic will typically be minor adverse, and the impacts will be temporary. Management control mitigation measures will be implemented during construction in the form of controls imposed by planning conditions, health and safety legislative requirements and good construction site practices. One such example of these mitigation control measures includes a Construction Traffic Management Plan which will be secured through a planning condition and will provide mitigation as appropriate to ensure the impacts of construction traffic are considered and managed in a way to minimise adverse impacts as far as possible.

Operational Phase

7.98 The Proposed Development in its operational phase will give rise to additional transport demand across all main modes of transport. To accommodate this additional demand, appropriate mitigation measures have been identified and proposed.

7.99 It is concluded that with the implementation of the mitigation measures outlined within this chapter, the additional demand will be safely and satisfactorily accommodated on the local highway network. The overall residual effect of the Proposed Development relative to transport and traffic is likely to be moderate/minor adverse, or beneficial where mitigation measures have a wider net benefit.

IMPLICATIONS OF CLIMATE CHANGE

7.100 There will not be any significant implications of climate change upon the Proposed Development and its associated impacts. It is feasible that climate change could result in social attitudes towards private car use altering and may result in fewer vehicular trips being undertaken. This would therefore reduce driver delay at the assessed junctions, or through the introduction of electric vehicles the pedestrian amenity and fear and intimidation associated with the increase in construction and operational traffic will be reduced due to an increase in quieter, less polluting vehicles. This migration towards electric car ownership has been future proofed through the provision of electric car charging points which are to be provided in accordance with the Travel Plan measures for the Site. However, the impacts of these are not known and therefore cannot be quantified within an appropriate assessment format.

CUMULATIVE EFFECTS

7.101 Cumulative sites which have been considered in combination with the Proposed Development include:

- Whitsbury Road, Station Road and Burgate, Fordingbridge,
- Edmundsham Road, Verwood,
- North of Ringwood Road, Alderholt, and
- Daggons Road, Alderholt.

7.102 As agreed with Dorset Council through the scoping of the TA, these developments are primarily based externally to Alderholt and given the geographic location of the sites are unlikely to have a direct impact upon traffic flows in the study area. Furthermore, local background traffic growth factors have been applied to the assessment flows (and the percentages derived in this chapter are percentages of the total including this growth). Therefore, their impacts are typically considered to be negligible and considered in the round.

7.103 For North of Ringwood Road, Alderholt, directly to the north of the Proposed Development, the traffic impact is fairly minimal given its relative size (45 dwellings). However, in designing the access/road alignment arrangements for the Proposed Development, the potential impact of the North of Ringwood Road, Alderholt site has been reviewed and considered accordingly.

SUMMARY

7.104 This chapter has considered the impact of the Proposed Development and associated traffic during the construction and operational phase. The impacts have been assessed for the following:

- Driver Delay,
- Pedestrian delay and Amenity,
- Fear and Intimidation,
- Severance, and
- Accidents and Safety.

7.105 Baseline data has been obtained to inform the assessment which includes traffic data gathered through surveys undertaken in 2021 (and 2018 for the A31 junction with growth factors applied to increase the data to 2021 flows).

7.106 The Proposed Development has been developed in accordance with a range of local, regional and national policy. The Proposed Development has been demonstrated to be accessible via sustainable modes and the principles of sustainable travel have been adopted throughout the Proposed Development as applicable.

7.107 The proposed vehicular trip generation for both the construction and operational phases of the Proposed Development has been estimated and set out within this ES chapter and the TA accompanying the planning application submission.

7.108 The resulting development is expected to result in a range of effects from major adverse to minor beneficial. Therefore, a series of mitigation measures have been set out within this ES Chapter and the accompanying TA to minimise and mitigate these effects.

7.109 These mitigation measures include junction improvements at the A31 off-slips junction and the Provost street/High street junction in Fordingbridge as well as potential widening along a series of links surrounding Alderholt as appropriate. Furthermore, a series of new footways and pedestrian connections will be opened up within Alderholt to enhance pedestrian permeability and therefore mitigate against pedestrian delay, amenity, fear and intimidation, and severance. Finally, Ringwood Road will be downgraded following the implementation of the Proposed Development to create a quiet lane which is useable for pedestrian and cyclists and further enhance the new pedestrian and cycle connections proposed as part of the scheme. As a result of the mitigation set out the residual impact will range from moderate adverse to major beneficial depending upon the type and nature of the receptor.

TABLE 7.6: SUMMARY TABLE

Description of Likely Significant Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Effects					Description of Mitigation / Enhancement Measures	Description of Residual Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Residual Effects				
		B/A	P/T	D/I	ST/M/ LT	L/R/N				B/A	P/T	D/I	ST/M/ LT	L/R/N
Demolition and Construction Phase														
Potential impacts upon Pedestrian Delay and Amenity; Fear and Intimidation; and Severance across the network due to increase in HGV numbers	Minor	Adverse, Long Term Temporary					CTMP to manage traffic	Residual effects confined to Ringwood Road and links to the south rather than wider network	Minor	Adverse, Long Term Temporary				
Potential impacts upon Driver Delay and Road Safety across the network due to increase in HGV numbers	Moderate	Adverse, Long Term Temporary					CTMP to manage traffic	Residual effects confined to Ringwood Road and links to the south rather than wider network	Minor/Moderate	Adverse, Long Term Temporary				
Operational Phase														
Potential impact at the Provost Street/ High Street junction in Fordingbridge due to increases in Driver Delay	Major	Adverse Permanent					Junction improvements including widening and potential one-way system	Delay experienced prior to mitigation no longer occurs	Negligible	-				
Potential impact at the A31/B3081 eastbound on/off-slips with substantial delay and queuing onto the mainline and well as existing collisions at the opposite on-slip	Major	Adverse Permanent					Junction improvements to include signalising of the four arms reducing delay and conflict for right turners onto on-slip	Delay experienced substantially reduced compared to without development situation and safety issues resolved.	Major	Beneficial Permanent				
Potential impact upon driver delay along the B3078 and Harbridge Drove due to potential pinch points	Minor	Adverse Permanent					Potential widening of links as determined necessary	Pinch points removed and so no delay experienced	Negligible	-				
Potential impact on Road Safety along Hillbury Road and Ringwood Road due to substantial increase in traffic	Moderate	Adverse Permanent					Reduction in speed limit to 30mph	Reduction in traffic speeds to include the development site accesses.	Moderate	Adverse Permanent				

Description of Likely Significant Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Effects					Description of Mitigation / Enhancement Measures	Description of Residual Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Residual Effects				
		B/A	P/T	D/I	ST/M/ LT	L/R/N				B/A	P/T	D/I	ST/M/ LT	L/R/N
Potential impact on Road Safety along Batterley Drove due to increases in traffic.	Moderate	Adverse Permanent					Advisory signage on approach to 'S' bend in the middle of link	Greater safety through the centre of this link	Minor	Adverse Permanent				
Potential impact on Pedestrian Delay and Amenity, within Alderholt along Station Road, Ringwood Road and Hillbury Road due to increase in traffic volume.	Major	Adverse Permanent					Wide range of new and/or improved footway/cycle connections between development and existing Alderholt settlement. Also scheme has been designed in a way to promote permeability, whilst Ringwood Road itself will be stopped up and turned itno a active travel friendly route connecting the centre of Alderholt. Further measures are covered within TA.	Improved means of access within Alderholt (both existing and new development)	Negligible	-				
Potential impact on Fear and Intimidation, and Severance, within Alderholt along Station Road, Ringwood Road and Hillbury Road due to increase volume of traffic.	Major	Adverse Permanent					Two new footways alongside Ringwood Road ad Hillbury Road, as well as several new connections between the Site the existing Alderholt destinatiosn ensuring alternatives to these busier traffic routes. Further range of mitigation includes reduction in speed limits, advisory cycle lanes, crossing points as well as overall design of the scheme.		Minor	Adverse Permanent				

8 LANDSCAPE AND VISUAL

INTRODUCTION

8.1 This chapter describes the likely landscape and visual effects of the proposed development. This has been assessed against the existing landscape and visual receptors within the site and its hinterland. The following receptors have been assessed:

- Landscape character, including physical landscape resources, and
- Views and visual amenity experienced by residents, recreational users and by road users.

8.2 Principles and good practice for undertaking landscape and visual impact assessment are set out in the Landscape Institute (LI) and the Institute of Environmental Management (IEMA) Guidelines for Landscape and Visual Impact Assessment, Third Edition (2013) and Landscape Institute Technical Guidance Note 06/19 Visual Representation of Development Proposals.

8.3 The landscape assessment has been made through reference to existing landscape character studies and mapping including:

- The East Dorset Landscape Character Assessment (2008),
- Hampshire County Integrated Character Assessment (2010),
- New Forest District Character Assessment (2000),
- East Dorset and Purbeck Areas Landscape and Heritage Study (January 2021),
- Cranborne Chase and West Wiltshire Downs AONB Integrated Character Assessment (2003),
- CPRE, The Countryside Charity's Mapping Tranquillity (March 2005),
- CPRE, The Countryside Charity's Tranquillity and Intrusion Maps (early 1990's and 2007),
- The Cranborne Chase & West Wiltshire Downs Area of Outstanding Natural Beauty Tranquillity Mapping, Ground Truthing Methodology & Interim Report (July 2010).

8.4 Field survey work was completed on 11 April 2022 (before leaves had emerged on trees) to identify views. A series of representative photographs were taken by MS Environmental the same week. A second series of representative photographs were taken on 15 July 2022 (when trees were in leaf). The weather on both occasions was good with clear visibility.

8.5 Allen Pyke Associates visited the Site and it's wider setting in October 2023 to provide commentary on the potential for effects on the Cranborne Chase Area of Outstanding Natural Beauty in response to the AONB Officers' comments in relation to effects on tranquillity within the AONB. Paragraphs 8.470 onwards provide more detail in this regard.

8.6 The photographs were taken with a full frame camera (Canon EOS 5D Mark IV) and 50mm lens combination consistent with Landscape Institute's TGN 06/19, GLVIA3 and the emerging understanding of the requirement for technical photography for visualisation work.

8.7 For each viewpoint a sequence of visualisations has been prepared. These have been used to inform both the landscape and, separately, visual assessment.

8.8 The Chapter is supported by six technical appendices:

- **Technical Appendix 8.1**: Landscape and Visual Effects Assessment Criteria (GLVIA3),
- **Technical Appendix 8.2**: Figures (prepared by Urban Initiatives Studio Ltd),
- **Technical Appendix 8.3**: Calculation of Zones of Theoretical Visibility (prepared by MS Environmental),
- **Technical Appendix 8.4**: Visualisations (prepared by MS Environmental),
- **Technical Appendix 8.5**: Cumulative Visualisations (prepared by MS Environmental),
- **Technical Appendix 8.6**: Technical Methodology – photography, 3D modeling and verified visualisation (prepared by MS Environmental),
- **Technical Appendix 8.7**: Figures associated with assessment of Tranquility Effects (prepared by Allen Pyke Associates Ltd.)

- Technical Appendix 8.8: Representative AONB Views (prepared by Allen Pyke Associates Ltd.)

CUMULATIVE EFFECTS

8.9 In accordance with guidance and good practice, consideration has been given to any additional effects of the development in conjunction with projects currently with planning consent or awaiting a decision. A residential proposal for 45 homes has been consented on Land North of Ringwood Road (application reference 3/19/2077/RM). The cumulative impact of this development and the proposed development is considered in paragraphs 8.402-8.420.

POLICY CONTEXT

8.10 In the context of the relevant planning framework, the following section sets out a summary of those policies specific to the landscape and visual issues pertaining to the proposed development and which will have implications for the landscape strategy presented in this LVIA.

European Landscape Convention

8.11 The European Landscape Convention (ELC) promotes the protection, management and planning of European landscapes. The convention was adopted on 20 October 2000 and came into force on 1 March 2004. The ELC is designed to achieve improved approaches to the planning, management and protection of landscapes and defines landscape as:

> *"...an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors"*

8.12 The importance of this definition is that it focuses on landscape as a resource in its own right and moves beyond the idea that landscapes are only a matter of aesthetics and visual amenity.

National Planning Policy Framework

8.13 The National Planning Policy Framework (NPPF) (updated September 2023) sets out the Government's planning policies for England and provides a framework within which the appropriate local council can produce local and neighbourhood plans.

8.14 The NPPF sets out three dimensions to achieving sustainable development that include economic, social and environmental considerations. It places an onus on the planning system to perform a role in relation to the environment that '*contributes to the protection and enhancement of our natural, built and historic environment...'* and this underpins the strategic guidance set out in the NPPF in relation to landscape and visual matters.

8.15 In relation to landscape and visual matters, achieving well-designed places (Section 12) aims to ensure that developments are 'visually attractive', are sympathetic to local character (including the surrounding built environment and landscape setting), establish and maintain a strong sense of place and create places that promote health and well-being.

8.16 The NPPF recognises that trees make an important contribution to the character and quality of environments and can also help mitigate climate change (paragraph 131).

8.17 Section 15 of the NPPF, recognises the importance of conserving and enhancing the natural environment, and states that policies and decisions should contribute to and enhance the natural environment by *'protecting and enhancing valued landscapes' (noting that this should be commensurate with a statutory status or identified quality identified in a development plan) and also recognising the 'intrinsic character and beauty of the countryside'.*

8.18 In that context, greater weight is given to conserving and enhancing landscape and scenic beauty in National Parks and AONB's. Paragraph 176 considers the potential for effects on the setting of AONBs, it reads as follows: *'Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads. The scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas'.*

8.19 This LVIA includes reference to the local landscape character and identifies constraints and opportunities for the Site which are then considered throughout the design process and contribute to good design. This illustrates how the iterative LVIA process responds to the requirements of the NPPF.

Planning Practice Guidance Documents

8.20 In March 2014 the Department for Communities and Local Government (DCLG) launched a web based resource of planning practice guidance documents (PPG); these effectively supersede a series of previous guidance documents. The website notes that the PPG will be updated as required.

8.21 Matters pertaining to 'landscape' are covered under the guidance for the Natural Environment and this was updated in January 2016. Para 001 addresses how the character of landscapes can be assessed to inform plan -making and planning decisions. It states that:

- *'One of the core principles in the National Planning Policy Framework is that planning should recognise the intrinsic character and beauty of the countryside. Local plans should include strategic policies for the conservation and enhancement of the natural environment, including landscape. This includes designated landscapes but also the wider countryside.*
- *Where appropriate, landscape character assessments should be prepared to complement Natural England's National Character Area profiles. Landscape Character Assessment is a tool to help understand the character and local distinctiveness of the landscape and identify the features that give it a sense of place. It can help to inform, plan and manage change and may be undertaken at a scale appropriate to local and neighbourhood plan-making.'*

8.22 The iterative approach to this LVIA includes reference to landscape character assessment prepared at a national, regional and local level and also addresses the key characteristics of the site and its immediate context and therefore responds fully to the requirement of the PPG.

8.23 The PPG also include guidance on light pollution. The guidance notes that artificial light has the potential to become what is termed 'light pollution' or 'obtrusive light' and not all modern lighting is suitable in all locations. It also notes that some proposals for new development, but not all, may have implications for light pollution and it considers issues such as changes to the baseline, suitability of location, protected sites and designated dark skies when determining whether light pollution might arise. This LVIA addresses impacts of lighting.

8.24 The PPG also considers the potential for off-site night-time effects associated with traffic increases within or adjacent to the AONB.

Local planning guidance

Christchurch and East Dorset Local Plan – Core Strategy

8.25 The Core Strategy was adopted in 2014 and sets a high level; vision for Christchurch and East Dorset. The Vision is supported by seven strategic objectives. These aim to set the aspirations of the Vision into a series of more practical long-term objectives, which are closely linked to the policies which will help achieve them. The first of these objectives are particularly pertinent to consideration of landscape and visual matters in relation to the Site.

8.26 Objective 1 is 'To Manage and Safeguard the Natural Environment of Christchurch and East Dorset':

- *'The Green Belt will be retained and protected, except for strategic release of land to provide new housing, and for employment development in East Dorset and at Bournemouth Airport. Impact on or close to designated sites will be avoided, and residential development will contribute to mitigation of its effects on Heathland habitats. New greenspace and biodiversity enhancements will be provided as part of major housing proposals. Important natural features such as Christchurch Harbour, the coast, rivers and beaches and the Cranborne Chase and West Wiltshire Downs Area of Outstanding Natural Beauty will be protected and enhanced.'*

8.27 The Site is neither located within green belt and has no landscape or nature conservation designations.

8.28 The following Core Strategy policies seek to ensure that new development responds to local patterns and distinctiveness and to the local landscape character:

Policy HE2: Design of New Development

8.29 Within Christchurch and East Dorset the design of development must be of a high quality, reflecting and enhancing areas of recognised local distinctiveness. To achieve this, development will be permitted if it is compatible with or improves its surroundings in:

- Layout
- Site coverage
- Architectural style
- Scale
- Bulk
- Height
- Materials
- Landscaping
- Visual impact
- Relationship to nearby properties including minimising general disturbance to amenity
- Relationship to mature trees.

Policy HE3: Landscape Quality

8.30 Development will need to protect and seek to enhance the landscape character of the area. Proposals will need to demonstrate that the following factors have been taken into account:

1. The character of settlements and their landscape settings,
2. Natural features such as trees, hedgerows, woodland, field boundaries, water features and wildlife corridors,
3. Features of cultural, historical and heritage value,
4. Important views and visual amenity, and
5. Tranquillity and the need to protect against intrusion from light pollution, noise and motion.

8.31 45% of East Dorset is covered by the Cranborne Chase and West Wiltshire Downs Area of Outstanding Natural Beauty. A further 23% of the District is covered by Areas of Great Landscape Value. The Site is not covered by either of these designations.

8.32 Other relevant Core Strategy policies include:

- Policy ME1 - Safeguarding Biodiversity and Geodiversity – which aims to protect, maintain and enhance the condition of all types of nature conservation sites, habitats and species within their ecological networks,
- Policy ME2 - Protection of the Dorset Heathlands, which states that no residential development will be permitted within 400m of protected European and internationally protected heathlands and requires provision of Suitable Alternative Natural Greenspaces (SANGs) to mitigate impacts for any residential development located between 400m and 5km of the protected sites.

<u>Dorset Council Local Plan (Consultation Draft January 2021)</u>

8.33 A number of policies in the emerging Dorset Council plan relate to consideration of landscape character and visual issues -

- ENV1: Green infrastructure: strategic approach – which requires that any development site should include provision of sufficient green infrastructure to serve the site itself and, where suitable opportunities exist, strengthen the existing green infrastructure network,
- ENV2: Habitats and species – which seeks to protect International European sites, National sites (SSSI and NNR), Local Sites (SNCIs and LNRs) and Protected species, ancient woodland, ancient and veteran trees and hedgerows,
- ENVV4: Landscape – which requires that development should conserve and enhance the landscape and seascape, respond positively to the local and wider context and mitigate any adverse affects on landscape quality and visual amenity,

- ENV8: The landscape and townscape context - which requires development proposals should be based on a clear response to the context of a site, its immediate setting and the surrounding built environment and its landscape character

Designations

8.34 There are no statutory or non-statutory landscape designations within the Site.

8.35 In the wider landscape context to the Site there are landscape and environmental designations that have some relevance to landscape and visual matters (**Technical Appendix 8.2 Figure 4256/LS/003, 4256/LS/014 and 4256/LS/015**). These include:

- Cranborne Chase and West Wiltshire Downs AONB, the southern edge of which is located approximately 2km to the north of the Site,
- New Forest National Park the western edge of which is located approximately 3km to the east of the Site,
- Cranborne Common which is designated as an internationally important heathland and is a Ramsar site, Special Protection Area (SPA), SSSI and Special Area of Conservation (SAC) located to the west of the site,
- Sleepbrook Farm SNCI and Ringwood Forest & Home Wood SINC which are adjacent to the Site to the west and south respectively, and
- A number of areas of ancient woodland located close to the site approximately 600m to the south (part of Plumley Wood / Ringwood Forest), 500m to the north at High Wood on the northern edge of Alderholt and 1,000m to the east at Midgham Wood and Midgham Long Copse.

Summary of policy background

8.36 In summary, national and local planning policy seeks quality new development in appropriate locations that avoids significant adverse impacts on the natural environment.

8.37 In terms of landscape related planning designations, the Site is not located in a landscape which is subject to any statutory or non-statutory landscape designations however proximity to designated sites (Cranborne Common) means that Suitable Alternative Natural Greenspace is required to mitigate impacts of residential development.

8.38 Local policies address requirements for proposed developments in respect of their character and appearance and the need to conserve and enhance landscapes and their visual amenity. These policies also provide a framework of requirements for incorporating landscape schemes which help integrate a development appropriately into the landscape and also contribute to the green infrastructure network.

METHODOLOGY

8.39 The approach and methodology used for this LVIA has been developed using best practice guidance, as set out in the following documents:

- Landscape Institute and Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, 3rd Edition,
- Natural England (2014) An Approach to Landscape Character Assessment,
- Landscape Institute Technical Guidance Note 06/19 Visual Representation of Development Proposals,
- CPRE, The Countryside Charity's Mapping Tranquillity (March 2005),
- The Cranborne Chase & West Wiltshire Downs Area of Outstanding Natural Beauty Tranquillity Mapping, Ground Truthing Methodology & Interim Report (July 2010),
- Landscape Institute Technical Information Note Tranquillity – An overview (March 2017),
- Landscape Institute Technical Guidance Note 02/21 Assessing Landscape Value Outside of National Designations (February 2021).

8.40 Reference has also been made to a number of additional sources of data and information, including published Landscape Character Assessments. These are referred to in the relevant sections of the baseline information. A number of drawings have also been produced as part of this LVIA (**Technical Appendix 8.2 Figure 4256/LS/001 to 4256/LS/017**).

Level of assessment

8.41 The third edition of the Guidelines for Visual Impact Assessment (GLVIA3) was published in April 2013. In this, the guidance acknowledges that LVIA can be carried out either as a standalone assessment or as part of a broader EIA. The GLVIA3 note that the overall principles and core steps in the process are the same but that there are specific procedures in EIA with which an LVIA must comply.

8.42 An iterative approach to the LVIA has been applied to the proposed development. This has included an analysis of the Site and its context and the subsequent early identification of constraints and opportunities related to landscape and visual matters. This analysis informs how the constraints and opportunities might serve to influence the development potential of the Site in respect of a residential masterplan for the proposed development. In turn this has informed the inherent landscape mitigation strategy for, and also influenced the design of, the Proposed Development. Mitigation measures have been incorporated into the Proposed Development which will avoid, reduce or remedy adverse impacts.

Cumulative effects

8.43 In accordance with guidance and good practice, consideration has been given to any additional effects of the Proposed Development in conjunction with projects currently with planning consent or awaiting a decision.

8.44 A residential proposal for 45 homes has been consented on Land North of Ringwood Road, the former Hawthorns Nursery site (application reference 3/19/2077/RM) (Technical Appendix 8.2 Figure 4256/LS/007 which indicates its location).

Approach

8.45 The overall approach to the identification, evaluation and assessment of landscape and visual effects is summarised as follows:

- Determine the scope of the assessment,
- Collate baseline information for landscape and visual receptors, including completing desk study research and undertaking field based survey work,
- Review the type of development proposed and identify and describe the likely impacts (enabling specific judgments to be made on sensitivity of landscape and visual receptors),
- Establish the sensitivity of landscape and visual receptors (balancing judgments on value and susceptibility),
- Determine the magnitude of impacts (balancing judgments on size / scale, duration and reversibility),
- Assess the significance of likely landscape and visual effects through a balanced approach and clear description of professional judgments on sensitivity and magnitude, and
- Identify measures to avoid or remedy adverse impacts, and then the subsequent re-assessment of likely effects.

Scope of assessment

8.46 The broad spatial scope for the LVIA has been established through identifying the Zone of Theoretical Visibility (ZTV) of the residential and employment buildings and separately the solar array. This is presented in Technical Appendix 8.3 and indicates the methodology for identifying the maximum theoretical winter visibility and maximum theoretical summer visibility of buildings and the solar array. The ZTV includes an assessment of the potential visibility from the Cranborne Chase and West Wiltshire Downs AONB.

8.47 The professional judgements in this LVIA consider landscape and visual effects in the short term, at completion, but also in the longer term after fifteen years when mitigation measures (such as planting) will have matured and the mitigation measures are likely to perform the intended function (for example, screening or enhancement of landscape infrastructure). Furthermore, the professional judgements which are made in this LVIA are based on the winter scenario (when vegetation would not be in leaf and therefore would provide minimal screening).

8.48 The following receptors have been considered to inform the assessment process:

- Landscape character, including physical landscape resources, and

- Views and visual amenity experienced by residents, recreational users including visitors walking on the network of public rights of way and permissive paths close to the site and road users.

8.49 Landscape features and elements provide the physical environment for flora and fauna and the associated importance of biodiversity assets. This LVIA does not consider the value, susceptibility or importance on ecology and biodiversity, nor does it consider impacts from an ecological stance and this is dealt with separately.

8.50 Heritage assets such as Scheduled Monuments, Listed Buildings and Conservation Areas all contribute to the overall landscape character, context and setting of an area. These aspects have been given consideration in the LVIA in terms of physical landscape resources (for example trees and hedgerows) and also landscape character. However this LVIA does not address the historic significance, importance or potential impacts on heritage assets and designations; these assets are assessed in the context of landscape and visual matters only.

Collating baseline information

8.51 Information has been collated using a process of desk study and field survey in order to capture a comprehensive description of the baseline position for landscape and visual receptors. The desk study includes reference to published landscape character studies and other relevant planning policy guidance.

8.52 Field survey work was completed on 11 April 2022 (before leaves had emerged on trees) to identify views. A series of representative photographs were taken by MS Environmental the same week. A second series of representative photographs were taken on 15 July 2022 (when trees were in leaf). The weather on both occasions was good with clear visibility.

8.53 The photographs were taken with a full frame camera (Canon EOS 5D Mark IV) and 50mm lens combination consistent with Landscape Institute's TGN 06/19, GLVIA3 and the emerging understanding of the requirement for technical photography for visualisation work.

8.54 The camera was mounted on a Manfrotto 303 SPH panoramic tripod head, levelled using a Manfrotto Leveller, supported on a Manfrotto Tripod. The tripod head was levelled using a spirit level, to avoid pitch and roll. The camera was set with the centre of the lens 1.60m above ground level. Photographs were taken in Manual mode with an aperture of f/8 or f/11 and a fixed focal length throughout. Photographs were taken in landscape orientation. A Sigma 50mm f/1.4 lens was used for all viewpoint photographs.

8.55 For each viewpoint a sequence of visualisations have been prepared. Visualisations have been used to inform both the landscape and, separately, visual assessment. (Technical Appendix 8.4: Visualisations and Technical Appendix 8.6: Technical Methodology).

Assessment of effects

8.56 Having established the relevant baseline position the assessment process then completes the following specific stages:

- Evaluate the sensitivity of the landscape receptors and visual receptors, specifically in response to the nature of the proposed development (sensitivity is not standard and depends on the nature and type of development proposed and also the value and susceptibility of the receptor),
- Identify the potential magnitude of impact on the physical landscape, on landscape character and on visual receptors, and
- Combine judgments on the nature of the receptor (sensitivity) and the nature of the impact (magnitude) to arrive at a clear and transparent judgment of significance.

8.57 For both landscape effects and visual effects the final conclusions on significance are based on the combination of magnitude of change and sensitivity of receptor and a balanced justification of these. The rationale for the overall judgement on significance is based on the application of professional analysis and judgement and the subsequent combination of each of the criteria individually leading to a balanced justification and conclusion.

8.58 The detailed thresholds and criteria for each of the stages of analysis and assessment of landscape and visual impacts are included in the detailed methodology.

BASELINE CONDITIONS

Site overview

8.59 The application Site covers an area of 122 Ha on land to the south of Alderholt.

8.60 The Site includes arable fields and grazing pastures to either side of Ringwood Road and encompasses land that is part of Sleepbrook Farm and Warren Park Farm (to the west of Ringwood Road) and Foxhill Farm (to the east of Ringwood Road). The Site extends southward towards Ringwood Forest / Plumley Wood, westwards towards Cranborne Common and eastwards to Hilbury Road. The northern edge of the Site abuts the existing built up edge of Alderholt.

8.61 Hedgerows define field boundaries within the Site and some of these include mature trees. The northwestern part of the Site is wooded (Cross Roads Plantation) and there is also a small copse towards the centre of the Site around Sleepbrook Farm.

8.62 There are no landscape or ecological designations that apply to the Site itself however Cranborne Common, to the west of the Site, is part of Dorset Heaths Special Area of Conservation (SAC), Dorset Heathlands Special Protection Area (SPA), a Ramsar Site and a Site of Special Scientific Interest (SSSI).

8.63 Sleepbrook Farm SNCI and Ringwood Forest & Home Wood SINC are adjacent to the Site to the west and south respectively.

8.64 The Site falls within the catchment of the River Avon SAC.

8.65 There is an existing solar farm to the northwest of Sleepbrook Farm. This is encompassed by the Site but outside of the application redline.

8.66 A more detailed description of the Site is included in the landscape baseline below.

Site Context

8.67 Alderholt is located to the north-east of Dorset County close to its boundary with Hampshire and the New Forest District. To the north-west of the settlement the land rises to the Cranborne Chase and West Wiltshire Downs Area of Outstanding National Beauty (AONB); to the east is the New Forest National Park and to the south the South-East Dorset Green Belt. There are also protected landscapes to both the east and west including the River Avon Special Protection Area and Cranborne Common, part of Dorset Heathlands SPA, a Ramsar Site and a SSSI. (Technical Appendix 8.2 Figures 4256/LS/003 and 4256/LS/015).

8.68 Compared to other parts of Dorset the Site is relatively unconstrained.

Administrative boundaries

8.69 The Site is wholly within Dorset County (formerly within the East Dorset District) however Hilbury Road, which defines the eastern edge of the Site, is also the boundary between Dorset County and New Forest District and Hampshire County. The Dorset County boundary extends through Ringwood Forest to the south of the site. East Dorset District, New Forest District and Hampshire County Council have prepared separate landscape character assessments for land within East Dorset District, New Forest District and Hampshire County respectively.

Cranborne Chase and West Wiltshire Downs AONB

8.70 Cranborne Chase and West Wiltshire Downs AONB is designated for its high scenic quality and the primary purpose of this designation is 'conserving and enhancing the natural beauty of the area'. The Statement of Significance set out in the AONB Management Plan states that:

'Its special qualities flow from the historical interaction of humans and the land. They include its diversity, distinctiveness, sense of history and remoteness, dark night skies, tranquility; and its overwhelmingly rural character.'

8.71 The absence of major towns and a low population within the AONB limits the incidence of light pollution and sky glow. The Cranborne Chase and West Wiltshire Downs AONB was designated an International Dark Sky Reserve in 2019.

8.72 In respect of the setting of the AONB the AONB Management Plan states that:

'The setting of an AONB is the surroundings in which the influence of the area is experienced. If the quality of the setting declines, then the appreciation and enjoyment of the AONB diminishes. The

construction of high or expansive structures, or a change generating movement, noise, odour, vibration or dust over a wide area, will affect the setting. As our appreciation of the relationships between neighbouring landscapes grows, so our understanding of what constitutes the setting continues to evolve.

Views are one element of setting, being associated with the visual experience and aesthetic appreciation. Views are particularly important to the AONB. This is because of the juxtaposition of high and low ground and the fact that recreational users value them. Without husbandry and management, views within, across, from and to the AONB may be lost or degraded.'

8.73 Paragraphs 8.470 onwards consider the potential effects on the AONB as a result of traffic increases within the immediate setting of the AONB.

Suitable Alternative Natural Greenspace (SANG)

8.74 Suitable Alternative Natural Greenspace is proposed in two areas; the first extending along the western edge of the site from Cross Roads Plantation in the north to Ringwood Forest / Plumley Wood in the south and the second at the eastern edge of the Site adjacent to Hilbury Road and Ringwood Forest. The area of the proposed SANG extends to approximately 51 Hectares (Technical Appendix 8.2 Figure 4256/LS/008) and is included within the application redline. The SANG will mitigate recreational pressures on the Dorset Heathlands and also provide links to Ringwood Forest.

8.75 The SANG areas will also deliver a range of natural habitats to support wildlife including wildflower meadows, native woodland and tree planting, scrub, and flood attenuation ponds and wetland areas.

8.76 It is envisaged that the SANG will be delivered in phases to co-ordinate with delivery of the residential development.

Landscape Baseline

8.77 The following paragraphs describe the individual components of the physical landscape that are present in the Site. These have been described in order to establish an understanding of the specific landscape components (elements and features) that contribute to landscape character.

8.78 A tree survey was undertaken by Hayden's Arboricultural Consultants in December 2021 (provided as part of the planning application documentation) and the findings are referenced in this section.

Physical landscape resources

8.79 The Site is composed of arable fields and grazing pastures to either side of Ringwood Road. Ringwood Road extends from Hilbury Road to the southeast of Alderholt initially running east to west and then northwards through the village to meet Station Road at Charing Cross in the northwest of Alderholt.

8.80 Both Ringwood Road and Hilbury Road are country lanes without footways or street lighting for most of their length. Traffic may pass along these lanes at national speed limit reducing to 40mph as the roads enter the village and to 30mph when homes line the roads to both sides.

8.81 The character of the environment to either side of Ringwood Road varies from north to south. Homes, predominantly built in the latter part of the 20th Century front the northern section of the road; this gives way to a mix of homes on larger plots and other low intensity uses (riding school, camping and caravan site, Alderholt Recreation Ground and associated buildings and small farm buildings) alongside the central section of the road and arable fields and grazing pastures to either side in the southern section.

8.82 The southern section of Ringwood Road is defined by hedgerows to either side with mature trees (predominantly oak) emerging from the hedgerow on the western and southern sides of the road.

8.83 Arable land is also present to the west of Ringwood Road for approximately 250m between the northern and central section. This part of the road is also defined by hedgerow but without trees.

8.84 For the purposes of describing the Site it can be subdivided into land to the east and land to the west of Ringwood Road.

8.85 East of Ringwood Road the Site is defined by Hilbury Road (to the east), the southern edge of the Alderholt built up area (to the north) and Alderholt Recreation Ground and Foxhill Farm (to the west).

8.86 This area is composed of seven fields with the smallest plots immediately south of Foxhill Farm less than a hectare in size and the largest to the east over 7.5 hectares. Each field is defined and enclosed by hedgerows.

8.87 A large single storey pitched roof chicken shed measuring approximately 130m long by 16m wide and with two grain silos of height 6m is located along the northern edge of one of the southernmost fields and is clearly visible from Ringwood Road.

8.88 West of Ringwood Road the Site extends to Ringwood Forest / Plumley Wood at its southern edge wrapping around but excluding Warren Park Farm; towards Cranborne Common to the west (but excluding the protected heath and SSSI and the Sleepbrook Farm SNCI); and towards the built-up edge of Alderholt to the north and including part of the Cross Roads Plantation.

8.89 The western part of the Site is composed of a further 16 arable fields or pastures (either part of or in their entirety) together with a number of copses and woodland plantations including parts of Cross Roads Plantation. The size of the fields varies from less than a hectare to over 15 hectares for the largest field at the northern edge of the Site. The Site encompasses Sleepbrook farmhouse which is located within a copse towards the centre of the area.

8.90 Much of the western part of the Site was formerly Alderholt Common and was converted to arable use / pastures in the latter half of the 20th Century (as indicated in historic plans dating from 1948 – Technical Appendix 8.2, Figure 4256/LS/009). Field boundaries are less well defined in this area; some fields are enclosed by mature hedgerows, others lack a clear boundary.

8.91 The northern edge of the Site abuts the built-up edge of Alderholt and Alderholt Recreation Ground. A number of residential homes on Ringwood Road either overlook or back onto the Site. Properties on Hazel Close, Saxon Way and within Hilbury Park also back onto the Site.

8.92 Views across the Site can be made from Ringwood Road, Hilbury Road, from land east of Hilbury Road, and from elevated land at Cranborne Common to the west. Areas of woodland around the Site (Ringwood Forest / Plumley Wood to the south and Cross Roads Plantation to the northwest) restrict views of the Site from elsewhere and in that sense the land feels self-contained.

8.93 Low voltage power lines extend across the Site to the west of Ringwood Road and a high voltage power line suspended from pylons extends north to south along the edge of Cranborne Common, outside of, and to the west of the Site.

8.94 There is an existing solar farm to the northwest of Sleepbrook Farm. This is encompassed by the Site but outside of the application redline.

Topography and landform

8.95 The Site slopes gently from south to north from a height of approximately 48m above ordnance datum at the southern edge adjacent Ringwood Forest / Plumley Wood, to 64m above ordnance datum on the northern edge of the Site close to Cross Roads Plantation and 62m AOD immediately to the south of Hazel Close.

8.96 Beyond the Site to the west the land initially falls to Sleep Brook and then rises to a height of over 90 metres at Pistle Hill on Cranborne Common.

8.97 Land beyond the Site to the east is level before dropping down to the River Avon and its floodplain which is at a level of approximately 25m AOD approximately 2km away (Technical Appendix 8.2, Figure 4256/LS/002).

Hydrology and water features

8.98 The Site falls within the catchment of the River Avon and there are a number of wet ditches, ponds and minor streams that collect water on the Site. Watercourses, the most notable being the Sleep Brook located to the west of the Site, flow from north to south towards Hammer Brook in Ringwood Forest / Plumley Wood and onwards to the River Avon to the southeast.

8.99 Several ponds are located on the southern edge of the Site adjacent Ringwood Forest / Plumley Wood.

Land use and vegetation patterns

8.100 As referenced above the Site is composed of a number of arable fields and pastures; many of these are enclosed by hedgerows often incorporating trees. There are also a number of copses and plantations within the Site.

8.101 Hayden's Arboricultural Consultants undertook a tree survey in December 2021 and this records the location, condition, age, size and species of trees and the location, condition, age and species of

hedgerows on the Site. Existing trees and hedgerows are categorised by their quality in accordance with BS5837: 2012 as:

- Category A: Trees of high quality with an estimated remaining life expectancy of at least 40 years,
- Category B: Trees of moderate quality with an estimated remaining life expectancy of at least 20 years,
- Category C: Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm, and
- Category U: Those in such condition that they cannot realistically be retained as living trees in the current land use for longer than 10 years.

8.102 Trees and hedgerows in categories A to C are considered for retention; Category U trees are considered unsuitable for retention.

8.103 The majority of trees on the site are located within hedgerows. The exception being at Cross Roads Plantation in the northwest of the Site, around Sleepbrook Farm in the centre and on the northern edge of Ringwood Forest / Plumley Wood in the southeast corner. Refer to Technical Appendix 8.2, Figure 4256/LS/005 which indicates the location of trees and hedgerows on the Site and their Category.

8.104 The Category A trees (high quality) within the Site are almost all oak trees and are located in four places:

- As part of the hedgerows that form the western and southern boundaries to the large field north of Sleepbrook Farm,
- As part of a hedgerow that runs east to west to the north of Warren Park Farm,
- As part of a hedgerow that forms the western boundary to the field immediately south of Hazel Close and north of Alderholt Recreation Ground, and
- As a grouping of trees in the southeastern corner of the site close to Ringwood Forest / Plumley Wood.

8.105 There are a number of other Category A trees on hedgerows towards the northeastern corner of the site and on the southern edge close to Warren Park Farm.

8.106 East of Ringwood Road hedgerows are generally mixed and composed of hawthorn, blackthorn, ash, oak and hazel. Some include trees, the majority of which are oak but also with some ash, hawthorn and birch. Most hedges in this area are Category B (moderate quality).

8.107 West of Ringwood Road the quality of hedgerows varies. Several are poorly maintained and with gaps; the tree survey identifies these as Category C (low quality); others are category B (moderate quality). Hedges are usually mixed and composed of hawthorn, blackthorn and oak and with willow also part of the mix. Trees are again predominantly oak but with willow, birch, ash, Scots pine and poplar also featuring.

8.108 There are three areas of woodland within the Site:

- An area of mature mixed woodland to the southeast adjacent Hilbury Road composed of Category A trees (mostly oak but including birch and sycamore and an understorey of spindle, blackthorn, hawthorn and willow),
- An area of mixed woodland (Category B trees) to the immediate east of Sleepbrook Farm composed of Scots pine to the north, interspersed with birch oak and spruce, and willow to the south, interspersed with birch and oak. The area around the farmhouse includes a mix of ash, birch, cypress, holly, oak, sweet gum and willow trees (Category C), and
- An area of mixed woodland to the northwest of the site at Cross Roads Plantation.

8.109 East of the Cross Roads Plantation is an area of semi-improved grassland with bramble and gorse scrub.

Public access

8.110 A public bridleway extends through the Cross Roads Plantation across the northwest corner of the Site and connects Station Road / Ringwood Road (Charing Cross) via Blackwater Grove to Cranborne Common and beyond to Verwood.

8.111 No other public rights of way cross the Site however there are a number of public rights of way in the wider area including public footpaths that extend west to east from Hilbury Road to Lomer Lane and

southward from Hilbury Road to Ringwood Forest / Plumley Wood. There is also a network of permissive paths within Ringwood Forest / Plumley Wood to the south of the Site (Technical Appendix 8.2, Figure 4256/LS/004).

Landscape Character

8.112 England is sub-divided into 159 National Character Areas, defined by Natural England and based on a combination of landscape, biodiversity, geodiversity and economic activity. The Site is located within National Character Area (NCA) 135 – Dorset Heaths and this has the following characteristics (defined by Natural England):

- The landscape is predominantly of low relief. In places erosion has left incised but shallow valleys, now dry or holding small watercourses, sometimes with associated mires,
- There are large tracts of gently undulating, less-fertile marginal land dominated by conifer plantations or by heathlands of international importance (Special Protection Area (SPA), Special Area of Conservation (SAC) and Ramsar site) for populations of nightjar, woodlark, Dartford warbler, sand lizard, smooth snake and Dorset heath, as well as a rich assemblage of heathland and mire invertebrates and lower plants,
- Soils are predominantly sandy, susceptible to erosion and relatively unproductive. Agriculture is generally pasture, with fields bounded by hedgerows or fences. There is some arable cropping, especially maize,
- The principal rivers arrive from the west or north to two important natural micro-tidal estuaries at Poole and Christchurch harbours. The tops of the low cliffs of the coast that connect the harbours are mostly developed. Either side of Poole Harbour entrance are wide sandy beaches, though on the north (Poole) side these are more engineered with defences,
- A major conurbation (Poole–Bournemouth–Christchurch) has developed between and partially around the two harbours. Despite the setting of the surrounding countryside, access to greenspace for residents without their own transport can be limited,
- Settlement is mostly sparse, with historic settlements generally associated with the rivers or harbourside. The conurbation dominates as a population centre, and the adjacent villages and towns have expanded and merged under its influence, and
- The main road and rail links run north-east–south-west from Southampton to the conurbation and then turn west (as the A35) towards Dorchester.

8.113 To the north and west of the Dorset Heaths NCA is the Dorset Downs and Cranborne Chase NCA (134) which is characterised by '*large, open fields of pasture and arable, punctuated by blocks of woodland all draped over the undulating chalk topography'* and to the east the New Forest NCA (131) 75% of which is within the New Forest National Park. Refer to Technical Appendix 8.2, Figure 4256/LS/016.

8.114 At a sub-regional level, The Dorset Landscape Character Assessment (LCA) provides an assessment of the character of the county. It works within the national framework of Countryside Character Areas and Natural Areas, identifying variations in landscape character.

8.115 More detailed assessments have been carried out at a District scale for West Dorset, East Dorset, Purbeck and North Dorset and for Christchurch. The East Dorset Character Assessment includes the Site and was prepared in 2008.

8.116 The Site adjoins Dorset's boundary with Hampshire and the Hampshire County Integrated Character Assessment (2010) and New Forest District Character Assessment (2000) describe the landscape character within these areas.

8.117 An Integrated Landscape Character Assessment for the Cranborne Chase and West Wiltshire Downs AONB (2003) draws together the features and attributes that contribute to the distinctive and outstanding character of the AONB.

8.118 The landscape character areas within the vicinity of the Site, as set out within this published guidance, are identified in Technical Appendix 8.2, Figure 4256/LS/001 and those within the AONB in Technical Appendix 8.2 Figure 4256/LS/017.

8.119 In 2021 Dorset Council commissioned the East Dorset and Purbeck Areas Landscape and Heritage Study to appraise the sensitivity of land surrounding thirteen settlements to the effects of development. This

assessment considered the potential impacts of development on the landscape and historic environment. Land around Alderholt, including the application Site, was part of this assessment.

Landscape character overview

8.120 The East Dorset Landscape Character Assessment (2008) describes Dorset as a predominantly rural county of great beauty and with highly distinctive and varied landscapes of rolling downland with prominent hilltops and ridges, lush river valleys, magnificent coastline, heathlands and attractive villages which merge into a singular, strongly unified image.

8.121 In respect of East Dorset, it states that 'Whilst the southern extremities of the District are influenced by the Bournemouth-Poole conurbation, most of the District remains as largely unspoilt countryside. This countryside has certain characteristics which are distinctive to East Dorset. Its landscape is a reflection of the underlying geology and the results of uninterrupted human activity that has impacted on the area since prehistoric times.'

8.122 The district is covered by a number of environmental designations such as AONB (Area of Outstanding Natural Beauty); Scheduled Ancient Monuments, Conservation Areas, Listed Buildings and tree preservation orders all intended to protect this unique character. The district also possesses a wealth of ecological interest, as recognised by the numerous international, national, regional and local designations.

8.123 The East Dorset Landscape Character Assessment identifies nine landscape character types and 25 landscape character areas within East Dorset. Alderholt, and land to the south within which the Site is located, is within a 'Forest Heath Mosaic' landscape character type and Ringwood Hurn landscape character area.

8.124 The basic structure of any landscape is formed by its underlying relief and geology. The action of weathering, erosion and deposition alter the form of the landscape, drainage and soils and in turn patterns of vegetation and land use.

8.125 The underlying geology of the Site and its immediate context is Bagshot Sands. This landscape has developed from cleared heathland with much of the land afforested in the 19th century.

8.126 To the east the gravels and alluvium of the Avon Valley have given rise to a landscape of arable and pasture farmland and aquatic habitats, including large areas of open water which have resulted from the excavation of gravel on an industrial scale.

8.127 Land to the north of Alderholt is described as the Woodlands-Colehill landscape character area and is a rolling farmland / woodland mosaic landscape character type. This landscape character area is beyond the Site and will not be either physically or visually impacted by the proposed development and is not therefore assessed further.

8.128 Across the County border in Hampshire the New Forest Landscape Character Assessment identifies two landscape character areas close to Alderholt and the Site:

- Ringwood Forest to the south and immediate east, and
- Upper Avon Valley further east.

8.129 The Ringwood Forest landscape character area adjoins the site to the east and its main characteristics and sensitivities are described below. The Upper Avon Valley landscape character area will not be either physically or visually impacted by the proposed development and is not therefore assessed further.

Ringwood Hurn landscape character area

8.130 The East Dorset Landscape Character Assessment describes the Ringwood Hurn landscape character area within which the Site is located as:

- *'The acid soils derived from the underlying Plateau Gravel, Bagshot and Bracklesham Beds extend from Alderholt in the north to Hurn Forest in the south and from Clump Hill and Colehill in the west to the Avon Valley in the east. Topography and human activity have created three distinct landscape character areas on these soils and one of these, the Forest-Heath mosaic, marks the eastern edge of the District. Extensive planting of conifers on much of this land, particularly non-native species, has had a significant impact on the character of these former areas of open heath distinguishing them from the elevated open heaths and the areas of farmed heath to the west.*

- *The heathland areas, although now fragmented, still represent one of the largest groups of heathland in the County. They are less open and exposed than most East Dorset heaths, partly because of the substantial areas of regenerating birch and pine. The only significant open areas tend to be isolated parcels of acidic grassland, which articulate the heath and conifer woodland. Despite the impact of afforestation and scrub regeneration, much of the remaining heath is of significant international ecological importance and is designated as such.*
- *The A338 Bournemouth Spur Road lies close to the boundary of the Forest Heath with the Avon Valley to the east. To the west of the road, the land rises steeply; the highest point is near North Lodge, close to the Boundary Lane/Hurn Lane junction.*
- *To the north of Boundary Lane, the landform descends gently before rising again near the A31. The highest point is David's Hill, at the entrance to the North Park of Avon Heath Country Park. From this vantage point there are good views southwards to the ridge south of Boundary Lane. Beyond the A31 and the development of St Leonard's and St Ives lies a further forested tract beginning on Ashley Heath and extending northwards beyond the District boundary as part of Ringwood Forest which reaches back into the District at Boveridge Heath, to the north of Verwood, and Cranborne Common, south of Alderholt.*
- *The large swathes of woodland help to unify the land and although much of the woodland is comparatively recent, as a result of afforestation of open heathland, the area has an empty, wild character.*
- *The areas of woodland also make a significant contribution to the area's character and identity. Ridgetop trees are also important landscape features, for example, the ridgetop belts of conifers to the south of Boundary Lane and on Foxbury Hill respectively.*
- *These dense plantings have also served to screen and contain much of the extensive post-war urban developments that have taken place along many of the principal routes that cross the heaths.'*

8.131 The East Dorset Landscape Character Assessment describes the key characteristics of the Ringwood Hurn landscape character area as:

- Varied landform, with steep slopes especially to the east,
- Patchwork of heath, woodland and farmland,
- Sandy soils,
- Extensive areas of pine forest and birch woodland,
- Remnant heathland areas with groups of naturalised pine and birch,
- Absence of fields and hedgerows,
- Ecological value of heathland,
- Urban influences, and
- Influence of major roads.

8.132 The East Dorset Landscape Character Assessment does not describe the sensitivities of the Ringwood Hurn landscape character area however the East Dorset and Purbeck Areas Landscape and Heritage Study (January 2021) provides an assessment of the particular sensitivities of land around Alderholt to development and includes consideration of the Alderholt Meadows Site.

8.133 The overall aim of East Dorset and Purbeck Areas Landscape and Heritage Study was to appraise the sensitivity of land surrounding thirteen settlements to the effects of development. The study provides a robust and up-to-date evidence to feed into the local plan. It helps to inform the scale, form and location of future development and to minimise harm to the landscape, heritage assets and the historic character and setting of settlements within the former East Dorset and Purbeck local authority areas. One of the thirteen settlements appraised was Alderholt.

8.134 The study was carried out in two stages with an initial assessment / high level scoping at Stage 1 (desk-top) and more detailed assessment at Stage 2 for areas where there are either no significant landscape or heritage sensitivities or where there are likely to be some landscape and/or heritage sensitivities that will affect the siting and scale of development that could be accommodated. Six sites were scoped in Alderholt at Stage 1, three of which form part of the Alderholt Meadows Site. All six were taken through to Stage 2 although part of some sites were excluded including the Alderholt Recreation Ground.

8.135 The Stage 2 assessment included:

- A desk-top landscape sensitivity assessment using a five point from 'low' to high' landscape sensitivity indicating how susceptible the character and quality of the landscape would be to change,
- A desk-top historic environment assessment to identify heritage assets in the area which may be susceptible to effects due to setting change. An appraisal of their heritage significance was prepared in line with environmental impact assessment practice (levels assessed as high, medium, low, negligible or uncertain). The risk of harm to the significance of heritage assets, should the assessment area be developed, was then appraised, and
- Field survey verification to test and refine the outputs from the desk study.

8.136 For Alderholt the assessment refined the Stage 2 assessment to 4 areas. The Alderholt Meadows Site encompasses two of these areas (Refer to Technical Appendix 8.2, Figure 4256/LS/010).

- ALD2 - land east of Ringwood Road which encompasses land between Ringwood Road, Hilbury Road and the existing Alderholt settlenent but excluding Alderholt Recreation Ground, and
- ALD3 – land west of Ringwood Road extending from Charing Cross in the north to Ringwood Forest to the south and westwards towards the Sleep Brook.

8.137 The overall assessment for landscape sensitivity for area ALD 2 east of Ringwood Road was considered to be low to moderate and the assessment is summarised as:

- *'The assessment area is an area of intensive farmland which is well-screened by existing mature vegetation and is a relatively flat landform which is not prominent within the wider landscape, reducing sensitivity. It also has a strong connection with the existing modern settlement edge to the north. The rural, undeveloped character of the landscape and its role as a setting to the existing settlement increase landscape sensitivity slightly to low-moderate overall.'*

8.138 The study identifies the following key sensitivities for area ALD2:

- Thick hedgerows with frequent hedgerow trees which provide valuable ecological corridors in the landscape,
- The unsettled nature of the landscape, which backs directly onto the southern limits of the existing village and provides a rural setting to adjacent housing,
- In places, the sense of openness as a result of the flat landform and intensively farmed landscape, and
- Potential loss or damage to unknown buried heritage assets.

8.139 The study provides the following guidance for sustainable development for area ALD2:

- Retain the thick hedgerows with hedgerow trees which form valued ecological corridors and could be used to visually screen and assimilate new development into the landscape,
- New tree/hedgerow planting in association with any new development should utilise locally prevalent, climate-resilient species and link to the existing habitat network,
- Preserve the role of the landscape as a rural edge to southern Alderholt,
- Be closely integrated and linked with the existing modern development to the north, utilising a similar layout and building style where possible, and
- Archaeological fieldwork could confirm the presence of any prehistoric buried heritage assets.

8.140 The overall assessment for landscape sensitivity for area ALD 3 west of Ringwood Road was considered to be moderate and the assessment is summarised as:

- *'The presence of priority woodland habitats, an intact hedgerow network, undeveloped skylines and the contribution the area makes to the rural character of the village and surrounding area all present sensitivities to development. Sensitivity is reduced by the, flat, low-lying landform (therefore limiting its visual prominence), the enclosed nature of the area which also limits intervisibility and limited significant historic features within the area. The area is therefore judged as having a moderate landscape sensitivity overall.'*

8.141 The study identifies the following key sensitivities for area ALD3:

- Ecologically important features including blocks of deciduous woodland priority habitat, and hedgerows interspersed with mature broadleaved trees which contribute to the natural character of the landscape,
- The rural setting the landscape provides to properties in western Alderholt,
- Strong rural qualities as a result of undeveloped skylines, open fields and areas of woodland, which provide a sense of tranquility,
- Limited intervisibility with surrounding landscapes due to its flat topography and dense hedgerows with frequent hedgerow trees, which also provide a sense of enclosure, and
- Records of recovery of prehistoric material at Lodge Farm (Mesolithic flint scatter, adjacent Ringwood Road) and Warren Park Farm (Mesolithic flint scatter, stone axe and a Bronze Age palstave) which indicate potential for contemporary buried heritage assets.

8.142 The study provides the following guidance for sustainable development for area ALD3:

- Retain the thick hedgerows with hedgerow trees which form ecological corridors and help to visually screen and assimilate new development into the landscape,
- Preserve the role of the landscape as a rural edge to Alderholt,
- Retain valued semi-natural habitats including priority habitat deciduous woodland, which also forms wooded skylines,
- Utilise the existing and new woodland and boundary vegetation to help screen development and integrate it into the existing landscape structure. New tree/hedgerow planting should utilise locally prevalent, climate-resilient species, and
- Archaeological fieldwork could confirm the presence of any prehistoric buried heritage assets.

Ringwood Forest Landscape Character Area

8.143 The New Forest District Landscape Character Assessment provides the following description of the Ringwood Forest landscape character area:

- *'Ringwood Forest lies on the western edge of the Avon Valley. A steep wooded ridge leads up to a gently undulating plateau of former heath between 40-50m AOD, which provides a wooded backdrop to the Avon Valley. The underlying geology of Bagshot Sands capped by plateau gravels produces acid soils with large pockets of gravel. Minor tributaries drain east directly into the Avon Valley.*
- *The steep ridge, which forms the western valley side of the Avon, is a rich mosaic of oak/birch woodland, tree belts, wooded water courses and pasture. The plateau itself is former heathland which is now dominated by 20th century forestry; even aged stands of conifers with geometric rides and tracks cut across the area. There are also areas of bare ground, landfill and mineral extraction within the forest landscape where biodiversity is at its lowest.*
- *Fast, straight roads, for example the B3081, cut across the forest landscape. Minor roads on the forest edge relate more closely to the landscape pattern, winding up the valley side and along the ridge top. Settlement is dominated by scattered farms on the eastern edge of the area - there is little settlement within the forest core. The forest itself provides an important recreational area for local residents and is a designated SINC.'*

8.144 Key characteristic of the Ringwood Forest landscape character area is identified as:

- Wooded ridge on the edge of Avon Valley leading up to an undulating area of former heath on plateau gravels,
- Rich mosaic of deciduous copses, tree belts, wooded water courses and pasture on the valley side contrasts with the forest core which is characterised by even aged stands of conifers criss-crossed with straight rides and tracks,
- Straight lines of communication (including the busy B3081 to Ringwood) plough through the forest landscape,
- Traditional farm buildings on the forest edge - red brick and thatch,
- Landscape is dominated by 19th and 20th century forestry - history is obscured,
- Gravel pits, soil erosion and felled areas are negative features of the landscape, and

- High recreational value - forest provides as a backdrop to the Avon Valley.

8.145 Key environmental features of the Ringwood Forest landscape character are summarised as:

- The steep wooded ridge on the east of the area which is highly visible from the Avon Valley and beyond,
- Woodland edges which are important in views of the area,
- Remaining heathland habitat which is now extremely rare and of importance for nature conservation,
- Hedgerows which link existing areas of woodland,
- Views from the top of the slope over the Avon Valley,
- Minor streams and their associated riparian vegetation.

8.146 A number of principles for landscape management are identified. Those relevant to proposals at Alderholt include:

- Trees and hedgerows make an important contribution to the landscape and provide important visual screens for gravel extraction and landfill sites; their management should be a priority in this area,
- Planting deciduous trees, particularly native oak, on the fringes of conifer plantations may help to integrate these harsh dark edges with the surrounding landscape, while also promoting ecological diversity and encouraging a higher proportion of native species, and
- Heathland restoration will return some of the open heathland character back to this area and will enhance the nature conservation value of the landscape.

8.147 The New Forest District Landscape Character Assessment also provides Principles for built form in the Ringwood Forest landscape character area:

- There is some scope for new development within the forest where it may make use of a woodland setting - native planting should accompany any development to enhance its setting,
- New development should not impinge on, or block views, to or from the Avon Valley, and
- Red brick and thatch are the traditional building materials in the area; weatherboarding is often a feature of agricultural buildings.

Cranborne Chase and West Wiltshire Downs AONB Character Area

8.148 Whilst the AONB is located 2km north of the site, and beyond the Woodlands-Colehill landscape character area (which is not considered to be either physically or visually impacted by the proposed development) the greater weight given to conserving and enhancing the landscape and scenic beauty of the AONB means that further consideration of its landscape character and sensitivity is identified below.

8.149 The AONB Unit has provided consultation responses to the application which have informed Reason for Refusal #8 of the Decision Notice dated 7th July 2023. This reads as follows: '*The proposal, by bringing additional traffic and recreational activity into the Cranborne Chase and West Wiltshire Downs Area of Outstanding Natural Beauty (AONB), would result in environmental impacts and a loss of tranquillity the extent of which has not been adequately identified and mitigated within the application. Contrary to Policy HE3 of the Christchurch and East Dorset Local Plan: Part 1, 2014, and to paragraphs 174 and 176 of the NPPF.*' This LVIA Chapter has been expanded at paragraphs 8.470 onwards to explore this in more detail and to ensure the ES addresses all potential impacts associated with the Proposed Development.

8.150 The Integrated Landscape Character Assessment (2003) provides the following description of the Cranborne Chase and West Wiltshire Downs AONB:

- *'Cranborne Chase and West Wiltshire Downs AONB is an area of 983 sq km forming part of the extensive belt of chalkland which stretches across southern England. Its designation as an AONB was confirmed in October 1983. It abuts the Dorset AONB and includes part of the South Wessex Downs Environmentally Sensitive Area.*
- *The AONB is divided into its two areas by the fertile wooded Vale of Wardour. To the south is Cranborne Chase with its smooth rounded downs, steeply cut combes and dry valleys typical of a typical chalk landscape. The dipslope gently descends to the south-east where it meets the Dorset*

Heaths. To the north, the Wiltshire Downs are more elevated, the landform rising to a subtle ridge at Great Ridge/Groveley Wood. Both areas are fringed by impressive scarps, cresting above the adjoining greensand terraces.

- *Traditional downland pasture is now largely confined to steeper slopes while large downland, herb-rich fen and river meadow to scattered deciduous woodland which includes remnants of the ancient Cranborne Chase hunting forest and the former Royal Forests of Selwood and Gillingham. It is rich in prehistoric sites with many ancient monuments and field patterns on the downs, whilst the Vale of Wardour is dominated by large 18th and 19th century estates, parklands and associated villages.*
- *This is a deeply rural area with scattered villages and narrow roads. There are no large settlements in the AONB but nearby country towns such as Salisbury, Shaftesbury and Warminster are growth areas. Although there are a few sites attracting a large number of visitors, such as Longleat, Stourhead and Centre Parcs, the AONB is not a developed tourist area as yet, although demand for caravan sites, holiday and second homes is increasing.'*

8.151 The Integrated Landscape Character Assessment identifies eight Landscape Types and fifteen Landscape Character Areas within the AONB each with a distinct and recognisable local identity.

8.152 The landscape character areas on the south-eastern edge of the AONB and closest to the Site are the Martin - Whitsbury Downland Hills and the Stour and Avon Tributary Chalk River Valleys that extend through the Downland Hills in a northwest to southeast orientation. Refere to Technical Appendix 8.2, Figure 4256/LS/017

Martin - Whitsbury Downland Hills Landscape Character Area

8.153 The Downland Hills are formed from the dissected remnants of an older chalk escarpment. Over the millennia, the rivers which once drained the chalk dipslope of the AONB have cut through eroding the remnants of the escarpment into a series of rounded bluffs. These appear as a series of low `whale-backed' ridges that stand out from the surrounding downland. The highest hilltops tend to be capped with clay with flints and small areas of Reading Beds. Ploughed slopes and enlarged fields create a vast patchwork of arable land with isolated remnants of chalk grassland and ancient semi-natural woodland that provide significant ecological interest. The range of archaeological remains in this landscape type reflects that of the wider chalk downs and imparts a similar historic character to the landscape.

8.154 Key characteristics identified in the Integrated Landscape Character Assessment and AONB Management Plan are:

- A series of small scale but prominent hills and knolls;
- Dominated by Upper Chalk geology giving rise to argyllic brown earths;
- Land cover is slightly more arable than grassland, with improved pasture on lower ground towards the river valleys;
- Dominated by a pattern of medium to large Parliamentary enclosure type fields;
- Deciduous and coniferous woodland, clothing the crests of the slopes, silhouetted against the skyline;
- Low density, dispersed settlement pattern of scattered farmsteads;
- The absence of major roads contributes to the feeling of remoteness and tranquility;
- A number of ancient woodlands including Burwood, Ashwood Copse and Boulsbury Wood (SSSI);
- Neolithic and Bronze Age burial monuments, prehistoric and Romano-British enclosures, settlements, field systems and hill forts contribute to the plethora of visible, historic features of the landscape; and
- Panoramic views from hill tops.

8.155 The Integrated Landscape Character Assessment evaluates the strength of character of the Martin - Whitsbury Downland Hills landscape character area and states that:

- *'This is a landscape of strong character. The gently undulating landform, prominent knolls and hills, large-scale arable land use and significant areas of woodland make this a landscape of contrasts. In particular the contrast of scale and enclosure is felt where the intimacy of the enclosed wooded lanes*

gives way to the open rolling arable fields. These are distinctive perceptual experiences that add to a strong sense of place.'

Stour and Avon Tributary Chalk River Valleys Landscape Character Area

8.156 The river valleys which drain the chalk downs of Cranborne Chase and West Wiltshire Downs AONB are a key element of the landscape. In contrast to the often unsettled downland, villages tend to be concentrated in these valleys, sited at the springline, just above the water meadows and floodplain. This includes Cranborne, Damerham and Rockborne.

8.157 Key characteristics identified in the Integrated Landscape Character Assessment and AONB Management Plan are:

- Dipslope streams have eroded shallow valleys into the upper chalk - the upper parts of most of these valleys are dry;
- The shallow nature of the valleys means that they have been exploited either as improved pasture or, more commonly, large arable fields;
- Smaller, narrow fields, in places fossilising old strip patterns, predominate around the villages;
- Mature willows and poplars form a dense ribbon of trees, tracing the course of the river. Withy beds were once characteristic of the valleys and some survive today as features;
- Country houses and their designed parkland contribute features such as avenues, shelter belts and brick walls;
- Picturesque villages inhabit the valley bottoms, following the course of the river in a linear form - the stream typically runs through the village with cottages reached via small bridges;
- Deserted Medieval villages are marked only by farmsteads or individual houses;
- Red brick, flint and thatch are locally distinctive materials;
- Roads occupy each valley floor;
- The Dorset Cursus, and numerous Bronze Age round barrows and channels of post-medieval water meadows contribute to the visible archaeology; and
- This rural area is lush farming country that provides a peaceful and unified environment.

8.158 The Integrated Landscape Character Assessment evaluates the strength of character of the Stour and Avon Tributary Chalk River Valleys landscape character area and states that:

- '*This is a landscape with a moderate strength of character. Although the combination of flood plain meadows, streams, transport corridors, linear medieval settlements and country houses form a distinct and recognisable pattern in these valleys, these tributary valleys do not have the strong valley landform associated with the Wylye and the Nadder. The influence of the downs on these valleys (encroachment of large arable fields into the valleys often at the expense of* woodland and grassland) further dilutes the character of these valleys.'

Landscape character summary

8.159 From the site-based evaluation undertaken for this LVIA, the site and its immediate context exhibits a number of characteristics which are identified in the various landscape character assessments described above and therefore the character of the site is considered to be consistent with published guidance.

8.160 It is therefore considered appropriate to reference the identified landscape components as part of the assessment process in order that these are evaluated as constraints and opportunities in relation to the site. The design evolution for the site masterplan will subsequently respond appropriately to the landscape character. Furthermore, the design evolution of the illustrative Masterplan Layout can incorporate measures which respond to the more specific guidance set out by published landscape character assessments at a local level.

8.161 Sensitivity of the landscape character is addressed in later sections of this chapter (under the assessment of landscape effects).

Visual Baseline

8.162 This section provides a description of the nature and extent of the existing views from, towards and between the site and the surrounding area. It also includes reference to specific locations that will potentially be subject to impacts as a result of the Proposed Development.

8.163 Establishing the specific nature of these views provides an understanding of the context and setting of representative viewpoints and also the nature of views in terms of distance, angle of view, and seasonal constraints associated with specific visual receptors. The identification of key sensitive receptors and links to the representative viewpoint are carried forward to the assessment process.

8.164 The viewpoints were identified through a site visit held in April 2022 and through consideration of the Zone of Theoretical Visibility (ZTV) undertaken to understand from where development may theoretically be visible (Technical Appendix 8.3). This indicates the methodology for identifying the maximum theoretical winter visibility and maximum theoretical summer visibility of buildings and the solar array.

8.165 Detailed consideration was given to potential visibility of the development from the south-eastern part of the Cranborne Chase and West Wiltshire Downs AONB (within 5km of the Site). Theoretical visibility was established through the ZTV. This indicated that there was potential for localised visibility of the built development (but not of the solar array) in winter views from some publicly accessible locations within the AONB around Damerham and north of Crendell (Technical Appendix 8.3). The winter views include the screening effect of buildings but not of vegetation. An additional site visit was therefore made to these locations in January 2023. On site analysis revealed that the extensive areas of woodland / plantations on both the northern edge of Alderholt and within the AONB itself will conceal visibility of the development from each of the locations.

Overview

8.166 The visual envelope is defined broadly as follows:

- From Hilbury Road and Ringwood Road that pass alongside and through the Site respectively,
- From the existing Alderholt built settlement viewing southwards,
- From the network of Public Rights of Way that extend through agricultural land to the east of the Site,
- From non-designated footpaths in Ringwood Forest to the south of the Site, and
- From elevated land at Cranborne Common to the west of the Site.

Representative viewpoints and visual receptors

8.167 The visual assessment references a series of viewpoints that are representative of visual receptors in the area. These illustrate views towards the site in the context of the surrounding landscape and are used to inform judgements on impacts for specific receptors (Technical Appendix 8.2, Figure 4256/LS/011: Viewpoint Locations and Technical Appendix 8.4: Visualisations).

8.168 The LVIA demonstrates that there are no locations within the AONB landscape where the scheme proposals will be readily visible. Associated increases in traffic may be visible beyond the Application Site boundary. Indirect effects on these additional receptors are considered at paragraphs 8.460 onwards as part of the consideration of effects on tranquillity within the Cranborne Chase and West Wiltshire Area of Outstanding Natural Beauty.

8.169 Representative visual receptors, likely to be directly affected by the Scheme Proposals, include:

- Recreational receptors such as walkers, cyclists and horse-riders using Public Rights of Way and permissive footpaths within the wider area including from Cranborne Common, the northern edge of Ringwood Forest and from farmland to the east of the Site; and
- Road users, including those using Ringwood Road, Hilbury Road and the smaller lanes to the east of the Site.

8.170 Fifteen viewpoints are identified:

- Viewpoint 1 – From Ringwood Road / Hilbury Road junction viewing north-westwards (180˚),
- Viewpoint 2 – From Hilbury Road north of The Old Barns viewing westwards (270˚),
- Viewpoint 3 – From Hilbury Road, north-east of the Site, viewing south-westwards (180˚),

- Viewpoint 4 – From the bend at the southern end of Ringwood Road (270˚),
- Viewpoint 5 – From the gateway to Warren Park Farm at the bend at the southern end of Ringwood Road (270˚),
- Viewpoint 6 – From the gateway to Sleepbrook Farm lane on Ringwood Road (270˚),
- Viewpoint 7 – From the northern edge of the Site on Ringwood Road (270˚),
- Viewpoint 8 – From the footpath accessed off Birchwood Drive (between Fern Close and Hazel Close) at the northern edge of the Amanda Harris Recreation Ground (270˚),
- Viewpoint 9 – From a permissive path on the eastern edge of Cranborne Common viewing eastwards (90˚),
- Viewpoint 10 – From an elevated location on the public bridleway on Cranborne Common viewing eastwards (90˚),
- Viewpoint 11 – From a permissive path on the northern edge of Ringwood Forest (the south-western edge of the Site) viewing northwards (180˚),
- Viewpoint 12 – From a permissive path on the northern edge of Ringwood Forest (the south-eastern edge of the Site) viewing northwards (180˚),
- Viewpoint 13 – From a gateway on Lomer Lane, close to its junction with North End Lane, viewing westwards (90˚),
- Viewpoint 14 – From a gateway on Lomer Lane, viewing westwards (90˚), and
- Viewpoint 15 – From a gateway on Lomer Lane, viewing westwards (90˚).

8.171 For each Viewpoint a sequence of visualisations has been prepared.

8.172 A number of residential properties are located close to the Site's boundary. These include:

- Eleven homes on Ringwood Road (No's 38 to 58) that back onto the northern part of the Site,
- Three homes on Pine Road (No's 24 to 26) that back onto Ringwood Road and the Site,
- Seven homes on Ringwood Road (No's 37 to 49) that front onto, and view across Ringwood Road toward the northern part of the Site
- Seven further homes on Ringwood Road on the edge of Alderholt village that back onto the Site – five in the stretch of road between Sleepbrook Farm lane to Alderholt Recreation Ground and two west of Foxhill Farm,
- Foxhill Farm to the east of Ringwood Road,
- Ten homes on Hazel Close that back onto the northern edge of the Site,
- Six homes on Saxon Way that back onto the northern edge of the Site,
- Nine homes at Hilbury Park that back onto the Site,
- Three homes on Hilbury Road, located a short distance north of its junction with Ringwood Road, that look across Hilbury Road towards the Site, and
- Warren Park Farm to the south of the site.

8.173 The visual impact for many of these properties is mitigated through the location of open space within the Site.

8.174 A detailed description for each of the locations identified as receptors for this LVIA, including judgements on value, susceptibility and overall sensitivity of visual receptors, is included in paragraphs 8.264-8.443 of this chapter under the assessment of visual effects.

DEVELOPMENT PROPOSALS INCLUDING MITIGATION MEASURES

Landscape design evolution and strategy

8.175 This section considers the type of development proposed and the nature of the impacts that are likely to occur; thereafter it draws the landscape and visual baseline information together and summarises the key constraints and opportunities in the existing landscape.

Context

8.176 The Site is located to the south of Alderholt on land that is currently in use as arable fields and pastures. Fields are regular in shape and defined by hedgerows, sometimes with mature trees. To the south and north-west of the Site Ringwood Forest / Plumley Wood and Cross Roads Plantation form a defined edge to the area. Beyond the Site to the west the land rises towards Cranborne Common.

8.177 The Site is relatively flat and this limits longer views out of the area. The topography and areas of woodland also means that the Site is not visually prominent beyond the locality. Views into the Site from surrounding roads are also restricted by hedgerows particularly in respect of Hilbury Road. The Site is however overlooked by homes towards the north.

8.178 Whilst there are no nature conservation designations on the site itself Cranborne Common to the west is part of Dorset Heaths SAC, Dorset Heathlands SPA, a Ramsar Site and a SSSI. Sleepbrook Farm SNCI and Ringwood Forest & Home Wood SINC are adjacent to the Site to the west and south respectively.

8.179 The open field and woodland in the western part of the Site and its wider setting provide a sense of tranquility away from major roads. The eastern part of the site is less tranquil with traffic noise from Hilbury Road.

Development Proposals

8.180 A full description of the Proposed Development is provided in the Design and Access Statement (DAS) that accompanies the planning application. In summary the Proposed Development is an outline application for:

- A mixed-use development for up to 1,700 dwellings including affordable housing and care provision,
- 10,000sqm of employment space in the form of a business park,
- Village centre with associated retail, commercial, community and health facilities,
- Open space including the provision of Suitable Alternative Natural Greenspace (SANG),
- Biodiversity enhancements,
- Solar array, and
- New roads access arrangements and associated infrastructure.

8.181 The proposals are landscape led and the existing landscape features, woodland, trees and hedgerows are largely retained as part of a network of connected green infrastructure across the Site. The western and south-eastern parts of the Site are retained as open landscape but with new areas of woodland, scrub and tree planting, wild-flower meadows and wetland areas proposed to enhance biodiversity. Residential development is proposed within this green infrastructure in the northern and eastern parts of the Site.

8.182 There is potential for a solar array to provide energy to support the Proposed Development. This is indicated on the westernmost field on the Site. Standard monocrystalline silicon panels fixed to a static mount are proposed with 1.6m x 1m (H x W) panels facing south at a 35° tilt.

8.183 The illustrative masterplan is provided in the DAS and the landscape strategy plan and existing and proposed tree plans in Technical Appendix 8.2, Figures 4256/LS/012 and 4256/LS/013.

Likely causes of impact

8.184 Although a landscape has some intrinsic sensitivity, different landscapes contain a range of elements and features that respond to change differently, subject to the type of the development that is proposed. Therefore, in order to inform the analysis of impacts, judgements should be made with reference to the changes arising from a specific type of development. The following section sets out the likely causes of impacts that would occur in relation to the specific type of development proposed (i.e. residential led development).

Causes of temporary impact during construction

8.185 The temporary construction works that may give rise to impacts on landscape and visual receptors are listed as follows:

- Site clearance (including vegetation clearance) and accommodation works,

- Movement and presence of associated construction vehicles and plant,
- Presence of construction compounds, site offices and welfare facilities,
- Earthworks and construction of internal road infrastructure and practical development platform,
- New highways infrastructure including the new access and roundabout on Hilbury Road, and
- For areas of advanced or early mitigation, the ongoing establishment of proposed mitigation measures (such as planting) during construction.

Causes of impacts at completion

8.186 The permanent components of the Proposed Development that may give rise to impacts on landscape and visual receptors are listed as follows:

- The built form of residential development, employment buildings and local centre (incorporating highways infrastructure),
- The lighting of roads including the approaches to the Site on Hilbury Road,
- The potential solar farm on the western edge of the Site, and
- Mitigation integrated into the proposed development (i.e. green infrastructure and strategic landscaping), including retained trees, hedgerows, public open space and SANG provision, SUDs and attenuation areas, new planting and new footpaths.

Constraints and opportunities

8.187 In the context of the likely impacts described above, the following key constraints and opportunities have been identified during the landscape and visual analysis.

Constraints

8.188 Constraints for the Site are considered to be:

- Site access and potential impact of highways infrastructure on landscape and visual assets,
- The existing vegetation including hedgerows on field boundaries and mature trees,
- The ecological value of parts of the Site and the wildlife that it supports including foraging routes of bats that cross the Site,
- The views into the Site notably from elevated land at Cranborne Common, from Ringwood Road and Hilbury Road and from existing residential properties in Alderholt,
- The level topography of the Site that means that surface water drainage must be managed through a network of swales and attenuation features, and
- The requirement for SANG to be delivered to mitigate any impact of the Proposed Development on the designated sites at Cranborne Common.

Opportunities

8.189 Opportunities for the Site are considered to be:

- There are no overriding landscape planning designations,
- The landform of the Site is flat and the wooded landscape to the south and north-west of the Site limits visibility from the wider area,
- The potential to create a more defined and positive entry point into Alderholt from the south,
- Potential to add to the network of walking and cycling routes through the area,
- Potential to create a public park / extended recreation ground for Alderholt and to increase the range of leisure and sports opportunities within the village,
- Potential to deliver a matrix of new habitats that will enhance the biodiversity of the Site and integrate it with wider landscape character including areas of new woodland, scrub, wildflower meadow, wetland and open water,

- Potential to manage surface water through a network of swales and ponds that also add to the sites biodiversity, and
- Potential to reduce the visibility of and enhance the setting of new homes so that they blend into the landscape through new planting that responds to and reflects the wider character of the area.

Landscape strategy and design

8.190 Following the initial stages of the LVIA, the early design and evolution of the illustrative masterplan and landscape strategy has been formed based on the landscape and visual constraints and opportunities which are apparent on site and in the surrounding area.

8.191 This process ensures that the location, scale and character of the proposed development has evolved in response to the local landscape character and will be acceptable in landscape and visual terms.

8.192 Therefore, the landscape and visual strategy for the Site is founded on the following principles:

- Identification of a suitable 'development envelope',
- Retention and enhancement of the existing vegetation, wherever possible,
- Provision of reinstatement vegetation where losses occur,
- Creation of additional green infrastructure and open space on site, taking into account landscape character and visual containment of the Site in order to propose landscape mitigation which is both consistent with and complementary to, the existing local landscape character in terms of scale, disposition and species mix,
- Provision of extensive areas of SANG within the western and south-eastern parts of the Site that mitigate impacts on the designated heathland at Cranborne Common, and
- Providing legible connections through the area and connecting with the wider area that provide attractive alternatives to walking on the heathlands for both existing and new residents.

Strategy components

8.193 The key elements of the landscape strategy have been considered as separate but integrated components; these are described in more detail in the following sections.

Development envelope and layout

8.194 The development envelope is defined as the area in which the residential built form will be contained; this is effectively a 'horizontal' parameter set for the scale of the Proposed Development. The development envelope has been influenced by the Site analysis and pays particular attention to a number of landscape and visual related constraints and opportunities. This includes:

- Provision of a main central space, 'Alderholt Park', adjacent to the existing Alderholt Recreation Ground effectively doubling the size of the existing space whilst also maintaining an open outlook for residents of existing homes that back onto the space,
- Setting development back from the existing Ringwood Road / Hilbury Road junction and locating the southeastern SANG in this location so that the southern approach into Alderholt retains a rural feel,
- Retaining an extensive open landscape in the south and western part of the Site as SANG and enhancing the range of habitats within it to complement the heathland to the west and to enhance biodiversity. Views across the Site from Cranborne Common remain largely open but with groups of new trees and woodland mitigating any impacts of homes in views, and
- Provision of green corridors through the proposed residential neighbourhoods to reinforce existing landscape infrastructure (hedgerows) and to provide a connected landscape within which new homes will be sited.

8.195 With regard to the 'vertical' parameter of the development envelope, the following principles apply:

- Restricting development to two or three storeys in height with the majority of buildings being two storeys. Three storey buildings will be used to emphasise important features / locations within the townscape for instance the local centre, prominent street corners or buildings marking the end point of a vista,

- Arranging buildings so that they help to define and enclose public spaces or streets and provide a continuity to the built form, and
- Careful consideration of roof profiles and forms to respond to the local vernacular and to create a dynamic composition that is sympathetic to the rural setting.

Strategy for existing vegetation

8.196 Consideration has been given to the existing vegetation infrastructure in and around the Site. The most important elements identified through site survey are:

- The existing hedgerows defining field boundaries and often including mature trees,
- Three areas of woodland within the Site - an area of mature woodland in the southeastern corner adjacent Hilbury Road, a mixed woodland around Sleepbrook Farm and an area of mixed woodland in the north-west of the Site at Cross Roads Plantation, and
- A number of wet ditches, ponds and minor streams including several ponds located on the southern edge of the Site.

8.197 The residential areas have been laid out to respond to the landscape and to minimise loss of hedgerows or trees. The majority of landscape assets are retained as part of the Proposed Development however some assets are proposed for removal to deliver new access to, and connections across the Site – Technical Appendix 8.2, Figure 4256/LS/006. This includes:

- A short section of hedgerow to be removed at the new site access on Hilbury Road (designated as Category B, moderate quality, in the tree survey),
- Selective tree and discrete hedge removal to provide access to the Site off Ringwood Road,
- Removal of two hedgerows that extend perpendicular to Ringwood Road towards the west of the Site (one designated as Category B, moderate quality, and the other Category C, low quality, in the tree survey),
- Removal of a hedgerow in northernmost field (designated as Category C, low quality, in the tree survey), and
- Creation of discrete gaps in hedgerows to deliver an enhanced network of walking routes that connect different parts of the area to one another.

8.198 Where existing vegetation is identified for removal this will be mitigated through new planting as part of the strategy for green infrastructure and open spaces.

8.199 Retention of the existing vegetation structure will ensure that the scale and form of the Proposed Development responds to landscape elements and features present; this will help to integrate the Proposed Development into the site and with the context of local landscape character. The retention of existing vegetation will provide an immediate impact in terms of green infrastructure and this will help to reduce or eliminate visual impacts and also integrate the Proposed Development into the local landscape.

Green infrastructure and open space

8.200 The landscape strategy for the Site creates a network of interconnected green routes and spaces across the Site. These new spaces will respond to and enhance the retained vegetation assets (trees, hedgerows, woodlands and wetlands) to provide a framework that integrates with the existing landscape to the west, south and east of the Site and to the built form of Alderholt to the north.

8.201 The following new green infrastructure is proposed:

- A main central space, Alderholt Park adjacent to and immediately north of the existing Alderholt Recreation Ground which will link with and effectively double the size of the existing space. This space will maintain the green outlook from existing residential properties on the southern edge of Alderholt and deliver a significant resource for the village. It is anticipated that the majority of the space will remain open but with addition of planted areas, paths, seating and children's play. Additional sports pitches and facilities could also be introduced,
- A number of neighbourhood parks forming a focus for the new residential neighbourhoods. Homes will front onto and enclose these spaces and they will provide a place for social gatherings, children's

play and relaxation. The spaces will be primarily soft landscape with grassed areas, tree, shrub and herbaceous planting, areas of wildflower meadow and community orchards,

- Green corridors providing linkages between different parts of the area and incorporating existing hedgerows. Corridors will be multifunctional acting as movement corridors for people and wildlife, enhancing biodiversity and often incorporating swales as part of the strategy to manage surface water on the Site,
- Tree lined streets and landscaped residential courtyard spaces throughout the Proposed Development, and
- Two extensive areas of SANG, one occupying the western part of the Site and the second in the south-east of the Site. Both SANG's will mitigate impacts of the Proposed Development on the European designated sites and provide a variety of habitats that enhance biodiversity. Both SANG areas also connect with, and interface with, Ringwood Forest to the south.

Legible connections

8.202 The landscape framework for the Site will create a network of green corridors and walking routes, that link existing and new landscape assets and integrate with the structure of Alderholt village to the north so that the proposed public spaces, SANG areas and the wider countryside to the south are accessible for both existing and future residents.

ASSESSMENT OF LANDSCAPE EFFECTS

8.203 Although a landscape has some intrinsic sensitivity, in LVIA, landscape sensitivity is specific to the location in question (in terms of value) and also to the particular project or type of development that is being proposed (in terms of susceptibility of a landscape to the specific development). Therefore, in accordance with the GLVIA3, and to reliably inform detailed assessment of impacts, landscape sensitivity needs to be determined with reference to the value of the landscape and its susceptibility to change.

8.204 Although landscape value should be established with reference to the baseline information only, landscape susceptibility is determined as an integral part of the assessment of landscape effects i.e. at a point where the components of the Proposed Development have been analysed and potential key causes of impact are understood (as set out in the previous section).

8.205 Sensitivity is a term applied to specific receptors, combining judgements on the value related to a landscape (i.e. the receptor) with the susceptibility of the landscape to the specific type of change proposed. Receptors can include specific landscape elements or features or may be judged at a wider scale and include landscape character parcels, types or areas. As advocated in the GLVIA3, professional judgement is used to balance judgements on value and susceptibility in order to determine sensitivity. Each of these aspects of the analysis will vary subject to the scale and detail of the assessment. Additional information and criteria used in the determination of landscape sensitivity is included in Technical Appendix 8.1.

Landscape sensitivity

8.206 The Site is located within the Ringwood Hurn Landscape Character Area as defined in the East Dorset Landscape Character Assessment (2008) but close to the Ringwood Forest Landscape Character Area as described in the New Forest District Landscape Character Assessment (2000). The landscape sensitivity and landscape impacts are therefore considered for both areas.

8.207 The Site is located approximately 2km to the south of the southern edge of the Cranborne Chase and West Wiltshire Downs AONB. Given the greater weight given to conserving and enhancing the landscape and scenic beauty of the AONB further consideration is given to the sensitivity and landscape impacts on the AONB.

8.208 Two landscape character areas are identified within the Cranborne Chase and West Wiltshire Downs AONB Integrated Character Assessment (2003) on the south-eastern edge of the AONB. These are the Martin - Whitsbury Downland Hills Landscape Character Area and the Stour and Avon Tributary Chalk River Valleys Landscape Character Area. Specific consideration is given to these areas as well as to the AONB more widely. Refer to Technical Appendix 8.2, Figure 4256/LS/017.

Ringwood Hurn Landscape Character Area

8.209 The Site is located within the Ringwood Hurn landscape character area as defined in the East Dorset Landscape Character Assessment (2008). This describes the key characteristics of the landscape character area. The East Dorset and Purbeck Areas Landscape and Heritage Study (January 2021) provides an assessment of the particular sensitivities of land around Alderholt to development and includes consideration of the Site.

Landscape Value

8.210 The Ringwood Hurn landscape character area encompasses the Site and extends westwards and southwards to take in Cranborne Common and the northern part of Ringwood Forest. The area is characterised by a patchwork of heath, woodland and farmland and by a varied landform with steep slopes in places.

8.211 The Site itself is not particularly characteristic of the wider Ringwood Hurn landscape character area. It is relatively flat and composed of fields, in a regular pattern, and which are defined by hedgerows, sometimes with trees. There is little semi-natural habitat although hedgerows provide ecological corridors through the area. Homes within Alderholt back onto parts of the Site providing an urbanising influence and the eastern part of the Site is disturbed by traffic noise on Hilbury Road. The portion of the Site to the west of Ringwood Road has a more tranquil feel and interfaces with the elevated remnant heathland landscape at Cranborne Common to the west, and a wooded landscape to the north-west at Cross Roads Plantation and to the south at Ringwood Forest.

8.212 Overall, the landscape value of the Ringwood Hurn landscape character area is considered to be medium.

Landscape Susceptibility

8.213 The Ringwood Hurn landscape character area is susceptible to urbanisation both from a visual and ecological perspective however the presence of blocks of woodland provides opportunity for screening to reduce impacts of development. The Site is not visually prominent in the wider landscape due to its topography and the existing tree cover.

8.214 The existing vegetation, and mature trees in particular, are important to the character of the area and are visible on the skyline.

8.215 High and low voltage overhead power lines cross the area and together with the existing solar farm adjacent to Cross Roads plantation provide urbanising features within the area.

8.216 Overall, the landscape susceptibility of the Ringwood Hurn landscape character area is considered to be low to medium.

Landscape Sensitivity

8.217 Balancing the judgement on value and susceptibility, the Ringwood Hurn landscape character area is considered to be of low to medium sensitivity in landscape terms. This reflects the conclusions of the East Dorset and Purbeck Areas Landscape and Heritage Study in respect of the Site.

Ringwood Forest Landscape Character Area

Landscape Value

8.218 The Ringwood Forest landscape character area extends to the east and south of the Ringwood Hurn landscape character area and is characterised by its wooded landscape, by traditional farm buildings and high recreational value.

8.219 The trees and hedgerows make an important contribution to the landscape and also provide important visual screens for gravel extraction and landfill sites. Large roads extend through the area reducing tranquility.

8.220 The land immediately to the east of the Site whilst being defined as within the Ringwood Forest landscape character area is not characteristic of the wider landscape character area and is open farmland composed of large fields and with tree cover limited to hedgerows.

8.221 Overall, the landscape value of the Ringwood Forest landscape character area is considered to be medium.

Landscape Susceptibility

8.222 The wooded areas make an important contribution to the landscape and wooded edges are important in views across the area. Hedgerows are also important as links between different blocks of woodland.

8.223 The Ringwood Forest landscape character area interfaces with the Avon Valley to the east and views over the Valley should not be impinged on or blocked.

8.224 Whilst there is scope for new development within the Ringwood Forest where it may make use of a woodland setting, native planting should accompany any development to enhance its setting

8.225 Overall, the landscape susceptibility of the Ringwood Forest landscape character area is considered to be medium.

Landscape Sensitivity

8.226 Balancing the judgement on value and susceptibility, the Ringwood Forest landscape character area is considered to be of medium sensitivity in landscape terms.

Martin - Whitsbury Downland Hills Landscape Character Area

Landscape Value

8.227 The Martin - Whitsbury Downland Hill landscape character area is located on the south eastern edge of the Cranborne Chase and West Wiltshire Downs AONB and is characterised by its' gently undulating landform, prominent knolls and hills, large scale arable land use and significant areas of woodland which make the area a landscape of contrasts. The absence of major roads or major settlements contributes to a feeling of remoteness and tranquility.

8.228 The Integrated Landscape Character Assessment evaluates the area as a landscape of strong character with a strong sense of place.

8.229 Overall, the landscape value of the Martin - Whitsbury Downland Hills landscape character area is considered to be high.

Landscape Susceptibility

8.230 The Martin - Whitsbury Downland Hill landscape character area is susceptible to intrusion that may impact on its sense of remoteness and tranquility. This may be through additional recreational use and visitors, car trips or through visual intrusion. The AONB is an International Dark Sky Reserve and is therefore susceptible to light impacts either directly or that may cause additional sky glow.

8.231 Overall, the landscape susceptibility of the Martin - Whitsbury Downland Hills landscape character area is considered to be high.

Landscape Sensitivity

8.232 Balancing the judgement on value and susceptibility, the Martin - Whitsbury Downland Hills landscape character area is considered to be of high sensitivity in landscape terms.

Stour and Avon Tributary Chalk River Valleys Landscape Character Area

Landscape Value

8.233 The Stour and Avon Tributary Chalk River Valleys extend through the Downland Hills at the south-eastern edge of the Cranborne Chase and West Wiltshire Downs AONB. The shallow nature of the valleys means that they have been exploited either as improved pasture or, more commonly, large arable fields. Roads occupy the valley floors and pass through picturesque villages, including Cranborne and Damerham, that inhabit the valley bottoms.

8.234 The Integrated Landscape Character Assessment evaluates the valleys as having a moderate strength of character but with this diluted by the encroachment of large arable fields into the valleys.

8.235 Overall, the landscape value of the Stour and Avon Tributary Chalk River Valleys landscape character area is considered to be medium to high.

Landscape Susceptibility

8.236 The Integrated Character Assessment identifies overall management objectives to conserve the strong visual unity of these valleys, the pattern of linear villages and semi-natural habitats, and to restore declining features such as wet woodlands, meadows, chalk grassland, valley side woodlands and boundary features.

8.237 The Valleys are susceptible to intrusion that may impact on the character and appearance of the linear villages and the setting of the landscape. This may be through additional recreational use and visitors, car trips or through visual intrusion. The AONB is an International Dark Sky Reserve and is therefore susceptible to light impacts either directly or that may cause additional sky glow.

8.238 Overall, the landscape susceptibility of the Stour and Avon Tributary Chalk River Valleys landscape character area is considered to be **high**.

Landscape Sensitivity

8.239 Balancing the judgement on value and susceptibility, the Stour and Avon Tributary Chalk River Valleys landscape character area is considered to be of **high** sensitivity in landscape terms.

Landscape Impacts

Impacts on physical landscape resources

8.240 The following section describes the predicted changes to the physical landscape elements and features on the Site that will give rise to the subsequent perceived changes in landscape character.

8.241 In terms of physical landscape resources, the direct changes will occur on the Site. Changes to the physical resources of the Site include impacts generated by the change in land use from the current areas of pastoral and arable agricultural land to that of a residential development to the north of the Site and more naturalistic landscape areas to the south and west of the Site within proposed SANG areas.

8.242 The permanent components of the Proposed Development that may give rise to impacts on landscape and visual receptors are listed as follows:

- The built form of residential development (incorporating highways infrastructure) towards the northern part of the Site,
- The solar array proposed towards the west of the Site, and
- Mitigation integrated within the Proposed Development (i.e. green infrastructure and strategic landscaping), including retained trees, hedgerows, public open space provision, SUDs and attenuation areas, new planting and new footpaths and cycleways, and
- Mitigation introduced towards the south and west of the Proposed Development in the form of extensive SANG provision.

8.243 The scale, pattern and extent of vegetation will be retained and enhanced throughout the site including existing hedgerows, trees and areas of woodland. There will be some modest vegetation removal to facilitate access on Hilbury Road.

8.244 Impacts will be mitigated through significant additional areas of planting throughout the proposed residential areas including as part of swale corridors and new public open spaces.

8.245 In addition, significant new planting is proposed as part of the delivery of two SANG areas in the western and south-eastern parts of the Site. This will include new areas of woodland, scrub and tree planting, wild-flower meadows and wetland areas and is intended to compliment the habitats and landscape character on Cranborne Common and Ringwood Forest to the west and south and to enhance biodiversity.

8.246 The existing network of footpaths will be significantly enhanced providing improved access to landscape assets in the wider area.

Effects on landscape character

8.247 The physical changes to the landscape elements and features described above give rise to changes in the perceived character of the Site and could also give rise to changes in the perceived character of the surrounding landscape. These are considered below.

8.248 Construction impacts will include initial ground clearance, earthworks and minor clearance of existing vegetation. This process will also include the implementation of temporary measures such as site hoardings, temporary fencing and temporary vegetation/tree protection measures. The impacts on character during construction will only occur at a local level. These impacts will be temporary and reversible and limited to the local context.

8.249 Impacts at completion are concerned with the long-term alteration in the landscape from the current undeveloped context to a residential development within a landscaped setting.

Impact on Ringwood Hurn Landscape Character Area

8.250 The change in landscape character will be associated with the change of part of the arable / pastoral landscape on the Site to that of residential development and also to the delivery of more naturalistic landscape areas within the proposed SANG areas.

8.251 Residential development is proposed in the northern portion of the Site with areas of SANG to the south and west.

8.252 The existing settlement edge to Alderholt will be will drawn further to the south whilst retaining a sense of openness in the southern part of the area and adjacent to the more sensitive landscape at Cranborne Common.

8.253 The existing trees and hedgerows are largely retained and new planting will introduce a mosaic of landscape types and habitats that are in character with the wider Ringwood Hurn Landscape Character Area.

8.254 The balance the magnitude of impact on the **Ringwood Hurn landscape character area** will be **medium**. Assessed alongside the **low to medium sensitivity**, this will result in a **minor adverse** effect.

Impact on Ringwood Forest Landscape Character Area

8.255 The Site is adjacent to the Ringwood Forest landscape character area. However, the development is likely to give rise to some urbanising effects including the impacts of highway lighting and visibility of roofs of new dwellings and employment buildings adjacent to Hilbury Road that will have impacts on the landscape character within the Ringwood Forest landscape character area.

8.256 New planting together with the delivery of the south-eastern SANG will help to mitigate these landscape impacts.

8.257 On balance the magnitude of impact on the **Ringwood Forest landscape character** area will **be low to negligible**. Assessed alongside the **medium sensitivity**, this will result in a **minor to negligible** adverse effect.

Impact on The Martin - Whitsbury Downland Hill Landscape Character Area (within the AONB)

8.258 The Proposed Development will deliver extensive areas of open space and SANG which will mitigate both recreational pressures on the landscapes close to the Site, including Cranborne Common, and those further afield including the AONB.

8.259 The potential impacts of lighting are mitigated through the lighting strategy for the Site which includes the following measures to ensure that the Cranborne Chase and West Wiltshire AONB and International Dark Skies Reserve will not be impacted by the visual effects of lighting and the lighting technical effects (primary sky glow) from the development:

- All luminaires will have a 0% Upward Light Output Ratio ensuring there is not direct upward light emitted by the external lighting;
- All lighting is provided at the lowest levels for the area or task being performed as stated within British Standards;
- Lighting is subject to the control parameters of the Dorset County Council Specification for Street Lighting and Illuminated Traffic Signs/Bollards (PSL900A Rev 4). This is detailed in the Lighting Strategy;
- The maximum Correlated Colour Temperature used will be 3000K, but the majority of the lighting will be provided at 2700K. This is compliant within both the Dorset County Council Specification for Street Lighting and Illuminated Traffic Signs/Bollards (PSL900A Rev 4) and guidance published by the International Dark Skies Association, and
- Mitigation is also provided for the internal lighting within the Proposed Development which places restrictions on the glazed areas of the proposed dwellings and the types of luminaires to be used in the designing of these dwellings.

8.260 Visual effects more widely are considered later in this chapter.

8.261 On balance the magnitude of impact on the **Martin - Whitsbury Downland Hill landscape character area** will be **negligible**. Assessed alongside the **high sensitivity**, this will result in a **negligible** adverse effect.

8.262 Indirect effects on tranquillity (associated with traffic increases near and within the AONB) are considered in paragraphs 8.460 onwards.

Impact on Stour and Avon Tributary Chalk River Valleys Landscape Character Area (within the AONB)

8.263 The Proposed Development will deliver extensive areas of open space and SANG which will mitigate both recreational pressures on the landscapes close to the Site, including Cranborne Common, and those further afield including the AONB.

8.264 The potential impacts of lighting are mitigated through the lighting strategy for the Site which includes the measures outlined above in paragraph 8.6.57 to ensure that the Cranborne Chase and West Wiltshire AONB and International Dark Skies Reserve will not be impacted by the visual effects of lighting and the lighting technical effects (primary sky glow).

8.265 The Proposed Development will generate some additional traffic of which approximately 8% of trips are anticipated to route along the B3078 towards Cranborne. This is estimated to increase the annual average daily trips (AADT) on the route from Batterley Drove to Cranborne by 700 trips to circa 3,400. The majority of this route is outside of the AONB and transport impacts can be mitigated through localised widening of the route. Nevertheless additional traffic will be experienced passing through Cranborne village.

8.266 It is estimated that only 0.25% of the trips generated by the Proposed Development will continue across Cranborne Chase towards Shaftesbury and Gillingham along the B3081. Based on the total daily traffic flow (AADT) of the Proposed Development being 8,372, a total of circa 21 trips would route through Cranborne Chase during a daily period. In terms of peak periods this equates to 2 trips in the AM and 1 trip in the PM respectively. For further detail refer to the Alderholt Meadows Transport Assessment.

8.267 On balance the magnitude of impact on the **Stour and Avon Tributary Chalk River Valleys landscape character area** will be **low to negligible**. Assessed alongside the **high sensitivity**, this will result in a **minor to negligible** adverse effect.

8.268 Indirect effects on tranquillity (associated with traffic increases near and within the AONB) are considered at paragraphs 8.460 onwards.

Summary of Landscape Effects

8.269 **Table 8.1** summarises the landscape effects upon the landscape receptors.

Table 8.1 Summary of Landscape Effects

Landscape Receptor	Sensitivity	Magnitude of Impact	Significance of Effect
East Dorset Landscape Character Assessment (2008)			
Ringwood Hurn Landscape Character Area	Low to medium	Medium	Minor adverse effect
New Forest District Landscape Character Assessment (2000)			
Ringwood Forest Landscape Character Area	Medium	Low to negligible	Minor to negligible
Cranborne Chase and West Wiltshire Downs AONB Integrated Character Assessment (2003)			
Martin-Whitsbury Downland Hill Landscape Character Area	High	Negligible	Negligible

Landscape Receptor	Sensitivity	Magnitude of Impact	Significance of Effect
Stour and Avon Tributary Chalk River Valleys Landscape Character Area	High	Low to Negligible	Minor to Negligible

8.270 The sensitivity of visual receptors is determined through balancing judgements on the value attached to a particular view balanced with the susceptibility of the visual receptor to changes in a view and/or visual amenity. The criteria for the sensitivity of visual receptors are set out in Technical Appendix 8.1.

Visual Impacts

8.271 Visual impacts are considered separately to landscape impacts. For landscape impacts it is necessary to understand the combination of direct and indirect impacts on the landscape resources potentially affected by a proposed development and therefore it is possible to provide a description and overview of the key impacts that are likely to affect the study area.

8.272 However, for visual receptors it is necessary to understand the specific, direct impacts on each view. Therefore the causes of impact are considered on the basis of individual receptors and are set out in the following sections as an integral part of the assessment of visual effects.

Visual effects

8.273 The following section describes the likely significant effects on specific visual receptors. Fifteen representative viewpoints were identified through a site visit held in April 2022 and through consideration of the Zone of Theoretical Visibility (ZTV). This is presented in Technical Appendix 8.3 and indicates the methodology for identifying the maximum theoretical winter visibility and maximum theoretical summer visibility of buildings and the solar array.

8.274 The potential visibility of the Proposed Development from the Cranborne Chase and West Wiltshire Downs AONB was assessed through the ZTV and site visits and it was concluded that there would be no visibility or visual impacts.

8.275 For each viewpoint a sequence of visualisations has been prepared. These are:

- Existing Winter view (April 2022),
- Existing Summer view (July 2022),
- Year 1 Composite View,
- Year 15 Composite View,
- Year 1 Photomontage View, and
- Year 15 Photomontage View.

8.276 These are provided in Technical Appendix 8.4: Visualisations.

8.277 MS Environmental (MSE) has modeled the proposed development (including tree planting) into the Composite and Photomontage Views. Refer to Technical Appendix 8.6: Technical Methodology.

8.278 The assessment has considered visual effects at three stages of the Proposed Development: effects during construction – when the Proposed Development will be in construction; effect at completion (year 1) – when the Proposed Development will be complete and based on the assumption that some aspects of structural landscaping will be established to different levels but not sufficient to perform a screening function; effects at Year 15 after completion – when proposed planting will be established to a minimum of 15 years, hedgerows will be continuous and trees will have reached approximately 8m in height. However, due to the scale and size of the Proposed Development, it is considered that the impacts during construction would be short term and temporary; therefore, visual effects during construction are not assessed in detail.

8.279 In addition, consideration is given to the visual effects of the Proposed Development on residential receptors.

Viewpoint 1 – From Ringwood Road / Hilbury Road junction viewing north-westwards (180˚)

8.280 This viewpoint is taken from Ringwood Road at its junction with Hilbury Road at the eastern edge of the Site at c. +50m AOD.

8.281 The view is presented as 180˚ panoramic and looks towards a small pasture defined by hedgerow to the west (which is outside of the Site), northwestwards across the Site and includes Hilbury Road which defines the eastern edge of the Site.

8.282 Existing vegetation is in the foreground to the view including hedgerows to either side of Ringwood Road. The southern hedgerow includes trees, however the hedgerow that defines the northern side of Ringwood Road does not. The hedgerow reduces visibility of fields (and the Site) to the northwest but longer distance views of the open landscape are apparent in the winter view looking north westwards along Ringwood Road. Trees define the horizon and the view has a rural character.

8.283 A number of residential properties located on the eastern side of Hilbury Road are visible in the view along with mature trees along the hedges to either side of this route.

8.284 Two grain silos associated with the chicken shed south of Foxhill Farm are visible in the view. Low voltage overhead powerlines are also visible, but not prominent in the view.

8.285 Receptors are considered to be road users driving on Hilbury and Ringwood Road along with occasional walkers, cyclists and horse riders. Visual sensitivity is considered to be Medium.

8.286 At completion (year 1) there will be views of the Proposed Development. Buildings will be partially obscured by the existing hedgerows however houses to the north-west of the viewpoint and employment buildings to the north (on the eastern edge of the Site close to Hilbury Road) will be visible above the hedgerow on the northern side of Ringwood Road. These buildings are located in the mid ground beyond the proposed eastern SANG however the roof profiles of these buildings will appear against the horizon.

8.287 Residential and employment buildings will be designed to respond to the local vernacular with pitched roofs and use of local materials. This will reduce their visual impact and ensure that they better assimilate into the landscape.

8.288 Lighting from buildings and street lighting as part of the development may impact on the night-time view however the lighting strategy for the Proposed Development has been designed to be minimally obtrusive within the landscape.

8.289 The establishment of planting as part of the development proposals will soften the impact by 15 years after completion and buildings will be largely obscured by vegetation. Whilst there will be some visibility of the roofs of buildings these will be assimilated into the landscape by planting in the foreground. The new vegetation will enhance the setting and approach into Alderholt.

8.290 The magnitude of impact will be medium at Year 1 and negligible to low once planting has established by Year 15. Combined with the medium sensitivity this gives rise to a minor to moderate adverse visual effect in Year 1 and minor beneficial visual effect in Year 15.

Viewpoint 2 – From Hilbury Road north of The Old Barns viewing westwards (270˚)

8.291 This viewpoint is taken from Hilbury Road approximately 175m north of its junction with Ringwood Road and 75m north of a small group of properties, including The Old Barns and Drove End Farm on Hilbury Road. The viewpoint location is at the eastern edge of the Site at c. +52m AOD.

8.292 The view is presented as 270˚ panoramic and views southwards down Hilbury Road towards the Old Barns, westwards across the Site and northwards up Hilbury Road.

8.293 Hilbury Road is visible in the view as an unlit rural road defined to each side by hedgerow. There are a number of trees on the hedgerow south of the viewpoint. To the north the hedgerow is maintained at a consistent height without trees. Low voltage overhead powerlines are also visible, but not prominent in the view.

8.294 The hedgerow appears in the immediate foreground to the view and largely obscures views into the Site. Trees on hedgerows to the west (on Ringwood Road) are visible on the horizon in the winter view.

8.295 Receptors are considered to be road users driving on Hilbury Road along with occasional walkers, cyclists and horse riders although traffic speeds on Hilbury Road (national speed limit) make this a less attractive route for these activities. Visual sensitivity is considered to be Medium.

8.296 At completion (year 1) there will be views of the Proposed Development. Buildings will be partially obscured by the existing hedgerows however employment buildings are proposed west of the hedgerow and will be visible in the foreground of the view.

8.297 Employment buildings will be designed to respond to the local vernacular with pitched roofs and use of local materials. This will reduce their visual impact and ensure that they better assimilate into the landscape.

8.298 Hilbury Road will be lit to the north of the viewpoint on the approach to the proposed roundabout. This lighting will impact on the night-time view. Light from buildings may also impact on the night-time view. However, the lighting strategy for the Proposed Development has been designed to be minimally obtrusive within the landscape.

8.299 The establishment of planting along the eastern edge of the Site as part of the development proposals will mean that development will not be visible in the viewpoint 15 years after completion with proposed buildings obscured by vegetation. This planting will enhance the setting and approach into Alderholt.

8.300 The magnitude of impact will be medium to high at Year 1 and negligible once planting has established by Year 15. Combined with the medium sensitivity this gives rise to a minor to moderate adverse visual effect in Year 1 and minor beneficial visual effect in Year 15.

Viewpoint 3 – From Hilbury Road, north-east of the Site, viewing south-westwards (180˚)

8.301 This viewpoint is taken from Hilbury Road on the southern edge of Alderholt and to the north-east of the Site at c. +53m AOD.

8.302 The view is presented as an 180˚ panoramic and views southwards down Hilbury Road, south-westwards across the Site and westwards towards a plot of land which is outside of the Site but with part of the Site located to the west of it.

8.303 Hilbury Road is visible in the view as an unlit rural road defined to each side by hedgerow. The western hedgerow, which forms the eastern edge of the Site, is lined with trees. A gateway is prominent in the viewpoint and offers a long view across an open grassed field and to a treed horizon in the distance.

8.304 Receptors are considered to be road users driving on Hilbury Road along with occasional walkers, cyclists and horse riders although traffic speeds on Hilbury Road (national speed limit) make this a less attractive route for these activities. Visual sensitivity is considered to be Medium.

8.305 At completion (year 1) there will be views of the Proposed Development. Buildings proposed to the southwest of the viewpoint will be partially obscured by the existing hedgerows and trees however proposed homes will be visible where the existing gateway forms a break in the hedgerow. Buildings will be more prominent when trees are not in leaf in the winter.

8.306 Development proposed to the west (beyond the plot of land which is outside of the Site) is screened by vegetation and visibility will be minimal.

8.307 The layout of proposed homes on the open field to the south-west of the viewpoint provides a positive interface with Hilbury Road; buildings are behind the hedgerow but look towards it so that the view will be towards the front of properties rather than the rears. The layout and mix of dwelling types and use of pitched roofs creates a dynamic skyline providing visual interest in the composition.

8.308 Hilbury Road will be lit to the south of the viewpoint on the approach to the proposed roundabout. This lighting will impact on the night-time view. Light from buildings may also impact on the night-time view. However, the lighting strategy for the Proposed Development has been designed to be minimally obtrusive within the landscape.

8.309 The establishment of planting as part of the development proposals will soften the impact by 15 years after completion and whilst there will still be some visibility of buildings these will be assimilated into the landscape by planting in the foreground. The new vegetation will enhance the setting and approach into Alderholt.

8.310 The magnitude of impact will be medium to high at Year 1 and low once planting has established by Year 15. Combined with the medium sensitivity this gives rise to a minor to moderate adverse visual effect in Year 1 and minor adverse visual effect in Year 15.

Viewpoint 4 – From the bend at the southern end of Ringwood Road (270˚)

8.311 This viewpoint is taken from the southern end of Ringwood Road at the bend in the road towards the southern edge of the Site at c. +51m AOD.

8.312 The view is presented as a 270˚ panoramic and views westwards towards Warren Park Farm, north-westwards up Ringwood Road towards Alderholt village, northwards across a field and eastwards along Ringwood Road towards its junction with Hilbury Road.

8.313 Whilst this viewpoint is close to Viewpoint 5 what can be appreciated in each view is different

8.314 Ringwood Road is prominent in the view and appears as a rural unlit lane with hedgerows to either side. The western hedgerow (on the stretch of Ringwood Road beyond the bend and viewing north-westwards) and southern hedgerow (viewing eastward towards Hilbury Road) include trees, however the hedgerow that defines the eastern and northern side of Ringwood Road does not.

8.315 This hedgerow is low growing and allows views over it into a small field to the north. A large chicken shed is prominent in the mid ground to this view and extends across the northern edge of this field. The shed is single storey and simple in form but its long roof-line is not sympathetic with the landscape and impacts negatively on the view. Two grain silos project above the shed and break the skyline.

8.316 The canopy of trees in the distance project above the shed on the horizon.

8.317 Viewing westwards a broad gap in the hedgerow provides a turning area and access point to a narrow lane that leads across a level and open landscape towards Warren Park Farm. The view is framed by trees to either side and trees on the horizon present an attractive rural impression.

8.318 Receptors are considered to be road users driving on Ringwood Road along with occasional walkers, cyclists and horse riders. Visual sensitivity is considered to be medium.

8.319 At completion (year 1) there will be views of the Proposed Development. Buildings will be located in the mid ground and will be partially obscured by the existing hedgerows. Suitable Alternative Natural Greenspace (SANG) will be visible in the foreground both on the field to the north of Ringwood Road (viewing northwards) and to either side of the lane that gives access to Warren Park Farm (viewing westwards). In year 1 new tree planting within SANG areas will not have established.

8.320 Residential buildings will be designed to respond to the local vernacular with pitched roofs and use of local materials. This will reduce their visual impact and ensure that they better assimilate into the landscape. The layout of the Proposed Development and the housing design / pitched roofs creates a dynamic and attractive composition on the skyline in the view and replaces the unattractive chicken shed.

8.321 Light from buildings may impact on the night-time view. However the lighting strategy for the Proposed Development has been designed to be minimally obtrusive within the landscape.

8.322 The establishment of planting within the SANG areas in the foreground to the view will significantly reduce visibility of the proposed development in the viewpoint 15 years after completion with proposed buildings partially obscured by vegetation. This planting will enhance the setting and approach into Alderholt.

8.323 The magnitude of impact will be low to medium at Year 1 and negligible once planting has established by Year 15. Combined with the medium sensitivity this gives rise to a minor adverse visual effect in Year 1 and minor beneficial visual effect in Year 15.

Viewpoint 5 – From the gateway to Warren Park Farm at the bend at the southern end of Ringwood Road (270˚)

8.324 This viewpoint is taken from the southern end of Ringwood Road at the bend in the road towards the southern edge of the Site at the entrance gateway to Warren Park Farm at c. +51m AOD.

8.325 The view is presented as a 270˚ panoramic and views westwards towards Warren Park Farm and northwards across the bend in Ringwood Road towards a field north of the road.

8.326 Whilst this viewpoint is close to Viewpoint 4 what can be appreciated in each view is different.

8.327 Viewing westwards an open, flat landscape to the west of Ringwood Road is prominent in the view with a large field, crossed by a narrow lane that leads to Warren Park Farm, in the fore and mid ground. Hedgerows with trees define the edge of field. Trees on the horizon present an attractive rural impression.

8.328 Viewing northwards Ringwood Road is in the foreground and defined on its northern and eastern boundary with a low hedgerow. This partially obscures the field that lies behind it. A large single storey chicken shed extending across the width of this field is visible in the mid ground to this view but is partially obscured by the hedgerow. The hedgerow is taller in the summer view and this obscures visibility of the chicken shed further. A grain silo is visible rising above the chicken shed in the winter

view but is obscured by the hedgerow in the summer view. The canopy of trees in the distance project above the shed on the horizon.

8.329 Receptors are considered to be road users driving on Ringwood Road along with occasional walkers, cyclists and horse riders. Visual sensitivity is considered to be **Medium**.

8.330 At completion (year 1) the Proposed Development will be prominent in views looking westwards but partially obscured by the existing hedgerow viewing northwards. Buildings will be located in the mid ground with Suitable Alternative Natural Greenspace (SANG) visible in the foreground both on the field to the north of Ringwood Road (viewing northwards) and to either side of the lane that gives access to Warren Park Farm (viewing westwards). In year 1 new tree planting within SANG areas will not have established.

8.331 Residential buildings will be designed to respond to the local vernacular with pitched roofs and use of local materials. This will reduce their visual impact and ensure that they better assimilate into the landscape. The layout of the Proposed Development and the housing design creates a dynamic and attractive composition on the skyline in the view and replaces the unattractive chicken shed.

8.332 Light from buildings may impact on the night-time view. However, the lighting strategy for the Proposed Development has been designed to be minimally obtrusive within the landscape.

8.333 The establishment of planting within the SANG areas in the foreground to the view will significantly reduce visibility of the Proposed Development in the viewpoint 15 years after completion. Buildings proposed to the north of Ringwood Road will be almost entirely obscured by vegetation. Viewing westwards the upper storey and roofs of some houses will be visible but planting will help to assimilate buildings into the landscape. New planting will enhance the setting and approach into Alderholt.

8.334 The magnitude of impact will be **medium** at Year 1 and **low** once planting has established by Year 15. Combined with the **medium sensitivity** this gives rise to a **minor adverse visual** effect in Year 1 and neutral to **minor adverse visual** effect in Year 15.

Viewpoint 6 – From the gateway to Sleepbrook Farm lane on Ringwood Road (270˚)

8.335 This viewpoint is taken from the gateway to Sleepbrook Farm on Ringwood Road at the southern end of the built-up area of Alderholt at c. +60m AOD.

8.336 The view is presented as a 270˚ panoramic and views westwards and northwestwards across open fields to the west of Ringwood Road and up and down Ringwood Road.

8.337 A hedgerow on the eastern side of Ringwood Road is visible in the view looking southwards. This has been recently cut in the winter view allowing views over it to trees in the distance. These are not visible in the summer view in which the hedgerow is taller and uncut.

8.338 The western side of Ringwood Road viewing southwards is heavily vegetated and this obscures views of a number of properties that are set back within well-treed plots on that part of the road. A close board fence is also visible on the boundary to the first of these plots.

8.339 Looking westwards the view takes in a farm track leading to Sleepbrook Farm and an open field enclosed by hedgerows. A farm gate giving access to the track is in the foreground of the view together with a low hedgerow. The winter view allows long views over this hedgerow towards an elevated landscape in the distance. This view is obscured by vegetation on the hedgerow in the summer view. However, it is apparent that the longer view will be visible through the gap in the hedgerow on Ringwood Road a short distance further north of the Viewpoint.

8.340 Low voltage power lines extend across the field in the foreground to the view and high voltage power lines suspended on pylons are visible in the distance.

8.341 Receptors are considered to be road users driving on Ringwood Road along with occasional walkers, cyclists and horse riders. Visual sensitivity is considered to be **Medium**.

8.342 At completion (year 1) the Proposed Development will be prominent in the mid ground to views looking westwards. Land in the foreground is proposed as open space / allotments and will include new planting but this will not have established at this stage. New homes will create a dynamic composition on the horizon but will obscure any long-distance views across the landscape. Trees on hedgerows beyond the development will soften the impact on the skyline.

8.343 The Proposed Development located to the southwest, south and southeast of the viewpoint will be obscured by existing vegetation.

8.344 The stretch of Ringwood Road indicated in the view will be downgraded to access only and will retain its rural character.

8.345 Light from buildings may impact on the night-time view. However, the lighting strategy for the Proposed Development has been designed to be minimally obtrusive within the landscape.

8.346 The establishment of planting within the open space area in the foreground to the view looking westwards will significantly reduce visibility of the proposed development in the viewpoint 15 years after completion. Planting within the proposed open space / allotments will create an attractive environment in the foreground to the view and buildings proposed to the west of Ringwood Road will be largely obscured by vegetation. The roofs and upper parts of some buildings will be visible but will be set within the landscape and not prominent in the view.

8.347 New tree planting on Ringwood Road will enhance the setting.

8.348 The magnitude of impact will be **medium** at Year 1 and **low** once planting has established by Year 15. Combined with the **medium sensitivity** this gives rise to a **minor to moderate adverse** visual effect in Year 1 and **neutral to minor adverse** visual effect in Year 15.

Viewpoint 7 – From the northern edge of the Site on Ringwood Road (270˚)

8.349 This viewpoint is taken from Ringwood Road at the northern end of the Site and immediately to the south of the most southerly existing housing plot on the western side of Ringwood Road in this location at c. +61m AOD.

8.350 The view is presented as a 270˚ panoramic and views westwards and southwestwards across open fields to the west of Ringwood Road and up and down Ringwood Road.

8.351 A low hedgerow is visible in the foreground to the view and is seen to extend southwards along the western side of Ringwood Road. To the north this hedgerow terminates at a house (2A Ringwood Road). The garden to this house is also visible in the view.

8.352 In the winter view the hedgerow has been recently cut and this allows a view westwards and southwestwards over it and across an extensive open field. The landscape is level and hedgerows with trees, and areas of woodland are visible to the far side of the field. Beyond are further hedgerows and a slightly elevated landscape to the rear (Cranborne Common). The view presents a rural scene with countryside extending to the horizon.

8.353 Low voltage power lines extend across the field.

8.354 In the summer view the hedgerow in the foreground to the view is uncut and only glimpses of the open landscape are visible with vegetation obscuring much of the view.

8.355 Receptors are considered to be road users driving on Ringwood Road along with occasional walkers, cyclists and horse riders. Visual sensitivity is considered to be **Medium**.

8.356 At completion (year 1) the Proposed Development will be prominent in the foreground to this view with new homes fronting directly onto Ringwood Road. Homes will also be visible viewing southwards but the open view along Ringwood Road will be retained. The backs of some homes will be visible to the rear of existing properties on Ringwood Road viewing north westwards across the garden to no. 2A Ringwood Road.

8.357 This part of Alderholt will take on a different character with the view to an open landscape replaced by homes arranged to provide a positive frontage to the street. Homes will be designed to respond to the local character in terms of form, design and materials so that they integrate with the existing settlement.

8.358 Light from buildings and street lighting may impact on the night-time view. However the lighting strategy for the Proposed Development has been designed to be minimally obtrusive within the landscape.

8.359 Trees planted on the Ringwood Road frontage will soften the impact of buildings and settle them into the landscape after 15 years.

8.360 The magnitude of impact will be **medium** at Year 1 and **medium** once planting has established by Year 15. Combined with the **medium sensitivity** this gives rise to a **moderate adverse visual** effect in Year 1 and **minor to moderate adverse** visual effect in Year 15.

Viewpoint 8 – From the footpath accessed off Birchwood Drive (between Fern Close and Hazel Close) at the northern edge of the Amanda Harris Recreation Ground (270˚)

8.361 This viewpoint is taken from at the northern end of the Amanda Harris Recreation Ground at the northern edge of the at c. +62m AOD.

8.362 The view is presented as a 270˚ panoramic and views southwards across the northern part of the recreation ground. A hedgerow is visible on the eastern edge of the recreation ground and includes mature trees. The western edge of the recreation ground is defined by a hedge with trees. Cars parked in the Alderholt Sports and Social Club car park, a children's play area and skate park and a temporary marquee tent are visible in the mid ground to the south.

8.363 A timber close board fence defining the garden boundary of no. 12 Hazel Close is in the foreground to the view. Between this fence and the hedgerow at the eastern edge of the recreation ground is a gap through which an open field in the foreground and a long view across a rural landscape is visible in the winter view. The view is partially obscured by vegetation in the summer view.

8.364 Receptors are considered to pedestrians using the footpath that runs north south between Fern Close and Hazel Close and provides pedestrian access to the Recreation Ground from Alderholt village via Birchwood Drive. Visual sensitivity is considered to be Medium.

8.365 At completion (year 1) the Proposed Development will be largely concealed from view by hedgerows to the south and west of the recreation ground. The proposed Alderholt Park will be visible in the foreground through the gap between the close board fence and eastern boundary of the recreation ground (this gap may become a new entrance to the park) and roofs and the upper storey of buildings will be visible in the mid ground beyond the park.

8.366 Light from buildings may impact on the night-time view. However, the lighting strategy for the Proposed Development has been designed to be minimally obtrusive within the landscape. Few receptors are anticipated to be in this location after dark.

8.367 Trees and vegetation planted within Alderholt Park will enhance the view in the foreground after 15 years and soften the impact of buildings in the mid ground beyond and settle them into the landscape.

8.368 The magnitude of impact will be low at Year 1 and negligible once planting has established by Year 15. Combined with the medium sensitivity this gives rise to a negligible to minor adverse visual effect in Year 1 and minor beneficial visual effect in Year 15.

Viewpoint 9 – From a permissive path on the eastern edge of Cranborne Common viewing eastwards (90˚)

8.369 This viewpoint is taken from a permissive path on the eastern edge of Cranborne Common at c. +52m AOD.

8.370 The view is presented as a 90˚ view and looks eastwards across an open landscape through a gap between the hedgerow that defines a field in the foreground and the edge of a plantation on the northern edge of Ringwood Forest.

8.371 The field in the foreground is level before sloping gently downwards in the to Sleep Brook in the mid ground. The land the rises again to the Site. A series of hedgerows with trees extend across the landscape with fields visible as green strips in the distance in the winter view but concealing these views almost entirely in the summer views. The character is rural with the horizon formed by the layering tree canopies in hedgerows in the mid ground and distance.

8.372 High voltage powerlines extend across the view and a pylon is partially obscured by the pine tree on the right of the view. This pylon is visible against the skyline when moving a short distance northwards from this viewpoint.

8.373 Receptors are considered to be recreational walkers. Visual sensitivity is considered to be Medium to High.

8.374 At completion (year 1) the Proposed Development will be largely concealed from view by hedgerows and trees that extend across the landscape in the distance. A small section of the proposed solar farm will be visible in the gap between the trees and with some visibility through bare branches and vegetation in the winter views. An extensive area of SANG is proposed between the proposed solar farm and housing.

8.375 Visibility of homes in Year 1 will be restricted to a small gap in the tree cover appearing above the proposed solar farm and with some visibility through bare branches and vegetation in the winter views.

8.376 Light from buildings may impact on the night-time view. However, the lighting strategy for the Proposed Development has been designed to be minimally obtrusive within the landscape.

8.377 Buildings will not be visible against the horizon which will continue to be defined by the canopy of existing trees.

8.378 Planting of trees and areas of woodland in the SANG will obscure visibility of the housing by year 15.

8.379 The magnitude of impact will be low at Year 1 and negligible to low once planting has established by Year 15. Combined with the medium to high sensitivity this gives rise to a negligible to minor adverse visual effect in Year 1 and negligible visual effect in Year 15.

Viewpoint 10 – From an elevated location on the public bridleway on Cranborne Common viewing eastwards (90˚)

8.380 This viewpoint is taken from an elevated location on the public bridleway that extends across Cranborne Common and connects Alderholt with Verwood at c. +75m AOD.

8.381 The view is presented as a 90˚ view and looks eastwards across an open landscape with Cranborne Common in the foreground, fields and woodland in the mid ground and the New Forest in the distance and on the horizon. The view presents a rural character and sense of openness that extends to the horizon.

8.382 Whilst existing homes in Alderholt are visible in the winter view they are approximately 2km from the viewer, below the horizon and not prominent amongst the layering of trees in the view.

8.383 High voltage overhead power lines extend across the view and two pylons project above the horizon. The solar farm adjacent to the Cross Road plantation is also visible in the winter view though not prominent. This is concealed by vegetation in the summer view.

8.384 Receptors are considered to be recreational walkers, cyclists (on mountain bikes) and horse riders. Visual sensitivity is considered to be High.

8.385 At completion (year 1) the Proposed Development (buildings and solar farm) will be largely concealed from view by hedgerows and trees that extend across the landscape. Some glimpses of the Proposed Development may be visible through the trees in the winter view however the Viewpoint is approximately 1200m from the western edge of the proposed solar farm and approximately 1800m from the closest buildings and so the impact on the viewer will be minimal.

8.386 Light from buildings may impact on the night-time view. However, the lighting strategy for the Proposed Development has been designed to be minimally obtrusive within the landscape. Development will be largely concealed by vegetation and so this impact is considered minimal.

8.387 Planting of trees and areas of woodland in the western SANG will provide additional tree cover in the view by year 15.

8.388 The magnitude of impact will be negligible at Year 1 and negligible once planting has established by Year 15. Combined with the high sensitivity this gives rise to a negligible visual effect in Year 1 and negligible visual effect in Year 15.

Viewpoint 11 – From a permissive path on the northern edge of Ringwood Forest (the south-western edge of the Site) viewing northwards (180˚)

8.389 This viewpoint is taken from the western end of a permissive path that extends along the northern edge of Ringwood Forest on the southern boundary of the site at c. +50m AOD.

8.390 The view is presented as an 180˚ view and looks northwards across an open, flat agricultural landscape of fields defined by hedgerows most of which include mature trees.

8.391 A large field is in the foreground to the view and is bare in the winter view (having been recently ploughed) but planted with maize in the summer view. Warren Park Farm is visible in the winter view but largely obscured by a belt of trees that extends across the view. A collection of buildings at Sleepbrook Farm are also visible on the horizon in the winter view but largely hidden by trees. A pond and waterside planting is also visible in the view looking northwestwards. Neither farm nor the pond are visible in the summer view with the maize crop obscuring visibility.

8.392 High voltage overhead power lines and pylons are visible in the view extending across the landscape to the north-west and with the pylons clearly visible above the horizon.

8.393 A small part of the solar farm adjacent the Cross Roads Plantation is also visible in the winter view.

8.394 Receptors are considered to be recreational walkers. Visual sensitivity is considered to be Medium to High.

8.395 At completion (year 1) the Proposed Development will be largely concealed from view by hedgerows and trees that extend across the landscape. An open landscape will be retained in the foreground as SANG but with areas of tree planting introduced. The Proposed Development is north and east of Warren

Park Farm in the mid ground to the view (closest buildings approximately 480m from the viewpoint). Some glimpses of proposed buildings will be visible through the trees in the winter view and the roofline of homes will be visible above the horizon in a number of locations where the existing tree canopy is lower.

8.396 Light from buildings may impact on the night-time view. However, the lighting strategy for the Proposed Development has been designed to be minimally obtrusive within the landscape. Few receptors are anticipated to be in this location after dark. Development will be largely concealed by vegetation and so this impact is considered minimal.

8.397 The solar farm will be visible as a narrow sliver that extends across the view behind an existing hedgerow.

8.398 By year 15 the Proposed Development will be concealed by tree planting establishing within the SANG. This will enhance the view, obscure views of the existing solar farm and also reduce visibility of the high voltage powerlines.

8.399 The magnitude of impact will be low at Year 1 and negligible once planting has established by Year 15. Combined with the medium to high sensitivity this gives rise to a negligible to minor adverse visual effect in Year 1 and moderate beneficial visual effect in Year 15.

Viewpoint 12 – From a permissive path on the northern edge of Ringwood Forest (the south-eastern edge of the Site) viewing northwards (180˚)

8.400 This viewpoint is taken from the eastern end of a permissive path that extends along the northern edge of Ringwood Forest on the southern boundary of the site at c. +50m AOD.

8.401 The view is presented as an 180˚ view and looks northwards across an open, flat agricultural landscape of fields defined by hedgerows most of which include mature trees.

8.402 Trees on the edge of Ringwood Forest are in the foreground to the view which looks directly across a large flat field. A number of mature oak trees are located within the centre of the field in the mid ground and hedgerows with trees define its edges. Beyond this, further hedgerows and trees are visible presenting an open and layered landscape.

8.403 To the east a small triangular grassed plot, defined by a hedgerow with trees on its northwestern edge is visible. A caravan is visible within this plot in both the summer and winter view.

8.404 A number of buildings are set within the agricultural landscape including Warren Park Farm to the west, homes on Ringwood Road to the north and a large single storey chicken shed south of Foxhill Farm to the northeast. All buildings are partially screened by vegetation and none break the line of the horizon which is defined by tree canopies.

8.405 Receptors are considered to be recreational walkers. Visual sensitivity is considered to be Medium to High.

8.406 At completion (year 1) the Proposed Development will be visible in the mid ground to the view. An open field will be retained in the foreground to the view and the sense of openness will be retained viewing westwards.

8.407 An area of SANG is proposed in the foreground to the north and extending into the triangular plot to the east. New planting will be visible within the SANG area but will not be established at this stage.

8.408 The Proposed Development will be partially screened by existing hedgerows and trees but will be fairly prominent in the mid ground to the view looking northwards and northwestwards. Buildings will appear against the horizon in the view however the layout of the Proposed Development, its modest scale and the housing design will create a dynamic and attractive composition on the skyline in the view. The large chicken shed to the north-east will no longer be visible in the view.

8.409 Light from buildings may impact on the night-time view. However, the lighting strategy for the Proposed Development has been designed to be minimally obtrusive within the landscape. Few receptors are anticipated to be in this location after dark.

8.410 By year 15 the Proposed Development will be largely obscured by tree planting establishing within the SANG and along the southern edge of the Proposed Development. Buildings will still be visible in the view but considerably softened by the establishing planting. This planting will help to assimilate buildings into the landscape.

8.411 The magnitude of impact will be **medium** at Year 1 and **low** once planting has established by Year 15. Combined with the **medium to high sensitivity** this gives rise to a **minor to moderate adverse** visual effect in Year 1 and **neutral to minor beneficial** visual effect in Year 15.

Viewpoint 13 – From a gateway on Lomer Lane, close to its junction with North End Lane, viewing westwards (90˚)

8.412 This viewpoint is taken from a gateway on Lomer Lane a short distance north of its junction with North End Lane east of the Site at c. +50m AOD. The gateway gives access to a public footpath that links Lomer Lane with Hilbury Road and the Site.

8.413 The view is presented as a 90˚ view and looks westwards across an open, flat agricultural landscape towards Hilbury Road. A hedgerow is in the immediate foreground to the view but there are no features in the mid ground to the view. Trees at Ringwood Forest and the hedgerows that define Hilbury Road approximately 500m from the viewpoint are visible in the distance. Further trees on hedgerows beyond Hilbury Road contribute to a well-treed horizon.

8.414 A number of properties on Hilbury Road located a short distance north of its junction with Ringwood Road, including Drove End Farm and Old Barns, are visible in the view.

8.415 Low voltage power lines cross the field but are not prominent.

8.416 Receptors are considered to be road users on Lomer Lane including occasional walkers, cyclists and horse riders and recreational walkers using the public footpath. Visual sensitivity is considered to be **Medium**.

8.417 At completion (year 1) the sense of openness in the foreground and mid ground to the view will be retained. Ringwood Forest will remain the dominant feature on the horizon. The Proposed Development will be visible in the distance in a small section of the view to the rear of the hedgerows on Hilbury Road that lack trees. The upper storey of the proposed two storey employment buildings and their pitched roofs will be visible over the hedgerows and their roof profile will be visible on, and break the horizon line currently formed by existing trees further away. The upper storey of residential buildings and their roofs, located to the north of the employment buildings, will also be visible but below the horizon. The Proposed Development will however only appear in a small part of the view.

8.418 Highway lighting on Hilbury Road on the approaches to the proposed roundabout together with light from buildings may impact on the night-time view. However, the lighting strategy for the Proposed Development has been designed to be minimally obtrusive within the landscape.

8.419 By year 15 tree planting along Hilbury Road at the eastern edge of the Site and in the eastern SANG will reduce visibility of the Proposed Development. Buildings will still be visible in the view but considerably softened by the establishing planting. This planting will help to assimilate buildings into the landscape.

8.420 The magnitude of impact will be **low to medium** at Year 1 and **negligible to low** once planting has established by Year 15. Combined with the **medium sensitivity** this gives rise to a **minor adverse** visual effect in Year 1 and **neutral to minor adverse** visual effect in Year 15.

Viewpoint 14 – From a gateway on Lomer Lane, viewing westwards (90˚)

8.421 This viewpoint is taken from a gateway on Lomer Lane east of the Site at c. +50m AOD.

8.422 The view is presented as a 90˚ view and looks westwards across an open, flat agricultural landscape towards Hilbury Road. A hedgerow is in the immediate foreground to the view and defines the northern edge of a large field in the fore and mid ground. Trees at Ringwood Forest and the hedgerows that define Hilbury Road approximately 500m from the viewpoint are visible in the distance. Further trees on hedgerows beyond Hilbury Road contribute to a well treed horizon.

8.423 A number of properties on Hilbury Road located a short distance north of its junction with Ringwood Road, including Drove End Farm and Old Barns, a large chicken shed south of Foxhill Farm and a temporary marquee tent within Alderholt Recreation Ground are visible in the winter view. The field is planted with maize in the summer view and this obscures visibility of these structures.

8.424 Low voltage power lines cross the field but are not prominent.

8.425 Receptors are considered to be road users on Lomer Lane including occasional walkers, cyclists and horse riders. Visual sensitivity is considered to be **Medium**.

8.426 At completion (year 1) the sense of openness in the foreground and mid ground to the view will be retained. The Proposed Development will be visible in the distance to the rear of the hedgerows on Hilbury Road that lack trees. The upper storey of the proposed two storey employment buildings and

their roofs will be visible over the hedgerows and their roof profile will be visible on and break the horizon line currently formed by existing trees further away. The upper storey of residential buildings and their roofs, located to the north of the employment buildings, will also be visible but mainly below the horizon.

8.427 Highway lighting on Hilbury Road on the approaches to the proposed roundabout together with light from buildings may impact on the night-time view. However, the lighting strategy for the Proposed Development has been designed to be minimally obtrusive within the landscape.

8.428 By year 15 tree planting along Hilbury Road at the eastern edge of the Site will reduce visibility of the Proposed Development. Buildings will still be visible in the view but considerably softened by the establishing planting. This planting will help to assimilate buildings into the landscape.

8.429 The magnitude of impact will be low to medium at Year 1 and low once planting has established by Year 15. Combined with the medium sensitivity this gives rise to a minor to moderate adverse visual effect in Year 1 and minor adverse visual effect in Year 15.

Viewpoint 15 – From a gateway on Lomer Lane, viewing westwards (90˚)

8.430 This viewpoint is taken from a gateway on Lomer Lane opposite the farm lane to Midgham Farm and east of the Site at c. +50m AOD. The gateway gives access to a public footpath that links Lomer Lane with Hilbury Road and the Site.

8.431 The view is presented as a 90˚ view and looks westwards across an open, flat agricultural landscape towards Hilbury Road. A hedgerow is in the immediate foreground to the view and defines the northern edge of a large field in the fore and mid ground. Trees on the hedgerows that define Hilbury Road approximately 600m from the viewpoint and on the southern edge of the field are visible in the distance. Further trees on hedgerows beyond Hilbury Road contribute to a well treed horizon.

8.432 Low voltage power lines cross the field but are not prominent.

8.433 Receptors are considered to be road users on Lomer Lane including occasional walkers, cyclists and horse riders and recreational walkers using the public footpath. Visual sensitivity is considered to be Medium.

8.434 At completion (year 1) the sense of openness in the foreground and mid ground to the view will be retained. The Proposed Development will be visible in the distance to the rear of the hedgerows and trees on the southern edge of the field and on Hilbury Road. The upper storey of the proposed two storey employment buildings and their roofs will be visible over the hedgerows and appear on the horizon currently formed by existing trees further away. The upper storey of residential buildings and their roofs, located to the north of the employment buildings, will also be visible but partially obscured by trees in winter. Residential buildings will be completely obscured in the summer.

8.435 Highway lighting on Hilbury Road on the approaches to the proposed roundabout together with light from buildings may impact on the night-time view. However, the lighting strategy for the Proposed Development has been designed to be minimally obtrusive within the landscape.

8.436 By year 15 tree planting along Hilbury Road at the eastern edge of the Site will reduce visibility of the Proposed Development. Proposed employment buildings will still be visible in the view but considerably softened by the establishing planting. This planting will help to assimilate buildings into the landscape.

8.437 The magnitude of impact will be low to medium at Year 1 and low once planting has established by Year 15. Combined with the medium sensitivity this gives rise to a minor to moderate adverse visual effect in Year 1 and minor adverse visual effect in Year 15.

Residential receptors – 38-58 Ringwood Road (11 homes)

8.438 Eleven homes on Ringwood Road back onto the northern part of the Site and view westwards across it. The visual sensitivity for these residential receptors is considered to be high. The properties will look across the Proposed Development from rear windows with views of an open landscape replaced by views across housing. The magnitude of impact will be high at Year 1 and medium once planting has established by Year 15. This gives rise to a major adverse visual effect in Year 1 and moderate adverse visual effect in Year 15. Refer also to representative view 7.

Residential receptors – 24 to 26 Pine Road (3 homes)

8.439 Three homes on Pine Road back onto Ringwood Road and the Site. The visual sensitivity for these residential receptors is considered to be high. The properties will look across the Proposed Development from rear windows with views of an open landscape replaced by views across housing however views will be partially obscured by a tall hedge and mature trees at the rear to the gardens of each property. The magnitude of impact will be high at Year 1 and medium once planting has established by Year 15.

This gives rise to a moderate adverse visual effect in Year 1 and minor adverse visual effect in Year 15. Refer also to representative view 7.

Residential receptors – 37 to 49 Ringwood Road (7 homes)

8.440 Seven homes on Ringwood Road that front onto, and view across Ringwood Road toward the northern part of the Site. The visual sensitivity for these residential receptors is considered to be high. The properties will look across the Proposed Development from front windows with views of an open landscape replaced by views across the Site. A proposed public space will be in the foreground to the view with homes in the mid-ground.

8.441 Properties on Ringwood Road are set back within plots and views towards the Proposed Development will be partially obscured by a tall hedge and mature trees on the front boundary to each property. The magnitude of impact will be medium at Year 1 and low once planting has established by Year 15. This gives rise to a moderate adverse visual effect in Year 1 and minor adverse visual effect in Year 15. Refer also to representative view 6.

Residential receptors – Homes on Ringwood Road - from Sleepbrook Farm Lane to Alderholt Recreation Ground (5 homes)

8.442 Five homes on the western side of Ringwood Road back onto the Site. The visual sensitivity for these residential receptors is considered to be high. The properties back onto the Site but are located within large plots which are either heavily vegetated and include mature trees or include a number of outbuildings that will restrict views to the Site. The magnitude of impact will be negligible to low at Year 1 and negligible once planting has established by Year 15. This gives rise to a neutral to minor adverse visual effect in Year 1 and neutral visual effect in Year 15.

Residential receptors – Homes on Ringwood Road - west of Foxhill Farm (2 homes)

8.443 Two single storey homes on the western side of Ringwood Road back onto the Site. The visual sensitivity for these residential receptors is considered to be high. The properties back onto the Site with boundary hedges, mature trees and outbuildings partially obscuring views of the Site. The properties will look across the Proposed Development from rear ground floor windows with views of an open landscape replaced by views across the proposed homes on the Site. The magnitude of impact will be medium at Year 1 and medium once planting has established by Year 15. This gives rise to a moderate adverse visual effect in Year 1 and moderate adverse visual effect in Year 15.

Residential receptors – Foxhill Farm, Ringwood Road (1 home)

8.444 A single storey home on the eastern side of Ringwood Road which fronts onto Ringwood Road but is screened from the road by mature vegetation. The visual sensitivity for this residential receptor is considered to be high. Foxhill Farm is set within a large plot which includes several outbuildings and mature vegetation along the Ringwood Road frontage. A ground floor window looks southwards towards a hedge that defines the southern boundary of the plot. Views to the Site are obscured by vegetation. The magnitude of impact will be negligible at Year 1 and negligible once planting has established by Year 15. This gives rise to a neutral visual effect in Year 1 and neutral visual effect in Year 15.

Residential receptors – Homes on Hazel Close (10 homes)

8.445 Ten homes on Hazel Close back onto the northeastern part of the Site and view southwards across it. The visual sensitivity for these residential receptors is considered to be high. The properties will look across the Proposed Development from rear upper floor windows with views of an open landscape replaced by views across the proposed Alderholt Park with the existing recreation ground further to the south and proposed housing to the southeast. The rear gardens to these properties are defined by planting / hedgerow including trees which partially obscure views. Furthermore, three of the ten properties are bungalows without an upper floor view. The magnitude of impact will be low at Year 1 and low to negligible once planting has established by Year 15. This gives rise to a minor adverse visual effect in Year 1 and neutral to minor beneficial visual effect in Year 15. Refer also to representative view 8.

Residential receptors – Homes on Saxon Way (5 homes)

8.446 Five homes on Saxon Way back onto the northeastern part of the Site and view southwards across it. The visual sensitivity for these residential receptors is considered to be high. The properties will look across the Proposed Development from rear upper floor windows with views of an open landscape replaced by views across the proposed Alderholt Park with the existing recreation ground further to the south and proposed housing to the southeast. The rear gardens to these properties are defined by planting / hedgerow including trees which partially obscure views. The magnitude of impact will be low at Year 1 and negligible to low once planting has established by Year 15. This gives rise to a minor

adverse visual effect in Year 1 and neutral to minor beneficial visual effect in Year 15. Refer also to representative view 8.

Residential receptors – Homes at Hilbury Park (9 homes)

8.447 Nine homes at Hilbury Park back onto the northeastern part of the Site and view southwards across it. The visual sensitivity for these residential receptors is considered to be high. Views southwards will look across the Proposed Development with views of an open landscape replaced by views across the proposed housing. The rear gardens to these properties are defined by planting / hedgerow including mature trees which partially obscure views. Furthermore, properties are single storey further limiting views. The magnitude of impact will be medium at Year 1 and low to medium once planting has established by Year 15. This gives rise to a moderate adverse visual effect in Year 1 and minor adverse visual effect in Year 15.

Residential receptors – Properties on Hilbury Road (3 homes)

8.448 A small group of homes including The Old Barns, The Bothy and Drove End Farm are located adjacent to the site on Hilbury Road. The primary frontages to these homes view eastwards away from the road and the Site and The Bothy is single storey. The visual sensitivity for these residential receptors is considered to be high. Views westwards will look across the Site with views of an open landscape replaced by views across the proposed SANG. Proposed employment buildings are located to the northwest of the receptors and are likely to be visible from upper floor windows that view northwards (this is limited to one window in Drove End Farm). This view will be partially obscured by trees on the existing hedgerow. The magnitude of impact will be low at Year 1 and negligible once planting has established by Year 15. This gives rise to a minor adverse visual effect in Year 1 and neutral to minor beneficial visual effect in Year 15.

Residential receptors – Warren Park Farm (1 home)

8.449 Warren Park Farm is located to the south of the Site with the farmhouse set within a group of farm buildings. The visual sensitivity for these residential receptors is considered to be high. Hedgerows with mature trees, together with existing farm buildings separate the farm setting from the Proposed Development and will obscure views towards it. The magnitude of impact will be negligible at Year 1 and negligible once planting has established by Year 15. This gives rise to a negligible visual effect in Year 1 and negligible visual effect in Year 15.

Summary of Visual Effects

8.450 Tables 8.2 and 8.3 summarise the visual effects from the fifteen viewpoints and residential receptors.

Table 8.2 Summary of Visual Effects(Viewpoints)

Viewpoints	Sensitivity	Completion year 1 effects	Completion year 15 effects
View 1: From Ringwood Road / Hilbury Road junction viewing north-westwards	Medium	Minor to moderate adverse	Minor beneficial
View 2: From Hilbury Road north of The Old Barns viewing westwards	Medium	Minor to moderate adverse	Minor beneficial
View 3: From Hilbury Road, north-east of the Site, viewing south-westwards	Medium	Minor to moderate adverse	Minor adverse
View 4: From the bend at the southern end of Ringwood Road	Medium	Minor adverse	Minor beneficial
View 5: From the gateway to Warren Park Farm at the bend at the southern end of Ringwood Road	Medium	Minor adverse	Neutral to minor adverse
View 6: From the gateway to Sleepbrook Farm Lane on Ringwood Road	Medium	Minor to moderate adverse	Neutral to minor adverse

Viewpoints	Sensitivity	Completion year 1 effects	Completion year 15 effects
View 7: From the northern edge of the Site on Ringwood Road	Medium	Moderate adverse	Minor to moderate adverse
View 8: From the footpath accessed off Birchwood Drive (between Fern Close and Hazel Close) at the northern edge of the Amanda Harris Recreation Ground	Medium	Negligible to minor adverse	Minor beneficial
View 9: From a permissive path on the eastern edge of Cranborne Common viewing eastwards	Medium to high	Negligible to minor adverse	Negligible
View 10: From an elevated location on the public bridleway on Cranborne Common viewing eastwards	High	Negligible	Negligible
View 11: From a permissive path on the northern edge of Ringwood Forest (the south-western edge of the Site) viewing northwards	Medium to high	Negligible to minor adverse	Moderate beneficial
View 12: From a permissive path on the northern edge of Ringwood Forest (the south-eastern edge of the Site) viewing northwards	Medium to high	Minor to moderate adverse	Neutral to minor beneficial
View 13: From a gateway on Lomer Lane, close to its junction with North End Lane, viewing westwards	Medium	Minor adverse	Neutral to minor adverse
View 14: From a gateway on Lomer Lane, viewing westwards	Medium	Minor to moderate adverse	Minor adverse
View 15: From a gateway on Lomer Lane, viewing westwards	Medium	Minor to moderate adverse	Minor adverse

Table 8.3 Summary of Visual Effects (Residential Receptors)

Residential receptors	Sensitivity	Completion year 1 effects	Completion year 15 effects
Residential receptors - 38-58 Ringwood Road (11 homes)	High	Major adverse	Moderate adverse
Residential receptors - 24 to 26 Pine Road (3 homes)	High	Moderate adverse	Minor adverse
Residential receptors - 37 to 49 Ringwood Road (7 homes)	High	Moderate adverse	Minor adverse
Residential receptors - Homes on Ringwood Road - from Sleepbrook Farm Lane to Alderholt Recreation Ground (5 homes)	High	Neutral to minor adverse	Neutral
Residential receptors - Homes on Ringwood Road - west of Foxhill Farm (2 homes)	High	Moderate adverse	Moderate adverse

Residential receptors	Sensitivity	Completion year 1 effects	Completion year 15 effects
Residential receptors - Foxhill Farm, Ringwood Road (1 home)	High	Neutral	Neutral
Residential receptors - Homes on Hazel Close (10 homes)	High	Minor adverse	Neutral to minor beneficial
Residential receptors - Homes on Saxon Way (6 homes)	High	Minor adverse	Neutral to minor beneficial
Residential receptors - Homes at Hilbury Park (9 homes)	High	Moderate adverse	Minor adverse
Residential receptors - Properties on Hilbury Road (3 homes)	High	Minor adverse	Neutral to minor beneficial
Residential receptors - Warren Park Farm (1 home)	High	Negligible	Negligible

CUMULATIVE IMPACTS

8.451 In accordance with guidance and good practice, consideration has been given to any additional effects of the Proposed Development in conjunction with projects currently with planning consent or awaiting a decision.

8.452 A residential proposal for 45 homes has been consented on Land North of Ringwood Road, the former Hawthorns Nursery site (application reference 3/19/2077/RM). Refer to Technical Appendix 8.2 Figure 4256/LS/007 which indicates its location. A landscape and visual assessment was not submitted as part of the application. The cumulative impact of this development and the Proposed Development is considered below.

Landscape

8.453 The former Hawthorns Nursery site is located on Ringwood Road immediately south of the built area of Alderholt and north of the Alderholt Sports and Social Club and Recreation Ground. The proposals for the Hawthorns Nursery site retain existing hedgerows (on the site perimeter including along the interface with Ringwood Road and the Alderholt Recreation Ground), trees within these hedges and also further trees within the site itself. At the current time these features are the principal contribution that the former Hawthorns Nursery site make to the landscape character of the wider area. Further tree planting is also proposed within the site including along Ringwood Road.

8.454 The proposals for the former Hawthorns Nursery site are modest relative to the Proposed Development at Alderholt Meadows and the cumulative magnitude of effect on landscape character is not considered to change.

Visual

8.455 Consideration has been given to the potential cumulative visual impacts of the Proposed Development and the proposals at the former Hawthorns Nursery site. This has been considered in respect of representative visual receptors through the representative views and also in respect of residential receptors.

8.456 The proposals for the former Hawthorns Nursery site have been modeled in three dimensions and tested in the representative views. The proposals will be visible in two of these representative views:

- Viewpoint 6 – From the gateway to Sleepbrook Farm Lane on Ringwood Road; and
- Viewpoint 8 – From the footpath accessed off Birchwood Drive (between Fern Close and Hazel Close) at the northern edge of the Amanda Harris Recreation Ground.

8.457 Visualisations are presented in Technical Appendix 8.5: Cumulative Visualisations. A visualisation from Viewpoint 7 – From the northern edge of the Site on Ringwood Road, is also included.

8.458 The proposals for the former Hawthorns Nursery site will also be visible to one group of residential receptors - Homes on Ringwood Road - from Sleepbrook Farm Lane to Alderholt Recreation.Ground (5 homes).

8.459 The potential cumulative impacts for each of these receptors is considered below.

Viewpoint 6 – From the gateway to Sleepbrook Farm Lane on Ringwood Road - cumulative impacts

8.460 This viewpoint is presented as a 270˚ panoramic and views westwards and northwestwards across open fields to the west of Ringwood Road and up and down Ringwood Road.

8.461 The Proposed Development will be prominent in the mid ground to views looking westwards from this Viewpoint at year 1 but with visibility significantly reduced as planting establishes by year 15. Viewing southwards down Ringwood Road the lane retains a rural character and the Proposed Development is not visible.

8.462 The proposals at the former Hawthorns Nursery site will appear in this part of the view with the roof profiles of proposed homes appearing above the hedgerow that defines Ringwood Road. Some tree planting is proposed within this hedgerow as part of the former Hawthorns Nursery proposals and that will serve to reduce visibility of these dwellings over time.

8.463 The cumulative impact of development from this viewpoint will be greater than with the Proposed Development alone. This gives rise to a **moderate adverse** visual effect in Year 1 and **minor adverse** visual effect in Year 15.

Viewpoint 8 – From the footpath accessed off Birchwood Drive (between Fern Close and Hazel Close) at the northern edge of the Amanda Harris Recreation Ground

8.464 This viewpoint is presented as a 270˚ panoramic and views southwards across the northern part of the recreation ground. The western edge of the recreation ground is defined by a hedge with trees.

8.465 At completion (year 1) the Proposed Development will be largely concealed from view by hedgerows to the south and west of the recreation ground. The proposed Alderholt Park will be visible in the foreground through the gap between the close board fence and eastern boundary of the recreation ground (this gap may become a new entrance to the park) and roofs and the upper storey of buildings will be visible in the mid ground beyond the park.

8.466 Trees and vegetation planted within Alderholt Park will enhance the view in the foreground after 15 years and soften the impact of buildings in the mid ground beyond and settle them into the landscape.

8.467 The proposals at the former Hawthorns Nursery site will be visible in the view with the roof profiles of proposed homes on the Hawthorns Nursery site appearing above the hedgerow at the western edge of the recreation ground. Homes in this part of the Hawthorns Nursery site are single storey only and will be largely concealed by the hedgerow and by existing trees.

8.468 The cumulative impact of development from this viewpoint will be greater than with the Proposed Development alone. This gives rise to a **minor adverse** visual effect in Year 1 and **neutral** visual effect in Year 15.

Residential receptors – Homes on Ringwood Road - from Sleepbrook Farm Lane to Alderholt Recreation Ground (5 homes)

8.469 Five homes on the western side of Ringwood Road back onto the Site and look towards Ringwood Road and the former Hawthorns Nursery site. These properties are located within large plots which are heavily vegetated and include mature trees. Direct views towards the former Hawthorns Nursery site are therefore limited. Nevertheless, the magnitude of impact will increase for these receptors from negligible to low giving rise to a **minor adverse** visual effect in year 1 and a **neutral to minor adverse** visual effect in year 15 when planting has established.

CONSIDERATION OF INDIRECT EFFECTS ON TRANQUILLITY WITHIN THE CRANBORNE CHASE AND WEST WILTSHIRE DOWNS AONB

8.470 This Section of the LVIA Chapter responds to the concerns raised by the AONB Officers in relation to the potential 'environmental impacts and a loss of tranquillity the extent of which has not been adequately identified and mitigated within the application'.

8.471 The following steps have been taken to ensure an adequate and robust assessment is undertaken:

- Review of background studies carried out by CPRE and the AONB Unit to inform an assessment of the baseline tranquillity of the AONB;
- Review of published landscape character assessments and definitions of Tranquillity;
- Consultation with the AONB Unit to agree a Study Area for the Assessment and to understand all of the background work done to date to gather data to inform published Tranquillity Mapping for the AONB;
- A summary of the key components or features which currently contribute to the appreciation of tranquillity within the defined Study Area;
- Consideration of technical data and work done by others to inform an understanding of the anticipated traffic increases and measures proposed;
- Commentary on the anticipated indirect effects on the perceived tranquillity of the AONB.

8.472 The following background studies and guidance have been reviewed as part of the baseline work:

- CPRE, The Countryside Charity's Mapping Tranquillity (March 2005);
- The Cranborne Chase & West Wiltshire Downs Area of Outstanding Natural Beauty Tranquillity Mapping, Ground Truthing Methodology & Interim Report (July 2010);
- Landscape Institute Technical Information Note Tranquillity – An overview (March 2017);
- Landscape Institute Technical Guidance Note 02/21 Assessing Landscape Value Outside of National Designations (February 2021).

8.473 The Campaign for Protection of Rural England (CPRE) defines Tranquillity at pages 5 and 6 of their 'Mapping Tranquillity'. It lists '*Perceived links to nature; positive features in the landscape; the importance of wildlife; and peace, quite and calm*' as the key elements of tranquillity. In contrast, it lists the elements which detract from tranquillity as '*Disruptive behaviour of other people; noise, especially from cars; overt signs of human development – negative features in the landscape*'.

8.474 It expands on this by listing the positive and negative factors and giving them a weighting / score at page 6 of the Executive Summary.

8.475 In October 2006 CPRE published a new Tranquillity Map of England. This was '*based on an in-depth exploration of what tranquillity means to people, why it is considered to be important, and where it is perceived to be found*'.

8.476 The Tranquillity and Intrusion Maps (dated 2001) prepared by CPRE are extracted at **Technical Appendix 8.7 Figure ref 3232-APA-ZZ-XX-LA-L-1000** with the Study Area indicated for reference.

8.477 In July 2010 the Cranborne Chase and West Wiltshire Downs AONB Unit carried out their own 'Tranquillity Mapping Ground Truthing Report and Methodology'. At its introduction the Report lists the 44 factors which contributed to the new Tranquillity Map produced by CPRE and explained how the Mapping was produced through a countryside grid of 500 x 500m squares. The data informing the Map is broken down into 'what you can see' and 'what you can hear'. (A zoom in of the Tranquillity Map grids for the Study Area is provided at **Technical Appendix 8.7 Figure ref 3232-APA-ZZ-XX-LA-L-1001).**

8.478 The aim of the AONB's report was to '*enhance the understanding of the tranquillity factors in relation to the specific area covered by individual squares*' thereby exploring the local tranquillity of the AONB landscape. Survey areas were selected to allow for individuals to record data.

8.479 At Figure 10 (page 27) of the AONB Report, the survey locations are overlaid onto the Landscape Character Area Map of the AONB. At Appendix 6 the results are explored in relation to the character areas of the AONB. The actual survey sheets are not currently available for public view.

8.480 In March 2017 the Landscape Institute produced a Technical Information Note entitled 'Tranquillity – An Overview'. Its aim was '*to provide an overview of what is understood by the term 'tranquillity' within the landscape profession and to inform any future discussions and actions on the topic*'.

8.481 At its introduction the Note confirms that '*it is entirely appropriate for the landscape profession to provide an overview and take a lead in the development of the subject…*'. At Section 2 it explores the various published definitions of the term. Consistent with the definitions provided, the Note advises that '*tranquillity cannot readily be defined as an environmental characteristic or quality as it is a state of mind that is being described and thus human perceptions as well as factual evidence must be considered in*

any studies relating to the term. Tranquillity is, in effect, an umbrella term used to refer to the effect of a range of environmental factors on our senses and our perception of a place.' It specifically advises that tranquil areas should not be confused with 'quiet areas' as defined by the European Environmental Noise Directive.

8.482 The Note also distinguishes between 'relative' and 'absolute' tranquillity which allows for some weight to be given to tranquil settings or experiences in urban settings.

8.483 Tranquillity is consistently associated with the 'perceptual aspects' of landscape. It can be considered as a 'state of mind' and is therefore something that is not readily measurable. However, for the purposes of research (and this LVIA Chapter) it can be considered as an environmental quality that can be assessed by reference to a series of appropriate indicators or factors.

8.484 The Landscape Institute's Technical Guidance Note TGN02/21 'Assessing Landscape Value Outside of Designations' (February 2021) includes tranquillity as one of the perceptual factors to be considered when assessing landscape value for all landscapes. It lists the following as examples of indicators of value at its Table 1:

- '*High levels of tranquillity or perceptions of tranquillity, including perceived links to nature, dark skies, presence of wildlife/ birdsong and relative peace and quiet*
- *Presence of wild land and perceptions of relative wildness (resulting from a high degree of perceived naturalness, rugged or otherwise challenging terrain, remoteness from public mechanised access and lack of modern artefacts)*
- *Sense of particular remoteness, seclusion or openness*
- *Dark night skies'*

8.485 For the purpose of this section of the LVIA, the assessor (a Chartered Landscape Professional) has visited the Site and its setting in the context of the AONB and has carried out an independent assessment of the factors or indicators which might contribute to tranquillity within the AONB.

8.486 The assessor has chosen a selection of receptors within the agreed Study Area and has used these to explore their baseline sensitivity to a change in their tranquillity experience.

8.487 The extent to which this experience may change has then been considered alongside the technical data associated with the off-site effects of the Proposed Development.

8.488 The receptors (as defined at Technical Appendix 8.7 Figure ref 3232-APA-ZZ-XX-LA-L-1001) have been selected with consideration of:

- Those currently experiencing a higher tranquillity rating in accordance with the CPRE New Tranquillity Map and the AONB Unit's Ground Truthing Exercise;
- Those currently experiencing key characteristics of the AONB landscape which are associated with tranquillity;
- Those most likely to hear an increase of noise on local roads as a result of off-site traffic increases;
- Those most likely to see an increase in traffic on local roads.

8.489 In line with the publications discussed, the assessor has considered the receptors as people experiencing the factors or indicators of tranquillity.

8.490 The Study Area was visited in daylight hours. In terms of night time character the majority of the AONB landscape is defined by its dark skies. Technical Appendix 8.7 Figure ref 3232-APA-ZZ-XX-LA-L-1002 shows the Study Area in the context of the CPRE's 'England's Light Pollution and Dark Skies' online map. The map demonstrates that the light intrusion within the AONB is mostly associated with the built up areas and not the roads which connect them.

8.491 Representative views for each receptor are provided at Technical Appendix 8.7 Figure ref 3232-APA-ZZ-XX-LA-L-1003 and seek to explain their range of tranquillity experiences. These have been annotated to identify key features visible in the views or heard on site. There remains some subjectivity on whether these features contribute positively or negatively to the experience of tranquillity and these features are likely to change at different times of day and through the seasons. Those most likely to detract from the experience are annotated in red italics. The annotated views are the assessor's comments and in no way seek to restrict, or define, what residents or visitors to the AONB value most in terms of their experience of tranquillity.

8.492 The following section provides a summary of each Receptor. In order to distinguish between the landscape and visual receptors earlier in this Chapter they are referred to as 'Tranquillity Receptors' or 'TR' and their representative views are labelled TR1a, b, c etc. All tranquillity receptors are contained within the Area of Outstanding Natural Beauty where tranquillity is a valued characteristic. The receptor values are all assessed as high. Their susceptibility to a change in their baseline tranquillity associated with an increase in traffic on local roads is considered. These two criteria (as defined at Appendix 8.1) are weighed up to draw a conclusion on the sensitivity of each tranquillity receptor.

TR1: Residents at, and visitors to, Cranborne Village

8.493 Cranborne Village is wholly contained within the AONB. It is also partially designated as a Conservation Area. The Cranborne Village Conservation Area Statement provides the following key extract in relation to its landscape setting: '*The hills to the north and south of the village tend to envelop the settlement and account for its introverted character. Overlooking the village from the south, on Castle Hill, stands a Norman motte and bailey castle, now covered with trees. Its timber fortifications have long disappeared*'.

8.494 The Statement provides an analysis of the varied streetscapes when moving through its '*compacted and nucleated form*'...'*The absence of pavements in a number of streets adds to the informality of the village. The highway improvements that have occurred, by contrast, have created a harsh engineered appearance quite out of keeping with the organic character of the village and destroys the individuality of the lanes and streets*'.

8.495 It explores the approaches to the village, including the approach from the east: '*From Alderholt, the road winds through the well-wooded river valley and passes the watercress beds near Holwell. An area of postwar housing (outside the Conservation Area) emerges into the lower end of Castle Street. The older buildings positioned close to the road create a markedly more enclosed nature. One of the few views of the church tower can be enjoyed from this street'*. The Statement explores the buildings, walls, hedges and trees which add visual interest.

8.496 Representative views TR1a to f demonstrate how the experience of tranquillity varies within, and along the edge of, the village's built-up area.

8.497 Tranquillity within the village core is affected by the built-up area and traffic and human movements. With the exception of private gardens, any level of tranquillity is experienced where designated heritage features and their setting provide breaks in the built- up area and offer areas of reflection and appreciation of the Conservation Area features. This includes, but is not exclusive to, the Cranborne Churchyard, the memorial green and the formal parkland landscape associated with Cranborne Manor.

8.498 Along the edge of the village views out to the nearby gently undulating wooded farmland provides positive features which contribute to any perceived tranquillity. Detractors include the intensively farmed fields, large scale farm buildings, gravel surfacing and high usage of pedestrian routes and roads with their traffic and highways features. Views of traffic are limited along the B3078 to those properties immediately fronting onto it, however the intermittent, yet regular, noise of cars reduces any sense of peace and calm in the context of the wider AONB landscape.

8.499 It can be concluded that, despite the Village's heritage value and its importance within the AONB, in terms of tranquillity there are a range of negative elements currently detracting from any true experience of tranquillity. A sense of calm, peace, connection with nature can only be truly be perceived within private gardens and within the Churchyard and the grounds of Cranborne Manor. Beyond that, the built-up area (albeit with positive heritage features and characteristics) detracts from any true experience of tranquillity. Visitors to the AONB and the village would be focussing on the built character and tranquillity is not a defining characteristic of this part of the AONB.

8.500 The assessor therefore concurs with the CPRE Tranquillity Map which sets the tranquillity score here at a baseline score of '0-10' which is the middle of the tranquillity scale on the Map legend. In terms of tranquillity, TR1 has a low susceptibility to change with the built environment already reducing any sense of wildness or remoteness, when considered in the context of the wider AONB. TR1 is concluded to have a medium tranquillity sensitivity.

TR 2: Walkers west of Cranborne Village

8.501 Representative View TR2 is taken from the Hardy Way approximately 0.5km to the west of the village, looking towards Cranborne Lodge. It is representative of the views from the undulating rural landscape which rises up to the north-west. The mature landscape which forms the village's western edge forms a positive scenic and naturalistic backdrop to the views across the gently undulating farmland.

8.502 There are limited visual or audible detractors in the view and a sense of calm, peace and appreciation of the natural features in the view contributes to a sense of tranquillity. The baseline tranquillity mapping suggests that the tranquillity increases at localised elevated sections of the Hardy Way and Jubilee Way – National Trails which cross the undulating landscape, away from roads and their associated traffic.

8.503 **TR2 is assessed as having a high susceptibility to change and a corresponding high tranquillity sensitivity**.

TR 3: Walkers east of Cranborne Village

8.504 Representative View TR3 is taken from one of the two public footpaths which head east of the village boundary. There are various detractors in the view and the walkers are much more aware of their proximity to the settlement area. On the day of the site survey there was a considerable level of pedestrian traffic – all using the footpath as dog walking routes. Whilst this holds amenity value for local residents this detracts from any sense of remoteness, wildness, calm or peace. Furthermore intermittent, yet regular cars using the B3078, were audible and occasionally visible beyond the roadside hedgerows.

8.505 In the context of the wider AONB **TR3 is assessed as having a low susceptibility to change and a corresponding medium tranquillity sensitivity**.

TR 4: Walkers at Castle Hill Wood

8.506 Walkers are mostly confined to a bridleway within the woodland edge where their experience is affected by the mature woodland and connections with nature in the tree canopy and in the groundflora.

8.507 Representative Views TR4a, b and c are taken from localised points along the edge of the woodland where views are possible across the gentle valley containing the B3078.

8.508 Intermittent, yet regular cars using the B3078 are detractors in the view where occasionally visible beyond roadside hedgerows or audible in the valley. The baseline tranquillity mapping suggests a higher tranquillity rating when moving away from the B3078 east along Mill Lane, outside of the AONB.

8.509 Any sense of remoteness, calm or peace is most readily experience within the woodland itself where the sounds of any nearby roads are less noticeable.

8.510 In the context of the wider AONB landscape, where woodland and its naturalness is valued, **TR4 is assessed as having a medium to low susceptibility to the proposed change and a corresponding medium to high tranquillity sensitivity.**

TR 5: Visitors to the AONB near Edmondsham

8.511 Moving further south representative view TR5 demonstrates that the large scale open rural landscape has occasional detractors associated with its landuse. The most tranquil experiences are limited and are associated with the small village and its heritage features such as the Edmondsham House and Gardens and chapel approach.

8.512 There is a reduced sense of remoteness in this part of the AONB and TR 5 is assessed as having a low susceptibility to the proposed change and a corresponding medium tranquillity sensitivity.

TR6: Visitors to the AONB Dorset Downs

8.513 The landscape to the north of Cranborne rises up to the Dorset Downs which are defined by an undulating rural landscape with mature belts of woodland.

8.514 Representative Views TR6a and 6b demonstrate that both mixed broadleaved woodland and coniferous plantations present a scene which may invoke a sense of calm, peace and connection with nature. Sounds of nature are present and distract from any noises associated with manmade activity.

8.515 Representative Views TR6c and 6d are taken from elevated exposed locations and present a contrasting experience for people exploring the AONB Downs on foot or by car. Wide, open, panoramic views, distinctive of the AONB invoke a sense of remoteness. Whilst the landscape is heavily farmed (unlike some of the wilder areas at Martins Down or Fontmell Down north of the Study Area) there is still a strong sense of place and positive elements in the view add to the sensory experience.

8.516 The baseline tranquillity mapping shows higher ratings for the woodland and elevated exposed areas.

8.517 In the context of the wider AONB landscape, T**R6 is assessed as having a high susceptibility to change and a corresponding high tranquillity sensitivity.**

TR7 Visitors to the AONB near Damerham

8.518 Representative Views TR7a and 7b demonstrate a variation in features which contribute to any sense of tranquillity near Damerham. Positive features are mostly defined by mixed woodland belts on the skyline and a gently undulating farmed landscape, with rural lanes, defined by hedgerows and mature trees.

8.519 The baseline tranquillity mapping presents a moderate tranquillity rating consistent with the valley landscape and its features.

8.520 TR 7 is assessed as having a low susceptibility to the proposed change and a corresponding medium tranquillity sensitivity.

TR8 Visitors to the AONB near Lopshill

8.521 Representative Views TR8a and 8b demonstrate a variation in features which contribute to any sense of tranquillity near Lopshill. Positive features are mostly defined by mixed woodland belts on the skyline and a gently undulating farmed landscape, with rural lanes, defined by hedgerows and mature trees.

8.522 The baseline tranquillity mapping presents a moderate tranquillity rating consistent with the valley landscape. The tranquillity rating increases around woodland areas.

8.523 TR 8 is assessed as having a low susceptibility to the proposed change and a corresponding medium tranquillity sensitivity.

Potential Impacts on Tranquillity within the AONB

8.524 The submitted Transport Assessment provides detail on the anticipated off-site traffic increases associated with the proposed development. These are summarised at paragraph 8.265. Whilst it is acknowledged that there may be local increases in traffic throughout the AONB the area of most concern to consultees has been along the B3078 between Alderholt and Cranborne.

8.525 In order to accommodate this traffic some areas of widening are proposed on the approach to Cranborne from the east. This primarily occurs due to the road width reducing in places which would hinder the passing of a bus and car. This widening will result in the carriageway still being of a rural nature but slightly wider. It is the advice of the transport consultant that this would not impact the associated speeds of free-flowing traffic, but reduce the need for vehicles to stop and give way to others.

8.526 With no additional roads or highways measures proposed, the only potential effects on tranquillity resulting from these traffic increases will be acoustic once the site is complete and fully occupied. Additional data and mapping is provided with the application to demonstrate, on plan using noise contours, how the noise levels of local roads will change in 2027 (short term) and 2033 (long term). 2033 considers a completed development which, for the purposes of this ES demonstrates the 'Completion Year 1' effects. 'Year 15 effects' are likely to remain the same as there is no means of mitigating for the additional traffic anticipated to be generated for the completed development in the long term. For the purposes of understanding the worst case scenario we have assume year 1 and year 15 changes in noise levels to be as per the plan entitled '2033 Forecast vs 2033 Development' which considers a completed and occupied scheme.

8.527 The results are included at A**ppendix 8.8 Technical note WIE19098-100-TN-3.2.1.** The maps demonstrate the geographic extent of any noise changes.

8.528 The only moderate impacts on noise associated with traffic increases on local roads will be experienced in year 2033 at Hilbury Road north, immediately south-east of Alderholt. This falls outside of the AONB.

8.529 Paragraph 2.16 of the Technical Note confirms that: '*As demonstrated by these figures for both the short-term and long-term scenarios only minor effects are expected, with these effects being constrained to the local areas around Batterly Drove / B3081, Harbridge Drove and B3078 / Station Road in the short-term scenario, and Ringwood Road and Hillbury Road (north) in the long-term scenario*'.

8.530 Any changes to noise levels within the AONB are assessed as minor. All tranquility receptors affected by the traffic increases already have views of the local roads and their traffic. Their perception of any wildness, peace or tranquillity is already affected by manmade elements such as the existing road network and low aircraft traffic. Any changes in in views towards existing roads and their traffic will not change the existing level of any perceived tranquillity. It can be concluded that any effects on tranquillity receptors within the AONB will be minor or negligible and the significance of these effects will not exceed slight.

Table 8.4 Summary of Indirect Effects on Tranquillity of Cranborne Chase and West Wiltshire Downs AONB

Tranquillity receptors	Sensitivity	Change at year 1 and year 15	Completion year 1 effects	Completion year 15 effects
TR1: Visitors to Cranborne	Medium	Negligible to Low	Negligible to Slight Adverse	Negligible to Slight Adverse
TR2: Walkers west of Cranborne Village	High	Negligible to Low	Negligible to Slight Adverse	Negligible to Slight Adverse
TR3: Walkers East of Cranborne Village	Medium	Low	Negligible adverse	Negligible adverse
TR4: Walkers at Castle Hill Wood	Medium to High	Low	Negligible to Slight Adverse	Negligible to Slight Adverse
TR5: Visitors to AONB nr Edmondsham	Medium	Low	Negligible adverse	Negligible adverse
TR6: Visitors to AONB in Dorset Downs	High	Low	Slight Adverse	Slight Adverse
TR7: Visitors to AONB nr Damerham	Medium	Low	Negligible adverse	Negligible adverse
TR8: Visitors to AONB nr Lopshill	Medium	Low	Negligible adverse	Negligible adverse

SUMMARY AND CONCLUSIONS

8.531 This landscape and visual impact assessment (LVIA) has been prepared to determine the likely effects of the proposed development. The LVIA has addressed the following landscape resources and visual receptors:

- Landscape character, including physical landscape resources,
- Views and visual amenity experienced by residents, recreational users and road users, and
- People experiencing tranquillity within the nearby AONB landscape.

8.532 The LVIA identifies the key constraints and opportunities present in the site and surrounding landscape, and also the nature of the likely impacts that may arise from the Proposed Development. The LVIA has analysed the baseline information in the context of the Proposed Development and has subsequently considered proposed mitigation measures that have been used to inform the design of the Proposed Development and the mitigation forms an integral part of the design and masterplan.

8.533 There is comprehensive coverage of landscape character at a regional and local level through published landscape character studies. The Landscape Effects have been considered in the context of these studies.

8.534 The visual envelope for the Site was established through desk-top and on site analysis informed by establishing a ZTV (Zone of Theoretical Visibility) and is defined by the approaches towards the Site and views from road infrastructure, from recreational routes including the network of Public Rights of Way and non-designated footpaths in the wider area and also by residential receptors in properties in Alderholt that look towards the Site.

8.535 Constraints and opportunities have been identified on the Site. Along with an analysis of the Proposed Development and the early identification of likely landscape and visual impacts, these have been used to develop the design of the Proposed Development and to form a comprehensive landscape strategy.

8.536 The physical landscape impacts that will give rise to perceived changes in landscape character are generally limited to some loss of vegetation within the site to achieve access and the changes to the land use associated with the proposed development. The landscape strategy (and overall masterplan)

aims to retain and enhance many of the characteristic elements and features of the area, including the pattern and scale of hedgerows and the existing trees.

8.537 Impacts will be mitigated through significant additional areas of planting throughout the proposed residential areas including as part of swale corridors and new public open spaces.

8.538 In addition, significant new planting is proposed as part of the delivery of two SANG areas in the western and south-eastern parts of the Site. This will include new areas of woodland, scrub and tree planting, wild-flower meadows and wetland areas and is intended to compliment the habitats and landscape character on Cranborne Common and Ringwood Forest to the west and south and to enhance biodiversity.

8.539 The existing network of footpaths will be significantly enhanced providing improved access to landscape assets in the wider area.

8.540 A range of representative visual receptors have been used to inform the LVIA. These include:

- Recreational receptors such as walkers, cyclists and horse-riders using Public Rights of Way and permissive footpaths within the wider area including from Cranborne Common, the northern edge of Ringwood Forest and from farmland to the east of the Site,
- Road users, including those using Ringwood Road, Hilbury Road and the smaller lanes to the east of the Site, and
- Residential receptors from residents living in properties that overlook the Site.

8.541 Overall, the selected viewpoints and subsequent analysis demonstrate that the Site and Proposed Development will be visible from a localised area only and where it will be seen, the highest degree of adverse effects are limited to views on, or immediately adjacent, to the Site only.

8.542 The most significant visual effects are from the northern edge of the Site on Ringwood Road (viewpoint 7) and for residential receptors in the eleven properties at the northern end of Ringwood Road and two further properties further south on Ringwood Road (opposite Foxhill Farm) that back onto the Site. From each of these locations there will be visual effects with a predominantly open green view replaced by a view across new housing. These changes have localised impact and are not in themselves unattractive.

8.543 On completion at year 1 there will also be visual impacts from viewpoints on Hilbury Road (Viewpoints 1 – 3), and from other viewpoints on Ringwood Road (Viewpoints 4 - 6). The landscape framework for the site will help to reduce visual effects so that the magnitude of these impacts will reduce as new planting establishes.

8.544 Furthermore, the Proposed Development has been planned to ensure that from each of these locations residential development, and the landscape framework within which it is located, is laid out to create a strong sense of place that respects the existing landscape character.

8.545 Consideration has also been given to potential landscape and visual impacts on the Cranborne Chase and West Wiltshire Downs AONB. The potential additional recreational pressures on the AONB are mitigated through the provision of significant areas of open space and SANG as part of the Proposed Development. The potential impacts of lighting are mitigated through the lighting strategy for the Site which includes a range of measures to ensure that the AONB and International Dark Skies Reserve will not be impacted by the visual effects of lighting and the lighting technical effects (primary sky glow). There will be some additional trips that pass through Cranborne and these will be mitigated through localised improvements to the B3078. Nevertheless, additional traffic will be experienced passing through Cranborne village. People experiencing, and enjoying the most remote and tranquil locations of the AONB, will (at the most) see a slight adverse effect on their experiences of tranquillity within the AONB as a result of off-site traffic increases generated by the Proposed Development.

8.546 The cumulative impacts of the Proposed Development and a proposal for 45 homes on the former Hawthorns nursery site on Ringwood Road have also been assessed. Whilst the magnitude of visual impacts on some receptors will increase this will have a minor impact only.

9 ECOLOGY

INTRODUCTION

9.1 This chapter on Ecology has been prepared by Ecological Planning & Research Ltd (EPR) and presents an Ecological Impact Assessment (EclA) of the Proposed Development. This Chapter is supported by the following Technical Appendices:

- Technical Appendix 9.1: Ecology Baseline, which includes the detailed ecological baseline upon which this Chapter is based.
- Technical Appendix 9.2: Information for Habitats Regulations Assessment, which assesses impacts on internationally designated sites.
- Technical Appendix 9.3: Outline Ecological Mitigation and Enhancement Strategy, which draws together the mitigation measures into one document that can be approved by Dorset NET.
- Technical Appendix 9.4: Outline SANG Creation and Management Plan, which sets out the means by which SANG will be delivered and maintained in perpetuity.
- Technical Appendix 9.5: Biodiversity Net Gain report, which presents the results of using the Defra Biodiversity Metric 3.1 to demonstrate a net gain in biodiversity.

CONTEXT

9.2 Various articles of legislation, planning policy, and key guidance documents of relevance to biodiversity and nature conservation have been referred to. A summary is presented below but for further details see Annex 1 of Technical Appendix 9.1.

Legislation

9.3 Legislation of primary relevance include:

- The Environment Act 2021,
- The Conservation of Habitats and Species Regulations 2017 (as amended),
- The Wildlife and Countryside Act 1981 (as amended),
- The Countryside and Rights of Way (CRoW) Act 2000,
- The Natural Environment and Rural Communities (NERC) Act 2006, and
- The Protection of Badgers Act 1992.

National Planning Policy

9.4 The National Planning Policy Framework (NPPF, 2023), and in particular Section 15, provides national policy on conserving and enhancing the natural environment through the planning process.

Local Planning Policy

Christchurch and East Dorset Local Plan Core Strategy (Adopted 2014)

9.5 The relevant local planning policies are as follows:

- Policy ME1 Safeguarding Biodiversity and Geodiversity,
- Policy ME2 Protection of the Dorset Heathlands,
- Dorset Heathlands Planning Framework 2020-2025 Supplementary Planning Document, &
- Dorset Heathlands Interim Air Quality Strategy 2020-2025.

9.6 Due regard has also been afforded to draft Policies of the consultation draft Dorset Council Local Plan (2021):

- ENV1 Green Infrastructure,
- ENV2 Habitats and Species, and
- ENV3 Biodiversity and Net Gain.

METHODOLOGY

9.7 The assessment has been carried out in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland (CIEEM, 2018 v1.2). See Technical Appendix 9.1, Section 2 for details.

9.8 In summary, EPR takes the following step-wise approach to EcIA:

- Prediction of the activities associated with a proposed scheme that are likely to generate biophysical changes which may lead to significant effects (either positive or negative) upon Important Ecological Features (IEFs),
- Identification of the likely Zone of Influence (ZOI) of those activities,
- Scoping to select the ecological features (habitats, species, ecosystems and their functions/processes) that are likely to fall within the predicted ZOIs and be affected by the activities,
- Evaluation of IEFs likely to be affected – both negatively and positively,
- Identification of likely impacts (positive and negative) on IEFs, together with an assessment of the geographic level at which effects are likely to be significant,
- Application of the mitigation hierarchy - refinement of the proposed scheme to incorporate impact avoidance and/or mitigation measures for negative effects on IEFs, and enhancements in order to deliver net gains,
- Assessment of the significance of residual effects and identification of any policy drivers for additional mitigation or compensation in the event of residual significant negative effects, and
- Advice on conformance with policy and legislation.

Likely Biophysical Changes and Zone of Influence

9.9 The Zone of Influence (ZOI) of a proposed development is defined by the EcIA Guidelines as "... the area(s) over which ecological features may be affected by the biophysical changes caused by the proposed project and associated activities".

9.10 The activities associated with the Proposed Development which are likely to lead to biophysical changes, and could accordingly give rise to ecological impacts, are set out in Table 9.1 below, which is drawn from Box 9 of the EcIA Guidelines (CIEEM, 2019).

Table 9.1: Activities and Biophysical Changes associated with the Proposed Development which may give rise to ecological impacts, and associated Zone(s) of Influence

Activity	Potential Impact	Zone of Influence
Construction Phase		
Access and travel on / off site	Noise / visual / lighting disturbance of vulnerable species	Site and immediate surrounding area
Assembly and storage areas for machines and materials; construction compounds	Loss and fragmentation of habitats Noise / visual / lighting disturbance to vulnerable species	Site and immediate surrounding area
Vegetation clearance, ground excavation and structural works, demolition and alteration operations	Loss and fragmentation of habitats Damage to vulnerable habitats Direct harm to vulnerable species Noise / visual /vibration/ lighting disturbance to vulnerable species Change to surface and ground water flows Dust deposition	Site and immediate surrounding area, functionally linked watercourses
Lighting of work area	Disturbance to vulnerable species	Site and immediate surrounding area
Drainage	Change of surface water/groundwater flows Change of water quality in surface water/groundwater	Site and immediate surrounding area, functionally linked watercourses

Activity	Potential Impact	Zone of Influence
	Change in habitats fed by surface water/groundwater flows	
Operational Phase		
Drainage	Hydrological changes to existing habitats within and beyond the Site (drying, flooding, levels of pollution)	Site and immediate surroundings; functionally linked watercourses
Access and travel on / off site	Noise / visual / lighting disturbance to vulnerable species	Site and immediate surrounding area
	Increased particulate pollution resulting in air quality changes	Up to 200m from affected roads
Occupation of new houses: urban effects	Noise / visual / lighting disturbance to vulnerable species Loss and fragmentation of habitats by trampling Increased risk of cat predation Degradation and pollution of vulnerable habitats through urban effects (such as fly tipping, introduction of non-native species, arson)	Site and immediate surrounding area, most prevalent within 400m

Characterisation of Impacts

9.11 Impacts can be characterised according to their extent, magnitude, duration, timing, frequency, reversibility, and whether they are positive or negative.

Significance of Effects

9.12 An effect is considered significant if it is likely to change the structure and function of defined sites and ecosystems or the conservation status of habitats and species.

Desktop Research

9.13 A desk study was carried out in order to gather and refer to existing biodiversity and contextual information with respect to the zone of influence and the wider area. This involved interrogation of internet resources, including the Multi-agency Geographic Information for the Countryside (MAGIC), the National Biodiversity Network (NBN) Atlas, and Dorset Explorer which provides freely available information on Dorset's geology, hydrology, topography and soils, habitats, ecological networks, and historic maps. Reference was also made to local planning policies and biodiversity strategies.

9.14 Existing information was requested from both Dorset Environmental Records Centre (DERC) and Hampshire Biodiversity Information Centre (HBIC), including information about non-statutory designated sites, habitats and species records.

Fieldwork

9.15 The surveys were carried out by Lindsay Carrington Ecological Services (LCES) in 2019 and by ABR Ecology in 2021/22. Full details are included in the reports appended to **Technical Appendix 9.1 (Annexes 3 & 4).**

9.16 The invertebrate survey was carried out by EPR in 2022.

9.17 Table 9.2 presents a summary of ecological surveys undertaken and the dates of these.

Table 9.2: Overview of ecological surveys

Survey Type	First	Last
Phase 1 habitat survey	2019	2022
Bats – Phase 1 (buildings/trees/habitat)	2019	2022

Bats – Activity transects and statics	2019	2022
Badgers	2019	2021
Hazel Dormouse	2019	2021
Birds - Breeding	2019	2021
Birds – Barn Owl	2021	2021
Birds - Nightjar	2019	2021
Reptiles	2019	2021
Amphibians (including Great Crested Newts)	2019	2022
Invertebrates	2022	2022

Consultation

9.18 A meeting was held with Natural England to discuss the Proposed Development on 17 June 2022.

BASELINE CONDITIONS

9.19 The following sections present a summary of the ecological baseline and should be read with reference to Technical Appendix 9.1: Ecology Baseline which includes full details.

Designated Sites

9.20 This Section presents details of the baseline evaluation of designated nature conservation sites within the ZOI of the Proposed Development. The Site lies wholly within Dorset but with Hampshire adjacent to the south and east. Records of designated sites were returned by DERC and HBIC for their respective area.

9.21 Figure 9.1 shows internationally and nationally designated sites out to 5km radius and Local Wildlife Sites out to 2km.

Internationally and Nationally Designated Sites

9.22 Table 9.3 lists internationally and nationally designated sites are within 5km of the Site.

Table 9.3: Internationally and nationally designated sites within 5km of the site

Site Name	Distance	Summary Description
Dorset Sites		
Dorset Heaths SAC	0.2km W	Designated for: Annex I habitats – purple moor-grass (Molinia caerulea) meadows on calcareous, peaty or clayey-silt-laden soils, calcareous fens with great fen-sedge (Cladium mariscus) and species of the Caricion davallianae, as well as alkaline fens and old acidophilous oak woods with pedunculate oak (Quercus robur) on sandy plains, and Annex II species: the southern damselfly (Coenagrion mercurial).
Dorset Heathlands SPA	0.2km W	Qualifies for breeding Dartford warbler (Sylvia undata), nightjar (Caprimulgus europaeus), and woodlark (Lullula arborea), and overwintering hen harrier (Circus cyaneus) and merlin (Falco columbarius).
Dorset Heathlands Ramsar Site	0.2km W	The heathland contains numerous examples of dry heath, wet heath and acid valley mire, these sites include a large assemblage of nationally rare and scarce species, especially invertebrates, reptiles and birds. Other habitats on these sites include woodland, grassland, pools, salt marshes and reed swamp.
Cranborne Common SSSI	0.2km W	

Site Name	Distance	Summary Description
Verwood Heaths SSSI	2.4km SW	
Bugden's Copse and Meadows SSSI	3.0km SW	
Moors River System SSSI	3.1km W	
Ebblake Bog SSSI	3.5km S	
Boulsbury Wood SSSI	4.2km NW	
Holt and West Moors Heath SSSI	4.0km SW	
Avon Valley Sites		
River Avon SAC	1.6km E	The Avon is rich and diverse supporting over 180 species of aquatic plant, fish varieties and aquatic invertebrates are wide ranging here. The SAC is designated for the Annex I habitat "Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation" as well as Annex 2 Desmoulin`s whorl snail (Vertigo moulinsiana), Sea lamprey (Petromyzon marinus), brook lamprey (Lampetra planeri), Atlantic salmon (Salmo salar) and bullhead (Cottus gobio).
River Avon System SSSI	1.6km E	The SSSI is also notified for its significant populations of the nationally rare southern damselfly, and qualifying species white-clawed crayfish (Austropotamobius pallipes), Schedule 1 birds, kingfisher (Alcedo atthis) and Cetti's warbler (Cettia cettia), as well as water vole (Arvicola amphibius), and otter (Lutra lutra).
Avon Valley SPA	1.6km E	The SPA is designated for wintering populations of Bewick's swan (Cygnus columbianus) and gadwall (Anas strepera).
Avon Valley Ramsar Site	1.6km E	The valley has a greater range of habitats and a more diverse flora and fauna than any other chalk river in Britain. The valley includes one of the largest expanses of unimproved floodplain grassland in Britain.
Bickton to Christchurch SSSI	1.6km E	One of the finest chalk rivers in Britain. The combinations of grassland, streams, small woods, scrub and willow carr create a varied landscape. These habitats support nationally and internationally important assemblages of breeding and wintering birds, an outstanding flora and many notable dragonflies, grasshoppers and snails.
New Forest sites		
The New Forest SAC	3.0km E	SAC primary habitats for selection are pools, wet and dry heaths, Molina meadows, beech (Fagus sylvatica) forest and wet woodland. SAC citation species include southern damselfly, stag beetle (Lucanus cervus) and great crested newt (Triturus cristatus).
New Forest SPA	3.0km E	The SPA is designated for breeding nightjar, woodlark, honey buzzard (Pernis apivorus) and Dartford warbler as well as overwintering hen harrier.

Site Name	Distance	Summary Description
New Forest Ramsar Site	3.0km E	Ramsar citation features include valley mires and wet heaths, rare wet plants and 65 British Red Data Book species of invertebrate. Breeding Dartford warbler, and great crested newt, overwintering hen harrier as well as fish species.
The New Forest SSSI	3.0km E	The New Forest supports lowland heath, valley and seepage step mire, or fen, and ancient pasture woodland, including riparian and bog woodland. The woodland supports stag beetle and lichen (Parmelia minarum) as well as roosting for Bechstein's bat (Myotis bechsteini). Grassland supports small fleabane (Pulicaria vulgaris) and pennyroyal (Mentha pulegium). Within the mires and pools is slender cottongrass (Eriophorum gracile), and great crested newt and the rare southern damselfly. There are otters on the streams. The heathland supports sand lizard (Lacerta agilis) and smooth snake (Coronella austriaca).

Local Wildlife Sites

9.23 Table 9.4 lists the Sites of Nature Conservation Importance (SNCIs) in Dorset within 2km to the north and west of the Site.

Table 9.4: site of nature conservation importance (SNCI) within 2km of the site

Site Name	Distance	Summary Description
Little and Crendle Commons	1.2km NW	Relict grassland and woodland along roadsides and bridleways
Boveridge Heath	1.0km S	Two pieces of remnant heath under pylon wires bordered by conifers
Highwood	0.7km N	Deciduous woodland with grassland/scrub under pylons
Perry Copse/Ashford Water Meadows	1.4km N	Woodland and grassland plus hedgerows with copse bindweed
Alderholt Heath	0.2km NW	Wet heath with a pond containing pillwort
Bullhill Lane	1km NW	A wooded lane with good flora
Bonfire Hill	0.5km N	Dry heath being invaded by pines
Daggons Road Station	0.3km N	Damp mixed woodland on acid soil, wet heath and surrounding scrub
Hawkmill Lane	1.8km N	Relict woodland and grassland along a gravel track
Strouds Firs Meadows	0.6km N	Semi-improved neutral grassland
Sleepbrook Farm	0km SW	Unimproved marshy grassland with a small area of carr woodland

9.24 Table 9.5 lists the Sites of Importance for Nature Conservation (SINCs) in Hampshire within 2km to the south and east of the Site.

Table 9.5: site of importance for nature conservation (SiNC) within 2km of the site

Site Name	Distance	Summary Description
Ringwood Forest & Home Wood	Adjacent to Site at SE corner	Ancient semi-natural woodland, which also contains and is contiguous to heathland habitat. This site supports nightjar, smooth snake and S41 Priority species annual knawel (*Scleranthus annuus).*
Hamer Copse	0.9km S	Ancient semi-natural woodland.
Reeve's Copse	1.9km N	Ancient semi-natural woodland.
Lomer Copse	0.5km E	Ancient semi-natural woodland.
Lomer Meadow	0.6km SE	Semi-improved inundated grassland with element of unimproved grassland.
Midgham Wood	0.8km NE	Woodland retaining some characteristics of ancient semi-natural woodland.
Sedgemoor	1.6km NE	Ancient semi-natural woodland which also supports some wet element.
Cobley Copse (Cobley Wood)	1.3km SE	Ancient semi-natural woodland.
Midgham Long Copse	0.9km E	Woodland retaining some characteristics of ancient semi-natural woodland.

Summary and Evaluation

9.25 The International Sites (SACs/SPAs/Ramsar sites) are of International importance.

9.26 Refer to Technical Appendix 9.2: Information for Habitats Regulations Assessment for a detailed assessment of impacts on International Sites.

9.27 The national sites (SSSIs/NNRs) are of National importance.

9.28 The Local Wildlife Sites (SNCIs/SINCs) are of County importance.

Habitats, Vegetation and Flora

9.29 This Section presents a summary of the baseline evaluation of habitats, vegetation and flora within the ZOI of the Proposed Development.

9.30 Figure 9.2 presents a summary of habitats and field numbers referred to in this Chapter. Full details are included in Technical Appendix 9.1, Section 5.

Defining the Zone of Influence

9.31 The area over which the activities associated with the Proposed Development are considered to potentially affect habitats, vegetation and flora, the ZOI, has been predicted by considering the activities and resultant biophysical changes arising during the construction and operational phases, as detailed in Technical Appendix 9.1, Section 5, paragraph 5.2-5.3.

9.32 In summary, some of the changes that could potentially affect habitats, vegetation and plants, such as trampling, have effects beyond the construction footprint, whilst others are likely to affect the vegetation communities through habitat changes. With this in mind, the potential ZOI that has been considered within this report for the construction phase is the Site and immediate surrounding area, and also functionally linked watercourses. For the operational phase this could include the Site but also sensitive habitats at designated nature conservation sites within their respective catchments of several kilometres (depending on the site).

Evaluation Methodology

9.33 The vegetation and flora of the Site have been described with reference to relevant sources. See **Technical Appendix 9.1, Section 5, paragraph 5.4-5.8** for details.

Desktop Research

9.34 The relevant sources were examined and a summary is included in **Technical Appendix 9.1, Section 5 at paragraphs 5.9-5.13**.

Field Survey

9.35 A survey was carried out by LCES in 2019. Full details are included in the report appended to **Technical Appendix 9.1 (Annex 3)**.

9.36 An update survey was carried out by ABR Ecology in 2022. Full details are included in the report appended to **Technical Appendix 9.1 (Annex 4, at Section 4 from paragraph 4.19-4.62 and details of each Parcel in Appendix 8)**. A summary is included below.

Summary and Evaluation

9.37 The main habitats present within the Site are summarised in Table 9.6 below along with each feature's conservation importance.

Table 9.6: Summary of Evaluation of Habitats

Phase 1 Habitat	UK Habitat	Comment	Importance
Woodland and Trees			
Broad-leaved woodland	Lowland mixed deciduous woodland		Local
Mixed woodland	Other woodland; mixed		Within ZOI
Wet woodland	Wet woodland		Local
Scattered trees			Within ZOI
Hedgerows and Treelines			
Native species-rich	e.g. Native species-rich hedgerow with trees associated with a bank or ditch, etc		Local
Non-native species-poor	e.g. Ornamental hedgerow		Negligible
Mature treelines	e.g. Line of trees (ecologically valuable)		Local
Grassland			
Semi-improved (SI)	Other neutral grassland	Meeting DNET SNCI/Local interest criteria	Local
Semi-improved (SI)	Other neutral grassland	Not meeting the SNCI criteria	Within ZOI
Poor SI	Modified		Negligible
Improved	Modified	Ryegrass/Clover dominant. Present across much of the Site.	Negligible
Amenity	Modified	Meeting DNET local interest criteria	Within ZOI
Amenity	Modified	Not meeting the DNET criteria	Negligible

Phase 1 Habitat	UK Habitat	Comment	Importance
Rush pasture	Other neutral grassland; Secondary level code 119 – seasonally wet	Where meets species-richness criteria then Local	Within ZOI to Local
Scrub			
Dense/scattered Bramble/Gorse	Bramble/Gorse scrub		Within ZOI
Tall/short herbs			
Tall ruderals			Within ZOI
Ephemeral/Short-perennial			Within ZOI
Bare ground			Negligible
Cropland			
Arable (Ley/Crop)	Temporary grass and clover leys Cereal crops Non-cereal crops	Present across much of the Site.	Negligible
Standing Water			
Ponds	Ponds	Clustered in 2 parcels only.	Within ZOI to Local
Ditches	Ditches		Within ZOI
Buildings and Hardstanding			
Buildings and Hardstanding	Developed land; sealed surface		Negligible

Bats

9.38 This Section presents a summary of the baseline evaluation of bat populations within the ZOI of the Proposed Development.

9.39 Figure 9.3 presents a summary of key bat records and a summary of key bat habitat areas. Full details are included in Technical Appendix 9.1, Section 6.

Defining the Zone of Influence

9.40 The area over which the activities associated with the Proposed Development are considered to potentially affect bat populations, the ZOI, has been predicted by considering the activities and resultant biophysical changes arising during the construction and operational phases, as summarised in Technical Appendix 9.1, Section 6, paragraph 6.2-6.3.

9.41 Bats are mobile species that commute between roosts and foraging areas, sometimes over considerable distances (several kilometres) and covering a wide area and a variety of habitats during night-time activity, dependent on species and time of year. The potential ZOI of the Proposed Development for any bat species affected will therefore include the Site itself but is also considered likely to extend up to around 5km beyond the Site boundary to include any off-site bat roosts, the bats from which are supported by the affected habitats at the Site.

Evaluation Methodology

9.42 Bat surveys and evaluation were carried out in accordance with current guidance from Bat Conservation Trust (2016). See Technical Appendix 9.1, Section 6, paragraph 6.4-6.5 for details.

Desktop Research

9.43 Records of bats and bat roost within 5km of the Site were returned by DERC and HBIC. See Technical Appendix 9.1, Section 6, paragraph 6.6 for details.

Field Survey

9.44 Bat surveys were carried out by LCES in 2019 and these were updated by ABR Ecology in 2022. Full details are included in Technical Appendix 9.1 and the reports (in Technical Appendix 9.1 Annexes 3 and 4, Section 4, paragraph 4.72). A summary of ABR Ecology's survey is included below.

Summary of Results

9.45 The following bat roosts are present on the Site and/or within the ZOI:

- A maternity roost/hibernation roost for Brown Long-eared Bats in building B2,
- A day roost for Greater Horseshoe Bat in B,
- Day roosts for Brown Long-eared Bat and Common Pipistrelle in B5, and
- A day roost for Soprano and Common Pipistrelle in B14.

9.46 A high number of trees on site possess Potential Roosting Features (PRFs) for bats. These trees require further investigation at Reserved Matters stage.

9.47 The Site was assessed to hold 'high potential' for foraging and commuting bats. At least 10 species of bat were recorded using the Site including:

- Greater Horseshoe Bat, Barbastelle, Myotis sp., Long-eared Bat sp., Common, Soprano and Nathusius' Pipistrelle and Serotine, Noctule and Leisler's Bat.

9.48 The Site supports an excellent assemblage of bat species, including at least two rare Annex II bat species, Greater Horseshoe Bat and Barbastelle.

9.49 Key habitats are considered to be the areas of woodland, treelines and hedgerows around the boundaries.

Evaluation

9.50 The ZOI supports a relatively diverse bat assemblage comprising 10 species or species groups. However, the greater part of the Site is occupied by intensively managed farmland and has relatively limited importance for bats. Notable levels of foraging activity are largely confined to marginal areas, particularly including the woodland fringe between the Site and Cranborne Common to the west.

9.51 The most notable components of the bat assemblage are two rarer species, the Greater Horseshoe Bat and Barbastelle – both of which are listed under Annex II of the Habitats Directive. Scattered records of the former species occur across Dorset (Dorset Mammal Atlas), whereas the latter is "widely distributed — although never common — across the rural landscape of southern Britain" (Matthews et al., 2018).

9.52 The Greater Horseshoe Bat and Barbastelle were recorded in boundary habitats across various parts of the Site. Individuals of both species were encountered at three locations during transect surveys; the Greater Horseshoe Bat was recorded at all but one of 14 automated sampling locations, and the Barbastelle at all but two.

9.53 However, the overall level of activity attributed to these rarer species was very low. The Greater Horseshoe Bat was recorded at an average rate of just 2.14 passes per night (across all automated detectors) and an average rate of just 0.14 passes per detector per night. Barbastelle was recorded at an average rate of just 2.31 passes per night and an average rate of just 0.15 passes per detector per night.

9.54 Greater Horseshoe Bat activity was limited to a very low rate of no more than ten passes in any month (i.e. an average of one pass per night) at all but two of the automated sampling locations. The two exceedances of this rate only occurred in one of the seven sampling months: in August 2021, 29 passes were recorded at a sampling location beyond the western boundary, and 18 passes were recorded on the Site's northern wooded boundary. Even during these relative 'peaks', activity levels remained very low: an average of less than three passes per night at both locations.

9.55 Barbastelle activity was limited to a rate of no more than ten passes in any month at all but one of the automated sampling locations. Again, this exceedance only occurred in one of the seven sampling months: in April 2022, 53 passes were recorded at the off-site sampling location beyond the western boundary. Even during this relative 'peak', the average detection rate was just five passes per night.

9.56 Although these two rarer species were encountered across much of the ZOI, the level of their activity and utilisation of site habitats and features was found to be very limited: no such features can be considered particularly important as foraging and commuting resources for either species. In this respect, the diversity of the bat assemblage is considered to be more attributable to the location of the Site in relation to high quality off-site foraging resources – such as Cranborne Common to the west, Ringwood Forest to the south, and the Avon Valley to the east - than to the inherent characteristics and habitat quality of the Site itself.

9.57 On balance, the bat assemblage within the ZOI of the Proposed Development and the habitats and features on which it depends are considered to be of **County** importance and with a **favourable, stable** conservation status.

Badgers

9.58 This Section presents a summary of the baseline evaluation of European Badger Meles meles within the ZOI of the Proposed Development. Full details are included in **Technical Appendix 9.1, Section 7**.

Defining the Zone of Influence

9.59 The criteria for defining the ZOI with regard to Badgers is explained in **Technical Appendix 9.1, Section 7, paragraph 7.4**.

Evaluation Methodology

9.60 Details of the Badger survey method are included in **Technical Appendix 9.1, Section 7, paragraph 7.8**.

Desktop Research

9.61 Records of Badgers within a 2km radius of the Site were returned by DERC and HBIC. See **Technical Appendix 9.1, Section 7, paragraph 7.5** for details.

Field Survey

9.62 A survey was carried out by LCES in 2019. Full details are included in the report appended to **Technical Appendix 9.1 (Annex 3)**.

9.63 An update survey was carried out by ABR Ecology in 2022. Full details are included in the report appended to **Technical Appendix 9.1 (Annex 4, Section 4, paragraph 4.63)**. A summary is included below.

Summary and Evaluation

9.64 Evidence of Badgers was found within parts of the Site during the 2021 survey. This included the presence of a number of active setts focussed in two main areas. Evidence of Badgers commuting and foraging was also found across the Site.

9.65 Badgers are common and widespread in England and so are not a species of conservation concern. As a consequence, the Badger population(s) within the ZOI of the Proposed Development are evaluated as being of no more than **Within the ZOI importance**.

9.66 However, in view of the legal protection afforded Badgers and their setts under the Protection of Badgers Act 1992 they are considered in the EcIA in terms of ensuring legal protection.

Hazel Dormouse

9.67 This Section presents a summary of the baseline evaluation of Hazel Dormice *Muscardinus avellanarius* within the ZOI of the Proposed Development. Full details are included in **Technical Appendix 9.1, Section 8**.

Defining the Zone of Influence

9.68 The criteria for defining the ZOI with regard to Dormice is explained in **Technical Appendix 9.1, Section 8, paragraph 8.2**.

Evaluation Methodology

9.69 A Dormouse survey and evaluation was carried out in accordance with current guidance (Bright et al. 2006). See **Technical Appendix 9.1, Section 8, paragraph 8.7** for details.

Desktop Research

9.70 Records of Dormice within a 2km radius of the Site were returned by DERC and HBIC. See **Technical Appendix 9.1, Section 8, paragraph 8.4** for details.

Field Survey

9.71 A Dormouse survey was carried out by LCES in 2019. Full details are included in the report appended to Technical Appendix 9.1 (Annex 3).

9.72 An update Dormouse survey was carried out by ABR Ecology in 2022. Full details are included in the report appended to Technical Appendix 9.1 (Annex 4, Section 4, paragraph 4.129) and selected text is included below.

9.73 148 nest tubes were deployed in June 2021 and checked monthly from July to November 2021.

9.74 No Dormouse were recorded during the presence/absence survey.

Summary and Evaluation

9.75 Hazel Dormice are not known to be present in the ZOI following surveys in 2019 and 2021, despite there being eight records from within 2km (in Hampshire) and an EPS licence obtained to disturb breeding habitat within 1km to the south-east.

9.76 The network of hedgerows within the Site has the potential to provide suitable habitat for Dormice, although these hedgerows surround intensively farmed land and are likely to be cut annually and so this may reduce the quality and hence their value to Dormice.

9.77 As such Dormice are unlikely to be present within the ZOI currently. As there are no negative impacts to Dormouse populations to assess they are not taken through this impact assessment.

9.78 However, opportunities to enhance habitat quality and improve connectivity as part of the green infrastructure design of the Proposed Development, and through the long-term management of the new and existing habitats in a manner which is sensitive to wildlife, might also benefit Dormice should their populations recover in the wider local area and they colonise the Site in the future.

Breeding Birds, Barn Owl and Nightjar

9.79 This Section presents a summary of the baseline evaluation of bird populations (in particular the breeding bird assemblage, and separately Barn Owl and Nightjar) within the ZOI of the Proposed Development.

9.80 Figure 9.3 presents a summary of survey results for key breeding birds, Barn Owl and Nightjar. Full details are included in Technical Appendix 9.1, Section 9.

Defining the Zone of Influence

9.81 The area over which the activities associated with the Proposed Development are considered to potentially affect bird populations, the ZOI, has been predicted by considering the activities and resultant biophysical changes arising during the construction and operational phases, as summarised in Technical Appendix 9.1, Section 9, paragraph 9.2-9.3.

9.82 Some of the changes that could potentially affect birds, such as disturbance, have effects beyond the construction footprint, whilst others are likely to affect the bird assemblage through habitat changes. With this in mind, the potential ZOI that has been considered within this report is the Site and immediate surrounding area, including areas of heathland and woodland beyond the Site boundary which are known to support breeding Nightjar.

Evaluation Methodology

9.83 The bird survey and evaluation were carried out in accordance with current guidance. See Technical Appendix 9.1, Section 9, paragraph 9.4-9.15 for details.

Desktop Research

9.84 Records of birds within a 2km radius of the Site were returned by DERC and HBIC. See Technical Appendix 9.1, Section 9, paragraph 9.16-9.20 for details.

Field Survey

9.85 A survey was carried out by LCES in 2019. Full details are included in the report appended to Technical Appendix 9.1 (Annex 3).

9.86 An update survey was carried out by PV Projects Ltd in 2021, as reported by ABR Ecology in 2022. This involved five visits in May, June and July 2021. Full details are included in the report appended to Technical Appendix 9.1 (Annex 4, Section 4, paragraph 4.99). A summary follows below.

Summary

9.87 The Site comprises habitat suitable to support a range of breeding bird species including arable land with hedgerows and trees, grassland and woodland habitats, with extensive areas of heathland adjacent to the west and woodland to the south.

9.88 The surveys recorded a total of 37 breeding species.

9.89 The keys areas for breeding birds were the network of dense hedgerows and the heathland areas to the west of the Site.

9.90 The western half of the Site also supported populations of farmland species such as Yellowhammer and Linnet. Skylark were recorded breeding within the arable sections.

Evaluation

9.91 The breeding bird assemblage supported by the ZOI has been assessed with reference to the criteria set out above.

9.92 Conservation Priority Species: Six Red-Listed Birds of Conservation Concern and four Amber-Listed species were considered to be breeding within the ZOI at the time of the update survey in 2021. Six of these are also Section 41 species. Song Thrush and Dunnock account for the majority of registrations, with other species recorded in relatively low numbers.

9.93 Diversity: The total assemblage of 37 breeding species equates to a District level of importance according to the criteria adapted from Fuller (1980).

9.94 Population Size: None of the species within the ZOI were recorded in sufficient numbers to meet the 1% threshold of importance at County level or above. The numbers recorded are considered to be typical of a site of this size in this locality.

9.95 Rarity: Barn Owl are a Schedule 1 species considered likely to be nesting on site.

9.96 Taking all of the above into account, the assemblage of breeding birds within the ZOI of the Proposed Development is assessed as being of no more than Local importance according to the CIEEM (2019) levels of importance. Although the assemblage is diverse, only a small proportion of the species recorded are conservation priority species.

9.97 The breeding bird populations within the ZOI are judged as having a conservation status which is unfavourable and declining.

Barn Owl

9.98 A Barn Owl survey was carried out by ABR Ecology in 2021 (see Technical Appendix 9.1, Annex 4, Section 4, paragraph 4.69).

9.99 Following a thorough search of buildings in May 2021, ABR Ecology reported finding an active Barn Owl roost in building 'B4' at Foxhill Farm. No other evidence was found in buildings.

9.100 The Site includes suitable foraging habitat for Barn Owls, particularly around field margins where a longer sward is available.

Evaluation

9.101 Barn Owl is listed on Schedule 1 of the Wildlife and Countryside Act (WCA) 1981 (as amended) and as such are protected from disturbance while nesting, in addition to the standard protection offered by the WCA.

9.102 The presence of a Barn Owl roost is of Local importance.

9.103 Whilst there is currently no evidence of breeding the possibility remains in the future. An update survey at Reserved Matters stage will be required.

Nightjar

9.104 Nightjars are known to regularly utilise habitats beyond the heathlands and forests where they nest for foraging (e.g. Evens et al., 2018). As such, consideration must be given to the potential effects of the Proposed Development on Nightjar foraging and commuting (access to foraging resources off the heath), and therefore on one of the key qualifying features of the Dorset Heathlands SPA.

Field Survey

9.105 A survey for Nightjar within the Site was carried out by ABR Ecology during 6 visits in June and July 2021. Full details are included in the report appended to **Technical Appendix 9.1 (Annex 4, Section 4, paragraph 4.120)** and a summary is included below.

Summary

9.106 Nightjar were recorded 'churring' from the heathland to the west of the Site. They were also foraging across the western and northern fields and flying along the hedgerows within the Site.

Evaluation

9.107 Nightjar are known to range widely beyond their breeding sites to forage and so individuals from nearby known breeding sites at Cranborne Common, Ringwood Forest and Home Wood will no doubt include the Site within their wider foraging range.

9.108 It is likely that the prey utilised by Nightjar (principally moths and beetles) will be caught over woodland, scrub, hedgerows and semi-natural grassland rather than over arable land.

9.109 Foraging Nightjar within the ZOI of the Proposed Development is regarded as a feature of Local importance.

Amphibians (including Great Crested Newts)

9.110 This Section presents a summary of the baseline evaluation of amphibian populations (including Great Crested Newts (GCN) within the ZOI of the Proposed Development.

9.111 **Figure 9.3** presents a summary of GCN records. Full details are included in **Technical Appendix 9.1, Section 10**.

Defining the Zone of Influence

9.112 The area over which the activities associated with the Proposed Development are considered to potentially affect amphibian populations, the ZOI, has been predicted by considering the activities and resultant biophysical changes arising during the construction and operational phases, as summarised in **Technical Appendix 9.1, Section 10, paragraphs 10.2-10.4**.

9.113 As the Proposed Development is very unlikely to have a substantial negative effect on habitats outside of the Site boundary, the ZOI for GCN and other amphibians in this case is considered to include suitable terrestrial and aquatic habitat within the Site boundary that could be affected by the Proposed Development, as well as any breeding ponds within 250m of the Site boundary that are not separated from the Site by barriers to dispersal.

Evaluation Methodology

9.114 The survey for GCN was carried out in accordance with current guidance (English Nature 2001). For details see **Technical Appendix 9.1, Section 10, paragraph 10.10-10.13**.

Desktop Research

9.115 Records of GCN and other amphibians within a 2km radius of the Site were returned by DERC and HBIC. See **Technical Appendix 9.1, Section 10, paragraph 10.5-10.7** for details.

Field Survey

9.116 A survey was carried out by LCES in 2019. Full details are included in the report appended to **Technical Appendix 9.1 (Annex 3)**.

9.117 An update survey was carried out by ABR Ecology in 2022. Full details are included in the report appended to Technical Appendix 9.1 (Annex 4, Section 4, paragraph 4.132). A summary is included below.

Summary

9.118 11 ponds are present within the Site boundary with a further 20 ponds off-site within 500m.

9.119 eDNA sampling was conducted and revealed a 'positive' result for GCN presence in a pond in the southeast within the campsite.

9.120 Previous surveys also revealed GCN presence in a ditch running through Sleepbrook Farm.

9.121 GCN are therefore present within the Site in low numbers.

Evaluation

9.122 Principally based on the presence of a low population of GCN in the south-east part of the Site, the amphibian populations (including GCN) within the ZOI of the Proposed Development is judged to be a feature of Local importance.

9.123 The amphibian populations within the ZOI are judged as having a conservation status which is unfavourable and declining.

Reptiles

9.124 This Section presents a summary of the baseline evaluation of reptile populations within the ZOI of the Proposed Development.

9.125 Figure 9.3 presents a summary of reptile records. Full details are included in Technical Appendix 9.1, Section 11.

Defining the Zone of Influence

9.126 The area over which the activities associated with the Proposed Development are considered to potentially affect reptile populations, the ZOI, has been predicted by considering the activities and resultant biophysical changes arising during the construction and operational phases, as summarised in Technical Appendix 9.1, Section 11, paragraphs 11.2-11.3.

9.127 Some of the changes that could potentially affect reptiles, such as disturbance, have effects beyond the construction footprint, whilst others are likely to affect the reptile assemblage through habitat changes. With this in mind, the potential ZOI that has been considered within this report is the Site and immediate surrounding area.

Evaluation Methodology

9.128 The reptile surveys and evaluation were carried out in accordance with current guidance (Froglife 1999). For details see Technical Appendix 9.1, Section 11, paragraphs 11.4-11.8.

Desktop Research

9.129 Records of reptiles within a 2km radius of the Site were returned by DERC and HBIC. See Technical Appendix 9.1, Section 11, paragraphs 11.9-11.10 for details.

Field Survey

9.130 A survey was carried out by LCES in 2019. Full details are included in the report appended to Technical Appendix 9.1 (Annex 3).

9.131 An update survey was carried out by ABR Ecology in 2021. Full details are included in the report appended to Technical Appendix 9.1 (Annex 4, Section 4, paragraph 4.142) and a summary follows.

Summary

9.132 The eastern side of the Site (east of Ringwood Road) supports 'low' populations of Slow-worm, Grass Snake and Common Lizard. The remainder of the Site (except for the land in the far west) supports overall 'good' populations of Common Lizard and Slow-worm, and a 'low' population of Grass Snake.

9.133 Land adjacent to the west of the Site supports an overall 'exceptional' population of Common Lizard, a 'good' population of Slow-worm and a 'low' population of Grass Snake.

Evaluation

9.134 Slow-worms, Common Lizards and Grass Snakes are common and widespread in Dorset. On this basis, the current assemblage of reptile populations within the ZOI of the Proposed Development is considered to be of Local importance.

9.135 The reptile populations within the ZOI are judged as having a conservation status which is unfavourable and declining.

Invertebrates

9.136 This Section presents a summary of the baseline evaluation of the invertebrate assemblage within the ZOI of the Proposed Development. Full details are included in Technical Appendix 9.1, Section 12.

Defining the Zone of Influence

9.137 The area over which the activities associated with the Proposed Development are considered to potentially affect the invertebrate assemblage, the ZOI, has been predicted by considering the activities and resultant biophysical changes arising during the construction and operational phases, as summarised in Technical Appendix 9.1, Section 12, paragraphs 12.2-12.3.

9.138 Overall, the potential ZOI that has been considered within this assessment of the invertebrate assemblage is the Site and immediate surrounding area.

Evaluation Methodology

9.139 Survey and assessment of invertebrates has been carried out in accordance with current guidance (Drake et al 2007; Webb et al 2018; Dobson & Fairclough 2021). See Technical Appendix 9.1, Section 12, paragraphs 12.9-12.23 for details.

Desktop Research

9.140 Records of invertebrates within a 2km radius of the Site were returned by DERC and HBIC. See Technical Appendix 9.1, Section 12, paragraphs 12.4-12.8 for details.

Field Survey

9.141 A survey was carried out by an experienced entomologist on behalf of EPR in 2022. Full details are included in Technical Appendix 9.1, Section 12, paragraphs 12.9-12.12.

Summary

9.142 Land use across much of the Site is arable or modified grassland which has no value to important invertebrates. There are some pockets of habitat of elevated value to invertebrates. These are Parcel 4, with rush pasture and wet woodland, and Parcel 5, a grass and scrub mosaic.

9.143 Woodland and scattered trees are largely Oak and Sallows, and hedgerows include Hawthorn and Blackthorn. These and other component native species are likely to support typical invertebrate assemblages.

9.144 The most valued habitat element present is decaying wood (graded as B – Major) according to the system by Dobson & Fairclough (2021).

9.145 The habitat assessment using Pantheon (Webb et al 2018) provides the following Specific Assemblage Type (SAT) scores for habitat elements.

Table 9.7: Specific Assemblage Type Scores for Habitat Elements

Code	SAT	No. of Species	Reported Condition
F001	scrub edge	9	Unfavourable (9 species, 11 required)
A212	bark & sapwood decay	7	Unfavourable (7 species, 19 required)
F002	rich flower resource	5	Unfavourable (5 species, 15 required)
A211	heartwood decay	4	Unfavourable (4 species, 6 required)
F003	scrub-heath & moorland	2	Unfavourable (2 species, 9 required)
A215	epiphyte fauna	1	Unfavourable (1 species, 3 required)
A213	fungal fruiting bodies	1	Unfavourable (1 species, 7 required)

Evaluation

9.146 Since the vast majority of the Site is modified grassland or arable with only some additional minor areas likely to be supporting important invertebrates it is considered that the overall invertebrate assemblage within the ZOI of the Proposed Development is of Within the ZOI to Local importance.

Summary of Important Ecological Features

9.147 With reference to the assessment criteria set out in Technical Appendix 9.1, Section 2, IEFs that are considered to be of Local importance or greater to be taken forward for impact assessment are summarised in Table 9.8 below.

Table 9.8: Important Ecological Features to be considered further in this EcIA

Feature	Importance
Dorset Heaths SAC/Dorset Heathland SPA/Ramsar	International
River Avon SAC/Avon Valley SPA/Ramsar	International
New Forest SAC/The New Forest SPA/Ramsar	International
Cranborne Common SSSI	National
Other SSSIs which are in ZOI	National
Sleepbrook Farm SNCI	County
Ringwood Forest and Home Wood SINC	County
Other LWSs which are in ZOI	County
Woodland	Local
Hedgerows / Treelines	Local
Grassland	Local
Ponds	Local
Bats incl GHS/Barbastelle	County
Badgers	Within ZOI
Birds – Breeding	Local
Birds – Barn Owl	Local
Birds - Nightjar	Local
Amphibians (including Great Crested Newts)	Local
Reptiles	Local

Feature	Importance
Invertebrates	Within ZOI - Local

IMPACTS

Construction Impacts

Designated Sites – Air Pollution – Dust

9.148 Dust liberation and dispersal during construction phase works has the potential to be deposited on vegetation on Site and beyond, including at adjacent designated sites including the Dorset Heathlands SAC/SPA/Ramsar, Cranborne Common SSSI, Sleepbrook Farm SNCI and Ringwood Forest SINC.

9.149 In the absence of mitigation this could potentially result in a **significant negative** effect at up to the **Local level**.

Habitats – Trees, Woodland, Hedgerows, Grassland, Ponds – Damage

9.150 Construction activity has the potential to damage trees and habitats where retained and valued features are left unprotected.

9.151 In the absence of mitigation this could potentially result in a **significant negative** effect at up to the **Local level**.

Bats – Loss of Confirmed Roosts and Harm to Individual Bats

9.152 The Proposed Development will result in the loss of three structures identified as supporting bat roosts:

- The outbuilding 'B2', which supports a Greater Horseshoe Bat day roost used by a single bat, a Brown Long-eared Bat maternity roost with a peak count of nine bats, and a Brown Long-eared Bat hibernation roost used by one or few bats,
- The dwelling-house 'B5', which supports Brown Long-eared Bat and Common Pipistrelle day roosts respectively used by one and two bats, and
- The barn 'B14', which supports a Common Pipistrelle and Soprano Pipistrelle day roosts each used by a single bat.

9.153 In the absence of mitigation, the destruction of these roosts – and the resultant death or injury of any bats present at the time of removal – would constitute a **legal offence** and a **significant negative effect** of up to **County level** significance.

Bats – Loss of Potential Roosting Opportunities and Harm to Individual Bats

9.154 Although not predicted to result in a substantial diminution of the availability of potential roosting opportunities within the ZOI, site clearance may, in the absence of mitigation, result in harm to bats occupying any hitherto unidentified or subsequently established roosts, which may constitute a **legal offence** and a potentially **significant negative effect** – at a level depending on the importance of the roost in question.

Bats – Disturbance by Construction Activity and Lighting

9.155 Noise and vibration may disturb bats occupying roosts adjacent to construction activity, whereas uncontrolled construction lighting may result in the abandonment of roosts and commuting locations. In the absence of mitigation, this could potentially cause a **legal offence**, and result in a **significant negative effect** at the **Local level**.

Badgers – Disturbance by Construction Activity

9.156 There are currently Badger setts in two parts of the Site. Whilst **negative** effects on Badgers in the absence of mitigation would not be of more than **Within the ZOI significance**, there is the potential for accidental legal offences in relation to the Protection of Badgers Act 1992.

Birds (Breeding) – Nesting Birds

9.157 The localised clearance of trees and vegetation as part of the Proposed Development has the potential to kill and injure birds and destroy nests, eggs and dependent young if undertaken without taking preventative action, and there is the risk of a legal offence under the provisions of the Wildlife and Countryside Act 1981 (as amended), although no significant effect.

Birds (Barn Owl) – Disturbance by Construction Activity and Lighting

9.158 Barn Owl will be vulnerable to disturbance in the vicinity of the barn where it has a regular roost. Care will need to be taken to ensure that it is not breeding there at the time of works in view of its listing on Schedule 1 of the WCA 1981, with the risk of legal offence, although no significant effect.

Amphibians (GCN)– Risk of Harm During Site Clearance and Construction

9.159 Since all amphibians spend much of the year away from their breeding ponds in terrestrial habitat, there is a risk that site clearance and construction / landscape works could harm any individuals present within the works footprint.

9.160 In the absence of mitigation, this could potentially cause a legal offence and a significant negative effect at the Local level where GCN are concerned. And for amphibian populations could result in a significant negative effect although only at the Within the ZOI level.

Reptiles – Risk of Harm During Site Clearance and Construction

9.161 Since reptiles have been recorded in good numbers in some locations and may occur in isolated locations elsewhere, there is a risk that site clearance and construction / landscape works could harm any individuals present within the works footprint.

9.162 In the absence of mitigation, this could potentially lead to a significant negative effect at the Local level.

Operational Impacts

Designated Sites –Increased Recreational Pressure

9.163 Since the Proposed Development is principally a residential scheme, its new residents will seek recreation in the local area and this demand will contribute to existing recreational pressure on International, National and Local designated nature conservation sites.

9.164 In the absence of mitigation, this could lead to a significant negative effect at the International, National or Local level, depending upon the designation of the sites affected.

9.165 The International sites scoped in under this impact pathway are the Dorset Heathlands SAC/SPA/Ramsar and the New Forest SAC/SPA/Ramsar; full details are included in Technical Appendix 9.2: Information for HRA.

9.166 The key National site of relevance is Cranborne Common SSSI. The recreation impacts are largely the same as those for the Dorset Heathlands SAC/SPA/Ramsar.

9.167 The other National site of relevance is the New Forest SSSI. Again, the recreation impacts are largely the same as those for the New Forest SAC/SPA/Ramsar.

9.168 Local sites of relevance are Sleepbrook Farm SNCI and Ringwood Forest SINC. Neither will be readily accessible due to considerate design of the Proposed Development to ensure there are no connecting paths into these designated sites. Mitigation proposed to avoid impacts on the aforementioned International and National sites will also secure impact avoidance in relation to these Local sites.

Designated Sites –Hydrological Change

9.169 Changes in water quality are assessed for the River Avon SAC and Avon Valley SPA/Ramsar. Full details are included in Technical Appendix 9.2: Information for HRA.

9.170 Water pollution is identified in the Avon River Valley Site Improvement Plan as a threat to each of the qualifying features of both the SAC and SPA, which substantially overlap those of the Ramsar designation. In respect of the SAC in particular, Natural England's Supplementary Advice on Conserving and Restoring Site Features reports that elevated levels of nutrient phosphorus input arising from

anthropogenic sources are preventing the achievement of water quality target values across much of the catchment.

9.171 In view of the excessive level of phosphorus loading upon the Avon, Natural England considers that, with certain limited exceptions, the additional nutrient load exerted by any new residential development in the fluvial catchment will have a likely significant effect on the SAC. The Avon Valley SPA and Ramsar site are not explicitly identified in Natural England's current guidance as being in unfavourable condition due to excessive nutrient levels – although the qualifying features of the latter designation are potentially susceptible to eutrophication effects. Each of the Avon Sites could also potentially be affected by other forms of upstream water pollution such as uncontrolled siltation, chemical spills, or surface water contamination.

9.172 The Proposed Development will produce wastewater that will need to be treated at the assigned Wastewater Treatment Works (WwTW) for the local area. In view of the location of the Site, the WwTW will be one that discharges treated effluent into the River Avon. In the absence of mitigation, this will increase contributions to existing phosphate pollution of the River Avon SAC, leading to a **significant negative effect** at the **International level**.

9.173 Water quality impacts on the Solent Marine Sites through increased nutrient loads are screened out as neither the Site nor its WwTW outfall occur within the Solent 'nutrient neutrality' catchment, as identified on the map in Natural England's (2022) current guidance on nutrient neutrality.

9.174 Changes in water quantity are also assessed for the River Avon SAC and Avon Valley SPA/Ramsar. Full details are included in **Technical Appendix 9.2: Information for HRA**.

9.175 Water abstraction is identified in the *Avon River Valley Site Improvement Plan* as a threat to each of the qualifying features of the SAC. However, in view of the conclusion presented in Wessex Water's *Final Water Resources Management Plan* (2019), that existing licensed water abstraction sources are adequate to accommodate planned levels of growth, and in accordance with the findings of the *East Dorset Local Plan Review Options Consultation HRA Screening Report* (2018), the Proposed Development is not considered likely to result in a significant water quantity effect on the Avon Sites.

Designated Sites – Air Pollution – Traffic

9.176 The Proposed Development will generate increases in local traffic and lead to increases in airborne pollutants. Where roads pass within 200m of designated sites there is potential for these pollutants to be deposited on vegetation that may affect sensitive habitats and their ability to support associated species.

9.177 The sites scoped in under this impact pathway are the Dorset Heathlands SAC/SPA/Ramsar.

9.178 The key National sites of relevance are Cranborne Common SSSI and St Leonards and St Ives Heaths SSSI. Full details for both International and National sites are included in **Technical Appendix 9.2: Information for HRA**.

9.179 Nitrogen Oxides (NOX), Ammonia (NH3) and Nitrogen deposition was modelled for both SSSIs and only for Cranborne Common SSSI could the potential for adverse effects from NH3 and Nitrogen deposition not be ruled out. Mitigation is therefore required.

9.180 In accordance with guidance from the Institute of Air Quality Management (Holman et al, 2019), impacts on designated sites not subject to HRA were also assessed. TA 9.1 sets out the methodology for, and results of, air quality modelling undertaken for SSSIs, SNCIs, SINCs as well as woodlands listed on Natural England's Provisional Ancient Woodland Inventory (PAWI) within the ZOI.

9.181 Significant impacts from airborne NOx are not predicted for any of the modelled sites due to total future concentrations (with the Proposed Development) remaining below the critical level above which harm may arise, or with respect to one site (Avon Valley (Bickton to Christchurch) SSSI) at a level where phytotoxic effects are unlikely to arise. The contribution of NOx to nitrogen deposition was modelled separately.

9.182 For NH3, only at one site (Avon Valley (Bickton to Christchurch) SSSI) did contributions from the Proposed Development exceed the screening threshold for potentially significant effects where the critical level was also exceeded under the future 'with Proposed Development' scenario. In this location the critical level is significantly exceeded in the absence of the Proposed Development due to background levels, most likely due to agricultural land management. Significant effects from the Proposed Development are therefore not predicted, although the contribution of NH3 to total nitrogen deposition was modelled separately.

9.183 For nitrogen deposition there are a number of sites where future 'with Proposed Development' contributions exceed the screening threshold for potentially significant effects, where total deposition rates also exceed the site- and habitat-specific critical loads. These include Bone Acre/Park Copses PAWI, Smallbridge Copse PAWI, Little and Crendle Commons SNCI, Ringwood Forest & Home Wood SINC, and Home Wood PAWI. For all sites, deposition rates only just exceed the site- and habitat-specific critical loads, with modelled receptors located at the roadside where traffic contributions are highest. Traffic-generated pollutant levels drop off significantly within the first 50m from the roadside (Laxen & Marner, 2008; Ricardo-AEA, 2016), therefore future 'with Proposed Development' deposition rates would be expected to fall at or below the relevant critical loads within the bounds of immediate roadside habitats. This decrease would be exaggerated where roadside woodland habitats act to intercept airborne pollutants, providing a 'shelterbelt' effect. Ultimately, the small contributions from the Proposed Development towards total future nitrogen deposition rates must be viewed in the context of a recognised trend towards air quality improvement arising from national initiatives such as the Clean Air Strategy in England (2019), therefore significant effects from nitrogen deposition, and air pollution overall, are not predicted.

Designated Sites – Loss of Offsite Supporting Habitat (Nightjar)

9.184 Since there is evidence from targeted surveys of Nightjar being present (and likely foraging) within the western part of the Site, and in view of it being a qualifying species of the Dorset Heathlands SPA, consideration has been given to the potential impact of loss of offsite supporting habitat for Nightjar. Full details are included in Technical Appendix 9.2: Information for HRA.

9.185 Nightjar is also cited as a feature of Cranborne Common SSSI, although is sufficiently assessed as a qualifying feature of the SPA.

9.186 Nightjar were recorded in the northern boundary of the adjacent Ringwood Forest SINC. They are likely to breed in clear-fell areas created in the northern part of the woodland.

9.187 Creation of new habitat, especially in the western half of the Site, and long-term management of new and existing habitats targeted at enhancing biodiversity in general, will be beneficial for Nightjar.

9.188 Lighting effects are also considered in this respect, as detailed in Technical Appendix 9.2: Information for HRA. However, much of the western half of the Site will remain unlit, and furthermore a Lighting Strategy is proposed (see under Mitigation).

9.189 The overall impact will be a significant positive effect at the Local level.

Habitats – Woodland, Treelines, Hedgerows, Grassland, Ponds

9.190 Existing retained habitats and newly created habitats will be managed for biodiversity over the long-term in accordance with the EMES and SANG Management Plans.

9.191 The overall impact will be a significant positive effect at the Local level.

Bats – Loss of Foraging Habitat / Habitat Creation and Management

9.192 Foraging activity within the ZOI was found to be heavily concentrated along boundary and linear habitats. Of the existing resource of tree-line and hedgerow, only limited amounts are proposed for removal to facilitate the Proposed Development.

9.193 The Proposed Development will also result in the loss of improved grassland, which may present suboptimal foraging opportunities for species associated with more open habitats – although only very limited levels of bat activity were observed within areas of open grassland.

9.194 The loss of these habitats will be offset by the provision of a substantial resource of new and enhanced semi-natural habitats.

9.195 The integrated 'green network' of SANG and Green Infrastructure being provided in and around the Proposed Development will be managed in the long-term for the benefit of biodiversity. This will provide bats with enhanced foraging habitat due to promoting invertebrate prey in greater areas of sheltered habitat and maintain commuting routes around the Proposed Development. See Figures 9.4 and 9.5, and Technical Appendix 9.3: Ecological Mitigation and Management Plan for further details.

9.196 A net significant positive effect at the Local level is anticipated.

Bats – Habitat Fragmentation

9.197 Although the extensive introduction of built development and the localised removal of boundary vegetation to facilitate access have the potential to reduce the permeability of the landscape to bats, fragmentation effects are largely considered to have been avoided by design.

9.198 With the exception of small breaches required for the provision of pedestrian or vehicular access, existing boundary tree-lines and hedgerows will largely be retained within the Proposed Development.

9.199 Habitat connectivity along the east-west axis will be strengthened by the provision of a continuous semi-natural habitat corridor, at least 10m in width, along the southern boundary of the Site, and serving to link the discrete areas of SANG to the east and west.

9.200 No significant effect is anticipated.

Bats – Disturbance by Operational Lighting

9.201 The Proposed Development will result in the relatively widespread introduction of artificial light from sources including both internal and external lighting of dwellings, and lighting of new roads and footways.

9.202 Where light falls on bat roost access points there is the potential for the emergence of bats from their roosts to be delayed, reducing the amount of time available for foraging. This is of importance since the main peak of nocturnal insect abundance occurs around dusk, and so any delay in emergence means a key time for foraging is curtailed.

9.203 Artificial lighting can also affect the feeding behaviour of bats, since some types of lamps attract a range of insects that are not then available to light adverse bats.

9.204 In the absence of mitigation, the effects of artificial lighting may cause a significant negative effect at the District level.

Birds (Breeding Assemblage) – Breeding and Foraging Habitat Loss and Gain

9.205 Some areas of habitat which is important for supporting breeding birds (for nesting and/or foraging) will be lost (some arable fields with Skylark territories, some localised scrub/hedgerows/grassland supporting farmland birds including Yellowhammer). Since the breeding bird populations within the ZOI are judged as having a conservation status which is already unfavourable, declining, the impact from habitat loss would result in a significant negative effect.

9.206 However, the Proposed Development also includes provision of large areas of green infrastructure (including SANG) that will include creation of habitat features which will benefit breeding bird populations. Overall, there is predicted to be a reduction in the level of impact such that there will be no net loss and so no significant effect.

9.207 Moreover, management of new and retained habitats over the long-term (in perpetuity for SANG areas at least) will be in accordance with approved management plans whose objectives will include those that benefit biodiversity in general, and birds too. As a consequence, the overall impact will be a significant positive effect at the Local level.

Birds (Barn Owl) – Breeding and Foraging Habitat Loss and Gain

9.208 Although Barn Owl roost in a building that will be lost, they do not breed there. However, the loss would result in a significant negative effect, although only at the Within the ZOI level.

9.209 Barn Owl foraging habitat close to the barn will also be lost to the Proposed Development.

9.210 However, Barn Owl will also benefit from the provision and long-term management of new and retained habitats as part of providing green infrastructure (including SANG). As a consequence, the overall impact will be a significant positive effect at the Within the ZOI level.

Birds (Nightjar) – Foraging Habitat Loss and Gain

9.211 As covered above under Designated Sites, Nightjar have been recorded foraging over western areas of the Site which are being retained and enhanced as part of the green infrastructure, under habitat creation and management plans. As a consequence, the overall impact will be a significant positive effect at the Local level.

Reptiles – Habitat Loss and Gain

9.212 Areas of grassland and scrub around the barns at Foxhills Farm which provides suitable habitat for Common Lizards and Slow-worms will be lost. This will further reduce and fragment the habitat required to support viable populations of Common Lizards and Slow-worms of Local importance. Since the reptile populations within the ZOI already have a conservation status which is unfavourable, declining, the impact of habitat loss will in the absence of mitigation, result in a significant negative effect, although only at the Within the ZOI level.

9.213 However, reptiles will also benefit from the provision and long-term management of new and retained habitats as part of providing green infrastructure (including SANG). As a consequence, the overall impact will be a significant positive effect at the Within the ZOI level.

MITIGATION

9.214 In accordance with the principle of the mitigation hierarchy, the Proposed Development has been designed to avoid ecological impacts as far as possible in the first instance, thus reducing the need for extensive mitigation measures.

9.215 A series of approved strategies and management plans will be implemented. These include:

- Construction Environmental Management Plan,
- Lighting Strategy,
- SuDS Strategy,
- Landscape Strategy,
- Ecological Mitigation and Management Plan,
- SANG Creation and Management Plan.

9.216 Further details of how this will assist are set out below.

Construction Mitigation

9.217 The Proposed Development will not commence until a site-specific Construction Environmental Management Plan (CEMP) has been prepared and approved by Dorset Council. This will include details of appropriate working in ecologically sensitive areas, and will include those measures detailed in Technical Appendix 9.3: Ecological Mitigation and Enhancement Strategy that are applicable to the construction phase.

9.218 The IEFs described below will be safeguarded through implementation of the approved CEMP.

Designated Sites –Mitigation of Air Pollution – Dust

9.219 A range of environmental management controls would be developed with reference to the IAQM Dust Guidance for high-risk sites. The mitigation measures would be included within a CEMP, to be secured via a planning condition and implemented to prevent the release of dust to the atmosphere with subsequent deposition on nearby receptors.

9.220 Mitigation measures are routinely and successfully applied to construction projects throughout the UK and are proven to significantly reduce the potential for adverse dust effects associated with the various stages of construction work. Adverse effects on the integrity of the Dorset Heathlands SAC/SPA/Ramsar would therefore not arise.

9.221 These measures are also relevant to ensuring protection of Cranborne Common SSSI from any risk of dust impacts.

9.222 Equally, these measures will ensure that the Local sites (Sleepbrook SNCI and Ringwood Forest SINC) are also protected from dust.

Protection of On-Site Habitats

9.223 Measures to protect habitats include:

- Fencing off trees and sensitive habitats, including the relevant buffers,
- Retain lying deadwood, in-situ or within appropriate buffer areas,

- Implement pollution protection measures, and
- Implement soil handling measures to prevent siltation of watercourses from surface water run-off, and wind transportation of dust to prevent vegetation being smothered.

9.224 Based on the assumption that the above measures are implemented, potential negative impacts on habitats from the associated construction work would be reduced from being up to **Local** level significance, to being **not significant**.

Protection of Trees

9.225 Standard construction site procedures will be implemented to protect trees from construction activity within the construction zone. These will be detailed in the Tree Protection Plan based on recommendations in the current British Standard (BS 5837:2012 Trees in relation to design, demolition and construction). Based on the assumption that this is implemented, potential negative impacts on trees during the construction phase would be reduced from being up to of **Local** significance (depending on the trees affected), to being **not significant**.

Mitigation for Loss of Confirmed Roosts and Harm to Individual Bats

9.226 The loss of B2 will be compensated by the provision of a bespoke standalone bat-house of similar scale to the existing building, incorporating a loft space designed for Brown Long-eared Bat maternity use, and a ground floor designed to provide 'fly in' access and hanging opportunities for Greater Horseshoe Bats. The compensation roost will be located a short distance to the south-east of the existing structure, within a semi-natural habitat setting in a secluded corner of the proposed SANG.

9.227 The loss of B5 and B14, which support very minor roosts of relatively common bat species, will be compensated by the provision of suitable bat boxes mounted on trees close to the location of these structures. Also, 50% of new houses which lie at the edges of the Proposed Development will be fitted with integral bat boxes.

9.228 Details of compensation will be agreed through the European Protected Species Mitigation licensing (EPSML) process, which will also serve to secure an appropriately precautionary method of demolition thereby ensuring **avoidance of a legal offence**. **No significant residual effect** is anticipated.

Mitigation for Loss of Potential Roosting Opportunities and Harm to Individual Bats

9.229 Trees and buildings which will be directly impacted by the proposals will be subject to an update assessment for bat roost suitability, followed, as required, by a suite of update presence/absence surveys conducted in accordance with good practice guidance or, if practicable, an exhaustive endoscopic inspection of potential roosting features. If a bat roost is identified during update surveys, it will be retained in situ if possible, or otherwise lawfully removed pursuant to a European Protected Species mitigation licence, which will prescribe suitable mitigation and compensation measures to the satisfaction of the licensing body.

9.230 Trees or structures considered to present potentially suitable roosting opportunities but not identified as confirmed roosts following presence/absence survey will be removed in accordance with an appropriately precautionary method statement.

9.231 Subject to the implementation of these measures, a **legal offence** and **significant negative effect** will be avoided.

Bats – Mitigation for Disturbance by Construction Activity and Lighting

9.232 Construction activities will be subject to detailed prescriptions set out in the CEMP, including restrictions on working hours and site security lighting.

9.233 As set out in the Lighting Strategy, construction lighting will be minimised in extent, and, where it is required, directed downward and away from known bat roosts and boundary features (hedgerows and woodland edges).

9.234 The establishment of fenced root protection areas will exclude construction activities from the immediate vicinity of retained trees, and will consequently mitigate noise and vibrational disturbance upon any unidentified bat roosts.

9.235 After mitigation, a **negative effect** will remain, but is predicted to be **not significant**.

Birds – Protection of Nesting Birds

9.236 Harm or death to nesting birds and their nests, eggs and dependent young will be avoided by timing clearance of potential breeding habitat outside of the breeding season, which is from March to August inclusive, where possible.

9.237 Where vegetation clearance work or tree removal during this period is required, this will be immediately preceded by a check for evidence of nesting birds by a suitably experienced ecologist. Should an active nest be found, work in the vicinity of the nest will stop and the nest protected in situ until any dependent young have fledged the nest.

9.238 The inclusion of these measures within the CEMP avoids the risk of contravention of the requirements of the Wildlife and Countryside Act 1981 (as amended) (WCA 1981) in respect of its provisions regarding the protection of nesting birds, their nests, eggs and young. It is therefore considered that following the application of these mitigation measures that a legal offence will be avoided.

Birds – Protection of Barn Owl

9.239 To avoid disturbance of Barn Owl if it starts nesting in the barn where it is currently roosting, an update survey will be required before commencement of any works to the buildings or immediate surrounding land. If it is found to be breeding, then works will need to be timed to avoid disturbing it whilst nesting in view of the extra protection afforded Barn Owl whilst nesting under Schedule 1 of the WCA 1981. Account should also be taken of the fact that Barn Owls can start nesting at any time of year although mostly nest from April to October inclusive. Loss of the barn and therefore the roost will be compensated by providing Barn Owl nest boxes on suitable buildings or trees within the SANG in the western half of the Site.

9.240 Whilst negative impacts on nesting birds during the construction phase in the absence of the above measures are unlikely to be of greater than zone of influence significance, the mitigation measures proposed will both reduce the significance of any impact to not significant and prevent accidental legal offences.

Badgers – Protection of Setts

9.241 There are currently Badger setts in two parts of the Site. In order to ensure Badger setts are safeguarded, an update Badger survey will be carried out within six months of any site clearance or earthworks commencing to confirm the presence, distribution and status of Badger setts.

9.242 Should any new setts be discovered within 30m of the construction zone, it may be necessary to obtain a mitigation licence from Natural England to enable works close to the sett or in some circumstances to close the sett(s), in which case Natural England would seek appropriate mitigation or compensation through the mitigation licencing process.

9.243 If this is necessary, adequate time should be allowed to update the survey, apply for a licence and implement it at the appropriate time of year.

9.244 Standard working procedures to ensure the protection of Badgers and their setts during construction (which would be secured as conditions of any licence granted by Natural England) include implementing buffer zones around retained setts, ensuring that key commuting and foraging corridors are not blocked, and covering excavations at night.

9.245 Whilst negative impacts on Badgers in the absence of mitigation would not be of more than zone of influence significance, there is the potential for accidental legal offences. Implementation of these measures would reduce the impacts to not significant and prevent accidental legal offences in relation to the Protection of Badgers Act 1992.

Amphibians – Protection of GCN

9.246 A low population of GCN are supported within the ZOI, centred on a series of ponds in the southeast corner. Since GCN spend much of the year in terrestrial habitat, sometimes wandering over 500m from breeding ponds, they could occur almost anywhere within the construction footprint, or GI/SANG areas undergoing landscaping works.

9.247 Two mitigation options are available.

9.248 Most of the Site is situated within an 'Amber Zone' for GCN, with other areas designated as 'Green Zones' (Natural England, 2022). Consequently, one option is to obtain a Dorset District Level Licence (DLL).

The DLL guidance advises that for a development impact upon a low population of GCN, sparsely distributed in the area, that Reasonable Avoidance Measures (RAMs) must be undertaken. This includes controlled drain-down of any ponds being impacted (not expected) and phased vegetation clearance works conducted outside of the GCN hibernation season. The DLL requires payment of a financial contribution to pay for pond creation and long-term habitat management for GCN, the amount of which is agreed upfront.

9.249 Harm or death to individual GCN will be avoided by timing clearance of potential habitat to occur when GCN are active, which is from March to September inclusive, dependent upon weather conditions. Where vegetation clearance is required, this will be undertaken or supervised by a suitably experienced ecologist, followed by a destructive search.

9.250 Alternatively, a European Protected Species Mitigation Licence (EPSML) for GCN will be sought from Natural England. This will rely on obtaining current survey data and presenting a detailed method statement for mitigation and compensation.

9.251 Implementation of one of these measures avoids the risk of contravention of the requirements of the Habitats Regulations 2017 and WCA 1981 in respect of its provisions regarding the protection of GCN. It is therefore considered that following the application of these mitigation measures that a legal offence will be avoided and the impact reduced to not significant.

Reptiles – Protection of Reptiles

9.252 Harm or death to individual reptiles will be avoided by timing clearance of potential reptile habitat to occur when reptiles are active, which is from April to September inclusive, dependent upon weather conditions.

9.253 Where vegetation clearance is required, this will be undertaken or supervised by a suitably experienced ecologist, followed by a destructive search.

9.254 The inclusion of these measures within the CEMP avoids the risk of contravention of the requirements of the WCA 1981 in respect of its provisions regarding the protection of reptiles. It is therefore considered that following the application of these mitigation measures that a legal offence will be avoided and the impact reduced to not significant.

Operational Mitigation

Designated Sites – Avoidance and Mitigation of Recreational Impacts

9.255 A bespoke impact avoidance and mitigation strategy (IAMS) is provided as part of the Proposed Development to avoid and mitigate recreation impacts on International, National and Local designated sites.

9.256 For International sites the full details are included in Technical Appendix 9.2: Information for HRA but a summary follows.

9.257 With regard to the International site Dorset Heathlands SAC/SPA/Ramsar the IAMS is in accordance with the Dorset Heathlands Mitigation SPD and includes the following main elements:

- No residential development will be built within 400m of the nearest part of the Dorset Heathlands SAC/SPA/Ramsar (to the west of the Site at Cranborne Common SSSI),
- Financial contribution to the Dorset Heathlands SPD for Strategic Access Management and Monitoring (SAMM),
- Provision and long-term management of alternative recreation resources (including SANG, other Green Infrastructure and new walking routes), and
- Educational materials (leaflets in homeowner packs, interpretation, signage).

9.258 In view of the residential element of the Proposed Development, an appropriate quantum of SANG must be provided at a level based on the criteria set out in the Dorset Heathlands Mitigation SPD.

9.259 Circa 51.4ha of bespoke SANG across three SANG compartments is proposed as follows:

- Cross Roads Plantation (20ha),
- Alderholt Common (22.4ha), and
- Harbridge Drove (9ha).

9.260 Figure 9.5 presents a summary of the SANG compartments and features. Details of SANG creation and management are set out in Technical Appendix 9.4: SANG Creation and Management Plan.

9.261 Subject to delivery of the above IAMS the Proposed Development would accord with the requirements set out in the Dorset Heathlands SPD.

9.262 In terms of National sites, the IAMS is also relevant to protection of Cranborne Common SSSI, with no further measures required.

Designated Sites –New Forest – Avoidance and Mitigation of Recreational Impacts

9.263 Natural England agreed that the measures proposed to safeguard the Dorset Heathlands as set out in the IAMS above would be sufficient to safeguard the New Forest (International and National) designations from increased recreational pressure too. As a consequence, no additional measures are required or proposed.

Designated Sites – Avoidance and Mitigation of Hydrological Change Impacts

9.264 To avoid contributions to existing phosphate pollution of the River Avon, a bespoke nutrient mitigation strategy is proposed. Full details are included in Technical Appendix 9.2: Information for HRA.

9.265 Subject to the achievement of nutrient neutrality through the implementation of a nutrient mitigation or offsetting solution, secured by condition or legal obligation, the Proposed Development will not result in an adverse eutrophication effect on the integrity of the Avon Sites.

Designated Sites – Dorset Heaths – Avoidance and Mitigation of Air Pollution Impacts

9.266 Financial contribution via CIL payment to the Phase 2 mitigation measures being delivered through the Dorset Heathlands IAQS will ensure that the Proposed Development will not contribute to adverse air quality effects on the integrity of the Dorset Heath(land)s SAC/SPA/Ramsar in combination with other plans and projects.

Habitats – Retained and Proposed

9.267 Tables 9.9 to 9.13 present a summary of baseline habitats by field/parcel in each proposed land use compartment (whether that be residential development, green infrastructure provision or SANG, alongside 'proposed habitats' which are derived from the Landscape Strategy (see Figures 9.4 and 9.5).

9.268 These habitats will be created and managed in accordance with approved management plans over the long-term/in perpetuity, and will be based on the Outline plans submitted (Technical Appendix 9.3: EMES and Technical Appendix 9.4: SANG Creation and Management Plan).

Table 9.9: Residential Development Compartments

*Field Number	**Parcel Number	Existing Habitats	***Proposed Habitats
A2	11	Temporary grass and clover leys	Developed land; sealed surface / vegetated garden (Housing etc)
A3	12	Temporary grass and clover leys	Developed land; sealed surface / vegetated garden (Housing etc)
A4	13 (part)	Modified grassland (Poor semi-improved grassland)	Developed land; sealed surface / vegetated garden (Housing etc)
A6	13 (part)	Modified grassland (Poor semi-improved grassland)	Developed land; sealed surface / vegetated garden (Housing etc)
A7	2 (part)	Lowland mixed deciduous woodland Temporary grass and clover leys	Developed land; sealed surface / vegetated garden (Housing etc)
A8	2 (part)	Cereal crops	Developed land; sealed surface / vegetated garden (Housing etc)

*Field Number	**Parcel Number	Existing Habitats	***Proposed Habitats
A12	3 (part)	Modified grassland (Poor semi-improved grassland)	Developed land; sealed surface / vegetated garden (Housing etc)
A13	3 (part)	Modified grassland (Poor semi-improved grassland)	Developed land; sealed surface / vegetated garden (Housing etc)
A20	17	Modified grassland (Improved grassland)	Developed land; sealed surface / vegetated garden (Housing etc)
A21	16 (part)	Modified grassland (Improved grassland)	Developed land; sealed surface / vegetated garden (Housing etc)
A22	16 (part)	Modified grassland (Improved grassland)	Developed land; sealed surface / vegetated garden (Housing etc)
A23	16 (part)	Lowland mixed deciduous woodland Modified grassland (Marshy grazed grassland)	Lowland mixed deciduous woodland Developed land; sealed surface / vegetated garden (Housing etc)
A24	16 (part)	Lowland mixed deciduous woodland Modified grassland (Marshy grazed grassland)	Lowland mixed deciduous woodland Developed land; sealed surface / vegetated garden (Housing etc)
A27	15	Lowland mixed deciduous woodland Cereal crops	Lowland mixed deciduous woodland Developed land; sealed surface / vegetated garden (Housing etc)

* ABR Field Number (see Figure 9.2);

** ABR Parcel Number (see TA 9.1 Annex 3);

*** Proposed habitats are based on Landscape Strategy dated 28/11/22

Table 9.10: Green Infrastructure Compartments

*Field Number	**Parcel Number	Existing Habitats	***Proposed Habitats
A1	10	Temporary grass and clover leys	Open grass / Trees
A8	2 (part)	Cereal crops	Open grass / Trees
A27	15	Cereal crops	Lowland mixed deciduous woodland Open grass / Trees

Key as above

Table 9.11: Cross Roads Plantation SANG Compartments

*Field Number	**Parcel Number	Existing Habitats	***Proposed Habitats
A9	7	Non-cereal crops	Wildflower meadow / Open grass / Trees / Woodland
A10	5 (part)	^Other neutral grassland	Swale / Open grass / Trees

*Field Number	**Parcel Number	Existing Habitats	***Proposed Habitats
A11	4	Wet woodland, Other woodland Modified grassland (Improved grassland) ^Purple moor grass and rush pastures	Wet woodland Other neutral grassland / Other woodland; mixed Purple moor grass and rush pastures
A16	5 (part)	Modified grassland (Improved grassland)	Swale / Pond / Wetland / Reedbed / Wildflower meadow / Open grass / Trees / Woodland
A32	1	Other neutral grassland	Scrub / Wildflower meadow / Open grass / Trees / Woodland
A33	20	Lowland mixed deciduous woodland Other neutral grassland	Lowland mixed deciduous woodland Other neutral grassland
A34	20	Other woodland mixed	Other woodland mixed
A35	20	Other woodland mixed	Other woodland mixed

Key as above

Table 9.12: Alderholt Common SANG Compartments

*Field Number	**Parcel Number	Existing Habitats	***Proposed Habitats
A17	18 (part)	Cereal crops	Wildflower meadow / Open grass / Woodland
A18	18 (part)	Modified grassland (Improved grassland)	Swale / Pond / Wetland / Reedbed / Wildflower meadow / Open grass / Trees / Woodland
A19	18 (part)	Other neutral grassland (Marshy grassland) Other woodland; mixed	Other neutral grassland (Marshy grassland) / Other woodland; mixed
A25	18 (part)	Modified grassland (Improved grassland)	Swale / Ponds / Wetland / Reedbed / Open grass
A26	18 (part)	Modified grassland (Improved grassland)	Swale / Ponds / Wetland / Reedbed / Open grass
A31	19	Lowland mixed deciduous woodland Cereal crops /Ponds	Swale / Pond / Wetland / Reedbed / Wildflower meadow / Open grass / Woodland Pond / Wildflower meadow / Trees

Key as above

Table 9.13: Harbridge Drove SANG Compartments

*Field Number	**Parcel Number	Existing Habitats	***Proposed Habitats
A4	13 (part)	Modified grassland (Poor semi-improved grassland)	Swale / Ponds / Wetland / Reedbed / Wildflower meadow / Open grass / Trees / Woodland Wildflower meadow / Trees
A5	13 (part)	Modified grassland (Poor semi-improved grassland)	Swale / Ponds / Wetland / Reedbed / Wildflower meadow / Open grass / Trees / Woodland
A28	14 (part)	Cereal crops	Wildflower meadow / Trees / Woodland
A29	14 (part)	Modified grassland (Amenity grassland)	Existing Trees and Hedge / Open grass
A30	14 (part)	Lowland mixed deciduous woodland Modified grassland (Amenity grassland) / Ponds	Lowland mixed deciduous woodland / Open grass / Ponds

Key as above

Bats – Mitigation for Disturbance by Operational Lighting

9.269 A degree of inherent mitigation is provided by the general layout of the Proposed Development, which incorporates extensive and largely continuous swathes of green infrastructure, from which lighting will be excluded.

9.270 Potentially negative effects of artificial lighting associated with external lighting for the Proposed Development will be effectively mitigated through the implementation of the Lighting Strategy.

9.271 The Lighting Strategy sets out the types, positions, heights, outputs and specification of luminaires to be used throughout the Proposed Development.

9.272 Where required and possible, lighting will be implemented in accordance with ILP GN08:2018 for the protection of nearby ecological receptors.

9.273 In this respect, the Lighting Strategy references the ILP/BCT (2018) bats and artificial lighting guidance to explain the limitations to achieving 'complete darkness' (at paragraph 4.5). It highlights that the guidance states the following:

- *"It is acknowledged that, especially for vertical calculation planes, very low levels of light (<0.5 lux) may occur even at considerable distances from the source if there is little intervening attenuation. It is therefore very difficult to demonstrate 'complete darkness' or a 'complete absence of illumination' on vertical planes where some form of lighting is proposed on site despite efforts to reduce them as far as possible and where horizontal plane illuminance levels are zero. Consequently, where 'complete darkness' on a feature or buffer is required, it may be appropriate to consider this to be where illuminance is below 0.2 lux on the horizontal plane and below 0.4 lux on the vertical plane. These figures are still lower than what may be expected on a moonlit night and are in line with research findings for the illuminance found at hedgerows used by lesser horseshoe bats, a species well known for its light adverse behaviour (Stone, 2012)."*

9.274 Further mitigation will be secured through prescriptions specified in the detailed Lighting Design which will be based on the submitted Lighting Strategy.

9.275 In terms of residual effects, the Lighting Strategy explains how the magnitude of change to ecology receptors is considered **'Negligible'**. This is due to the lighting class selected for the road being the lowest sae level allowable within BS 5489-1:2020, the use of 2.7K colour temperatures, the requirements for back light shields, and the requirements for dimming and switching as set out in the Dorset County Council Specification for Street Lighting etc. These will ensure that light spill reaching areas highlighted

as ecologically sensitive will be as low as practically possible and that sensitive colour temperatures will be used across the Proposed Development.

9.276 The introduction of artificial lighting will have a negative impact on the bat assemblage. However, subject to the implementation of a detailed Lighting Strategy, there is predicted to be no significant residual effect.

Nightjar – Mitigation for Disturbance by Operational Lighting

9.277 As for bats, explained above, mitigation of any lighting effects on Nightjar will be secured through prescriptions specified in the detailed Lighting Design which will be based on the submitted Lighting Strategy.

Birds – Habitat Provision and Enhancement

9.278 Some of the significant effects on birds during the operation phase arising from disturbance and predation will be largely mitigated through the enhancement measures that are intended to benefit birds, as well as biodiversity in general. Key deliverables are detailed in Technical Appendix 9.3: EMES and TA 9.4: SANG Creation and Management Plan but include:

- Existing habitats supporting birds will be retained and enhanced through protection and restoration management, and new complementary habitat will be created in buffers to woodland, hedgerow and trees as part of the Proposed Development.
- Long-term management of these habitats will ensure that the breeding bird assemblages are maintained at a favourable and stable conservation status.
- Enhancement measures for birds proposed in the new buildings include the provision of nesting opportunities for urban species such as House Sparrow, Starling, House Martin and Swift, at a rate of one integrated box per dwelling.
- Wetland areas as part of the SuDS, which are likely to support the current breeding bird assemblage by providing a water source and attracting invertebrate prey, and support species of waterfowl.

RESIDUAL IMPACTS

9.279 In the vast majority of cases there is high confidence that the mitigation measures proposed will ensure no residual impacts. A number of beneficial impacts are predicted. These relate to the positive measures to create large areas of new habitat and manage these and retained habitats for the benefit of biodiversity and amenity in perpetuity.

9.280 See Table 9.14 which summarises the above ecological impact assessment.

CUMULATIVE IMPACTS

9.281 Cumulative impacts with development at the following locations has been considered:

- Whitsbury Road, Station Road and Burgate, Fordingbridge,
- Edmundsham Road, Verwood,
- North of Ringwood Road, Alderholt, and
- Daggons Road, Alderholt.

9.282 The main ecological impacts are common to all developments, including the Proposed Development, and each is required to comply with policy by avoiding and mitigating impacts, for example through compliance with the Dorset Heathlands SPD for recreational pressure, air quality, hydrological changes and biodiversity net gain.

9.283 As such, where required cumulative impacts have already been taken into account, for example in the traffic and air quality modelling work.

SUMMARY

9.284 Design of the Proposed Development has taken account of the ecological baseline, and where unavoidable impacts have remained these have been mitigated to ensure that the Proposed Development accords with relevant planning policy and legislation and provides biodiversity benefits and an overall biodiversity net gain, as set out in TA 9.5: Biodiversity Net Gain Report.

9.285 See Table 9.14 which summarises the above assessment according to the EcIA methodology (CIEEM, 2018 v1.2).

9.286 Table 9.15 presents a summary in accordance with the EIA methodology for compatibility with the other ES chapters.

9.14: ECIA SUMMARY TABLE (IN ACCORDANCE WITH CIEEM'S ECIA METHODOLOGY)

Feature	Importance	Unmitigated Impacts	Mitigation	Significance of Residual Effects	Compensation
Demolition and Construction Phase					
Dorset Heaths SAC/Dorset Heathland SPA/Ramsar AND Cranborne Common SSSI	International / National	Damage of vegetation from smothering by dust liberated during construction activity Significant negative effect at up to the Local level	Implement an approved CEMP which includes: - measures to control dust generation	No significant residual effect	None required
Sleepbrook Farm SNCI / Ringwood Forest SINC	County	Damage of vegetation from smothering by dust liberated during construction activity Significant negative effect at up to the Local level	Implement an approved CEMP which includes: - measures to control dust generation	No significant residual effect	None required
Habitats on site	Within ZOI - Local	Damage of vegetation from smothering by dust liberated during construction activity Significant negative effect at up to the Within ZOI level	Implement an approved CEMP which includes: - measures to control dust generation	No significant residual effect	None required
Trees	Within ZOI - Local	Damage from construction activity Significant negative effect at up to Local level	Implement an approved Tree Protection Plan which includes: - root protection zone fencing of trees	No significant residual effect	None required
Woodland / Hedgerows / Treelines / Grassland / Ponds	Local	Damage from construction activity Significant negative effect at up to Local level	Implement an approved CEMP which includes: - fencing of woodland buffer, - fencing of hedgerow buffer, - root protection zone fencing of trees in hedgerows / tree lines, - fencing of retained grassland, - fencing of retained ponds	No significant residual effect	None required
Bats	County	Loss of roosts/harm to bats Significant negative effect at up to County level; Legal offence	Precautionary method of demolition (under an EPS Mitigation Licence)	Significant residual negative effect at up to County level; Legal offence avoided	New roosting opportunities: - Bespoke standalone bat house, - Bat boxes on trees (agreed under EPSL)
		Loss of potential roosts/harm to bats Significant negative effect at up to County level; Legal offence	Update surveys, works to actual roosts under EPSL, and for potential roosts under a precautionary method statement	No significant residual effect; Legal offence avoided	New roosting opportunities: - Bat boxes on trees (as required)
		Disturbance of bats by construction activity and lighting Significant negative effect at Local level; Legal offence	Implement an approved CEMP which includes: - restrictions on working hours, - restrictions on use and type of construction lighting, and	No significant residual effect	None required

Feature	Importance	Unmitigated Impacts	Mitigation	Significance of Residual Effects	Compensation
			- fencing of woods, hedges with trees, trees for root protection		
Badgers	Within ZOI	Disturbance of setts by construction activity Legal offence	Implement an approved CEMP which includes: - Update survey for Badgers and their setts	Legal offence avoided	None required
Birds – Nesting	Local	Destroy nests, eggs or fledglings of nesting birds No significant effect Legal offence	Implement an approved CEMP which includes: - avoid vegetation clearance during breeding season (March to August inclusive), - checks by ecologist if necessary, - Leave a buffer of vegetation around any nest discovered	Legal offence avoided	None required
Birds – Barn Owl	Local	Disturbance by construction activity and lighting No significant effect Legal offence	Implement an approved CEMP which includes: - Update survey for Barn Owl	Legal offence avoided	None required
Amphibians (incl. GCN)	Local	Harm during site clearance and construction Significant negative effect at up to Local level; Legal offence for GCN	Implement an approved CEMP and/or District / EPSM Licence which includes: - vegetation clearance / destructive search when GCN active (April to September inclusive), - conducted or supervised by ecologist	No significant residual effect; Legal offence avoided	None required
Reptiles	Local	Harm during site clearance and construction Significant negative effect at up to Local level; Legal offence	Implement an approved CEMP which includes: - vegetation clearance / destructive search when reptiles active (April to September inclusive), - conducted or supervised by ecologist	No significant residual effect; Legal offence avoided	None required
Operational Phase					
Dorset Heaths SAC/Dorset Heathland SPA/Ramsar	International	Recreational pressure (habitats and species) Significant negative effect at the International level	No residential development within 400m of the SPA. Provision and management in perpetuity of alternative recreation resources (SANG, GI, walking routes). (In accordance with Dorset Heathlands SPD)	No significant residual effect	None required
		Changes in air quality – Air pollution of habitats at designated sites Not significant	None required	No significant residual effect	None required
		Loss of offsite supporting habitat – Nightjar	-	-	-

Feature	Importance	Unmitigated Impacts	Mitigation	Significance of Residual Effects	Compensation
		See under Birds – Nightjar below			
River Avon SAC/Avon Valley SPA/Ramsar	International	Changes in water quality - Nutrient (phosphate) pollution Significant negative effect at the International level	Bespoke nutrient mitigation strategy	No significant residual effect	None required
River Avon SAC/Avon Valley SPA/Ramsar	International	Changes in water quantity Not significant	Existing licensed water abstraction sources are adequate	Not significant	None required
New Forest SAC/The New Forest SPA/Ramsar	International	Recreational pressure (habitats and species) Significant negative effect at the International level	Provision and management in perpetuity of alternative recreation resources (SANG, GI, walking routes)	No significant residual effect	None required
Cranborne Common SSSI	National	Recreational pressure (habitats and species) Significant negative effect at the National level	No residential development within 400m of the SPA. Provision and management of alternative recreation resources (SANG, GI, walking routes)	No significant residual effect	None required
Other SSSIs which are in ZOI	National	Recreational pressure (habitats and species) Significant negative effect at the National level	Provision and management of alternative recreation resources (SANG, GI, walking routes)	No significant residual effect	None required
Sleepbrook Farm SNCI	County	Recreational pressure (habitats and species) Significant negative effect at the County level	Provision and management of alternative recreation resources (SANG, GI, walking routes)	No significant residual effect	None required
Ringwood Forest and Home Wood SINC	County	Recreational pressure (habitats and species) Significant negative effect at the County level	Provision and management of alternative recreation resources (SANG, GI, walking routes)	No significant residual effect	None required
Other LWSs which are in ZOI	County	Recreational pressure (habitats and species) Significant negative effect at the County level	Provision and management of alternative recreation resources (SANG, GI, walking routes)	No significant residual effect	None required
Woodland / Treelines / Hedgerows / Grassland / Ponds	Local	Habitat creation and management for biodiversity benefits Significant positive effect at the Local level	None required assuming implementation of approved SANG/EMES Management Plans	Significant positive effect at the Local level	None required

Feature	Importance	Unmitigated Impacts	Mitigation	Significance of Residual Effects	Compensation
Bats	County	Loss and gain of foraging habitat Long-term management of new and existing habitats targeting biodiversity Significant positive effect at the Local level	None required assuming implementation of approved SANG/EMES Management Plans	Significant positive effect at the Local level	None required
		Habitat fragmentation No significant effect	None required assuming implementation of approved SANG/EMES Management Plans	No significant residual effect	None required
		Disturbance by operational lighting Significant negative effect at the District level	Design and implement a Lighting Strategy which takes account of bat roosts and key commuting and/or foraging areas	No significant residual effect	None required
Birds – Breeding	Local	Loss and gain of breeding and foraging habitat Long-term management of new and existing habitats targeting biodiversity Significant positive effect at the Within the ZOI level	None required assuming implementation of approved SANG/EMES Management Plans	Significant positive effect at the Within the ZOI level	None required
Birds – Barn Owl	Local	Loss and gain of foraging habitat Long-term management of new and existing habitats targeting biodiversity Significant positive effect at the Within the ZOI level	None required assuming implementation of approved SANG/EMES Management Plans	Significant positive effect at the Within the ZOI level	None required
Birds - Nightjar -	Local	Loss and gain of foraging habitat Long-term management of new and existing habitats targeting biodiversity Significant positive effect at the Within the ZOI level	None required assuming implementation of approved SANG/EMES Management Plans	Significant positive effect at the Within the ZOI level	None required
		Disturbance by operational lighting Significant negative effect at the District level	Design and implement a Lighting Strategy which takes account of bat roosts and key commuting and/or foraging areas	No significant residual effect	None required
Amphibians (incl. Great Crested Newts)	Local	Loss and gain of breeding and foraging habitat	None required assuming implementation of approved SANG/EMES Management Plans	Significant positive effect at the Within the ZOI level	None required

Feature	Importance	Unmitigated Impacts	Mitigation	Significance of Residual Effects	Compensation
		Long-term management of new and existing habitats targeting biodiversity Significant positive effect at the Within the ZOI level			
Reptiles	Local	Loss and gain of breeding and foraging habitat Long-term management of new and existing habitats targeting biodiversity Significant positive effect at the Within the ZOI level	None required assuming implementation of approved SANG/EMES Management Plans	Significant positive effect at the Within the ZOI level	None required
Invertebrates	Within ZOI - Local	Loss and gain of habitat Long-term management of new and existing habitats targeting biodiversity Significant positive effect at the Within the ZOI level	None required assuming implementation of approved SANG/EMES Management Plans	Significant positive effect at the Within the ZOI level	None required

TABLE 9.15: EIA SUMMARY TABLE (FOR COMPATABILITY WITH OTHER CHAPTERS)

Description of Likely Significant Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Effects					Description of Mitigation / Enhancement Measures	Description of Residual Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Residual Effects				
		B/A	P/T	D/I	ST/M/ LT	L/R/N				B/A	P/T	D/I	ST/M/ LT	L/R/N
Demolition and Construction Phase														
Designated sites – Vegetation affected by dust	Slight	A, T, D, ST, L					Implement an approved CEMP - Dust control measures	None	Nil	n/a				
Habitats on site – Vegetation affected by dust	Slight	A, T, D, ST, L					Implement an approved CEMP - Dust control measures	None	Nil	n/a				
Trees - Damage	Slight	A, P, D, MT, L					Implement an approved Tree Protection Plan	None	Nil	n/a				

Description of Likely Significant Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Effects					Description of Mitigation / Enhancement Measures	Description of Residual Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Residual Effects				
		B/A	P/T	D/I	ST/M/ LT	L/R/N				B/A	P/T	D/I	ST/M/ LT	L/R/N
Retained habitats - Damage	Moderate	A, P, D, MT, L					Implement an approved CEMP – fencing	None	Nil	n/a				
Bats – Loss of roosts/harm	Significant	A, P, D, MT, R					Implement an EPSML – supervised works	Loss of roosts requires compensation	Significant	A, P, D, MT, R				
Bats –Disturbance of bats	Slight	A, T, I, ST, R					Implement an approved CEMP – regulate timing of works	None	Nil	n/a				
Badgers – Disturbance of setts	Slight	A, T, D, ST, L					Implement an approved CEMP – update survey	None	Nil	n/a				
Birds (Nesting) - Harm	Slight	A, T, D, ST, L					Implement an approved CEMP – Avoid clearance when nesting Mar-Aug OR Check by ecologist and leave buffer	None	Nil	n/a				
Amphibians - Harm	Slight	A, T, D, ST, L					Implement an approved CEMP and/or EPSML – time supervised clearance to Apr-Sep when active	None	Nil	n/a				
Reptiles – Harm	Moderate	A, T, D, ST, L					Implement an approved CEMP – time supervised clearance to Apr-Sep when active	None	Nil	n/a				
Operatinoal Phase														

Description of Likely Significant Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Effects					Description of Mitigation / Enhancement Measures	Description of Residual Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Residual Effects				
		B/A	P/T	D/I	ST/M/ LT	L/R/N				B/A	P/T	D/I	ST/M/ LT	L/R/N
Dorset Heaths SAC/Dorset Heathlands SPA/Ramsar – Recreational pressure	Significant	A, P, I, LT, N					No development within 400m, provision and management in perpetuity of alternative recreation resources (SANG, GI, walking routes). (In accordance with Dorset Heathlands SPD).	None	Nil	n/a				
- Air pollution of habitats at designated sites	Not significant						None required	None	Nil	n/a				
- Loss of offsite supporting habitat – Nightjar		See below under Birds (Loss and Gain of Habitats...Nightjar)												
River Avon SAC/Avon Valley SPA/Ramsar – Nutrient (Phosphate) pollution	Significant	A, P, I, LT, N					Bespoke nutrient mitigation strategy.	None	Nil	n/a				
New Forest SAC/The New Forest SPA/Ramsar	Significant	A, P, I, LT, N					Provision and management in perpetuity of alternative recreation resources (SANG, GI, walking routes) AND/OR Contribution to strategic mitigation scheme for New Forest.	None	Nil	n/a				
Cranborne Common SSSI - Recreational pressure	Significant	A, P, I, LT, N					Provision of alternative recreation resources (SANG, GI, walking routes)	None	Nil	n/a				

Description of Likely Significant Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Effects					Description of Mitigation / Enhancement Measures	Description of Residual Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Residual Effects				
		B/A	P/T	D/I	ST/M/ LT	L/R/N				B/A	P/T	D/I	ST/M/ LT	L/R/N
Other SSSIs which are in ZOI - Recreational pressure	Significant	A, P, I, LT, N					Provision of alternative recreation resources (SANG, GI, walking routes)	None	Nil	n/a				
Sleepbrook Farm SNCI - Recreational pressure	Significant	A, P, I, LT, R					Provision of alternative recreation resources (SANG, GI, walking routes)	None	Nil	n/a				
Ringwood Forest and Home Wood SINC - Recreational pressure	Significant	A, P, I, LT, R					Provision of alternative recreation resources (SANG, GI, walking routes)	None	Nil	n/a				
Other LWSs which are in ZOI - Recreational pressure	Significant	A, P, I, LT, R					Provision of alternative recreation resources (SANG, GI, walking routes)	None	Nil	n/a				
Habitats – creation and management	Significant	B, P, D, LT, L					None required assuming implementation of approved SANG/EMES Management Plans.	Biodiversity benefits	Significant	B, P, D, LT, L				
Bats - Loss and gain of foraging habitat	Moderate	B, P, D, LT, R					None required assuming implementation of approved SANG/EMES Management Plans.	Biodiversity benefits	Moderate	B, P, D, LT, R				
Bats – Disturbance by operational lighting	Moderate	A, P, I, LT, R					Implementation of the Lighting Strategy	None	Nil	n/a				
Badgers - Loss and gain of breeding and foraging habitat	Slight	B, P, D, LT, L					None required assuming implementation of approved	Biodiversity benefits	Slight	B, P, D, LT, L				

Description of Likely Significant Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Effects					Description of Mitigation / Enhancement Measures	Description of Residual Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Residual Effects				
		B/A	P/T	D/I	ST/M/ LT	L/R/N				B/A	P/T	D/I	ST/M/ LT	L/R/N
							SANG/EMES Management Plans.							
Birds - Loss and gain of breeding and foraging habitat (Breeding birds, Barn Owl, Nightjar)	Moderate	B, P, D, LT, L					None required assuming implementation of approved SANG/EMES Management Plans.	Biodiversity benefits	Moderate	B, P, D, LT, L				
Birds (Nightjar) – Disturbance by operational lighting	Moderate	A, P, I, LT, R					Implementation of the Lighting Strategy	None	Nil	n/a				
Amphibians- Loss and gain of breeding and foraging habitat	Moderate	B, P, D, LT, L					None required assuming implementation of approved SANG/EMES Management Plans.	Biodiversity benefits	Moderate	B, P, D, LT, L				
Reptiles - Loss and gain of breeding and foraging habitat	Moderate	B, P, D, LT, L					None required assuming implementation of approved SANG/EMES Management Plans.	Biodiversity benefits	Moderate	B, P, D, LT, L				
Invertebrates – Loss and gain of habitat	Moderate	B, P, D, LT, L					None required assuming implementation of approved SANG/EMES Management Plans.	Biodiversity benefits	Moderate	B, P, D, LT, L				

10 SOCIETY, POPULATION AND ECONOMY

10.1 The chapter has been prepared by Rapleys LLP and assesses the potential socio-economic impacts of the Proposed Development on the surrounding locality, both during the construction and operational stages.

10.2 It sets out the policy context of the Proposed Development in relation to socio-economic issues and describes the methodology used in assessing the socio-economic impacts.

10.3 The baseline position has been established to confirm the socio-economic profile of the area using published data gathered from a variety of sources. The chapter goes on to describe the potential impact that the Proposed Development may have on the local baseline conditions, including consideration of cumulative impacts.

POLICY CONTEXT

10.4 A review of planning policy is set out below, where relevant to socio-economic issues.

National Planning Policy Framework

10.5 In accordance with the NPPF 2023 the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives).

- An economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure,
- A social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being, and
- An environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

10.6 The following parts of the NPPF are relevant to this chapter of the ES:

Delivering a Sufficient Supply of Homes

10.7 The Government's objective is to significantly boot the supply of homes ensuring that a sufficient amount and variety of land can come forward where it is needed, that the needs of groups with specific housing requirements are addressed and that land with permission is developed without unnecessary delay.

Building a Strong Competitive Economy

10.8 Planning decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking into account both local business needs and wider opportunities for development.

Promoting Healthy and Safe Communities

10.9 Planning decisions should aim to achieve healthy, inclusive and safe places. To provide the social, recreational and cultural facilities and services the community needs, planning policies and decisions should (amongst other principles) –

- Plan positively for the provision and use of shared spaces, community facilities (such as local shops, meeting places, sports venues, open space, cultural buildings, public houses and places of worship) and other local services to enhance the sustainability of c communities and residential environments,
- Take into account and support the delivery of local strategies to improve health, social and cultural well-being for all sections of the community, and

- Ensure an integrated approach to considering the location of housing, economic uses and community facilities and services.

10.10 To ensure that a sufficient choice of school places is available to meet the needs of existing and new communities, planning decisions should give great weight to the need to create, expand or alter schools and work with school promoters, delivery partners and statutory bodies.

10.11 In relation to open space and recreation, the NPPF recognises (para.96) that 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.

Local Planning Policy

10.12 The adopted Development Plan comprises the Joint Christchurch and East Dorset Local Plan Part 1 Core Strategy 2013-2028 (2014) and the saved policies of the East Dorset Local Plan 2002. The Dorset Heathlands Planning Framework SPD is also of particular relevance.

10.13 Alderholt is classified as a Rural Service Centre village under Core Strategy policy KS2 where residential development will be allowed of a scale that reinforces its role as a provider of leisure and retail services.

10.14 Other Core Strategy policies that are or may be of relevance to the development proposed in a socio-economic context are –

- ME3 sustainable development standards
- HE4 open space provision
- LN7 community facilities and services

METHODOLOGY

10.15 The Site lies in the Cranborne and Alderholt ward. Given the proximity to Fordingbridge Ward (New Forest District Council) consideration has been given to the existing baseline conditions of Cranborne and Alderholt ward alongside the Fordingbridge ward.

10.16 To allow for a wider assessment, the existing baseline conditions of the following geographical scales have also been reviewed, where possible:

- Dorset County and
- England (national).

10.17 In confirming the methodology, reference has been made to the DoE Good Practice Guide on Environment Assessment (DOE, 1995), works by Chadwick (2002) and Morris and Therival (2001).

Baseline Methodology

10.18 The Proposed Development has been assessed in the context of an analysis of the socio-economic characteristics of the research area, including:

- Demographics,
- Economy and Employment,
- Wealth and Deprivation,
- Housing,
- Education and Training,
- Health, Community and Leisure/Recreation, and
- Shopping.

10.19 The baseline assessment of the socio-economic conditions was a desk-based exercise. The main data sources utilised are outlined below, and a full list of websites visited during the gathering of baseline data can be found in the references:

- Nomis Official Labour Market Statistics: 2011 Census Data,
- Office for National Statistics website,
- HM Land Registry Open Data website,

- The Department for Education's 'Get information about schools' (GIAS) website,
- Google search and maps.

10.20 In terms of limitations, the baseline assessment has relied on published sources, notably the 2011 Census. Ideally, the 2021 Census data would have been used, however, only very select areas of that Census data have so far been published for general consumption.

Significance Criteria

10.21 The significance of socio-economic impact arising from the Proposed Development has been judged by comparing the extent of change with standards and criteria relevant to socio-economic factors.

10.22 The standard approach of combining the magnitude of the effect with the sensitivity of the receptor, as utilised elsewhere in this ES is not, however, readily applicable to this assessment of significance as the receptor population is singularly sensitive. However, a standard approach, as set out below, can still be adopted based on qualitative judgement:

- Substantial impact – very large changes in socio-economic conditions, of greater than local scale,
- Moderate impact – intermediate change in socio-economic conditions, at a local level,
- Slight impact – small change in socio-economic conditions, of low importance,
- Negligible impact – no discernible change in socio-economic conditions, below normal levels of perception, and
- Nil impact – no change in socio-economic conditions.

10.23 A qualitative, descriptive assessment of impacts is applicable to socio-economic assessment as it is not universally appropriate or possible to predict the precise quantum of impact, as in other areas of assessment. In terms of the spatial scope of impacts, local impacts are those affecting the Cranborne and Alderholt Ward and the surrounding areas, and wider impacts are those affecting Dorset as a whole.

Assessment Methodology

10.24 The baseline conditions of the following 'receptors' considered to be appropriate to the EIA process have been examined, analysed and an assessment made of the impacts the development will have on each of these. Each receptor has been afforded a 'medium sensitivity' reflecting the local demographics and recognising that changes can lead to significant social economic effects requiring an infrastructure response.

- Demographics (population (count and demographic structure)
- Economy and Employment (economic activity and employment composition)
- Wealth and Deprivation (levels of deprivation and material wealth)
- Housing (house prices, tenures and compositions)
- Education and Training (level of education and existing capacities)
- Health, Community and Leisure/Recreation (existing facilities and provision)
- Shopping (existing facilities and local centre health).

BASELINE CONDITIONS

10.25 This section considers the baseline conditions for each receptor prior to the Proposed Development commencing. For the purposes of this assessment, the Site is considered to be part of the Cranborne and Alderholt ward; the baseline conditions for which will be outlined within this chapter.

10.26 Fordingbridge is a larger settlement closest to Alderholt under the jurisdiction of the New Forest District Council (the ward abuts the Site) and data for this has also been analysed.

10.27 Some of the 2021 Census data is available for the UK and Counties but not yet available at a local level. Where it is available and comparable, 2021 data has been used and is referenced thus, where it is not available 2011 data has been used.

Demographics

10.28 Table 10.1 sets out the increase in population identified between the 2011 and 2021 Census' across the district and national scale. This highlights a population increase of 3.5 million for England and Wales and 14,400 for Dorset.

10.29 For the Cranborne and Alderholt and Fordingbridge Wards, 2021 Census data is not yet available. Data from 2001 and 2011 has been used for these wards.

10.30 The 2011 Census records the population of the Cranborne Alderholt Area as 2,848 residents and Fordingbridge as 6,678 residents.

10.31 In the previous 10 years, Dorset has experienced a population growth of 4% and England has experienced a population growth of 6.3%.

Table 10.1: Population Increase

Census Year	Cranborne and Alderholt	Fordingbridge	Census Year	Dorset	England
2001	2,794	6,361	2011	365,200	56,075,912
2011	2,848	6,678	2021	379,600	59,597,300
Increase (No.)	54	317	Increase (No.)	14,400	3,500,000
Increase (%)	1.9	4.9	Increase (%)	4.0	6.3

10.32 Table 10.2 identifies the population and age distribution for the Cranborne & Alderholt and Fordingbridge Ward, relative to the district and national scale areas.

10.33 The Census data does indicate a larger elderly population in Dorset. For instance, the aged 45 and over categories are well represented in the Alderholt and Fordingbridge Wards and in Dorset County. The each have higher than the national average figures.

10.34 Notwithstanding the above, younger populations are well represented in both the wards and the county when compared against the national figures.

10.35 The 20-29 category is less well represented when compared to national averages.

Table 10.2: Population Age Structure

Age Group	Cranborne and Alderholt		Fordingbridge		Dorset Council		England	
2011 Census Data								
	No	%	No	%	No	%	No	%
0 to 4	158	5.5	331	5.0	19,333	4.7	3,318,449	6.3
5 to 7	104	3.7	190	2.8	11,864	2.9	1,827,610	3.4
8 to 9	74	2.6	154	2.3	7979	1.9	1,145,022	2.2
10 to 14	193	6.8	429	6.4	23,023	5.6	3,080,929	5.8
15	39	1.4	82	1.2	5110	1.2	650,826	1.2
16 to 17	65	2.3	163	2.4	10,393	2.5	1,314,124	2.5
18 to 19	61	2.1	109	1.6	8619	2.1	1,375,315	2.6
20 to 24	103	3.6	290	4.3	19,450	4.7	3,595,321	6.8
25 to 29	103	3.6	263	3.9	17,091	4.1	3,650,881	6.9
30 to 44	533	18.7	1099	16.5	66,924	16.2	10,944,271	20.6

Age Group	Cranborne and Alderholt		Fordingbridge		Dorset Council		England	
45 to 59	633	22.2	1369	20.5	85,770	20.8	10,276,902	19.4
60 to 64	222	7.8	543	8.1	33,204	8.0	3,172,277	6.0
65 to 74	283	9.9	733	11.0	51,990	12.6	4,552,283	8.6
75 to 84	197	6.9	595	8.9	36,092	8.7	2,928,118	5.5
85 to 89	61	2.1	215	3.2	10,435	2.5	776,311	1.5
90 and over	19	0.7	113	1.7	5628	1.4	403,817	0.8

10.36 The ONS have produced 2018-based sub-national population projections for each local authority in the UK. The latest projections were published by the ONS in March 2020 and provide a useful update on anticipated population trends following the 2011 Census. The latest projections suggest that the population of Dorset will increase to 448,055 by 2031, an increase of 68,455.

10.37 According to the projections, it is expected that proportion of younger people (aged 0 to 14) in Dorset will decrease by 10.5% from 63,095 in 2021 to 56,496 in 2031. For the same period, the proportion of working age people (20 to 64) is expected to decrease marginally by 3.7% from 218,324 to 210,137. The projections also suggest that the district will follow the national trend of an increasingly ageing population with the proportion of those aged 65 and over estimated to increase from 129,823 in 2021 to 158,068 in 2031 – a population increase of 17.9%.

Economy and Employment

10.38 The baseline data in Table 10.3 shows that the percentages of those of working age that in 2011 are economically active in Cranborne and Alderholt is at 73.4%. This is higher than Fordingbridge (72%), Dorset (68.1%) and England (69.9%). The percentage of those economically inactive in Cranborne and Alderholt is at 26.6%, lower than Fordingbridge (28%), Dorset (31.9%) and England (30.1%). The percentage of those unemployed in Cranborne and Alderholt is also lower than Fordingbridge (2.7%), Dorset (2.7%) and England (4.4%).

Table 10.3: Economic Activity 2011

	Cranborne and Alderholt		Fordinbridge		Dorset Council		England	
	No.	%	No.	%	No.	%	No.	%
Economically active	1470	73.4	3291	72.0	199,943	68.1	27,183,134	69.9
Economically inactive	533	26.6	1278	28.0	93,498	31.9	11,698,240	30.1
Unemployed	30	1.4	121	2.7	7,894	2.7	1,732,086	4.4

10.39 Table 10.4 confirms that, in Cranborne and Alderholt and Fordingbridge, 17.8% and 17.3% of their population are in professional occupations, which is roughly the same as England at 17.5%. Dorset is slightly lower than the national average at 15.7%. Cranborne and Alderholt and Fordingbridge also have a higher percentage of mangers, directors and senior officials at 13.1% and 13.9% respectively, in comparison to the national average of 10.9%. Skilled trade occupations account for 14.4% and 14.5% in Cranborne and Alderholt and Fordingbridge and 15.1% in Dorset. This is higher than the national average of 11.4%.

Table 10.4: Employment by Occupation 2011

Occupation	Cranborne and Alderholt		Fordinbridge		Dorset Council		England	
	No.	%	No.	%	No.	%	No.	%
Managers, directors and senior officials	187	13.1	437	13.9	23,230	12.2	2,734,900	10.9
Professional occupations	254	17.8	545	17.3	29,984	15.7	4,400,375	17.5
Associate professional and technical occupations	190	13.3	356	11.3	23,122	12.1	3,219,067	12.8
Administrative and secretarial occupations	167	11.7	371	11.8	20,546	10.8	2,883,230	11.5
Skilled trades occupations	206	14.4	457	14.5	28,732	15.1	2,858,680	11.4
Caring, leisure and other service occupations	144	10.1	308	9.8	19,230	10.1	2,348,650	9.3
Sales and customer service occupations	102	7.1	228	7.2	14,382	7.5	2,117,477	8.4
Process plant and machine operatives	59	4.1	174	5.5	11,550	6.1	1,808,024	7.2
Elementary occupations	121	8.5	276	8.8	20,127	10.5	2,792,318	11.1

10.40 Table 10.5 identifies and displays the distribution of employee jobs by economic sector. Within Cranborne and Alderholt and Fordingbridge, the largest sectors are wholesale and retail trade including motor vehicle repair; human health and social work; and construction. This remains consistent with the district and national contexts. Cranborne and Fordingbridge represent a high skilled local economy when compared to England as the percentages are relatively similar or higher.

Table 10.5: Employment by Industry2011

Industry	Cranborne and Alderholt		Fordinbridge		Dorset Council		England	
	No.	%	No.	%	No.	%	No.	%
Agriculture, forestry and fishing	25	1.7	43	1.4	1104	1.2	203789	0.8
Mining and quarrying	1	0.1	0	0.0	36	0.0	43,302	0.2
Manufacturing	134	9.4	240	7.6	4182	4.7	2,226,247	8.8
Electricity, gas, steam and air conditioning supply	8	0.6	7	0.2	75	0.1	140,148	0.6
Water supply, sewerage, waste management and remediation activities	11	0.8	25	0.8	198	0.2	175,214	0.7
Construction	156	10.9	315	10.0	1986	2.2	1,931,936	7.7
Wholesale and retail trade; repair of motor vehicles and motor cycles	235	16.4	499	15.8	14412	16.1	4,007,570	15.9
Transport and storage	44	3.1	110	3.5	1398	1.6	1,260,094	5.0
Accommodation and food service activities	45	3.1	181	5.7	6,754	7.5	1,399,931	5.6
Information and communication	48	3.4	105	3.3	1,297	1.4	1,024,352	4.1
Financial and insurance activities	76	5.3	119	3.8	2787	3.1	1,103,858	4.4
Real estate activities	25	1.7	44	1.4	1793	2.0	367,459	1.5
Professional, scientific and technical activities	83	5.8	247	7.8	4687	5.2	1,687,127	6.7
Administrative and support service activities	52	3.6	156	4.9	3177	3.5	1,239,422	4.9
Public administration and defence; compulsory social security	63	4.4	132	4.2	5990	6.7	1,483,450	5.9
Education	165	11.5	323	10.2	13921	15.5	2,490,199	9.9
Human health and social work activities	192	13.4	448	14.2	19861	22.1	3,121,238	12.4
R, S, T, U, Other	67	4.7	158	5.0	6015	6.7	1,257,385	5.0

10.41 The Annual Survey of Hours and Earnings (ASHE) provides the most comprehensive and up to date source of information on the structure and distribution of earnings in the UK. The latest data from 2017

identifies that the average weekly earnings for full-time workers in Dorset (£496.40) are lower than that of the regional average (£519.80) and the national average (£555.80).

10.42 2021 Census figures have been released for England and the South West which come it at £613.30 and £572.50 which demonstrates a growing trend but the region is still below the national average.

10.43 In Table 10.6, shows the travel to work distances from the 2011 Census.

10.44 The largest proportion of residents in Alderholt travel 10 – 30km to get to work. In Fordingbridge, Dorset and England, the largest proportion of residents travel less than 10km to get to work. This indicates a lower number of local employment in the Alderholt and Fordingbridge in comparison to Dorset and to England.

Table 10.6: Travel to Work 2011

	Alderholt		Fordinbridge		Dorset Council		England	
	No.	%	No.	%	No.	%	No.	%
Less than 10km	447	30.4	1058	32.1	87,582	43.8	13,162,415	48.4
10 km to less than 30 km	497	33.8	1035	31.44	39,874	19.9	5,287,919	19.4
30 km and over	164	11.2	279	8.4	17,761	8.8	2,002,678	7.4

Wealth and Deprivation

10.45 Overall, the levels of deprivation in Dorset are found to be average on the Index of Deprivation 2019 (ref. 1.3), ranking 199th out of 327 local authorities (where 1 equals the most deprived). Deprivation data is not available at ward level but the Index of Multiple Deprivation states that there are 11 areas within Dorset Council that are within the top 20% of the most deprived nationally.

10.46 In terms of car and van ownership, in Alderholt 94.1% of households own at least one car. In Fordingbridge, the figure sits slightly lower at 85.9%. Dorset the figure is similar at 84.5%. The figures stand higher against the national average of 74.3%. This is reflective of the relative rural setting of Alderholt, Fordingbridge and much of Dorset.

10.47 Table 10.7 shows that 86.8% of all households in Alderholt are owned (either with a mortgage or outright) and 72% are owned in Fordingbridge. This is higher than the national average of 63.3%.

Table 10.7: Housing Tenure

	Cranborne and Alderholt		Fordingbridge		Dorset Council		England	
	No.	%	No.	%	No.	%	No.	%
Owned	990	86.8	2086	72.0	129,837	72.0	13,975,024	63.3
Shared ownership	3	0.3	14	0.5	1,206	0.7	173,760	0.8
Social rented	66	5.8	356	12.3	22,268	12.4	3,903,550	17.7
Private rented	70	6.1	394	13.6	24,057	13.3	3,715,924	16.8
Living rent free	12	1.1	46	1.6	2,845	1.6	295,110	1.3

Housing

10.48 As set out in Table 9.7, 6.1% of households in the Alderholt Ward are under private rental tenure; this is considerably lower than the national average of 16.8%. At 13.6%, Fordingbridge is slightly more consistent with the county average of 13.3 and the national average.

10.49 With regards to household composition, the following percentages apply to one person households in each location:

- Alderholt – 19.7%
- Fordingbridge – 29.5%
- Dorset – 29.8%
- England – 30.2%

10.50 In comparison, the following percentages apply to married couples:

- Alderholt – 46.8%
- Fordingbridge – 37.5%
- Dorset – 35.1%
- England – 33.2%

10.51 As can be seen from the household composition data above, the single households within Alderholt ward are considerably lower than the national average but married couples are significantly higher than the national average, whereas Fordingbridge and Dorset are more in line with national averages.

10.52 In terms of the level of detached housing, Alderholt has a percentage of 60.9%, Fordingbridge is 44.7%, and Dorset 40.5%. These are all considerably higher than the national average of 22.3%.

10.53 According to the HM Land Register Open Data website the average house price in Dorset (as of September 2022) was £372,636 which is considerably higher than the national average of £314,278.

Education and Training

10.54 Table 10.8 below indicates that the general level of education obtained within Alderholt is higher than Fordingbridge, Dorset and England for those with level 3 and 4 qualifications.

Table 10.8: Level of Qualification 2011

	Cranborne and Alderholt		Fordingbridge		Dorset Council		England	
Highest level of qualification	No.	%	No.	%	No.	%	No.	%
No qualification	394	17.3	1,198	21.8	73, 629	21.3	9,656,810	22.5
Level 1 qualification	303	13.3	659	12.0	47,384	13.7	5,714,441	13.3
Level 2 qualification	369	16.2	896	16.3	58,321	16.9	6,544,614	15.2
Level 3 qualification	320	14.0	671	12.2	41,655	12.1	5,309,631	12.4
Level 4 qualification and above	689	30.2	1,607	29.3	93,218	27.0	11,769,361	27.4

10.55 In this area of Dorset there is a three tier education system in place. That means children enter a First School for 5 years of education (4 – 9 years), then move on to a Middle School for the next phase of 4 years (9- 13 years) before finishing their statutory education at an Upper School (13-18 years).

10.56 There is a First School in Alderholt (St. James CE First School) which is currently a one form entry primary school with an admission number of 30.

10.57 The catchment area Middle School which Dorset County Council (DCC) would 'expect' the pupils from St. James CE First School to progress to would be Cranborne Middle School. This school has an admission number of 105. It is some 4,6 miles by road from St James to the middle school. Emmanuel Middle School in Verwood is slightly further by road from St. James at 5.85 miles and has an intake of 124.

10.58 The Upper School to which the pupils would be expected to transfer to at age 13 years is Queen Elizabeth's CE School in Wimborne Minster. This school has an admission number of 390. It is 14.6 miles by road from St James.

10.59 As Alderholt is located close to the Hampshire border such that the paired Infant and Junior Schools and the Secondary School (at 3.4 and 3.2 miles respectively) in Fordingbridge are closer than the Dorset Middle and Upper Schools referred to above.

10.60 The problem for parents wanting to start their children at the local school in Alderholt and then change to a Hampshire school is the disparity of age range between the two systems. The child would either start at the First School and leave after three years to join the Junior School in Fordingbridge where other children moving from the Infant School to the Junior School would have been together for three years. Alternatively, they could leave at the end of the five years at the First School and join the Hampshire Junior School in Year 5 with other children having been together in the Junior School for two years.

10.61 A further alternative could be to progress from the First School and on to the Middle and then transfer to the Hampshire secondary school at Year 9 with other children already having spent two years at the school.

10.62 All of these options assume ready availability of places at the transfer decision time and a desire to avoid the long daily travel distances to Queen Elizabeth's Upper School.

10.63 From the Department for Education's 'Get information about schools' (GIAS) website, it has been identified that there is currently capacity within St James School. Capacities within other primary schools within Fordingbridge are shown in the table below.

Table 10.9: Primary School Capacity Levels

Name	Type	Distance	Capacity	Roll	Surplus/ Deficit
St James' Church of England First School and Nursey	Primary, Academy	1.32 miles	180	102	+ 78
The Bridges and Pathways Children's Centre	Children's Centre	1.65 miles	Not recorded	Not recorded	n/a
Fordingbridge Junior School	Community School	1.66 miles	256	220	+36
Fordingbridge Infants School	Community School	1.66 miles	180	141	+39
The Burgate School and Sixth Form	Academy converter	1.82 miles	1051	1066	-17
Western Downland Church of England Aided Primary School	Voluntary aided school	2.22 miles	200	196	+4

10.64 A Google Map review of nurseries and pre-schools in Alderholt finds the following facilities in close proximity to Alderholt and Fordingbridge:

- KingsWood Day Nursery
- Stepping Stones Pre-School
- Fordingbridge Day Nursery

10.65 The 2011 Census data highlights 85.8% of residents in Alderholt consider themselves to be in very good or good health. The number is slightly lower in Fordingbridge at 81.8%, higher in Dorset at 91.05% in and much lower for the rest of England 76.9%.

10.66 In terms of local health facilities that are in close proximity to the Site, a desk-top review has identified two GP practices in Alderholt – The Cranbourne Practice with 7 doctors and the Alderholt Branch Surgery with 6.

10.67 With regard to secondary care, Fordingbridge Hospital and St Leonards Hospital are closest to the site. A Google Map review of existing health facilities has also identified 4 dental practices in Verwood(south

of Alderholt) and 2 in Fordingbridge. 3 Pharmacies are in Verwood and 2 in Fordingbridge, a short drive from the site.

10.68 The surrounding area has few community facilities, the nearest of which to the Site are:

- Alderholt Village Hall
- Avonway Community Centre
- Fordingbridge Library

10.69 The adopted East Dorset Local Plan sets out that Alderholt has a recreation ground with a size of 5.3 hectares and it caters for football, rugby, tennis and cricket. There is a small pavilion and it is the only sizeable area of open space in Alderholt that can cater for organised sports.

Shopping

10.70 The only food retail facility in Alderholt is a Co-op convenience store located on the corner of Station Road and Ringwood Road.

10.71 There is one pub in the village, The Churchill Arms located on Daggons Road.

10.72 The Bournemouth, Christchurch, and East Dorset Joint Retail and Leisure Study (22 March 2019) suggests that:

- In terms of convenience good floorspace, East Dorset (east and west) needs an additional 100 sq.m of floorspace from 2023-2028,
- In terms of comparison goods floorspace, 273 sq.m is needed between 2023-2028, and
- In terms of food and beverage floorspace, 725 sq.m is needed between 2023 -2028.

10.73 Higher order goods shopping, both convenience and comparison, are available at Fordingbridge (where there is a Tesco Express, small Co-op and a Londis plus other independent food retailers) and Verwood (Morrisons, a Tesco Express, Co-op and a recently opened Lidl).

IMPACTS

Construction Impacts

10.74 This section considers the effects of the construction phase on the baseline conditions.

10.75 The main socio economic impacts during construction relate to economy and employment, and specifically, job creation.

Demographics (population (count and demographic structure)

10.76 Given the levels of construction employment in the Dorset and ability of the labour market to meet demand, no population migration will be required for the construction.

10.77 As a result, the overall impact of the Proposed Development on population is considered to be **nil**.

Economy and Employment (economic activity and employment composition)

10.78 The construction phase will offer benefits to the economy in terms of jobs created directly on the Site, through the local sourcing of materials and spend of workers. Both direct and indirect, temporary and permanent jobs are likely to be created during this time. Likely skills required and jobs created include:

- Ground workers in carrying out excavations, foundations and drainage,
- Bricklayers and joinery,
- Specialist steel frame construction,
- Specialist car park construction staff,
- Mechanical, electrical and plumbing staff,
- Building and finishing trades,
- Landscape-related trades, and
- Construction managers and other professionals.

10.79 The total construction value of the Proposed Development is estimated at £475million, creating some £178million GVA per annum. The total construction workforce is estimated to provide 1,095 direct full time equivalent (FTE) temporary construction jobs per annum on site over the build period. Multiplier effects through supply chain and worker spend will increase this further by supporting additional 1,435 FTE temporary jobs per annum locally, regionally and nationally.

10.80 There are around 9,000 construction workers in Dorset in 2021. The annual requirement of 1,095 jobs per annum represents some 12% of the workforce. It is likely that employment requirements for the Proposed Development will displace a small amount of existing work in Dorset as the requirement is a relatively small proportion of the labour pool.

10.81 The construction phase is expected to provide some opportunities to reduce local unemployment through partnerships between housebuilders, contractors and local employment agencies. This may support jobs at the town and district level.

10.82 Overall, the impact of the Proposed Development on this receptor is considered to have a temporary effect that is slight beneficial.

Wealth and Deprivation (levels of deprivation and material wealth)

10.83 Increased construction employment would not be considered to materially alter the ward or Dorset earning structure, but can sustain and grow the local sector. Therefore, it is considered to have a negligible effect on this receptor.

Housing (house prices, tenures and compositions)

10.84 Employment numbers which are to be supported by the construction phase of the Proposed Development are unlikely to affect the housing market in Alderholt or Dorset generally. Construction workers are expected to largely be located within the Dorset area given the size of labour pool. Therefore, it is considered that the Proposed Development will have nil effect on the baseline conditions.

Education and Training (level of education and existing capacities)

10.85 The construction phase is expected to provide some opportunities to link construction to local education and training programmes. The scale of employment and size of the Proposed Development suggests that the effects on this receptor will be negligible.

Health, Community and Leisure/Recreation (existing facilities and provision)

10.86 Modern average site accident rates are low and overall, it is considered that there would be no effect on health status. Overall, the construction phase is considered to have nil effect on health facilities.

10.87 The construction phase is unlikely to have any significant effect on local recreational or social facilities. No facilities surrounding the Site or within Alderholt are anticipated to be affected by the construction process. Therefore, the construction phase is considered to have a nil effect.

Shopping (existing facilities and town centre health)

10.88 Constructions workers will bring indirect beneficial impacts as a result of an increase of money within the local economy and an increase in the demand and use of local services, and retail facilities.

10.89 It is likely that construction workers employed on site will utilise local facilities within the village centre causing some additional retail trade. Previous experience suggests that approximately just over half of the workforce (60%), would spend money on subsistence averaging £6 a day (YouGov data, 2005). It can therefore be assumed that the during the construction period (14 years) the workforce at the Proposed Development will contribute around £12m to the local economy (based on a 220 day working year). The effect of the construction phase is considered to be slight beneficial and short to medium term.

Operational Impacts

10.90 The following section considers the potential impacts of the Proposed Development on the baseline conditions as highlighted above, during its operational/completed development period. The following factors are considered to be inherent mitigation that is taken into account within this assessment:

- Proposed on-site green space, including green corridors, play and allotments to be secured via S106 Agreement,

- Proposed SANG,
- Proposed flexible use Local Centre (4,000sqm) for E class uses,
- Proposed employment uses of 10,000sqm,
- Proposed footpaths and cycleways, and
- S 106 financial contributions.

10.91 It is anticipated that some £4.1m will be generated in Council Tax revenue, some £20m in S106 contributions and some £529,000 in business rate revenue (based on information supplied by Lichfields, Technical Appendix 10.1) by the Proposed Development.

Demographics (population (count and demographic structure)

10.92 Based on the Dorset's average household size ratio of 2.2 persons per dwelling, the Proposed Development can be expected to accommodate a population of about 3,740 new residents. The demographic make-up of the population is difficult to predict; however, it is expected that there will be a broad mix of occupiers across the Proposed Development.

10.93 The completed and occupied Development will result in an increase in population in the Alderholt by about 31%. This is a substantial increase in population and is considered to have slight beneficial effect through an increase in children and population of working age helping to balance an ongoing increase in the ageing population and decrease in working age population.

Economy and Employment (economic activity and employment composition)

10.94 The Proposed Development comprises mixed use development to include:

- Up to 10,000sqm (1.7ha) of Class E(g) floorspace,
- Up to 4,000sqm of flexible use floorspace falling with Use Classes E(a,b,c,d,e,f), F, suis generis.

10.95 It is anticipated that some 564 direct additional direct jobs from the new community and commercial uses will, therefore, be created as a result of the Proposed Development. Some 210 indirect/induced supply chain jobs will also be created.

10.96 Furthermore, new resident expenditure to the wider economy is anticipated to amount to £25.9m, supporting some further 386 jobs from this expenditure alone.

10.97 Overall, the Proposed Development is anticipated to create some further £35.5m GVA, and therefore is considered to have a moderate beneficial permanent effect on this receptor.

Wealth and Deprivation (levels of deprivation and material wealth)

10.98 It is assumed that earnings of the incoming population will be similar to the existing and therefore that the Proposed Development is considered to have a nil effect on this receptor.

Housing (house prices, tenures and compositions)

10.99 The Proposed Development will provide up to 1,700 dwellings in the period 2027 - 2041, contributing around 120 dwellings per annum. Assuming a provision of 35% affordable housing, a total of 42 affordable homes per year or a total of 595 would be delivered by the Proposed Development in the same year period. The Proposed Development does not currently form a component part of the spatial strategy for the Council in the plan period. The Proposed Development will deliver new homes in Alderholt in the short, medium and long terms, contributing towards the Council's five year supply of deliverable housing.

10.100 At this outline stage the final tenure, type and mix of housing is undetermined and will be subject to detailed design at the reserved matters stage. The Parameter Plans provide scope to deliver a mix of housing types and densities to deliver balanced and mixed communities in accordance with national and local planning policy, including scope for new independent homes for older people (Use Class C3). There is no policy requirement to deliver Class C2 uses on the Site.

10.101 Increasing the current housing market with new and diverse units could also mean a reduction in housing market prices in the Council area where house prices are currently higher than the regional and national average. This would help to achieve local and national objectives.

10.102 Overall, the Proposed Development would lead to a **moderate beneficial** permanent effect on this receptor.

Education and Training (level of education and existing capacities)

10.103 The number of primary and secondary students that will be generated by the Proposed Development is calculated using the Local Education Authority's pupil yield figures – 26 children per year group per thousand houses for primary age and 28 per year group for secondary education. Adjustments need to be made to these yield factors to account for the three tier system used by Dorset.

10.104 It has, therefore, been estimated that up to 1,700 dwellings will generate circa 195 first school (39 pupils per year group), 164 middle school (41 per year group), 162 Upper school (years 9,10,11) (54 per year group) and 60 pupils for post 16 education.

10.105 The current capacity within the first school in Alderholt is 78 spaces across all year groups. Therefore, the Proposed Development would lead to a deficit of spaces at first school level. The level of middle and upper school pupils generation is insufficient to warrant these types of new school within the Proposed Development.

10.106 Discussions have been taking place with various schools to determine an appropriate strategy to the provision of education for the Proposed Development. The position is further complicated by the distances to secondary schools within Dorset, when there are much closer options over the border in Hampshire. Consequently, at this point in time, school provision across all tiers is proposed to be mitigated through S106 financial contributions, resulting in a **negligible/slight adverse** effect on this receptor.

Health, Community and Leisure/Recreation (existing facilities and provision)

10.107 There are two doctors surgeries within Alderholt. However, registered patients have only been identified for one of them. The Cranborne Practice has 7 doctors but runs surgeries both in Alderholt and Verwood. A total of 11,800 patients are currently registered. Assuming a population increase of 3,740 persons, this would result in a new total of 15,540 patients. This would mean approximately 2,220 patients per GP, which is over the recommended 1,800 capacity limit set out by the NHS.

10.108 It is recognised, however, that it is more likely that new patients would be split between the two surgeries, which potentially reduces the patients per GP and overall capacity issue. Provision of on-site health facilities within the local centre would further reduce capacity issues. Taking into account the embedded mitigation through S106 receipts and potential of on-site provision, the effect on health services is, therefore, **negligible**.

10.109 The Proposed Development would result in an increase in demand for local community facilities. However, given the lack of availability of key facilities within Alderholt and the potential for on-site community facilities within the proposed Village Centre, there is sufficient scope to accommodate demand arising from the Proposed Development. The proposed on-site facilities would benefit both existing and future residents. The Proposed Development would, therefore, have a **slight beneficial** effect on community facilities.

10.110 With regard to formal recreation facilities (sports halls, swimming pools, etc) , for the most part on-site provision is not practicable from an 'economies-of-scale' and management point of view – the most appropriate and long accepted mitigation for any potential impact arising from the Proposed Development is through S106 financial contributions. In addition to this, however, some level of sports provision and enhancement of the existing recreation ground will be provided on-site. This is considered to result in a **negligible** effect on formal recreation facilities.

10.111 Informal recreation opportunities are provided on site principally in two forms – (i) green open space, green corridor links, footpaths, cycleways, play space, allotments, etc within and throughout the 'built-up' area of the Proposed Development, and (ii) SANG.

10.112 The increase in population within the Alderholt area could also result in additional recreational pressure (in terms of dog walking, cycling, quiet enjoyment, as examples) on designated nature conservation sites (SAC/SPA/Ramsar) and the AONB. In Dorset the approach to address this potential pressure/need is set out in the Dorset Heathlands Planning Framework 2020-25 SPD. In the SPD, provision of SANG as a means of providing alternative green space in close proximity to new homes for recreational needs such as dog walking, cycling, walking, running, relaxing is identified as part of a two pronged requirement; the other being a S106/CIL financial contribution based on a set amount per dwelling – SAMM (Strategic

Access and Management and Monitoring) – for funding of measures on the heathland to ensure improvements to the ecological and environmental condition of the sites.

10.113 The Proposed Development includes some 51.4ha of SANG (ie, some 13ha/1000 population) provided in three main areas and referred to as -

- Cross Roads Plantation in the west of the Site,
- Alderholt Common in the west of the Site, and
- Harbridge Drove in the south-east of the Site.

10.114 The SANG will provide a variety of walking routes with different surfaces through distinctive and natural surroundings; safe spaces for dogs to roam freely off the lead; woodland, grassland planting; ponds and wetlands; nature conservation areas; together with interpretation panels installed at main access points, site furniture, litter and dog waste bins. Further detail is set out in Technical Appendix 9.4.

10.115 As a result of the on-site provision of SANG, together with the appropriate financial SAMM contribution, the resulting effect of the Proposed Development is considered to be slight/moderate beneficial.

Shopping (existing facilities and town centre health)

10.116 The Proposed Development includes provision for circa 4,000sqm of flexible use floorspace. The Proposed Development would also benefit those residents the live near to the Site and within Alderholt generally, providing greater choice for day to day, small scale, convenience needs. The proposals are locationally specific to the Proposed Development and village they seek to expand. The proposed retail uses would, therefore, have a slight beneficial effect on this receptor, in this context. The separate Retail Impact and Sequential Test Assessments (November 2023) does indicate a significant adverse impact on the local Co-op store in Alderholt, but it is considered unlikely that the store would close as a result of the new facilities.

10.117 The proposed retail element is not intended to replace Fordingbridge or Verwood town centre shopping trips and is intended to serve the day to day needs of future residents. The Retail Impact and Sequential Tests Assessment indicates that the impact on Verwood is likely to be positive/slight beneficial from the start of the Proposed Development facilities coming into operation, although this is likely to be in relation to the out-of-centre food stores. A minor adverse impact is predicted on Fordingbridge when the Proposed Development village centre first opens (2030) but is assessed as neutral by 2032 and major beneficial by the completion of the Proposed Development.

MITIGATION

10.118 This chapter has determined that there would be no adverse effects on the identified receptors taking account of inherent mitigation. A number of beneficial effects have been identified ranging from slight to moderate. On this basis no secondary mitigation is necessary.

RESIDUAL IMPACTS

10.119 There would be no residual impacts associated with the Proposed Development.

CUMULATIVE IMPACTS

10.120 Cumulative impacts have been at the following locations has been considered:

- Whitsbury Road, Station Road and Burgate, Fordingbridge,
- Edmundsham Road, Verwood,
- North of Ringwood Road, Alderholt, and
- Daggons Road, Alderholt.

10.121 It should be recognised that the Fordingbridge sites are in the adjacent County of Hampshire. Whilst S106/CIL receipts within Alderholt will be payable, the benefit of this primarily will be within the Dorset Council remit. It is accepted that there may be some impact on infrastructure within Fordingbridge.

Construction Impacts

Demographics (count and demographic structure)

10.122 Given the levels of construction employment in Dorset and adjacent Hampshire and ability of the labour market to meet demand as summarised above, no population migration will be required for the construction. As a result, the cumulative effects on this receptor are considered to be nil.

Economy and Employment (economic activity and employment composition)

10.123 The cumulative sites will create similar construction jobs and offer benefits to the economy in terms of jobs created directly on each site to the Proposed Development. This will include direct and indirect, temporary and permanent jobs.

10.124 Some of the identified sites are already under construction/built out. It is likely that there will be some level of overlap with the construction of the sites, depending on how quickly those with permission already are built out, given the current economic climate. It is considered that employment requirements for the Proposed Development in combination with the cumulative sites will displace only a small amount of existing work in the Council area.

10.125 Multiplier effects through supply chain and worker spend will increase further by supporting additional temporary jobs locally, regionally and nationally. The cumulative effects of the construction phase are expected to provide further opportunities to reduce local unemployment through partnerships between housebuilders, contractors and local employment agencies.

10.126 Overall the cumulative impact on this receptor is considered to have a temporary effect that is slight beneficial.

Wealth and Deprivation (levels of deprivation and material wealth)

10.127 Increased construction employment would not be considered to materially alter the ward or Dorset/Hants earning structure, but can sustain and grow the local sector. Therefore, it is considered to have a negligible effect on this receptor.

Housing (house prices, tenures and compositions)

10.128 The cumulative impacts of the construction phase of the development are unlikely to affect the housing market in Dorset or Fordingbridge. Construction workers are expected to largely be located within the Dorset/Hants given the size of labour pool. Therefore it is considered that the development will have nil effect on the baseline conditions.

Education and Training (level of education and existing capacities)

10.129 The construction phase is expected to provide some opportunities to link construction to local education and training programmes. The scale of employment and size of development suggests that the effects on this receptor will be negligible effect overall.

Health, Community and Leisure/Recreation (existing facilities and provision)

10.130 It remains the case that the construction phase across all cumulative sites will have nil effect on health, community or leisure facilities.

Shopping (existing facilities and town centre health)

10.131 Constructions workers associated with each site will bring indirect beneficial impacts as a result of an increase of money within the local economy and an increase in the demand and use of local services, and retail facilities. It remains the case that the cumulative effect of the construction phase is considered to be slight beneficial and short to medium term.

Operational Impacts

10.132 It is considered that sites in Verwood and Fordingbridge will provide their own inherent mitigation in the form of open space, community and service infrastructure and S106 contributions where necessary. Similarly appropriate S106 contributions would arise from the other two Alderholt sites. The resulting cumulative effect is considered to the nil.

Demographics (population (count and demographic structure)

10.133 The impact of the increase in population size is spread across three locations – Verwood, Fordingbridge and Alderholt.

10.134 Increases in Verwood and Fordingbridge are not considered to be significant, given that the sites are part of the strategic allocations to meet the relevant housing needs of each town. The increase to Alderholt is significant. This increase in population is considered to have a **moderate beneficial long term** effect overall in terms of its ability to support a higher order of services and be more 'self-sufficient'.

Economy and Employment (economic activity and employment composition)

10.135 The cumulative sites within Alderholt do not include employment uses. No further direct jobs will arise other than from the Proposed Development itself, which exceeds usual policy requirements for employment uses to support new residential development. Overall, it remains the case that the cumulative impacts of the sites will have a **slight beneficial** long term effect on this receptor.

Wealth and Deprivation (levels of deprivation and material wealth)

10.136 It is assumed that earnings of the incoming population will be similar to the existing and therefore that the cumulative effect is **Nil**.

Housing (house prices, tenures and compositions)

10.137 The non-Alderholt cumulative sites all form a component of the adopted respective spatial strategies for Dorset and Hampshire. Some of these houses have already been delivered under separate planning permissions. Both these, and the sites in Alderholt are and will contribute to the authorities five year housing land supply and will continue to do so in the short to medium term.

10.138 Increasing the current housing market with new and diverse units could also mean a reduction in housing market prices in the locality where house prices are currently higher than the regional and national average. This would help to achieve local and national objectives.

10.139 Overall, the cumulative sites would lead to a **moderate beneficial long term effect** on this receptor.

Health, Community and Leisure/Recreation (existing facilities and provision)

10.140 The Cumulative Sites would result in an increase in demand for local community facilities. However, given the availability of key facilities within each of the existing settlements and the delivery of on-site services and facilities as part of the strategic allocation and permission already granted, together with S106 contributions as appropriate, there is sufficient scope to accommodate demand. Overall, the cumulative effect on community facilities would be **negligible**.

10.141 Each cumulative site will deliver public open space on-site, with contributions towards off-site public open space improvements, and SANG/SAMM contribution where necessary and appropriate, secured either by S106 agreement or CIL. Overall, the cumulative sites will have a **moderate beneficial** and permanent effect on public open space provision.

Shopping (existing facilities and town centre health)

10.142 No retail proposals are included on either of the Alderholt cumulative sites. The level of housing proposed in Alderholt is considered to have a significant adverse effect on the existing retail facilities within the settlement and slight beneficial on those included within the Proposed Development – economies of scale and increased patronage. A similar position is considered to pertain in respect of the other cumulative sites relative to their settlement locations.

10.143 An increase in population as a result of the cumulative sites will increase footfall and spend in the established centres of Verwood and Fordingbridge. The effect of the cumulative sites on existing shopping facilities is, therefore, considered to be major **beneficial** and long term.

Mitigation

10.144 No cumulative adverse effects have been identified when taking into inherent mitigation. A number of beneficial effects have been identified. On this basis no secondary mitigation is necessary.

SUMMARY

10.145 This chapter has discussed a range of potential socioeconomic impacts of the Proposed Development and related mitigation measures across the construction and operational phases, including consideration of Cumulative Impacts. Overall, no significant adverse effects have been identified in relation to socio-economic receptors. A number of beneficial effects have been identified and these are summarised in Table 10.10a below.

TABLE 10.10a: SUMMARY TABLE

Description of Likely Significant Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Effects					Description of Mitigation / Enhancement Measures	Description of Residual Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Residual Effects				
		B/A	P/T	D/I	ST/M/ LT	L/R/N				B/A	P/T	D/I	ST/M/ LT	L/R/N
Demolition and Construction Phase														
Demographics: population count and demographic stricture	Nil	N/A					N/A	N/A	Nil	N/A				
Economy and Employment	Slight Beneficial	B, T, D/I, ST/MT, L					N/A	N/A	Slight Beneficial	N/A				
Wealth and Deprivation	Negligible	N/A					N/A	N/A	Negligible	N/A				
Housing (house prices, tenure, composition)	Nil	N/A					N/A	N/A	Nil	N/A				
Education and Training	Negligible	N/A					N/A	N/A	Negligible	N/A				
Health, Community and Leisure/Recreation	Nil	N/A					N/A	N/A	Nil	N/A				
Shopping	Slight Beneficial	B, T, I, ST/MT, L					N/A	N/A	Slight Beneficial	N/A				
Operational Phase														
Demographics: population count and demographic stricture	Slight beneficial	B, P, D, LT, L					N/A	N/A	Slight Beneficial	B, P, D, LT, L				
Economy and Employment	Moderate Beneficial	B, P, D, LT, L					N/A	N/A	Moderate Beneficial	B, P, D, LT, L				
Wealth and Deprivation	Nil	N/A					N/A	N/A	Nil	N/A				
Housing (house prices, tenure, composition)	Moderate Beneficial	B, P, D, LT, L					N/A	N/A	Moderate Beneficial	B, P, D, LT, L				
Education and Training	Negligible/slight adverse	N/A					S106	N/A	N/A	N/A				
Health Facilities	Negligible	N/A					S106	N/A	N/A	N/A				
Shopping (Alderholt)/community /leisure/recreation facilities	Negligible/Slight /moderate Beneficial	B, P, D, LT, L					Provision on site, including SANG, and S106	N/A	Negligible/Slight/moderate Beneficial	B, P, D, LT, L				
Shopping - Verwood/Fordingbridge	Slight Beneficial -Verwood, Minor adverse Fordingbridge	B,P,I,LT, L					N/A	N/A	Slight Beneficial - Verwood Major	B,P,I,LT,L				

Description of Likely Significant Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Effects					Description of Mitigation / Enhancement Measures	Description of Residual Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Residual Effects				
		B/A	P/T	D/I	ST/M/ LT	L/R/N				B/A	P/T	D/I	ST/M/ LT	L/R/N
	rising to Major Beneficial as the village grows								Beneficial - Fordingbridg e					

Beneficial or Adverse) (B/A), (Permanent or Temporary) (P/T), (Direct or Indirect) (D/I), (Short Term, Medium, Long Term) (ST, M, LT), (Local, Regional, National) (L, R, N)

11 DRAINAGE AND FLOOD RISK

INTRODUCTION

11.1 This chapter of the ES has been produced by CampbellReith and describes the water environment resources on and in the vicinity of the Site. It covers the likely significant environmental impacts of the Proposed Development on surface water, drainage, groundwater, foul water and flood risk during the construction and occupation/operational phases. Proposed mitigation measures are identified where appropriate to prevent, reduce or offset any significant adverse effects.

11.2 This chapter is informed by the Flood Risk Assessment (FRA) and Drainage Strategy presented in Technical Appendix 11.1.

CONTEXT

The Water Supply (Water Quality) Regulations 2018

11.3 The Water Supply (Water Quality) Regulations 2018 revoke and replace the Water Supply (Water Quality) Regulations 2010. The purpose of these Regulations is to protect human health from the adverse effects of any contaminated water intended for human consumption by ensuring it is wholesome and clean. They also lay down requirements for the protection of the health of the general public with regard to radioactive substances in water intended for human consumption.

11.4 This assessment will address water quality issues in line with the Water Supply (Water Quality) Regulations 2018 through the construction and operational phases.

National Planning Policy

11.5 The NPPF, as updated in July 2023, sets out the government's national planning policies to protect people and property from flooding from either now or in the future which all Local Planning Authorities (LPAs) are expected to follow. There are three main steps which should be followed to ensure that the risk of flooding from development is minimised; assess the flood risk, avoid flood risk and manage and mitigate the flood risk. The NPPF is supported by the Flood Risk and Coastal Change Planning Practice Guidance (PPG).

11.6 The NPPF recommends that new development adopts a sequential, flood risk-based approach to the location of development, taking into account climate change and its impact to or by current or future flood risk. Subject to the type of development proposed and the relative flood zone (Zone 1 being the least risk and Zone 3b the greatest risk) in which the development site is located, there can be a requirement for a sequential test and an exception test to demonstrate the suitability of the site for the development proposed. The aim of the sequential test is to steer development to areas considered to be at the lowest risk from sources of flooding. If this is not possible then the exception test would be required demonstrating that the development would provide wider sustainability benefits to the community that would outweigh the flood risk and that the development would be safe for its lifetime taking into account, the vulnerability of the users without increasing flood risk elsewhere and where possible reducing the current risk of flooding.

11.7 The NPPF also states that major developments (Developments with 10 or more homes, or a site area larger than 0.5 hectares, which the proposed development is) should incorporate sustainable drainage systems (SuDS) unless there is clear evidence that this would be inappropriate.

11.8 The FRA that supports this chapter has been prepared in accordance with the requirements of the NPPF and PPG.

Local Planning Policy

11.9 In line with the NPPF, LPAs are required to produce Local Development Frameworks, which are a portfolio of Local Development Documents (LDD) that collectively deliver the spatial planning strategy for the authority area. The LDD's undergo a Sustainability Appraisal which assists LPAs in ensuring their policies fulfil the principles of sustainability. Strategic Flood Risk Assessments (SFRA) are one of the documents to be used as the evidence base for planning decisions and are a component of the Sustainability Appraisal process. Therefore, SFRAs should be used in the review or production of LDDs.

11.10 To assist LPAs in their strategic land use planning, SFRA's should present sufficient information to enable LPAs to apply the Sequential Test to the development sites proposed for inclusion in the local plan (PPG Guidance Flood Risk and Coastal Change paragraph 010):

> *"The SFRA will be used to refine information on river and sea flooding risk shown on the EA's Flood Map for Planning (Rivers and Sea) Local Authorities should use the assessment to:*
>
> *Determine the variations in risk from all sources of flooding across their areas, and also the risk to and from surrounding areas in the same catchment;*
>
> *Inform sustainability appraisal of the Local Plan, so that flood risk is fully taken into account when considering allocation options and in the preparation of plan policies, including policies for flood risk management to ensure that flood risk is not increased;*
>
> *Apply the Sequential Test, and where necessary, the Exception Test when determining land use allocations;*
>
> *Identify the requirements for site-specific flood risk assessments in particular locations, including those at risk from sources other than river and sea flooding;*
>
> *Determine the acceptability of flood risk in relation to emergency planning capability;*
>
> *Consider opportunities to reduce flood risk to existing communities and developments through better management of surface water, provision for conveyance and of storage for flood water).*

11.11 The SFRA operates as a tool for potential developers to assess flood risk and related information. SFRA's are live documents and should be updated after major events. The SFRA creates a strategic framework for the consideration of flood risk when making planning decisions and has been developed to support the NPPF and associated technical guidance in the PPG.

Christchurch and East Dorset Adopted Core Strategy (2014)

11.12 *Policy ME6: Flood Management, Mitigation, and Defence* requires that when assessing new development, the local authorities will apply the sequential and exception tests set out in the National Planning Policy Framework. Relevant additional sections of the policy require:

> *'Where exceptionally, all developments (including redevelopments and extensions which require planning permission) can be permitted within areas at risk of flooding they will be required to incorporate appropriate flood resistance and resilience measures as a means of "future proofing" against the effects of climate change. Historic buildings and sites may be exempt from this Policy where measures would harm their character or increase the risk of long-term deterioration to fabric or fittings.*
>
> *All developments will be required to demonstrate that flood risk does not increase as a result of the development proposed, and that options have been taken to reduce overall flood risk. Post-development surface water run-off must not exceed pre-development levels and options should have been sought to reduce levels of run-off overall. This will primarily be through the use of Sustainable Drainage Systems (SUDS) and a range of flood resistance and resilience measures. Space for such measures should be set aside within larger developments.*
>
> *The design, construction, operation and maintenance of SUDS must meet national standards. Plans for new drainage systems will need to be approved by Dorset County Council (as SUDS approval body) before construction can start.'*

11.13 Policy ME7: Protection of Groundwater requires that where development is proposed in a location likely to affect a Groundwater Source Protection Zone, an assessment of the impact and any mitigation measures proposed must be provided.

METHODOLOGY

11.14 The assessment of likely significant effects of the Proposed Development on the water environment has been informed by the Flood Risk Assessment and Drainage Strategy (Technical Appendix 11.1 to this ES), the description of the development and the Parameter Plans. Assessment included within the Flood Risk Assessment and Drainage Strategy included site walkover and review of available published sources of information, for example that published by the Environment Agency (EA) on flood risk.

11.15 In common with other technical chapters within this ES, the assessment of likely significant environmental effects on the water environment is based on an evaluation of the prevailing baseline (in terms of surface watercourses, groundwater and sewerage) and an assessment of the likely changes to the prevailing and future baseline associated with the Proposed Development set out in the Parameter Plans and description provided within Chapter 5 of this ES.

Approach to the assessment - significance criteria

11.16 As detailed in Chapter 2 of this ES, the significance criteria are the product of the interaction between receptor sensitivity and magnitude of change.

Sensitivity of receptors

11.17 The sensitivity of receptors to impacts on the water environment on the Site are detailed in Table 11.1. Where published criteria for water resources are available (e.g. Environment Agency aquifer descriptors and Flood Zones), these have been used. For the purposes of the EIA methodology presented in Chapter 2, "value" is considered an equivalent variable to "sensitivity".

Table 11.1: Sensitivity criteria used in this chapter

Sensitivity	Description		
	Groundwater	Drainage	Flood Risk
Very high	Principal Aquifer (formerly Major Aquifer) with a Source Protection Zone	Surface, foul or combined drainage currently operating at, or exceeding design capacity	Site is located within Flood Zone 3 or at high risk from surface/sewer or groundwater flooding.
High	Principal Aquifer (formerly Major Aquifer) with no Source Protection Zone	Surface, foul or combined drainage currently operating between 90% and 100% of design capacity	Site is located within Flood Zone 2 or 3. Site is at high risk of flooding from surface/sewer or groundwater flooding.
Medium	Secondary A Aquifer (formerly Minor Aquifer) with no Source Protection Zone but which is in continuity with a watercourse	Surface, foul or combined drainage currently operating at between 70% and 90% of design capacity	Site is located within Flood Zone 2 and is at moderate risk of flooding from surface, sewer and groundwater sources.
Low	Secondary B Aquifer (formerly water bearing components of Non-Aquifers) with no Source Protection Zone and which is not in continuity with a watercourse	Surface, foul or combined drainage currently operating at between 50% and 70% of design capacity	Site is located within Flood Zone 1 and is at low risk of flooding from surface/sewer and groundwater sources of flooding.
Negligible	Unproductive Strata (formerly Non-Aquifer)	Surface, foul or combined drainage currently operating at < 50% of design capacity	Site is within Flood Zone 1 and at very low risk of flooding from surface, groundwater and sewer flooding.

Magnitude of change

11.18 Simplified criteria used to assess the likely magnitude of effects of the Proposed Development on the water environment are based on professional judgement as detailed in Table 11.2.

Table 11.2: Magnitude of change criteria used in this chapter

Magnitude	Description		
	Groundwater	Drainage	Flooding
Very High	Extensive spatial distribution of contaminants with concentrations in excess of applicable thresholds (e.g. Soil Guideline Values (SGV)) and where a full pollutant linkage has been identified	Any change in discharge rate that leads to exceedance of the design capacity of the surface, foul or combined drainage system	The Proposed Development substantially increases the risk of surface water, sewer or groundwater flooding
High	Concentrations of contaminants in excess of applicable thresholds (e.g. SGVs) and where a full pollutant linkage has been identified	Any change in discharge rate that leads to surface, foul or combined drainage systems operating at close to capacity	The Proposed Development increases the risk of surface water, sewer or groundwater flooding
Medium	Concentrations of contaminants are below applicable thresholds (e.g. SGVs) but a full pollutant linkage has been identified.	Moderate change to discharge rate to the surface, foul or combined drainage systems. System operating well within capacity	The Proposed Development has the moderate potential to increase flood risk
Low	Concentrations of contaminants in excess of applicable thresholds but where no pollutant linkage has been identified.	Slight change to discharge rate to the surface, foul or combined drainage systems. System operating well within capacity	Slight increase to the overall risk of flooding as a result of the Proposed Development
Negligible	Concentrations of contaminants are below applicable thresholds (e.g. SGVs) and no pollutant linkage has been identified.	No or very slight change in discharge rates to the surface, foul or combined drainage network	No, or very slight increase to the overall risk of flooding

Significance of effect

11.19 The predicted significance of the effect is determined through a standard method of assessment based on professional judgement, considering both receptor value/sensitivity and magnitude of change. Combining sensitivity and effect magnitude provides the methodological basis for determining the significance of predicted effects. The overall significance of the identified effect is determined on the basis of the matrix presented in Chapter 2 of this ES, using a scale of 'Substantial/Moderate/Slight/Negligible'.

11.20 Effects judged to be 'substantial' or 'moderate' are considered to be 'significant' effects in context of the EIA Regulations and would usually require consideration of possible mitigation or compensation. In some cases there may also be a legal requirement to provide such mitigation.

BASELINE CONDITIONS

11.21 This section of the ES chapter describes the baseline conditions for the local water environment within the Site and within the surrounding area (in line with CampbellReith's approach to identify receptors within the immediate and nearby vicinity of the Site and due to the nature of relevant prevailing, geological, hydrological and hydrogeological characteristics) and summarises the relevant content of the FRA.

Hydrology

11.22 A desk-study review of Ordnance Survey mapping notes several land drains across the Site and a small pond in the south. Sleep Brook, an ordinary watercourse, is located to the far west of the Site and flows

towards Hammer Brook, south of the Site boundary. Hammer Brook then flows into the River Avon, an EA main river, approximately 1.9 kilometres to the east of the Site boundary. The site walkover on 4th May 2022 confirmed the presence of several drainage ditches within the Site. Key hydrological features within and adjacent to the Site are shown in Figure 11.1.

11.23 By virtue of the continuity of watercourses within and adjacent to the Site to the River Avon and areas designated at national and European level for their nature conservation importance, the sensitivity of hydrology within this assessment is considered to be high.

Geology and Hydrogeology

11.24 British Geological Survey maps indicate that the Site is likely to have a bedrock geology of Parkstone Sand Member (sand) with superficial river terrace deposits (sand and gravel). Areas to the west of the Site associated with Sleep Brook are likely to have a bedrock geology of Broadstone Clay Member (clay, silty) with superficial clay and silt head deposits.

11.25 In addition, the Landis Soilscapes Map, shows ground conditions at The Site to be mostly "Naturally wet very acid sandy and loamy soils" with a high water table, but to the east it has areas of "Slightly acid loamy and clayey soils with impeded drainage" and "Freely draining very acid sandy and loamy soils".

11.26 The potential for infiltration is likely to vary across the Site and as such detailed infiltration testing will be required prior to the commencement of development to determine if areas of infiltration are feasible. For the purposes of this assessment, it has been assumed that infiltration is not feasible.

11.27 The Parkstone Sand Member and Broadstone Clay Member are classified as Secondary A aquifers. The groundwater vulnerability for the Site is medium to high. The groundwater levels beneath the Site are currently unknown but records from a previous borehole at Warren Park Farm to the south of the Site (BGS borehole reference SU11SW2) suggested that groundwater was present at 2.80 metres below ground level. The Site is not located on a Source Protection Zone (SPZ).

11.28 Using the criteria set out in Table 11.2, the sensitivity of hydrogeology within this assessment is considered to be medium.

Topography

11.29 LiDAR data has been obtained as part of this assessment and is shown in Figure 11.2. The Site has a high point to the north, near boundary, falling in all directions towards the outer boundary of the Site. Ground levels are typically shown to range from approximately 62 metres Above Ordnance Datum (AOD) at the high point to the north of the Site to approximately 42 metres AOD on the south-western boundary and approximately 48 metres AOD to the southern boundaries. The eastern boundary also falls from approximately 62 metres AOD to 50 metres AOD in a southerly direction.

11.30 The natural surface water flow paths have been devised from reviewing the available Lidar data and are shown on Figure 11.2.

Existing Site Drainage

11.31 Wessex Water is the incumbent sewerage utility provider for the area. A review of the Wessex Water's Records confirms there is no on-site drainage; the closest public drainage system is to the north of the Site serving the existing Alderholt village.

11.32 There is an existing Wessex Water Sewage Pumping Station on Sandleheath Road approximately 850 metres north of the Site boundary. This existing pumping station discharges to Fordingbridge Sewage Works on Frog Lane (approximately 1.8km north-east of The Site) via a rising main and existing sewer.

11.33 On the basis that there is no current Site drainage, this is not considered to represent a sensitive receptor within the scope of this assessment.

Flood risk

11.34 The assessment of flood risk has been based on national published guidance including the PPG and the detailed methodology for the FRA is described within Technical Appendix 11.1. The FRA has established the flood risk in terms of fluvial and tidal flood risk, surface water flood risk, groundwater flood risk, sewer flood risk, artificial flood risk.

11.35 Existing runoff characteristics are influenced by the prevailing topography and are shown in Figure 11.2. The existing surface water flow paths as a result of runoff within the Site mostly flow in a southerly or

south-easterly direction. There are localised differences in this general pattern of surface water flow, in particular immediately adjacent to the Sleep Brook, where drainage flows in a westerly direction and adjacent to the northern boundary of the Site, where the topography results in a northerly direction of surface water flow.

Fluvial flood risk and surface water flood risk

11.36 The EA Flood Zone Map shows the Site is primarily located within Flood Zone 1, with small sections located in Flood Zone 2 and 3, associated with Sleep Brook as shown in Figure 11.3. This area at higher flood risk is a woodland and also within the Dorset Heathland Consultation Zone; as such the Parameter Plans are not proposing any development in this part of the Site.

11.37 The EA defines Flood Zones from rivers or the sea in Paragraph 078 (Table 1) of the PPG, as follows:

- 'Flood Zone 1 (Low Probability): Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map – all land outside Zones 2 and 3).
- Flood Zone 2 (Medium Probability): 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. (Land shown in light blue on the Flood Map).
- Flood Zone 3a (High Probability): Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding. (Land shown in dark blue on the Flood Map).
- Flood Zone 3b (The Functional Floodplain): This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise:
  - land having a 1 in 30 annual or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or
  - land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 1 in 1,000 annual probability of flooding).'

11.38 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 (Not separately distinguished from Zone 3a on the Flood Map). It is also noted that the Site does not fall within a Flood Alert Area.

11.39 The EA classifies surface water flood risk as follows:

- VERY LOW – the area has a chance of surface water flooding of less than 0.1%,
- LOW – the area has a chance of surface water flooding of between 0.1% and 1%,
- MEDIUM – the area has a chance of surface water flooding of between 1% and 3.3%,
- HIGH - the area has a chance of surface water flooding of greater than 3.3%.

11.40 The EA's Risk of Flooding from Surface Water (RoFSW) map for the Site is presented in Figure 11.4. This shows the Site to be predominantly at 'very low' to 'low' risk of surface water flooding. There are very localised areas of 'medium' to 'high' risk surface water flooding shown for small areas across the Site.

11.41 On the basis all the developable area of Proposed Development is within Flood Zone 1 and the areas of greater than 'low' risk of surface water flooding within the proposed developable area are very localised, the Site is considered to be of low sensitivity with respect to fluvial and surface water flooding.

Tidal flood risk

11.42 The Site is not at risk of tidal flooding.

Groundwater flooding

11.43 A review of the Bournemouth, Christchurch, East Dorset, North Dorset and Salisbury Strategic Flood Risk Assessment (Level 1, February 2008) (SFRA) confirms there have been some groundwater flooding events within East Dorset. The Dorset Council Preliminary Flood Risk Assessment (July 2011) (PFRA) Areas Susceptible to Groundwater Flooding map shows the Site to be in an area of approximately 0-25% risk.

11.44 The sensitivity of the Site to groundwater flooding is therefore considered to be low.

Sewer flooding

11.45 The Site is wholly greenfield at present with no on-site or adjacent sewers and as such, the sensitivity of the Site to sewer flooding is negligible.

Flooding from artificial sources

11.46 The EA's long term reservoir flood risk map shows that the Site is not in an area at risk of flooding from reservoir failure. Based upon this information, it is considered that the sensitivity of the Site to flooding from artificial sources is negligible.

Summary of receptor sensitivity

11.47 A summary of the sensitivity of water receptors based on the assessment of baseline conditions on and surrounding the Site is provided in Table 11.3.

Table 11.3: assessed Sensitivity of receptors

Receptor		Sensitivity
Existing surface water features		High
Groundwater		Medium
Flooding	Fluvial and surface water	Low
	Groundwater	Low
	Sewers	Negligible
	Artificial	Negligible

IMPACTS

Summary of Primary Mitigation Embedded in the Proposed Development

<u>Surface water drainage strategy</u>

11.48 Due to the size of the Site and based on the existing topography, the developable area has been split into four surface water catchments each with individual discharge rate restrictions. The greenfield runoff rates for each of the four surface water catchments on the Site were calculated using the Flood Estimation Handbook (FEH) method of calculation and are summarised in Table 11.4. The catchments are displayed in Figure 11.5.

Table 11.4: Greenfield runoff rates

Catchment	Greenfield Runoff Rate (litres/sec)			
	Qbar	1 in 1 year	1 in 30 year	1 in 100 year
1	139.6	118.7	321.1	445.4
2	114	96.9	262.2	363.6
3	137.2	116.6	315.5	437.6
4	107.6	91.5	247.5	343.2
Total Qbar1 (l/s)	498.4			

1 Qbar is the mean annual maximum runoff rate

11.49 The proposed drainage strategy layout shown in Figure 11.6, illustrates the SuDS features proposed to manage the surface water runoff from the Proposed Development. The surface water drainage strategy aims to control runoff from impermeable areas at source and attenuate through SuDS features. The strategy is based on management of the 1:100-year event plus 45% allowance for climate change and 10%v allowance for 'urban creep' (e.g. householders converting impermeable areas of their property to impermeable areas such as patios or driveways). The following SuDS features have been considered within the proposed surface water drainage strategy:

- Permeable Paving
- Bio-retention areas, Rain Gardens and Tree Pits
- Filter drains
- Swales
- Detention Basins
- Attenuation Ponds

11.50 The above SuDS features will provide treatment, conveyance and storage in accordance with the SuDS Manual C753.

11.51 The surface water runoff within each catchment will discharge into the associated attenuation structures via swales. Table 11.5 summarises the required attenuation volumes and plan areas for each of the catchments, based on a 1.5-metre-deep basin plus a 400mm freeboard, with 1 in 3 side batters.

Table 11.5: Required attenuation per catchment

Catchment	Developable Area (ha)	Qbar (l/s)	Attenuation volume (m3)	Attenuation Plan Area (m2)
1	16	139.6	7750	6120
2	12.8	114	6115	4990
3	12.3	137.2	5430	4440
4	13.1	107.6	6445	5190

11.52 The proposed surface water drainage system has been designed to effectively control all runoff generated within the Proposed Development and maintain pre-development greenfield runoff, without increasing flood risk on-site or elsewhere.

Foul drainage strategy

11.53 The foul effluent disposal requirements were discussed with Wessex Water and following an initial assessment including hydraulic modelling of the local sewer network, they confirmed the local sewer infrastructure could receive flows from the development with minor upgrades to their infrastructure.

11.54 Based upon the above assessment, the foul drainage strategy includes a proposed on-site pumping station at a low point of the Site in the south-east, which will then discharge water towards the existing Sewage Pumping Station on Sandleheath Road (10588 SPS), approximately 2 kilometres north of the proposed on-site pumping station.

11.55 The current proposal is that this route from the proposed pumping station to the existing SPS would consist of a 250mm diameter rising main approximately 1km in length to a high point in Hillbury Road. At this high point, it is then proposed there would be a break chamber, from where a gravity sewer would be required to direct the flows to the existing SPS. This gravity sewer would need to be approximately 1 kilometre in length and 300mm in diameter (with the final 79 metres leading to the existing SPS at 600mm diameter). This could potentially make use of the existing sewer via up-grading or a new sewer would be constructed as required, dependant on further assessment and subject to change. It is envisaged that these connections would all be in the public highway

11.56 To enable these proposals, further upgrades would be required on the existing drainage infrastructure downstream of the existing SPS. These upgrades would involve upsizing the outgoing sewers from the existing SPS as a result of the additional inflow. Wessex Water has performed an assessment on its existing Sewage Pumping Station on Sandleheath Road and has confirmed that this strategy is feasible.

Construction Impacts

Sewer flooding

11.57 There is no drainage system to surface water sewers on the Site that could be adversely affected during the construction of the Proposed Development. As there are no existing surface water drainage systems on-site the Proposed Development will have no impact during the construction phase of the development. Therefore, the scale of magnitude on existing surface water drainage infrastructure is negligible, and not significant.

11.58 The pre-application consultation with Wessex Water has confirmed that with appropriate off-site reinforcement, there would be appropriate capacity within its foul drainage network and as such, this has been considered as having a low sensitivity. During the construction phase, no additional foul sewage will be connected to the network and no significant effects on the foul drainage network are likely.

Surface water quality

11.59 Except for means of controlled discharge of surface water there will be no construction within proximity of surface watercourses such as Sleep Brook but surface water runoff from the Proposed Development will have potential continuity with surface watercourses via the phased construction of the surface water drainage strategy.

11.60 Surface water run-off in areas of construction works will be managed in accordance with prevailing good practice which will be secured by the implementation of a Construction Environmental Management Plan (CEMP). During construction, vehicles and equipment not directly involved in the construction of drainage features (for example swales), will be kept away from these areas. During construction the Principal Contractor will ensure that preventative measures have been put in place as to not allow the construction runoff drain into the newly constructed drainage system within that phase of the development or previous phases. Run-off collected from the construction/hardstanding areas will pass through a required treatment processes before being discharged to the attenuation features. Final sizing of individual drainage features will take place as part of the detailed design process by the relevant contractor. This design will need to be approved by the necessary statutory bodies.

11.61 The effects to newly constructed surface water sewers and hence surface watercourses during construction will be of negligible to low adverse magnitude (increasing as the Proposed Development progresses), which would be of negligible to slight adverse significance. This would not be significant in EIA terms.

Groundwater quality

11.62 Spillage and leakage of oils, fuels and chemicals during construction (e.g. during delivery and/or refuelling) are possible at the vast majority of construction sites and could potentially affect groundwater. These contaminants are most likely to comprise hydrocarbons in the form of fuels or oils but are anticipated to be short-term and localised incidents. Spillages could seep into the ground and enter the groundwater. Small quantities of oil have the ability to form extensive thin films, which cover a large surface area of receiving waters. During turbulent conditions, the oil film can form an emulsion with the water. Oil also has the ability to bind to the surface of sediments, strata, flora and fauna. Even at relatively low concentrations, oil can be toxic to aquatic species and make the water unsafe for human consumption.

11.63 The likely extent of such incidents would be localised, and the volumes would be limited due to the size of the construction vehicles. With the inferred depth of groundwater (potentially in the region of 3 metres below ground level) and the known permeability of ground conditions it is considered possible, based on professional judgement, that such contaminants could reach groundwater (i.e. there is the potential for a pollutant linkage). The appointed Contractor will be responsible for effectively managing spillages and emergency clean up kits for any chemical or oil spillages will be available on site. In the event of a spillage or leakage the magnitude would vary from low to high depending on whether the pollution was able to reach groundwater.

11.64 The groundwater resource is considered to be a receptor of medium sensitivity. Therefore, in advance of mitigation, due to variation in magnitude in the event of an oil spill or leakage incident the significance varies from negligible to moderate adverse. At the upper end this would be significant in EIA terms in advance of mitigation.

Fluvial flood risk

11.65 The developable areas of the Proposed Development are located within Flood Zone 1, and it is therefore considered to be of low sensitivity with respect to fluvial flooding. It is considered that during the construction phase that the Site will not be subject to fluvial flood risk, because of the relative distances to surface watercourses, and therefore the magnitude of effect is considered to be negligible, which is not considered significant.

11.66 The surface water drainage from the Site is to be managed via SuDS based on Greenfield runoff rates, therefore there will be no additional discharge to rivers during the construction phase and hence the potential for the Proposed Development to increase downstream fluvial flood risk is also **negligible** and not significant.

Groundwater food risk

11.67 The Site is considered to be of low sensitivity with regards to groundwater flooding. The construction works will not significantly change the pattern of drainage on the Site as SuDS will be implemented as construction progresses and as a result, it is considered that the magnitude of effect during the construction phase is considered to be **negligible** and not significant.

11.68 The construction phase has the potential to marginally increase the infiltration when the topsoil has been stripped however due to the phased construction of the Proposed Development it is considered unlikely that this will occur over a large portion of the Site at the same time, therefore it is deemed to be of negligible magnitude resulting in an overall effect which is **not significant.**

Surface water flood risk

11.69 The majority of the Site is classified as being at low sensitivity to surface water flooding. There are localised areas of higher risk. Construction activities will not change the overall drainage conditions on the Site (i.e. permeable soils and geology), but construction activities and the movement of construction plant and machinery is likely to result in compaction of soils and this is likely to increase the potential for localised increases in surface runoff.

11.70 The limited areas of high surface water flood risk on the Site are associated with existing linear drainage features (e.g. field drains), which are inherently at a lower elevation than the surrounding land surfaces and are designed to capture surface water. The Proposed Development will remove these features and replace their drainage function with the site-wide surface water drainage strategy. The effect of the construction of the Proposed Development on surface water flooding will therefore be of negligible magnitude, which is **not significant** in EIA terms.

Operational Impacts

Foul drainage

11.71 The sensitivity of the existing foul drainage has been considered as low. The Proposed Development will be creating an increase in foul flow, which Wessex Water has a statutory commitment to accept, given advanced warning. Whilst the pre-application consultation with Wessex Water has confirmed that there would be no foul sewer capacity issues that would affect the Proposed Development, in its statutory role, Wessex Water will be required to undertake off-site capacity reinforcements/improvements to existing mains sewers which will accommodate the additional flows from the Proposed Development.

11.72 The projected foul flows from the Proposed Development will be fully mitigated by the off-site reinforcements proposed by Wessex Water resulting in a low adverse magnitude of effect, which would represent an effect of **negligible** significance in EIA terms.

Surface water quality

11.73 The SuDS components within the surface water drainage strategy (**Figure 11.6**) have been designed in accordance with the guidance set-out in the SuDS Manual.

11.74 Treatment within SuDS components is essential for frequent low intensity and duration rainfall events, where urban contaminants are being mobilised and washed off urban surfaces and the aggregated contribution to the total pollutant load to the receiving surface water body is potentially high. For rainfall events greater than the 1 in 1 return period, the pollutants become diluted, and the environmental risks

will be reduced which means that the SuDS treatment process becomes less crucial. Treatment effectiveness is strongly linked to the hydraulic control of runoff, in particular velocity control and retention time.

11.75 Table 26.2 of the CIRIA SuDS Manual provides the pollution hazard indices for different land use classifications as shown in Table 11.6 below.

Table 11.6: CIRIA Pollution hazard indices for different land use classifications

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Residential Roofs	Very Low	0.2	0.2	0.05
Commercial/Industrial Roofs	Low	0.3	0.2	0.05
Individual property driveways, residential car parks, low traffic roads, car parks with infrequent change*	Low	0.5	0.4	0.4

* This is also considered applicable to the main vehicular route/bus corridor through the Proposed Development

11.76 Based on the proposed land uses, the potential level of surface water pollution associated with the Proposed Development is low.

11.77 Table 11.7 summarises the treatment efficiency of different SuDS components discharging to surface waters as detailed in Chapter 26 of the SuDS Manual. As the planning application is at the outline stag, a wide range of potential drainage features could be feasible as part of a future detailed surface water drainage strategy and the main ones that are anticipated to be utilised have been listed below.

Table 11.7: CIRIA Indicative SuDS Mitigation Indices for Discharges to surface water

	Mitigation Indices		
Type of SuDS Component	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Filter Strip	0.4	0.4	0.5
Filter Drain	0.4	0.4	0.4
Swale	0.5	0.6	0.6
Bioretention System	0.8	0.8	0.8
Permeable Pavement	0.7	0.6	0.7
Detention Basin	0.5	0.5	0.6
Pond	0.7	0.7	0.5
Wetland	0.8	0.8	0.8

11.78 Where multiple drainage features are used, the efficiency of the secondary system to treat water is reduced. The surface water attenuation structures within the Proposed Development are anticipated to be a combination of detention basins and ponds. For the purpose of this assessment, the lowest value (detention basin) has been used as a worst-case scenario. By using a swale discharging into a detention basin the combined mitigation indices would be as set out in Table 11.8.

Table 11.8: Mitigation Indices for Proposed Combined Drainage System

	Mitigation Indices	Total Mitigation
TSS	0.5 + 0.5(0.5)	0.75
Metals	0.6 + 0.5(0.5)	0.85
Hydrocarbons	0.6 + 0.5(0.6)	0.90

11.79 With the land uses proposed and the treatment train provided through the proposed surface water drainage strategy, the predicted magnitude of effect to surface water quality would be low adverse.

When considered in conjunction with the high sensitivity of surface watercourses within this assessment, the predicted significance of effect would be **slight adverse**. This change would **not** be considered **significant** in EIA terms.

Groundwater quality

11.80 There will be no land uses on the Proposed Development that will present a substantial potential source of contamination to groundwater and the use of SuDS techniques, including pre-treatment that removes suspended solids and hydrocarbons, mixed with traditional methods of water conveyance and storage will capture surface water flows and are not likely to impact on groundwater quality. Groundwater sensitivity is deemed medium, with the magnitude of the effect is considered to be negligible, resulting in **no significant** effect.

Fluvial flood risk

11.81 It is considered that during the occupational phase that the Site will not be subject to increased fluvial flood risk because of the relative distance to surface watercourses and current areas within Flood Zone 2 and 3. For this reason the magnitude of effect is considered negligible, which would **not be significant**.

11.82 The surface water drainage from the Proposed Development is to be managed via SuDS within the Site with controlled discharge based on Greenfield runoff rates, therefore there will be no additional discharge to rivers and no risk of increased downstream fluvial flood risk. The magnitude effect of the Proposed Development on off-site fluvial flood risk will be negligible, which **is not significant**.

Surface water flood risk

11.83 During the occupational phase of the Proposed Development, the impermeable area will have increased from the existing conditions. However, the SuDS have been designed to manage surface water within the Site and attenuate when required to discharge at the existing Greenfield run-off rate. The sensitivity of the Site to surface water flood risk sensitivity is considered to be low, and the changes in landform associated with the Proposed Development in conjunction with the proposed surface water drainage strategy and maintenance of surface water flow paths will result in a low adverse magnitude of change. The resultant significance of effect will be **negligible**, and **not significant** in EIA terms.

Groundwater flood risk

11.84 Due to the nature of the geology on the Site and the unknown infiltration potential, the surface water drainage strategy has not assumed infiltration of water to ground as a SuDS technique at the outline application stage. The Proposed Development (by its very nature) will change the pattern of drainage on developed areas of the Site, with a decrease in the amount of infiltration to the underlying groundwater. The groundwater flood risk sensitivity is considered to be low and the potential beneficial magnitude of change with respect to groundwater flood risk being negligible, which is **not significant** in EIA terms.

MITIGATION

11.85 Mitigation measures proposed are in response to the significant effects predicted in the preceding section of the chapter and are in addition to the primary mitigation measures that have been incorporated into the Proposed Development (refer to paragraphs 11.48 to 11.54).

11.86 This section outlines the secondary mitigation measures envisaged in order to avoid, reduce or off-set potential adverse impacts during the construction and occupation / operational phases of the Proposed Development.

Construction Mitigation

11.87 In recognition of potential significant adverse effects resulting from construction activities in relation to the Proposed Development, mitigation measures will be implemented via careful management of the construction process and the implementation of a Construction Environmental Management Plan (CEMP) in order to reduce the magnitude any significance of the effects. A Framework CEMP will be prepared as the detailed design and Reserved Matters progress. It is anticipated that the Framework CEMP will form the basis of detailed CEMPs secured via planning conditions. Mitigation measures to be adopted during the construction phase will follow the principles of the former Pollution of Prevention Guidelines (PPGs) published by the Environment Agency, with particular reference to:

- PPG 1: Understanding your environmental responsibilities – good environmental practices,

- PPG 2: Above ground oil storage,
- PPG 3: Use and design of oil separators in surface water drainage systems,
- PPG 4 Treatment and disposal of sewage where no foul sewer is available,
- PPG 5: Works and maintenance in or near water,
- PPG 6: Working at construction and demolition sites,
- PPG 7: Safe storage – The safe operation of refuelling facilities,
- PPG 8: Safe storage and disposal of used oils,
- PPG 13: Vehicle washing and cleaning,
- PPG 18: Managing fire, water and major spillages,
- PPG 21: Pollution incident response planning,
- PPG 22: Incident response – dealing with spills,
- PPG 26: Sate storage – drums and intermediate bulk containers.

11.88 Although the PPGs have been withdrawn, they provide sound good practice advice to minimise impacts. The mitigation measures listed below will be included within the CEMP:

- All spills, regardless of size are to be reported,
- Fuel, oil or chemical storage required will be stored on impervious bases of appropriate capacity and will be located away from watercourse in accordance with the Environment Agency's PPGS 1,2 and 7 as well as COSHH Regulations 2002 and the Control of Pollution (Oil Storage) Regulations 2004,
- Drainage from storage compounds will be passed through oil interceptors prior to discharge,
- Leaking and empty drums will be removed from the Site and disposed of appropriately,
- Any refuelling of mobile plant and machinery will be undertaken in a designated area away from surface drains, and supplied with appropriate spill kits and bunded bowers,
- All mobile plant will have drip trays or the equivalent under them to prevent any leaks getting to the ground,
- The handling and storage of potentially hazardous liquids on site e.g. fuels and chemicals will be controlled and good practice guidance from the Environment Agency will be applied,
- Biodegradable hydraulic oil will be used to for machinery/plant where possible,
- Operational outlets to the public sewers to be protected from debris and filters/screens/sumps employed,
- All drums and barrels will be fitted with flow control taps and will be properly labelled,
- Portable toilets (for initial site set up works only) and good quality temporary toilet facilities will be provided for construction worker use in order to prevent water pollution resulting from worker-generated sewage effluents. The wastewater from these facilities will be tankered off site and disposed of appropriately,
- The washing of any concrete mixing plant or ready-mix lorries will be carried out in a suitably bunded/sealed area at least 10 metres from any drain to prevent effluent from cleaning being allowed to flow into any drain. Manholes and catch pits will be covered to prevent concrete/cement ingress,
- Haul roads and hardstanding on the development area and approaches to drains will be regularly cleaned using water bowsers and/or road sweepers to prevent the build-up of mud, oil and dirt that may be washed into a drain during heavy rainfall,
- The use of water sprays to reduce dust or wash down within construction areas will be carefully regulated to avoid washing substantial quantities of silt etc., into surface water drains,
- Spill kits will be located within the works compounds and at any location where fuel, oil or other chemicals are in use.

11.89 Furthermore, the proposed drainage network on the Site will be installed at the start of each phase of development. Each primary SuDS feature must be adequately protected to ensure that the overall drainage design for the Site is not compromised.

11.90 The implementation of the CEMP would break the pollutant linkage, and this is considered likely to reduce the magnitude of spills and leaks previously discussed for groundwater quality from 'low to high' during construction to low magnitude. This would reduce the predicted significance of effect to negligible, which would not be significant.

Operational Mitigation

11.91 No additional secondary mitigation is considered to be required for the occupation / operational phase of the Proposed Development, over and above the implementation of the proposed surface water drainage strategy to be approved through the detailed design stage and Reserved Matters.

RESIDUAL IMPACTS

11.92 This assessment has demonstrated that following the implementation of the proposed mitigation during the construction phase of the Proposed Development, there would be no likely significant impacts to the water environment.

CUMULATIVE IMPACTS

11.93 Whilst there are other local developments in the vicinity of the Site for which cumulative impact has been considered within the ES, each will be required to demonstrate that it will not increase the risk of flooding off-site and as such, there will not be any significant cumulative effect to flood risk.

11.94 Similarly, it is expected that every development will be required to implement good-practice methods to control the risk of contamination to the water environment through construction and there would be no likely significant cumulative effects to groundwater associated with the respective construction phases.

11.95 Every development that is seeking foul connection to the public sewerage network will be required to enter into appropriate agreement with Wessex Water and this will include appropriate reinforcement/improvements to its network to accommodate the projected additional foul flows. As a result of this statutory process, there would be no likely significant cumulative effects associated with foul drainage.

SUMMARY

11.96 The Site currently comprises mostly arable fields and grassland and much of the Proposed Development will replace permeable ground cover with impermeable surfaces, which has the potential to increase surface water run-off from the Site. Whilst there are no land uses proposed that could represent significant potential to pollute the water environment, the nature and extent of the construction process is assessed within the ES.

11.97 There are a number of permanent water bodies, rivers or streams within the Site boundary. The nearest Main River is the River Avon, located approximately 1.9 kilometres to the east of the Site. The majority of the Site is classified by the EA as 'very low risk' from surface water flooding i.e. the area has a less than 1 in 1,000 chance of flooding annually. Groundwater flooding is considered a low risk to the Site following results of groundwater monitoring.

11.98 The proposed surface water drainage strategy will utilise Sustainable Drainage Systems (SuDS) and will hold surface water in a number of basins/ponds before discharging water in a controlled manner into watercourses. The proposed surface water drainage system will be able to effectively capture and control all runoff generated within the Site and maintain pre-development runoff rates, without increasing flood risk elsewhere. The proposed strategy for managing foul water is to utilise a new on-site pumping station that will convey foul flows from the Proposed Development to the public foul sewer network in Hillbury Road, and then on to the Wessex Water pumping station at Sandleheath Road approximately 850 metres north of the Site boundary.

11.99 The predicted likely effects of the Proposed Development on the water environment are summarised in Table 11.9 below. There is potential for significant adverse effects to the water environment resulting from construction (such as spillage and leakage of oils, fuels and chemicals during construction). Provisions for the management of construction activities will be set out in a Construction Environmental Management Plan (for example, spill kits to be located within the works compound, and all drums/barrels will be fitted with flow control taps), which will ensure that any likely effects are minimised. The use of sustainable drainage techniques mixed with traditional methods of water conveyance and storage will

capture surface water flows and therefore should not increase the impact on the groundwater quality. Each SuDS feature must be adequately protected to ensure that the overall drainage design for the Proposed Development is not compromised.

11.100 With the implementation of mitigation measures embedded within the design of the Proposed Development and those proposed for control of construction impacts, no significant risks or effects are likely to occur as a result of the Proposed Development on the water environment.

TABLE 11.9: SUMMARY TABLE

Description of Likely Significant Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Effects					Description of Mitigation / Enhancement Measures	Description of Residual Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Residual Effects				
		B/A	P/T	D/I	ST/M/ LT	L/R/N				B/A	P/T	D/I	ST/M/ LT	L/R/N
Construction Phase														
Sewer flooding to surface water sewers	Negligible	Adverse/Temporary/Direct/Short Term/Local					None required	N/A	N/A	N/A				
Surface water quality	Negligible to Slight	Adverse/Temporary/Direct/Short Term/Local					None required	N/A	N/A	N/A				
Groundwater quality	Negligible to Moderate	Adverse/Temporary/Direct/Short Term/Local					Controls through a CEMP	N/A	N/A	N/A				
Changes to fluvial flood risk off-site	Negligible	Adverse/Temporary/Indirect/Short Term/Local					None required	N/A	N/A	N/A				
Changes to groundwater flood risk	Negligible	Adverse/Temporary/Indirect/Short Term/Local					None required	N/A	N/A	N/A				
Changes to surface water flood risk	Negligible	Adverse/Temporary/Indirect/Short Term/Local					None required	N/A	N/A	N/A				
Operational Phase														
Increased impact on off-site foul drainage infrastructure	Negligible	Adverse/Permanent/Direct/Long Term/Local					None required	N/A	N/A	N/A				
Changes in surface water quality	Slight	Adverse/Permanent/Indirect/Long Term/Local					None required	N/A	N/A	N/A				
Changes in groundwater quality	Negligible	Adverse/Permanent/Direct/Long Term/Local					None required	N/A	N/A	N/A				
Changes to off-site fluvial flood risk	Negligible	Adverse/Permanent/Indirect/Long Term/Local					None required	N/A	N/A	N/A				
Changes to surface water flood risk	Negligible	Adverse/Permanent/Indirect/Long Term/Local					None required	N/A	N/A	N/A				
Changes to groundwater flood risk	Negligible	Beneficial/Permanent/Indirect/Long Term/Local					None required	N/A	N/A	N/A				

Beneficial or Adverse) (B/A), (Permanent or Temporary) (P/T), (Direct or Indirect) (D/I), (Short Term, Medium, Long Term) (ST, M, LT), (Local, Regional, National) (L, R, N)

12 ARCHAEOLOGY/HERITAGE

INTRODUCTION

12.1 This chapter of the ES has been prepared by Wessex Archaeology and assesses the impact of the Proposed Development on the historic environment resource, including archaeology, geoarchaeology, historic landscape and built heritage, and the likely significance of effects during its construction and operational phases. It is supported by the following appendices which should be read in conjunction with this chapter:

- **Technical Appendix 12.1:** Land at Alderholt Common, Alderholt, Dorset, Historic Environment Desk-based Assessment (Wessex Archaeology 2022a),
- **Technical Appendix 12.2:** Alderholt Meadows: Policy Tests,
- **Technical Appendix 12.3:** Land at Alderholt Common, Alderholt, Dorset, Geophysical Survey Report (Wessex Archaeology 2022b),
- **Technical Appendix 12.4:** Alderholt Meadows, Fordingbridge, Dorset: Overarching Written Scheme of Investigation for Archaeological Programme.

CONTEXT

12.2 The purpose of this section is to outline the legislation, policy and guidance pertinent to this chapter. Policy tests applicable to this chapter in regard to the historic environment are presented in **Technical Appendix 12.2**. These have been undertaken in order to allow the alignment of the requirements of determining harm as defined in the National Planning Policy Framework (NPPF) to a heritage asset with the requirement of the Environmental Impact Assessment (EIA) regulations.

Legislation

Ancient Monuments and Archaeological Areas Act 1979

12.3 The Act consolidates the law relating to ancient monuments, in particular Scheduled Monuments.

Planning (Listed Buildings and Conservation Areas) Act 1990

12.4 The Act changed laws in relation to granting of planning permission for building works with a particular focus on Listed Buildings and Conservation Areas. The Act places a duty on decision-makers to "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". Case law precedent and subsequent policy has established that "great weight" should be attached to this desirability in the planning balance. It should be noted that, whilst Historic England have divided Listed Buildings into grades, reflecting their perceived importance and special interests (and this is reflected to some extent in the NPPF), the Act itself does not make a distinction, and all buildings on the list are afforded equal protection.

National Planning Policy Framework

12.5 The NPPF was updated in July 2023 and sets out the government's planning policies for England and how these are expected to be applied.

12.6 Section 16 of the NPFF, entitled *Conserving and enhancing the historic environment*, sets out the principal national guidance on the importance, management and safeguarding of heritage assets within the planning process.

12.7 To summarise, government guidance provides a framework which:

- Recognises that heritage assets are an irreplaceable resource,
- Requires applicants to provide proportionate information on the significance of heritage assets affected by the proposals and an impact assessment of the proposed development on that significance,
- Takes into account the desirability of sustaining and enhancing the significance of heritage assets and their setting,
- Places weight on the conservation of designated heritage assets, in line with their significance, and

- Requires developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner of proportionate to their importance and impact, and to make this evidence (and any archive generated) publicly accessible.

12.8 Further guidance intended to accompany the NPPF is provided in the Planning Practice Guidance (PPG) web-based resource Historic Environment maintained by the Department for Levelling Up, Housing and Communities.

Local Planning Policy

Christchurch and East Dorset Local Plan Core Strategy (adopted 2014)

12.9 As the Site was previously situated within East Dorset, the Christchurch and East Dorset Local Plan is applicable, in particular Policy HE1 'Valuing and Conserving our Historic Environment' which is presented in Technical Appendix 12.2.

Guidance

12.10 The following historic environment guidance has been considered in the preparation of this chapter as far as is practicable:

- Chartered Institute for Archaeologists (CIfA 2014, rev. 2020). Standard and guidance for historic environment desk-based assessment,
- Historic England, 2015. GPA 2 - Managing Significance in Decision-Taking in the Historic Environment,
- Historic England, 2017. GPA 3 – The Setting of Heritage Assets,
- Historic England, 2019. Statements of Heritage Significance: Historic England Advice Note 12,
- Historic England, 2020. GPA 4 – Enabling Development and Heritage Assets, and
- IEMA, 2021, Principles of Cultural Heritage Impact Assessment in the UK.

METHODOLOGY

12.11 This chapter considers to what extent the construction and operation of the Proposed Development impact upon heritage assets identified within the Site and Study Area, based on a review of desk-based information and field survey.

12.12 The following potential effects have been identified for consideration in this assessment:

- Effects during construction from intrusive ground works on buried archaeological assets including:
  a) Known remains identified from existing data sources,
  b) Likely remains unidentified during field survey, and
  c) Currently unknown remains.
- Effects during operation on designated and non-designated heritage assets through a change in their setting within:
  a) A 1 km Study Area used in the supporting HEDBA (Technical Appendix 12.1), and
  b) Additional heritage assets within the broader landscape, beyond 1 km, identified during this assessment selected though professional judgement and an understanding of their significance.
- Effects on the following have been scoped out of any further assessment:
  - Effect on heritage assets through a temporary change in setting during construction. Any impacts from construction traffic and activity though increased visibility, noise and/or vibration will be entirely limited to working hours and reversible upon completion. No heritage assets were identified which derived any significance from elements which could be affected by those activities.

Embedded Mitigation

12.13 The Proposed Development includes embedded mitigation within the design which comprises the avoidance of known non-designated heritage assets in the areas set out for development of housing.

12.14 The landscape strategy chapter 8 indicates this area in the west of the Site will be used as part of a SANG primarily comprising open grass area and hedgerows. Some soft and hard landscaping may be required in these areas, particularly for the creation of a number of ponds.

12.15 As the application is at an outline stage with the final design not produced, this assessment has assumed a worst-case scenario where there will be direct impacts to known and unknown archaeological remains across the Site.

12.16 Mitigation embedded within the design to limit any impacts to heritage assets through a change in setting comprises housing heights at between 2 to 3 storeys high and the retention of a large area of open land within the western section of the Site. This open area ensures development will remain distant to the Scheduled Barrows to the south-west.

Establishment of Baseline Conditions

12.17 The baseline conditions for this assessment have comprised both desk-based exercises and field surveys as follows:

- Desk-based work undertaken for this assessment comprises a Historic Environment Desk-based Assessment which included a geoarchaeological review,
- Field survey work comprised walkover and settings assessments undertaken on 25th March 2022 and 28th July 2022 and a geophysical survey across the available areas of the Site in August and October 2022.

Significance of heritage assets

12.18 Heritage significance is defined in NPPF Annex 2 as "*the value of a heritage asset to this and future generations because of its heritage interest. The interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting.*"

12.19 Historic England's *Statements of Heritage Significance: Analysing Significance in Heritage Assets* (2019) follows the NPPF's approach and further defines these interests as:

- Archaeological Interest: there will be archaeological interest in a heritage asset if it holds, or potentially holds, evidence of past human activity worthy of expert investigation at some point,
- Architectural Interest: these are interests in the design and general aesthetics of a place. They can arise from conscious design or fortuitously from the way the heritage asset has evolved. More specifically, architectural interest is an interest in the art or science of the design, construction, craftsmanship and decoration of buildings and structures of all types,
- Artistic interest: an interest in human creative skills, like sculpture, and
- Historic Interest: An interest in past lives and events (including prehistoric). Heritage assets can illustrate or be associated with them. Heritage assets with historic interest not only provide a material record of our nation's history but can also provide meaning for communities derived from their collective experience of a place and can symbolise wider values such as faith and cultural identity.

12.20 In order to avoid confusion with significance of effect, significance in relation to the value of a heritage asset will be referred to throughout chapter as 'heritage significance'.

Heritage Significance

12.21 For cultural heritage assessments, it is important to make an explicit distinction between the heritage significance of an asset and its 'sensitivity to change'. Some assets of the highest designation will not be sensitive to the types of changes proposed, whilst others will be more so. This will be assessed on a case-by-case basis for each asset and set out in the assessment text in this chapter, as appropriate.

12.22 The heritage significance of a heritage asset is determined through the sum of its interests (archaeological, architectural, artistic or historic), as defined in the NPPF, as expanded on in Historic Environment Good Practice Advice in Planning 2 (Historic England 2015).

12.23 When considering the heritage significance of a heritage asset, designation status is used as a proxy as it is implicit that an asset must hold value or interest enabling it to meet the criteria for designation in the first place. This determination is further justified through the legal protection afforded to the designations and their meaning in terms of the application of planning policy.

12.24 Using this proxy criteria, in addition to national planning policy and guidance, and through professional judgement, Table 12.1 below has been amended and adapted to encompass both designated and non-designated heritage assets.

12.25 This attribution of an asset to a level of heritage significance is based on the asset's merit and the sum of its interests, not just its recognised status (e.g., designated, non-designated, locally listed etc.).

Table 12.1 Levels of Heritage Significance

Heritage Significance	Type of Heritage Asset
Very High	World Heritage Sites Non-designated heritage assets which are considered to be of international importance (likely directly associated with World Heritage Sites)
High	Scheduled Monument Grade I and II* Listed Buildings Conservation Areas (of national importance) Grade I and II* Registered Parks and Gardens Registered Battlefields Non-designated heritage assets considered to be nationally important (likely directly associated with the above designated heritage assets)
Medium	Grade II Listed Buildings Conservation areas (of regional importance) Grade II Registered Parks and Gardens Non-designated heritage assets which are considered to be of regional importance
Low	Non-designated heritage assets of local importance
Negligible	Non-designated heritage assets of poor understanding, preservation, condition and survival (this could also include common archaeological features and/or buildings with little to no discernable value)

12.26 While Table 12.1 nominally sets out heritage significance levels, in all cases professional judgement will be used in determining cultural significance. Where assets are placed in a different level to those set out above, a rationale and justification will be made explicit in text.

12.27 All designated heritage assets are afforded the same level of statutory protection irrespective of their official grading or status (e.g., Grade I Listed Building, Scheduled Monument etc.).

Magnitude of impact

12.28 Once heritage significance is determined, the magnitude of impact needs to be established through a judgement on the nature of the impact (see Table 12.2 below).

12.29 Impacts can be direct or indirect and can occur during the construction or operations phases of development.

12.30 Typically, direct impacts occur during the construction phase of a development and are permanent. The loss of or damage to an archaeological asset(s) cannot be repaired, replaced or recreated.

12.31 Indirect impacts generally occur during the operational phase of a development where the built completed built form is situated with the landscape. Impacts occur through changes in setting (arising from a visual intrusion etc.) which may cause a reduction to the contribution that the setting makes to the heritage significance of an asset, so that there is an impact (reduction) on the overall heritage significance, or that the heritage significance can no longer be appreciated or experienced.

Table 12.2 Magnitude of impact

Magnitude of Impact	Description
High	Total loss of or major physical damage to or significant alteration to a site, building or other feature. Extensive change (e.g., loss of dominance, intrusion on key view or sightline) to the setting of a designated heritage asset or other feature recognised to be of national importance, which may lead to a major alteration in the contribution of that setting

Magnitude of Impact	Description
	to the heritage significance of the asset so that the asset loses heritage significance, and a major alteration in the ability to experience and/or appreciate that heritage significance.
Medium	Damage or alteration to a site, building or other feature. Change in setting (e.g., intrusion on designed sight-lines and vistas) to monuments / buildings and other features, which may lead to a moderate alteration in the contribution of that setting to the heritage significance of the asset resulting in a change/reduction in the ability to experience/appreciate that heritage significance.
Low	Minor damage or alteration to a site, building or other feature. Minor change in setting (e.g., above historic skylines or in designed vistas) of Monuments, Listed Buildings, sites and other features, which may lead to a small alteration in the contribution the setting makes to the heritage significance of the heritage asset, resulting in limited loss of heritage significance. Limited change in or reduction of the ability to experience or appreciate the heritage significance of an asset.
Negligible	No physical effect Slight or no change in setting, with no change in the contribution that setting makes to the heritage significance of the asset. No change in the ability to experience or appreciate the heritage significance of the asset.

Significance of effects

12.32 The predicted significance of effect has been determined through a standard method of assessment based on professional judgement, considering both heritage significance and magnitude of impact. This method is presented in Table 12.3.

12.33 The significance of effect in EIA is binary, either an effect is significant, or it is not. Only major and moderate effects are considered significance in the context of EIA regulations. For cultural heritage, the highest order of significance of effect would be recorded as 'major'.

12.34 Effects can be beneficial or adverse and temporary or permanent, where temporary makes reference to the effects limited to the construction phase of the Proposed Development.

12.35 All direct impacts are permanent, while indirect effects can be permanent or long term but fully reversible upon decommissioning (where possible).

Table 12.3 Significance of Effects Matrix

Magnitude of Impact	Heritage Significance of heritage asset				
	Very High	High	Medium	Low	Negligible
High	Major (Significant)	Major (Significant)	Moderate (Significant)	Minor (Not Significant)	Negligible (Not Signifcant)
Medium	Major (Significant)	Moderate (Significant)	Minor (Not Significant)	Minor (Not Significant)	Negligible (Not Significant)
Low	Moderate (Significant)	Minor (Not Significant)	Minor (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)
Negligible	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)	Negligible (Not Significant)

Guidance on Setting

12.36 Paragraph 194 of the NPPF requires that when determining applications *"local planning authorities should require an applicant to describe the significance of any heritage asset affected, including any contribution made by their setting"* to that heritage significance.

12.37 Historic England's GPA3 guidance is a key document on the matter of setting and complies with the NPPF by stating that *"setting is not itself a heritage asset, nor a heritage designation, although land comprising a setting may itself be designated*" (paragraph 9 of GPA 3). This conforms with the NPPF which states that setting is *"the surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve."*

12.38 Setting can be both tangible, for example, in the sense of a defined physical boundary, or intangible, for example, the ambience surrounding a heritage asset. Although visual envelopes, e.g., areas that might close off views, surrounding an asset should be considered where appropriate, setting is not just defined by such boundaries which are typically more visually apparent.

12.39 Setting can make a positive, negative or no contribution to the significance of an asset and may affect the ability in which the significance of an asset is appreciated or understood. Therefore, the importance of setting is in the way it contributes to the heritage significance of an asset. As such, mere proximity to an asset or intervisibility with it in itself is not necessarily harmful to an asset if its heritage significance is not harmed by this.

12.40 The setting assessment employed in this chapter and associated appendices is guided by Historic England's GPA 3 which broadly advocates a systematic and staged approach captured in the following stepped approach as follows:

- Step 1 of the approach is to identify which heritage assets and their settings are affected.
- Step 2 requires assessment of the degree to which these settings and views make a contribution to the significance of the heritage asset(s) or allow significance to be appreciated.
- Step 3 is to assess the effects of the proposed development, whether beneficial or harmful, on the significance or on the ability to appreciate it.
- Step 4 is to explore ways to maximise enhancement and avoid or minimise harm.
- Step 5 is to make and document the decision and monitor outcomes.

12.41 Only Steps 1-3 of the above have been completed in this chapter where applicable on account of the application being submitted in outline.

Consultations

12.42 Consultations undertaken with the County Archaeologist for Dorset County Council, archaeological advisor to the local planning authority, in July 2022 were undertaken by Wessex Archaeology to determine the requirement for archaeological works required pertinent to the Proposed Development.

12.43 In the first instance, a geophysical survey was requested to identify the likely archaeological resource and potential for as yet unknown remains within the Site.

12.44 Upon completion of the geophysical survey, further consultation was carried out which provided the results of the survey along with commentary on the potential archaeological resource on the Site. Discussions via email in November 2022 set out a preferred position that while further evaluative work in the form of trial trenching would be required, this would be undertaken post-determination in line with a Written Scheme of Investigation (WSI) submitted with the EIA.

12.45 Following the submission of the Scoping Opinion Report the following responses were received from the relevant consultees. These are listed along with commentary on how these comments have been addressed and incorporated into the assessment.

Table 12.4 Scoping responses and actions

Consultee	Response	Action
Historic England	Advised the local authority's conservation and archaeology advisors are closely involved in the preparation of the application assessments	Conversations were undertaken with representativels of local authority across the project to determine the suitability of the assessment methodlogy. All assessment methodologies set out in this assessment are in line with industry standards and guidance.

Consultee	Response	Action
Dorset County Council Senior Archaeologist	Recommended that archaeological trial trenching follows on from the completed geophysical survey prior to determination of the application.	As the application is at an outline stage and is due to be delivered over a sustained period of time in addition to the lack of identifdiable significant archaeological remains and on-site conditions, trial trenching in support of the application has not been possible. However, to offset this, an Overarching Written Scheme of Investigation for Archaeological Programme has been provided as Technical Appendix 12.4 which sets out and codifies the requirement for additional evaluative works, and subsequent mitigation if required, to be undertaken pre-commencement as and when reserved matters applications are brought forward.
Historic England	Concur with the requirement for further evaluative work set out within the scoping report	Geophysical survey has been undertaken across all accessible areas of the site and the need for and scope of any evaluative trenching set out within the Overarching Written Scheme of Investigation for Archaeological Programme to be implemented as part of any reserved matters application post-consent.
Historic England	Identified the ptoetial for archaeological sites to be uncovered within the site namely those associated with the nearbt Bronze Age Bowl Barrows and that should such remains be uncovered theyt wouild be requried to be considered in line with NPPF footnote 68 as equalvalent to designated hertiage assets in the determination of harm/impacts	There is no indication from the work undertaken so far that such remains would be present within the Site. However, should that prove to be the case through future work, the requirement for any mitigation will be determined in line with the Overarching Written Scheme of Investigation for Archaeological Programme in consultation with the Dorset County Council Senior Archaeologist

Assumptions and limitations

12.46 Data used to compile the assessment consists of information derived from a variety of sources, only some of will be directly examined for the purposes of this assessment. The assumption is made that this data, as well as that derived from other secondary sources, is reasonably accurate.

12.47 The Historic Environment Record (HER) is not a record of all surviving heritage assets, but a record of the discovery of a wide range of archaeological and historic components of the historic environment. The information held within it is not complete and does not preclude the subsequent discovery of further elements of the historic environment that are, at present, unknown.

BASELINE CONDITIONS

12.48 This section presents a summary of the known historic environment resource within the Site and Study Area based on the findings of the HEDBA (Technical Appendix 12.1), observations made during Site visits carried out on 25th March 2022 and 28th July 2022 and the results of a geophysical survey undertaken in August 2022 (Technical Appendix 12.3).

12.49 Designated and non-designated heritage assets are referenced by their National Heritage List for England (NHLE) or Dorset HER (DHER) reference number as appropriate.

Topography

12.50 The topography of the Site, the environs immediately surrounding it and that of Alderholt village is relatively level, however, land generally rises to the woodlands to the north, south and west. The settlement of Alderholt is located on an area of elevated topography forming a promontory which extends across the county border into Hampshire to the east. Towards the Hampshire border the ground slopes from c. 60 m above Ordnance Datum (aOD) to c. 28 m aOD.

12.51 Broadly, the Site undulates from c. 60 m aOD at the northern extent of the larger area to c. 50 m aOD towards Warren Park Farm in the south. The smaller area broadly rises east to west from c. 50 m aOD to c. 55 m aOD.

12.52 The underlying bedrock of the Site varies between the Parkston Sand Member (sand), which covers the majority of the Site, and the Broadstone Clay Member (clay, silty), recorded along Ringwood Road and at the Site's most western boundary (British Geological Survey, 2022). Superficial river terrace deposits (sand and gravel) are recorded within three clusters spread across both parts of the Site.

Geoarchaeological summary

12.53 The Site contains Pleistocene terrace deposits and Pleistocene Head deposits. While the date of the terrace deposits is poorly understood, they have potential to contain Palaeolithic remains and potential for palaeoenvironmental deposits which could contain units suitable for luminescence dating. In terms of the Pleistocence Head deposits, the age and Palaeolithic, archaeological and geoarchaeological potential of these sediments is currently unknown.

12.54 Further information is provided in Section 4.2 of Technical Appendix 12.1.

Summary of archaeological and historic background

Prehistoric (970,000 BC–AD 43)

12.55 Taking into consideration general trends across the country, the higher ground at Alderholt would have been attractive for prehistoric activity, with activity from the Mesolithic period onwards recorded within the Study Area. In terms of Mesolithic to Neolithic activity, this is largely represented by flint scatters which appear to focus on the area between the River Avon and Hillbury Road with the exception of a possible occupation site of the same date range (HHER 29742) just within the eastern extent of the Study Area (to the east of Lomer Lane).

12.56 While there is limited Bronze Age settlement activity within the Study Area, aside from the presence of a ditch (HHER 71917) and an enclosure (HHER 70446) within the Hampshire part of the Study Area, the Study Area is rich in funerary activity represented by barrows in addition to multiple findspots denoting the recovery of stone axes and flints.

12.57 Comparatively, there is relatively little Iron Age evidence, indicating that there might have been little continued occupation within the area. Only the site of a pit (HHER 21528) and a pottery scatter (HHER 29709) are located within the Hampshire part of the Study Area.

Romano-British (AD 43–410)

12.58 Aside from a Roman pottery scatter (HHER 29739, HHER 29799), a coin hoard (HHER 70401) and a corn drier (HHER 70590) in the area where Bronze Age and Iron Age activity has also been noted, little other Roman activity has been recorded within the Study Area.

Saxon (AD 410–1066) and medieval (AD 1066–1500)

12.59 Alderholt was not established as a parish until the late 1840s and formed part of Cranborne until then. No settlement is recorded at Cranborne in the Domesday Book record, and the closest known settlement appears to have been at Midgham, c. 1 km east of the Site which formed part of Fordingbridge Hundred at the time. The condition and use of the Site at the time of the Domesday Book record is unknown, however, it is possible that it was wooded at the time of the early medieval period.

12.60 There appears to have been medieval activity within the Site based on the presence of a group of medieval to post-medieval pillow mounds (DHER MDO39447, DHER MDO39448, DHER MDO39450, DHER MDO39446, DHER MDO39445) likely in use as rabbit warrens and historic trackways thought to be of a similar date (DHER MDO39444). To the north and west of the Site, further medieval activity is noted in the form of further trackways (DHER MDO39469, DHER MDO39470, DHER MDO39443, DHER

MDO39440), which appear to concentrate on the Cranborne Common area, and a deer park (DHER MDO5393) which is where the scheduled deer park bank and ditch is located (NHLE 1002394).

12.61 Based on the presence of the trackways and the pillow mounds, it is likely that some woodland clearance commended in the medieval period, however, the extend of this is currently not understood.

Post-medieval (AD 1500–1800) - Modern (AD 1900–present day)

12.62 Based on late 19th century maps showing the extent of Alderholt at the time the settlement mainly centred on Sandleheath Road, c. 800 m north of the smaller Site area, with winding lanes and isolated cottages and farmstead and small irregular fields surrounding it.

12.63 The HERs show a prevalence for widespread post-medieval activity which shows how the village and its surrounding landscape developed as an agricultural community during this period. A series of post-medieval ridge and furrow areas are noted to the north, north-east and south-west of the village (DHER MDO39460, DHER MDO39458, DHER MDO39459, DHER MDO39457, DHER MDO39456, DHER MDO39463, DHER MDO39464) and some of it even falls into the Site to the west of Ringwood Road (DHER MDO39456).

12.64 In addition to be above, evidence of extraction activities is also widespread within the Study Area with the majority of such activities just to the north and north-east of the village (DHER MDO39466, DHER MDO39467, DHER MDO39473, DHER MDO39474), even though some is also noted within and just to the south of the Site (DHER MDO39455, DHER MDO39454, DHER MDO39453, DHER MDO39451, DHER MDO39452). Based on the presence of pottery kilns recorded along Daggons Road (c. 230m north from the Site) identified from historic mapping, it is suggested that the material extracted related to pottery production.

Historic landscape

12.65 The various hedgerows and field boundaries within the Site date from at least the end of the 19th century and thus while forming part of the historic landscape, cannot be considered to be Important under the Hedgerow Regulations 1997.

12.66 Prior to converting the land for agricultural use, this area would have formed part of Alderholt Common which would have had a more open heathland character (much like Cranborne Common today) and thus the field boundaries and hedgerows within that area would not be considered to be historic.

Geophysical Survey Results

12.67 The majority of the Site was accessible for the purposes of the geophysical survey with the exception of some fields to the east and south of the existing solar farm, to the south-west of Warren Park Farm, and adjacent to Ringwood Road due to crop rotation schedules and adverse weather alongside a small divided paddock area which would have likely been unsurveyable due to magnetic interference caused by the fences.

12.68 Figures showing the surveyed areas and associated interpretation are included within Technical Appendix 12.3.

12.69 The survey did not identify any anomalies which could be confidently asserted as representing archaeological remains. Several anomalies have, however, been interpreted as representing possible archaeological remains although their provenance is unclear and may be attributable to another source.

12.70 The largest concentration of anomalies associated with possible archaeological remains are located within the southern section of the Site adjacent to Ringwood Road which may indicate medieval ploughing patterns and modern services have been identified in land parcels LP_034 and LP_035, and in the land between Ringwood Road and Hillbury Road an area of possible ridge and furrow appears to be located within the southern land parcels (LP_037 and LP_038).

12.71 The survey report concludes, however, that due to the uncertainty of their provenance these could relate to enclosure from the Bronze Age onwards and could equally represent geological variations or modern agricultural activity.

12.72 The survey in this area has, however, been subject by magnetic interference which could be the result of successive agricultural practices. Due to the seemingly straight and close lines of the ridge and furrow, it is unlikely that the ridge and furrow is of earlier than 18th century date. Both the ploughing patters and ridge and furrow could relate to the non-designated post-medieval area of ridge and furrow located to the north of the farmhouse (MDO39456).

12.73 The survey also recorded a series of pits scattered across the Site which are thought to be of natural or geological origin, although potential archaeological origin has also been suggested. To the west of the solar farm a magnetic response in land parcel LP_001_A indicates the presence of the remains of man-made lay down areas or spoil possibly associated with the construction of the solar farm.

12.74 To the north/north-west of the existing solar farm in land parcel LP_001 a possible trackway was identified. The trackway could be related to the medieval non-designated trackway (MDO39444) recorded by the HER, however, if not, it further corroborates that this area formed part of a medieval/post-medieval agricultural landscape located to the south of the solar farm.

12.75 Within the approximate centre of the Site, to the north of Warren Park Farm in land parcel LP_019, the remains of a possible former field boundary have been identified in addition to services associated with the farmhouse.

Summary of archaeological potential within the Site

12.76 Desk-based research and data collected during the geophysical survey has indicated there is a potential for archaeological remains to be present within the Site associated with medieval and post-medieval agricultural activity and a potential for Palaeolithic and palaeoenvironmental remains associated with the Pleistocene terrace deposits.

12.77 There is also a potential for archaeological remains from the Bronze Age through to the medieval period, although based on the gathered information presented above, this potential is limited.

12.78 A summary of the identified archaeological remains is set out in Table 12.5 along with a rationale for their inclusion.

Table 12.5 Summary of Identified Archaeological Assets

Archaeological Assets	Reason for inclusion ALISON _ PLEASE PUT IN A TABLE PROPERLY _ ITS DISAPPEARED ON TRANSFER
Remains associated with medieval agricultural and land management activity	While no appreciable above ground expression of the pillow mounds and trackway thought to be of medieval date has been identified either by the NMP review or the Site visits, the potential for surviving, archaeological remains is likely while a further possible trackway has tentatively been identified by the geophysical survey. Based on the HER records for the pillow mounds and trackway, these features have likely been truncated, affecting their archaeological interest. However, at present, there is no definitive understanding of their state of preservation. Should such remains be present within the Site, they would be of Low heritage significance.
Archaeological remains associated with post-medieval agricultural and extraction activity	While no evidence of the post-medieval ridge and furrow or extraction pits was observed during the Site visits, the potential for surviving, archaeological remains is likely, especially considering that ploughing patterns and a possible area of ridge and furrow have been identified by the geophysical survey. Based on the HER records for the area of post-medieval ridge and furrow, it is possible that this has been truncated by successive agricultural activities affecting their archaeological interest. However, at present, there is no definitive understanding of their state of preservation. Should such remains be present within the Site, they would be of Negligible heritage significance.
Anomalies identified as possible archaeology from the geophysical survey	Possible Archaeology relating to anomalies interpreted as ditches and pits which may represent boundaries from the Bronze Age to the medieval period, or anomalies of non-archaeological provenance. Based on the known resource, it is most likely they relate to medieval and later agriculture.

Archaeological Assets	Reason for inclusion ALISON _ PLEASE PUT IN A TABLE PROPERLY _ ITS DISAPPEARED ON TRANSFER
	If so, these would be of **low heritage significance** as a common feature within the landscape. If these are proven to be earlier archaeological features, these would be of higher significance (moderate) while if non-archaeological would be of no significance.
As yet unknown Palaeolithic and geoarchaeological remains	The HEDBA identified the presence of Pleistocene terrace deposits containing Palaeolithic archaeological potential and Pleistocene Head deposits. Based on the geoarchaeological assessment, should these remains be present, they would likely be of **up to high heritage significance**, however, this is unclear at present as no intrusive investigation has been undertaken.
As yet unknown archaeological remains	Possible archaeology not accounted for in either the desk-based assessment or field surveys. Based on the assessment of the known resource, it is unlikely that any as yet unknown archaeological remains would be of more than **moderate heritage significance**. There is no indication that nationally significant remains, that is, remains that might meet the criteria for Scheduling, would be present.

Designated Heritage Assets

12.79 It is considered that there is no potential for harm to the significance of any of the identified heritage assets from the Proposed Development through a change in their setting within the 1 km Study Area as either:

- The Site does not form part of the setting of the heritage asset(s), or
- The Site, even where it might fall within the wider setting of the asset(s), does not contribute to the significance of the asset(s) in such a way that the Proposed Development would lead to harm to its/their significance.

12.80 Further information including the detailed assessment and rationale is presented within **Section 7 of Technical Appendix 12.1**.

12.81 The additional Site visit in July 2022 and analysis of heritage assets in the wider area identified the following heritage assets which had the potential for a likely significant effect beyond the 1 km Study Area, and were scoped into further assessment:

- A group of scheduled barrows within woodland c. 1.7 km to the west/south-west of the Site (beyond Cranborne Common) (NHLE 1018181, 1018182, 1018183, 1018184),
- A group of two Grade II Listed Buildings at Harts Farmhouse including the main house and barn (NHLE 1120138, 1153917) located c. 1.6 km north-west of the Site,
- A group of two Grade II Listed Buildings known as Home Farmhouse (NHLE 1323520) and Old Manor Farmhouse (NHLE 1153972) c. 1.5 km north-east of the Site on Sandleheath Road, and
- A Grade II Registered Park and Garden surrounding Boveridge House School c. 3.8 km north-west of the Site (NHLE 1000711).

ASSESSMENT OF LIKELY SIGNIFICANCE OF EFFECT

12.82 The assessment of likely significant effects is based on the project description as described in **Chapter 5** and the embedded mitigation by design set out above.

12.83 As the Proposed Development is at outline stage and design specifics are not yet known, a worst-case scenario for direct impacts has been assumed whereby any archaeological remains will be entirely removed.

Construction Effects – Direct Impacts

12.84 Any adverse effects on buried archaeological features would be permanent and irreversible. Even in areas where the scale of intrusive groundworks may be relatively small, the magnitude of impact on an archaeological asset may be high.

12.85 The construction of the Proposed Development has the potential to result in direct permanent effects on archaeological remains within the Site. Activities associated with the Proposed Development which could have below ground impacts comprise:

- Construction of a temporary construction compound,
- Any intrusive geotechnical investigations,
- Construction of new access roads,
- Construction of new residential developments,
- Construction of associated infrastructure including utilities and services,
- Hard landscaping works,
- Excavations for SANG ponds, and
- Mineral/aggregates extraction.

Medieval agricultural and land management activity

Asset description

12.86 Medieval pillow mounds and a trackway (Technical Appendix 12.2; Paragraph 5.5.6 and Figure 2) are located within the western part of the Site (north-west of Warren Park Farm). In addition, a further possible trackway was identified by the geophysical survey to the north-west/west of the existing solar farm.

12.87 While the origin of the non-designated trackway is currently not understood, it is possible this is a communication route across the landscape or to guide a route through what would have been a densely wooded area until the 19th century.

12.88 The pillow mounds were likely in use as rabbit warrens, however, no evidence of associated watchtowers, lodges or moats which sometimes accompanied rabbit warrens has been identified.

12.89 According to NMP observations from 2017/2018 and the Site visits undertaken in support of this assessment, no above ground presence of these features remain.

Significance of asset

12.90 Significance is derived from the asset's archaeological interest as surviving remains of the medieval agricultural landscape which could yield information on the medieval land use of the area and how it was managed.

Setting and contribution to significance

12.91 The setting of these features is within a wider agricultural landscape located between woodland to the west and the village to the north/north-east, however, their relationship with the former medieval settlement has been lost.

Assessment of effect on significance

12.92 Remains associated with the medieval agricultural landscape will be entirely removed by the construction process, when assuming a worst-case scenario. This would result in a high magnitude of impact on an asset of low heritage significance which would result in an adverse Minor Effect, which is not significant in terms of EIA Regulations.

Post-medieval agricultural and extraction activity

Asset description

12.93 There is known post-medieval agricultural and extraction activity within the Site based on the presence of a likely area of ridge and furrow to the north/north-east of Warren Park Farm and recorded extraction pits (Technical Appendix 12.2; Paragraph 5.5.11, 5.5.12 and Figure 2). In addition to this, the geophysical survey has identified areas indicating the presence of ploughing patterns, and of ridge and furrow.

12.94 The area of ridge and furrow was subject to review during the NMP and concluded that little of this asset survives. Similarly, the presence of ridge and furrow was not noted during the Site visits, however, this

does not preclude the presence of buried remains which may survive underneath modern ploughing damage.

12.95 The locations of the pits are mainly recorded from historic Ordnance Survey (OS) mapping which shows multiple pits within the Site and Study Area at the end of the 19th century.

Significance

12.96 The significance of both post-medieval agricultural and extraction features is derived from archaeological and historic interests. These attest to the evolution of the rural landscape in the latter part of the post-medieval period around of Alderholt from its historic heathland and woodland character. Their archaeological interest lies in their potential to yield information about the extent and use of ridge and furrow as the farming landscape started to develop and how natural resources were exploited during the post-medieval period respectively.

Setting and contribution to significance

12.97 The existing setting of these assets is formed of the agricultural landscape which survives between the remaining woodland to the south and west and Alderholt village to the north/north-east.

Assessment of effect on significance

12.98 Remains associated with the post-medieval agricultural landscape and extraction activity will be entirely removed by the construction process, when assuming a worst-case scenario. This would result in a high magnitude of impact on an asset of negligible heritage significance which would result in a Negligible Effect, which is not significant in terms of EIA Regulations.

Anomalies identified as possible archaeology from the geophysical survey

Asset Description

12.99 Anomalies identified during the geophysical survey (Technical Appendix 12.3) indicative of possible archaeology which may date from the Bronze Age to the medieval period are recorded within the Site next to Ringwood Road. While a possible archaeological origin has been concluded, this is not conclusive and these anomalies may represent modern agricultural activity or geological variations.

Significance

12.100 The significance of any identified remains would be derived from their archaeological interest through the information they could yield relating to past landscape use, human activity and/or occupation.

Setting and contribution to significance

12.101 As the presence of, and potential nature, of these assets are currently unknown their setting may make a contribution to their significance. However, based on the known and assumed resource within the Site, any change in that setting is unlikely to lead to a discernible alteration to our understanding and appreciation of their archaeological interest. That interest is wholly contained within the physical remains.

Assessment of effect significance

12.102 These anomalies will be entirely removed by the construction process, when assuming a worst-case scenario. This would result in a high magnitude of impact on an asset of low heritage significance which would result in an adverse Minor Effect, which is not significant in terms of EIA Regulations.

Palaeolithic and geo archaeological remains

Asset description

12.103 There is a potential for Palaeolithic remains or geoarchaeological deposits to be located within the Site based on the presence of Pleistocene terrace deposits and Pleistocene Head deposits. While specific details of the sedimentary sequence are currently not known, these may include sediments with palaeoenvironmental potential and/or contain units suitable for dating.

Significance

12.104 Significance of the asset is derived from its archaeological interest through the information it can yield relating to early environmental conditions in the area, along with potential early archaeological finds attesting to occupation during the Palaeolithic period.

Setting and contribution to significance

12.105 As deposits with potential, this asset does not have a setting which can be expressed in terms of visibility or in any tangible relationship with anything within the modern landscape.

Assessment of effect on significance

12.106 Deposits with potential to contain Palaeolithic and/or geoarchaeological remains will be entirely removed by the construction process, when assuming a worst-case scenario. This would result in a high magnitude of impact on an asset of up to high heritage significance which would result in a Major Adverse Effect, which is significant in terms of EIA Regulations.

As yet unknown archaeological remains

Asset Description

12.107 While the assessment work undertaken to date has provided an overall view of the archaeological resource within the Site, there is a potential which remains for as yet unknown archaeological remains to be present.

Significance

12.108 The significance of any identified remains would be derived from their archaeological interest through the information they could yield relating to past landscape use, human activity and/or occupation.

Setting and contribution to significance

12.109 As the presence of, and potential nature, of these assets are currently unknown their setting may make a contribution to their significance. However, based on the known and assumed resource within the Site, any change in that setting is unlikely to lead to a discernible alteration to our understanding and appreciation of their archaeological interest. That interest is wholly contained within the physical remains.

Assessment of effect on significance

12.110 Any as yet unknown archaeological remains will be entirely removed by the construction process, when assuming a worst-case scenario. This would result in a high magnitude of impact on an asset of no more than moderate heritage significance which would result in an adverse Major Effect, which is significant in terms of EIA Regulations.

Operational Effects

12.111 As the archaeological resource would have likely been removed during the construction process, there would be no operational impacts to such remains.

Scheduled Monuments (NHLE 1018181, 1018182, 1018183, 1018184)

Asset description

12.112 The scheduled barrows are located within woodland separating Verwood (c. 4 km south-west of the Site) from Alderholt and are mainly sited on the slopes of the woodland facing south/south-east towards Verwood and Boveridge Heath (south-west of the Site).

Setting description

12.113 The barrows' existing setting is within a mature, dense woodland which ensures that, even if there might have once been a visual connection between these barrows and those at Plumley Wood (to the south of the Site) such a connection has long been lost.

Significance

12.114 The significance of the scheduled barrows is derived from their archaeological interest through their potential to yield further information on prehistoric burial practices within the area and are of high heritage significance.

Contribution of Setting to Significance

12.115 Walking along public footpaths at Cranborne Common, there is no appreciable visual connection between the barrows and the Site, and, within their wider setting context, the Site does not form part of the wider prehistoric funerary landscape either as evidenced by the results of the HEDBA and the preliminary geophysical survey results (further discussed below) which do not indicate evidence of funerary activity within the Site. As such, the Site does not form part of their setting and will not lead to any alteration of their significance.

Summary of effect

12.116 The Proposed Development will lead to a negligible magnitude of impact to the scheduled barrows which are of high heritage significance resulting in a Negligible Effect, which is not significant in terms of EIA Regulations.

Harts Farmhouse Listed Buildings (NHLE 1120138, 1153917)

Asset Description

12.117 The listed farm buildings associated with Harts Farmhouse are located at the end of a long private track off Daggons Road adjacent to a woodland. The buildings form part of an early to mid-17th century farm complex within the area of Daggons, a small settlement area to the north-west of Alderholt mainly comprising woodland, fields and scattered farmsteads.

Setting Description

12.118 The setting of the buildings comprises the remains of the farm complex and the spatial and historic connection to the surviving elements of the historic elements of the Daggons area and its immediate agricultural land which would have formed its holding.

Significance

12.119 Their significance is mainly comprised of their architectural interest through the surviving historic fabric of the farm buildings including architectural detailing. Significance is also drawn from their historic interest as remnants of the former post-medieval landscape.

Contribution of Setting to Significance

12.120 The immediate setting to the assets make a positive contribution to their significance as they can be appreciated and understood in a broadly original context within close proximity. Beyond this immediate setting, the wider setting within which the Site is located makes no contribution to significance as it does not influence the appreciation or experience of the assets, nor of their historic and architectural interests.

Summary of Effect

12.121 The Proposed Development will lead to a negligible magnitude of impact to the listed buildings which are of moderate heritage significance resulting in a Negligible Effect, which is not significant in terms of EIA Regulations.

Sandleheath Road Listed Buildings (NHLE 1323520, 1153972)

Asset Description

12.122 The Listed Buildings on Sandleheath Road were scoped in as additional assessment work considering assets outside of the 1km Study Area suggested that there was a potential for a likely significant effect from a change in setting. They are located on Sandleheath Road to the north of Alderholt village core and comprise 17th century buildings associated with a former farm complex.

Setting Description

12.123 The 17th century buildings are located immediately adjacent to each other and their principal elevations either face the road (in the case of Home Farmhouse) or towards another building (in the case of the Old Manor Farmhouse).

12.124 The setting of the buildings comprises the remains of the farm complex and the spatial and historic connection to the surviving elements of the historic elements of the Home Farm area and its immediate agricultural land which would have formed its holding.

Significance

12.125 Their significance is mainly comprised of their architectural interest through the surviving historic fabric of the farm buildings including architectural detailing. Significance is also drawn from their historic interest as remnants of the former post-medieval landscape.

Contribution of Setting to Significance

12.126 Views to and from these assets are mainly of/from the surviving agricultural land surrounding them which makes a positive contribution to their significance. At approximately 1.3 km in the distance, the Site does not lie in any background views towards the assets nor does the area to the south of Alderholt have any tangible relationship to the assets. .

Summary of Effect

12.127 The Proposed Development will lead to a negligible magnitude of impact to the listed buildings which are of moderate heritage significance resulting in a Negligible Effect, which is not significant in terms of EIA Regulations.

Boveridge House Registered Park and Garden (NHLE 1000711)

Asset Description

12.128 The Registered Park and Garden which comprises the remains of a 19th century pleasure ground and parkland with a 20th century garden designed by Thomas Mawson planted to a scheme produced by Gertrude Jekyll.

Setting Description

12.129 The southern extent of the registered parkland borders a lane which currently provides access to a school and college located within the approximate centre of the park. Observations from the lane showed that the topography gradually rises from the lane towards the woodland located to the south of the school/college complex.

Significance

12.130 The significance of the asset is comprised of its artistic, architectural and historic interests as a remaining example of historic parklands and pleasure grounds associated with large country houses. This significance is best appreciated within the boundaries of the park as intervening hedgerows and treelines ensure limited visibility into the park from outside.

Contribution of Setting to Significance

12.131 The setting of the asset makes no contribution to its significance as there are no views from within the parkland which extend outwards and internal views are extremely limited.

Summary of Effect

12.132 The Proposed Development will lead to a negligible magnitude of impact to the registered park which is of moderate heritage significance resulting in a Negligible Effect, which is not significant in terms of EIA Regulations.

MITIGATION

Construction Mitigation

12.133 The Proposed Development has the potential to affect subsurface archaeological remains through intrusive construction activities and through work required for the landscaping strategy.

12.134 While still under discussion and subject to further consultation, it is proposed to mitigate any potential effects through the implementation of an appropriate programme of archaeological works which will permit any remains to be investigated and recorded (leading to preservation by record) which can be set out as a condition of consent.

12.135 The Proposed Development is being submitted as an outline application with detailed designs following in Reserved Matters applications. In order to establish the most appropriate scheme of archaeological mitigation an outline Written Scheme of Investigation (WSI) has been included as Technical Appendix 12.4.

12.136 The WSI should be agreed in consultation with the County Archaeologist for Dorset County Council and applies the following measures:

- A targeted evaluation strategy comprising trial trenches to investigate the nature of the identified anomalies within the geophysical survey, to investigate areas not covered by the survey and to investigate 'blank' areas recorded in the survey,
- The evaluation will be undertaken post-consent but pre-commencement of any construction works,
- As the Proposed Development is expected to be delivered in a phased manner, as each phase is submitted as a Reserved Matter application, a WSI covering the respective evaluation will be submitted to the County Archaeologist for Dorset County Council for approval,
- Following the completion of the evaluation works, any appropriate mitigation to preserve identified archaeological remains of significance by record will be undertaken. The scope of these works is dependent on the results of the trenching and will be agreed in advance with the County Archaeologist for Dorset County Council.

12.137 Any specific WSI will adhere to the principles set out within the outline WSI to ensure consistency of approach.

12.138 Should works within the Site require excavations at significant depths in areas of higher geoarchaeological potential, further mitigation will be required. This will comprise the monitoring of

Geotechnical Investigations, deposit modelling and, where necessary, the excavation of specific geoarchaeological boreholes.

12.139 The scope of these works is dependent entirely on design specifics and will be agreed in advance through the submission of a WSI to the County Archaeologist for Dorset County Council.

Operational Mitigation

12.140 No operational effects have been identified, therefore, no mitigation is required.

RESIDUAL EFFECTS

12.141 The identified effects during the construction phase following the application of the identified mitigation measures (the residual effect) have been assessed with reference to the extent, magnitude and duration of effect; receptor sensitivity and compatibility with environmental policies

12.142 Through the implementation of an appropriate mitigation strategy, as set out within the outline WSI attached as Technical Appendix 12.4, set out as a condition of consent and agreed in consultation with the County Archaeologist for Dorset County Council, the reported effects during construction on archaeological assets will be reduced as set out below:

- The Minor Effect on the known archaeological remains associated with the medieval agricultural and land management activity will be reduced to Negligible Effect which is not significant in EIA terms.
- The Negligible Effect on archaeological remains associated with post-medieval agricultural and extraction activity will be reduced to Negligible Effect which is not significant in EIA terms.
- The Moderate Effect on anomalies identified as possible archaeology from the geophysical survey will be reduced to Negligible Effect which is not significant in EIA terms.
- The Major Effect on as yet unknown Palaeolithic and geoarchaeological remains will be reduced to Negligible Effect which is not significant in EIA terms.
- The Negligible to Moderate Effect on as yet unknown archaeological remains, which could be significant in EIA terms, will be reduced to Negligible Effect which is not significant in EIA terms.

CUMULATIVE EFFECTS

12.143 The potential for cumulative effects on the heritage significance of any heritage assets has been undertaken with reference to an agreed list of other development proposals within the vicinity of the Site.

12.144 The proposals below are all either in planning, or have been granted permission, for residential developments similar to the Proposed Development. These comprise:

- Whitsbury Road, Station Road and Burgate, Fordingbridge (21/10052, 20/11469, 17/10150),
- Edmondsham Road, Verwood (P/FUL/2022/03125),
- North of Ringwood Road, Alderholt (3/19/2077/RM), and
- Daggons Road, Alderholt (3/06/0769/OUT).

Potential Cumulative Construction Effects

12.145 There will be no cumulative construction effects on the heritage significance of any of the heritage assets, or potential archaeological remains, within the Site as none of the developments above will have an impact on any archaeological remains or any standing earthworks or buildings that lie within the Stie. There will also be no change to the heritage significance of any archaeological remains, or on any standing earthworks or buildings outside of the Site which may be related to those located within the Site.

Potential Cumulative Operational Effects

12.146 There will be no cumulative operational effects on the heritage significance of any of the identified designated heritage assets through a change in their setting brought about by the Proposed Development in-combination with the developments listed above.

12.147 No effects were identified to the heritage significance of any of the designated heritage assets within this assessment as either the Site did not lie within their setting, where that setting makes a contribution to their significance, or their setting does not contribute to their significance.

12.148 The addition of the developments will not lead to an impact on the heritage significance of any of these assets, and therefore, cannot increase the potential for any significant effects from the Proposed Development through an in-combination effect.

SUMMARY

12.149 The following table provides a summary of the receptors and likely effects on their heritage significance from the Proposed Development.

TABLE 12.6: SUMMARY TABLE

Description of Likely Significant Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Effects					Description of Mitigation / Enhancement Measures	Description of Residual Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Residual Effects				
		B/A	P/T	D/I	ST/M/ LT	L/R/N				B/A	P/T	D/I	ST/M/ LT	L/R/N
Demolition and Construction Phase														
Known and as yet unknown archaeological remains associated with medieval agricultural and land management activity	Negligible - Not significant	A, P, D, LT, L					Programme of archaeological investigation prior to or during construction	Residual effect reduced through preservation by record	Negligible - Not significant	A, P, D, LT, L				
Known and as yet unknown archaeological remains associated with post-medieval agricultural and extraction activity	Negligible - Not significant	A, P, D, LT, L					As above	As above	Negligible - Not significant	A, P, D, LT, L				
As yet unknown Palaeolithic and geoarchaeological remains	Negligible - Not significant	A, P, D, LT, L					As above	As above	Negligible - Not significant	A, P, D, LT, L				
Operational Phase														
N/A	N/A	N/A					N/A	N/A	N/A	N/A				

(Beneficial or Adverse) (B/A), (Permanent or Temporary) (P/T), (Direct or Indirect) (D/I), (Short Term, Medium, Long Term) (ST, M, LT), (Local, Regional, National) (L, R, N)

13 CLIMATE CHANGE

INTRODUCTION

13.1 This chapter of the ES has been produced by Hydrock Consultants to assess the Proposed Development in relation to the effects it would have upon climate change as required by the Environmental Impact Assessment Regulations 2017.

13.2 This chapter is split into three key sections:

- the first introduces the topic, sets out the legislative framework and the advice of the scoping opinion as it relates to the Proposed Development,
- the second presents the assessment methodology and a preliminary estimation of the quantum, scale and significance of GHG emissions resulting from the construction and operation of the Proposed Development,
- the third assesses the likely significant effects of climate change on the Proposed Development, the need for any adaptation measures and the resulting resilience to climate change.

13.3 The assessment of climate change within Environmental Impact Assessment (EIA) is informed by best practice guidance from the Institute of Environmental Management and Assessment (IEMA) and comprises two distinct areas:

- Climate Change Mitigation – an assessment of likely significant effects upon climate change resulting from the project and their mitigation, including an estimate of GHG emissions,
- Climate Change Adaptation – an assessment of likely significant effects of climate change upon the Proposed Development, including its vulnerability to future climate risks and the need for adaptive mitigation measures.

13.4 This Chapter should be read in conjunction with the ES as a whole.

13.5 The terms "carbon", "carbon dioxide (CO2)" and "GHG" are used interchangeably in this chapter depending on the terminology of referenced documents.

13.6 A number of potential effects have been avoided in advance of this assessment through mitigation that is inherent into the design of the Proposed Development. Assessment conclusions are presented in terms of residual effects and whether these are significant.

13.7 Additional details regarding the assessment of potential climate change effects (particularly with regards to adaptation measures) is provided by the following technical chapters within the ES:

- Chapter 7: Transport
- Chapter 9: Ecology
- Chapter 11: Drainage/Flood Risk
- Chapter 14: Air Quality

CONTEXT

Legislation

13.8 In addition to the EIA Regulations 2017, the following legislation has informed this chapter.

13.9 The Paris Agreement was made at COP 21 in Paris, on 12 December 2015. 195 parties to the United Nations Framework Convention on Climate Change (UNFCCC) reached a landmark agreement to combat climate change and to accelerate and intensify the actions and investments needed for a sustainable low carbon future by keeping a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius.

13.10 The Climate Change Act 2008 originally set a legally binding target for reducing UK CO2 emissions by at least 80% by 2050 relative to 1990 levels. In 2019, the Act was amended to the effect that the minimum percentage by which the net UK carbon account for the year 2050 must be lower than the 1990 baseline was increased from 80% to 100% (net zero).

13.11 Carbon Budgets are used to set interim targets to cap the total national emissions over a five-year budget period. They do not require emissions from specific locations, or even specific sectors to reduce; as long as total emissions from the UK as a whole meet the budget limits. The first three budgets cover the periods 2008-12, 2013-17 and 2018-22. These budgets were set in May 2009. The fourth carbon budget (2023-2027) was set based on recommendations from the Committee on Climate Change (CCC) in 2011 with the fifth carbon budget again based on CCC recommendations, set in 2016.

13.12 Building Regulations, Approved Document Part L (incorporating 2013 and 2016 amendments) provide a mechanism in England by which staged reductions in regulated carbon emissions are required by new buildings. The Government have recently undertaken public consultation on the Part L 2021 update which, based upon the significant decarbonisation of the national power grid and the implementation of a 75-85% carbon reduction requirement for new homes (Future Homes Standard) from 2025, is likely to radically alter the way energy is delivered at new development sites.

13.13 The Carbon Plan - Delivering our Low Carbon Future sets out how the UK proposes to achieve decarbonisation and the transition to a low carbon economy. It sets this objective within a framework of mitigating and adapting to climate change.

Planning Policy Framework

National Planning Policy Framework

13.14 The NPPF sets out the Government's planning policies for England and how these are expected to be applied. It also sets out the Government's requirements for the planning system and provides a framework within which local communities and councils can produce their own distinctive local and neighbourhood plans reflecting the needs and priorities of their communities.

13.15 Chapter 2 Achieving sustainable development states:

> *'The purpose of the planning system is to contribute to the achievement of sustainable development. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs. At a similarly high level, members of the United Nations – including the United Kingdom – have agreed to pursue the 17 Global Goals for Sustainable Development in the period to 2030. These address social progress, economic well-being and environmental protection'.*

13.16 Paragraph 8 states:

> *'Achieving sustainable development means that the planning system has three overarching objectives which are interdependent and need to be pursued in mutually supportive ways (so that objectives can be taken to secure net gains across each of the different objectives)'. ...*
>
> *'An environmental objective – 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.'*

13.17 Paragraph 11 states:

> *'Plans and decisions should apply a presumption in favour of sustainable development. For plan-making this means that:*
>
> *all plans should promote a sustainable pattern of development that seeks to: meet the development needs of their area; align growth and infrastructure; improve the environment; mitigate climate change (including by making effective use of land in urban areas) and adapt to its effects'.*

13.18 Chapter 14 Meeting the challenge of climate change, flooding and costal change acknowledges that:

> *'The planning system should support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.'*

Planning Practice Guidance

13.19 The PPG on Climate Change advises how to identify suitable mitigation and adaptation measures in the planning process to address the impacts of climate change. The guidance recognises that 'addressing climate change is one of the core land use planning principles which the National Planning Policy Framework expects to underpin both plan-making and decision-taking.' It also recognises that 'there is a statutory duty on local planning authorities to include policies in their Local Plan designed to tackle climate change and its impacts. This complements the sustainable development duty on plan-makers and the expectation that neighbourhood plans will contribute to the achievement of sustainable development. The National Planning Policy Framework emphasises that responding to climate change is central to the economic, social and environmental dimensions of sustainable development.'

Local Planning Policy

Christchurch and East Dorset Local Plan (2014)

13.20 The Core Strategy Part 1 for Christchurch and East Devon was adopted in April 2014, and sets out a 15-year planning strategy for the region until 2028. It contains a number of energy and sustainability related policy targets.

13.21 Objective 3 states:

> *'The impact of carbon emissions from transport will be reduced by more sustainable patterns of development in accessible locations, and by encouraging travel by bike, on foot, or by public transport. Developments will be expected to incorporate carbon reduction, water and energy efficiency measures as part of measures to reduce impact on climate change and support important ecosystem services.'*

Draft Dorset Local Plan (2021)

13.22 The new Dorset Local Plan underwent draft consultation in January 2021 and is anticipated for examination and adoption in the winter of 2023. This plan will cover over a 15-year period to 2038 and provides a draft document with more up to date and progressive policies than the current Christchurch and East Dorset local plan which is currently adopted. The new local plan states the vision and overall development strategy for the area and how it will be achieved for the period from 2023-2038 including objectives to tackle the impacts of Climate Change.

13.23 The Strategic Priority for the Climate Emergency states:

> *'We will take actions to minimise the impact of climate change, including minimising flood risk, and to reduce the impact on the climate, by locating and designing developments to reduce distances travelled and minimise energy use. We will support renewable energy developments appropriate to Dorset.*

METHODLOGY - CLIMATE CHANGE MITIGATION

Study Area

13.24 The study area for assessing the climate change mitigation impacts of climate change on the Proposed Development comprises the Site.

13.25 In some instances, due to the upstream and downstream nature of emissions and emission impacts, the area of influence extends beyond the red line boundary. Examples include:

- Emissions associated with electricity consumption, which is not generated on site but via the relevant Distribution Network Operator through the local power network,
- Emissions associated with transport to and from the Site, where gases are combusted in transit and do not occur in situ,
- River Basin areas with respect to surface water flooding and ground water, and
- Risk and effect of damage to transport, power and community infrastructure.

13.26 The construction phase is anticipated to commence in 2027 through to final completion in 2041. All buildings within the Assessment Area are assumed to have a 60-year design life. While the actual design of the buildings is likely to ensure that they are operational for a much more significant length of time, a

timeframe of 60 years has been selected in order to be able to contextualise the operational emissions figures within the local, regional and national contexts.

Assessment Methodology

13.27 The baseline for the construction and operational phases relates to GHG emissions in the 'do nothing' scenario.

13.28 Given that the Site is largely greenfield, for the purposes of GHG assessment the emissions within the Site are assumed to be zero. This allows for the completion of a worst-case assessment of net emissions and evaluation of the significance of these on future climate change.

13.29 The EIA Regulations (2017) also requires an outline of the likely evolution of baseline conditions without implementation of the development (i.e., the 'do-nothing' scenario) as far as changes from the baseline scenario can reasonably be assessed on the basis of available information and scientific knowledge.

13.30 The UK has set a legal requirement to be net zero by 2050. The future baseline conditions up to this point can be mapped via the Carbon Budgets and with reference to the decarbonisation pathways for residential properties outlined by the Committee on Climate Change (Ref: 20).

13.31 The method of assessment comprises the following components in accordance with IEMA guidance on GHG Assessment:

- Review of legislation, planning policy and guidance relating to climate change (see previous section),
- Establish greenhouse gas assessment scope and boundaries,
- Estimate greenhouse gas emissions from the existing site of the Site to establish baseline conditions,
- Estimate GHG emissions from the construction and operational phases of the Assessment Area,
- Consideration of opportunities for GHG emissions reductions through appropriate mitigation measures in accordance with IEMA's GHG mitigation hierarchy, and
- Evaluate residual GHG emissions following mitigation within the context of reducing GHG emissions relative to local and national policy requirements, and to a net-zero trajectory, as seen in Table 13.1.

Table 13.1: Significance of GHG Emissions

Significance	Description
Major Adverse	GHG impacts not mitigated or are only compliant with do-minimum standards. No meaningful contribution to UK's net-zero trajectory
Moderate Adverse	GHG impacts partially mitigated and/or partially meet policy requirements. Does not full contribute to UK's net-zero trajectory
Minor Adverse	GHG impacts full consistent with existing and emerging policy requirements. Fully in line with measures to achieve UK's net-zero trajectory
Negligible	GHG impacts reduced through measures that go well beyond existing and emerging policy requirements. Net-zero well before 2050 and produces minimal residual emissions
Beneficial	Net-GHG impacts below zero and create a reduction in atmospheric GHG concentration. Substantially exceeds net-zero requirements with a positive climate impact

Limitations and Assumptions

13.32 Those deemed non-significant effects are not considered further in this Chapter. A summary of these effects and appropriate qualitative evidence is provided below to support these assumptions. Where appropriate, this summary cross references other technical ES chapters.

Increased Carbon Emissions from Traffic During Construction

13.33 An increase in traffic (including HGVs) during the construction phase of the Proposed Development is assumed. The Transportation Chapter (Chapter 7) confirms that increases to traffic flows will range from major adverse to minor beneficial. A series of mitigation measures has been set out within the Transport

ES Chapter. Therefore, any required mitigation measures for traffic management during construction has been set out within the Transport ES Chapter and the accompanying Transport Assessment to minimise and mitigate these effects.

METHODLOGY - CLIMATE CHANGE ADAPTATION

Assessment Methodology

13.34 The method of assessment adopted to assess Climate Change Adaptation comprises:

- qualitative assessment of potential effects and impacts of the future climate change scenario during the construction and operational phases of the development,
- confirmation via links to other technical chapters of any proposed mitigation measures,
- review of residual impacts against defined significance criteria as outlined below.

13.35 The sensitivity of the Site is the degree to which it is susceptible to, or unable to cope with, adverse local effects of climate change. This is partly identified via the baseline conditions as well as the potential receptors as relevant to the location, nature and scale of the development.

13.36 The assessment of risk includes assessing the likelihood (probability) and magnitude (severity) of the impact identified. Using the latest guidance from IEMA, this is summarised in Table 13.2 and 13.3 below.

Table 13.2: Likelihood of Risk

Likelihood Category	Description (Probability and Frequency of Occurrence)
Very High	The event occurs multiple times during the lifetime of the project e.g. at least annually.
High	The event occurs several times during the lifetime of the project e.g. approximately once every five years
Medium	The event occurs limited times during the lifetime of the project e.g. approximately once every 15 years.
Low	The event occurs during the lifetime of the project e.g. once.
Very Low	The event may occur once during the lifetime of the project

13.37 The assessment of likelihood includes consideration of available climate projection data for the project. Although not all years will fit in a clear trend of change (as the impacts of previous climate change lead to a more variable and unpredictable climate), climate projections show that there are likely to be changes to the average weather conditions in the future.

Table 13.3: Magnitude of Impact

Magnitude of Impact	Description
Substantial	Considerable change from the baseline conditions and the receptor has no adaptability, tolerance or recoverability and/or is of very high sensitivity.
Major	Considerable change from the baseline conditions at a receptor which has limited adaptability, tolerance or recoverability OR Lesser change at a receptor which is of the high sensitivity.
Moderate	Considerable change from the baseline conditions at a receptor which has a degree of adaptability, tolerance or recovery OR Lesser change at a receptor that has limited adaptability, tolerance or recoverability.
Minor	Small, but noticeable change from the baseline conditions on a receptor which has limited adaptability, tolerance, or recoverability and/or is of the highest sensitivity OR Considerable change from the baseline conditions at a receptor which can adapt, is tolerant of the change or/and can recover from the change.
Neutral	Unlikely to cause a noticeable change at a receptor, despite its level of sensitivity OR Considerable change at a receptor which is not considered sensitive to any change.

13.38 A significance matrix based for the assessment of climate change risk is outlined in Table 13.4, based upon the above.

Table 13.4: Significance Matrix

		Measure of Likelihood				
		Very Low	Low	Medium	High	Very High
Measure of Magnitude	Neutral	Negligible	Negligible	Negligible	Negligible	Negligible
	Minor	Negligible	Negligible	Minor	Minor	Minor
	Moderate	Negligible	Minor	Minor	Moderate	Moderate
	Major	Negligible	Minor	Moderate	Moderate	Major
	Substantial	Minor	Moderate	Moderate	Major	Substantial

Limitations and Assumptions

13.39 The closest meteorological station to the development is Weymouth, Dorset.

13.40 The following non-significant effects are not considered further in this Chapter. A summary of these effects and appropriate qualitative evidence is provided below to support these assumptions. Where appropriate, this summary cross references other technical ES chapters.

Increase in Summer Temperature During Construction

13.41 Increasing summer temperatures (mean and daily) may lead to health and safety risks for construction workers. However, appropriate measures to reduce these risks, such as the provision of additional shaded refuges and drinking water supplies will reduce any risk to a low level will be implemented, managed and recorded via the Construction Environmental Management Plan (CEMP). These tertiary measures are therefore an integral part of the Proposed Development, and their implementation, will be delivered through the CEMP.

Decrease In Summer Rainfall and Reduced Water Supplies During Construction

13.42 Decreasing summer rainfall may reduce water supplies during construction, disrupting construction activities. However, measures to reduce these risks, such as monitoring of water supplies and implementation of water reduction targets will reduce the risk to a low level. These tertiary measures are an integral part of the Proposed Development, and their implementation, will be delivered through the CEMP.

Changing Temperatures and Rainfall Levels and Impact to Existing Ground Conditions

13.43 Changing temperatures and rainfall may change the ground conditions at the Site, which in turn may impact proposed building foundations and structures, causing future risks to building users. However, the current Building Regulations require new development to consider the impact of ground conditions on foundation design and therefore there is a high level of certainty through the compliance with current Building Regulations that such risks will be designed out. These primary measures are an integral part of the Proposed Development, and their implementation, will controlled through Building Regulations, the form and content of which will be part of the Schedule of Mitigation.

Changing Temperatures and Rainfall Levels and Impact to Wildlife, Biodiversity and Vegetation

13.44 Changing temperatures and rainfall may change the habitats within the Site, primarily those which have value to the Site; this includes the network of wooded belts, trees and hedgerows.

13.45 As part of the Proposed Development, compensatory habitats as outlined within the mitigation proposed in Chapter 9: Ecology provides primary mitigation measures, integral to the design which will seek to enhance the biodiversity of The Site. This includes a projected biodiversity net gain; mitigating the anticipated impacts of climate change in accordance with the England Biodiversity Strategy (Ref: 13.20) to include the selection of climate change tolerant species as part of the projects' biodiversity strategy.

Implementation of the above is expected to be controlled via planning condition and the management plans include a requirement for monitoring which will ensure that any unforeseen impacts are also addressed.

Increased Winter Rainfall and Risk to Essential Infrastructure and Human Health

13.46 The risk of all types of flooding and consideration of increased rainfall due to climate change is considered in Chapter 11: Drainage/Flood Risk.

13.47 A Flood Risk and Drainage Strategy supports the planning application and set out the impacts of the Proposed Development and its resilience to potential increased flows on the Site. As a result, primary mitigation resulting from the design will reduce any risk to essential infrastructure and human health to a level that is not considered significant.

Disruption Of Transportation Patterns and Infrastructure Due to Severe Weather Conditions

13.48 Pedestrians and cyclists will be sensitive to extreme weather conditions which could affect transportation patterns. The increased likelihood of overheating could have a detrimental effect on the comfort of public transport users.

13.49 A Transport Assessment is submitted with the planning application which sets out the impacts of the Proposed Development and how these will be mitigated, in line with the NPPF. In addition, a Framework Travel Plan (FTP) has been prepared. This sets out a range of measures to encourage sustainable modes of travel and includes an implementation and monitoring strategy.

13.50 The Proposed Development seeks to create as many sustainable low-carbon travel choices as possible that minimise time, distance, and effort, providing an advantage over motor traffic and limiting any potential disruption of transportation patterns and infrastructure caused by severe weather conditions.

BASELINE CONDITIONS

Establishing Current Baseline Conditions

13.51 The baseline for the construction and operational phases relates to GHG emissions and climate change risks occurring at the site in the 'do nothing' scenario. Average observed climate data for the period 1991 to 2020 has been utilised for the closest meteorological station to the development (Weymouth, Dorset).

13.52 Given that The Site is predominantly greenfield and farmland, for the purposes of GHG assessment the emissions within the Site are assumed to be zero. This approach allows for the completion of a baseline assessment of net emissions and evaluation of the significance of these on future climate change.

Use of Climate Projections to Establish Future Baseline Conditions

13.53 The EIA Regulations 2017 also require an outline of the likely evolution of baseline conditions without implementation of the development (i.e. the 'do nothing' scenario) as far as changes from the baseline scenario can be assessed with reasonable effort on the basis of available information and scientific knowledge.

13.54 Projected climate data from the Intergovernmental Panel on Climate Change (UKCP18) has been used to establish how the current baseline position may alter as a result of climate change that has already been set in motion.

13.55 Given it is not possible to exactly predict future global GHG emissions, the UKCP18 climate projections make assumptions about the economic, social and physical changes to our environment that will influence climate change. Representative Concentration Pathways (RCPs) are a new method for capturing those assumptions with a set of scenarios. The RCPs replace the previous Low, Medium and High emissions scenarios.

Table 13.5: Representative Concentration Pathways (RCPs)

RCP	Change in temperature (°C) by 2081-2100
RCP 2.6	1.6 (0.9 – 2.3)
RCP 4.5	2.4 (1.7 – 3.2)
RCP 6.0	2.8 (2.0 – 3.7)

RCP	Change in temperature (°C) by 2081-2100
RCP 8.5	4.3 (3.2 – 5.4)

13.56 RCPs specify concentrations of greenhouse gases that will result in total radiative forcing increasing by a target amount by the year 2100 relative to pre-industrial levels which then have a resultant change in temperature as outlined in the Table above.

13.57 Whilst RCP 4.5 would broadly align with the aims of the Paris Agreement to keep global temperature increases within 2°C, (noted at 1.7-3.2°C in Table 13.5 with an average of 2.4°C) current best practice guidance from IEMA recommends the use of the high emissions scenario (RCP 8.5) to identify the 'worst case' range of potential future climate conditions at the site. RCP 8.5 would result in an average temperature change of 4.3°C (ranging from 3.2-5.4°C).

13.58 As such, the RCP 8.5 (high) emissions scenario has been selected for use within these assessments though this may over estimate climate risks should global efforts to reduce GHG emissions begin to take effect and result in a "medium" or even "low" emissions scenario in the years ahead.

Current Baseline

13.59 As previously stated, given that The Site is predominantly greenfield and farmland, for the purposes of the GHG assessment, the emissions within the Application Site assumed to be zero.

13.60 The closest meteorological station to the Proposed Development is at Weymouth in Dorset. Average observed climate data has been utilised for the current conditions alongside projected climate (UKCP18) data to establish how the current baseline position may alter as a result of climate change that has already been set in motion.

13.61 Table 13.6 below sets out the average observed climate data for Weymouth for the period 1991-2020.

Table 13.6: Baseline Climatic Conditions

Month	Max temp. (°C)	Min temp. (°C)	Days of air frost (days)	Sunshine (hours)	Rainfall (mm)	Days of rainfall > 1mm (days)
January	8.96	4.52	2.72	69.12	84.30	12.82
February	8.92	4.11	3.13	95.51	60.47	10.78
March	10.59	5.15	1.24	141.45	58.09	8.95
April	12.93	6.64	0.10	202.06	52.44	8.50
May	15.71	9.32	0.00	235.44	44.60	8.17
June	18.13	11.99	0.00	234.80	45.90	7.19
July	20.03	14.04	0.00	245.56	40.74	6.64
August	20.34	14.39	0.00	225.73	55.41	8.25
September	18.71	12.67	0.00	178.11	54.86	7.99
October	15.49	10.42	0.03	127.50	82.72	11.92
November	12.17	7.44	0.47	84.64	98.67	13.18
December	9.70	5.09	2.56	64.50	92.18	13.10
Annual	**14.33**	**8.84**	**10.25**	**1904.42**	**770.38**	**117.49**

13.62 In addition to considering baseline conditions at a site level, this assessment additionally contextualises the GHG emissions within local and sectoral baselines. Dorset Council, the South West carbon budget and the UK carbon budget are all used as baselines within which the emissions for the Proposed Development have been contextualised.

Dorset

13.63 Table 13.7 below presents recent (2020) annual GHG emission (in kilotons of CO2 equivalent, ktCO2e) for the Dorset Council administrative area as obtained from the UK local authority and regional CO2 emissions statistics published by Government. The data provides total GHG emissions for the area as well as emissions by sector (including industrial & commercial, domestic and transport). For the purposes of the assessment data is presented for the industrial and commercial sector (electricity, gas and other fuels). This data can be used to contextualise emissions from the Proposed Development and help determine the significance of effect.

Table 13.7: Dorset Council 2020 GHG Emissions

Sector	GHG Emissions (ktCO2e)
Commercial Sector 2020	100.3
Public Sector 2020	49.9
Domestic Sector 2020	548.2
All Sectors 2020	2,272.0

South West

13.64 The Tyndall Centre for Climate Change Research data set includes climate change targets that have been set for every administrative area within England and Wales (Ref: 13.20), quantifying the implications of the United Nations Paris Agreements for the South West, from 2020 to 2100. The carbon budgets are based on pursuing the 1.5C global temperature target in line with the UN Paris Agreement, and IEMA updated guidance. The key recommendations for the South West to ensure it makes its fair contribution to the Paris Agreement include:

- Stay within a maximum cumulative carbon dioxide emissions budget of 225.9 million tonnes for the period 2020-2100,
- Reach zero or near zero no later than 2042.

13.65 Table 13.8 identifies the carbon budgets for the South West administrative area.

Table 13.8: South West Carbon Budgets

Carbon Budget & Period	GHG Emissions (million tonnes CO2e)
2022	114.0
2023 - 2027	57.3
2028 - 2032	28.0
2033 - 2037	13.6
2038 - 2042	6.7
2043 - 2047	3.2
2048 - 2100	3.1

United Kingdom

13.66 The Climate Change Act 2008 sets a target to ensure the UK's net carbon account for the year 2050 is at least 80% lower than the 1990 baseline (amended to 100% in 2016). Carbon budgets have been set up to the year 2032, and the Committee on Climate Change notes that, from this point forward (2018), an annual reduction in emissions of circa 3% is required to meet the 2050 target. On this basis, carbon budgets likely to be required post-2032 to meet the 2050 target have been estimated.

13.67 Table 13.9 sets out the UK Carbon Budgets up to 2050, including (in italics) those that have been estimated post the 6th Carbon Budget (2033-37) for the purposes of this assessment.

Table 13.9: UK Carbon Budgets

Carbon Budget & Period	GHG Emissions (million tonnes CO2e)
1st Carbon Budget (2008 – 2012)	3,018
2nd Carbon Budget (2013 – 2017)	2,782
3rd Carbon Budget (2018 – 2022)	2,544
4th Carbon Budget (2023 – 2027)	1,950
5th Carbon Budget (2028 – 2032)	1,725
6th Carbon Budget (2033 – 2037)	965
7th Carbon Budget (2038 – 2042)	645
8th Carbon Budget (2043 – 2047)	324
9th Carbon Budget (2048 – 2100)	0

13.68 On this basis, the UK Carbon Budget across the development's construction phase (2027-24) is estimated to be 390 million tCO2e and across the assumed operational phase (2025-85) is estimated to be 5,219 million tCO2e.

Future Baseline

13.69 Potential future baseline conditions have been established from the Met Office's latest UK climate projections (UKCP18). Table 13.10 presents projections for the South West, England for the 2020s and 2050s periods in the Representative Concentration Pathway (RCP) 8.5 (i.e. "high") emissions and central (i.e. 50% probability) scenario. These future periods respond to the assumed construction and operational phases of the Proposed Development.

Table 13.10: UKCP18 Projections (RCP 8.5, 50% Probability)

Parameter	Projection (2020s)	Projection (2050s)
Temperature	Increase in winter mean temperature of 0.9°C	Increase in winter mean temperature of 2.0°C
	Increase in summer mean temperature of 1.2°C	Increase in summer mean temperature of 2.9°C
	Increase in annual mean temperature of 0.9°C	Increase in annual mean temperature of 2.2°C
Rainfall	Increase in winter mean precipitation of 7%	Increase in winter mean precipitation of 13%
	Decrease in summer mean precipitation of 14%	Decrease in summer mean precipitation of 30%

Receptors

13.70 Potential receptors that may experience impact are as follows:

- Habitats and species
- Energy infrastructure and climatic system
- Building occupants
- Buildings and infrastructure
- Building operations
- Construction site workers
- UK carbon budgets.

IMPACTS OF THE PROPOSED DEVELOPMENT

13.71 The following effects are identified as potentially significant and are assessed within this Chapter:

- Greenhouse Gas Emissions

Construction Impacts and Effects

13.72 The construction of the Proposed Development will result in GHG emissions from various activities, both on and off-site, including the consumption of fossil fuels by construction plant and vehicles, the generation of consumed mains electricity, the manufacture of construction materials, and the transport to/from site of workers, materials and wastes.

13.73 For both the construction and operational stage when considering secondary mitigation and residual effects, IEMA recommends use of the GHG Mitigation Hierarchy which provides a structure for mitigating GHG emissions and which has been adopted in relation to the Proposed Development as summarised in the Table 13.11.

Table 13.11: GHG Mitigation Hierarchy

Hierarchy	Description
Avoid	Investigate and deploy options to eliminate GHG emissions.
Reduce	Ensure that construction and operational activities will deliver efficient use of energy and resources.
Substitute	Commit to deploying renewables and low carbon materials, methods and/or technologies in place of more carbon intensive sources.
Compensate	Develop a strategy to compensate for residual or unavoidable emissions.

13.74 The whole life carbon assessment for the built environment guidance published by RICS in 2017 provides a benchmark factor for estimating average building construction site GHG emissions where more specific information is not available as is typically the case at the outline planning stage. This factor (1,400 kgCO2e per £100k project value) has been applied to the project value to estimate total construction site GHG emissions as presented in table 13.12.

Table 13.12 GHG Mitigation Hierarchy

Parameter	Value
Construction value	£315million
RICS construction emissions factor	1,400 kgCO2e/£100k
Estimated construction site emissions	4.41 ktCO2e

13.75 A 2013 report by the Department for Business, Innovation and Skills (BIS) (Ref: 13.22) estimates that 64% of UK building materials are imported from the EU. It is also likely that construction materials were manufactured over a number of historical years. Whilst geographical and temporal boundaries of GHG emissions from construction materials do not therefore closely relate to the local/regional/national GHG emissions used to contextualise these development effects, embodied carbon from construction materials are nevertheless included in the assessment to ensure potential impacts from indirect sources are not underestimated.

13.76 Table 13.13 presents total construction phase (2027-41) GHG emissions for the proposed development the context of the South West and UK Carbon Budget.

13.77 This methodology encapsulates the good practice approach recommended by IEMA (Ref: 13.23) in 2017, which states that a project's carbon footprint should be contextualised against pre-determined carbon budgets; in relation to relevant sector, the carbon footprint of the relevant local authorities' carbon budget, and the carbon footprint of UK wide carbon budget.

Table 13.13: Contextualised Construction Phases GHG Emissions

Context	Construction Phase GHG Emissions (as a %)
South West Carbon Budget 2027-2041	0.0076% (total GHG emissions)
UK Carbon Budget 2027-2041	0.0001 % (total GHG emissions)

13.78 The above quantification confirms that the construction phase GHG emissions are below the indicative threshold of 5% of the UK or devolved administration carbon budget proposed by IEMA for large scale development, at which the magnitude of GHG emissions irrespective of any reductions, is likely to be significant and can materially affect achievement of the carbon budget.

13.79 In addition to the above context against pre-determined carbon budgets, the IEMA 2022 guidance states that a development's GHG emissions should be evaluated relative to local and national policy requirements, and to its contribution towards meeting the UK's net-zero trajectory.

13.80 Given that the above represents a 'worst case' based on Royal Institute of Chartered Surveyors (RICS) data, and in the absence of existing and emerging policy requirements relating to the construction phase, the predicted GHG emissions of the Proposed Development are considered upon high level quantitative assessment and the professional judgement of the practitioner to be non-significant.

Operational Impacts and Effects

13.81 The operation of the Proposed Development will also result in GHG emissions from the generation of consumed mains electricity to heat and power the dwellings. An estimate of the Proposed Development's annual energy demands has been obtained from benchmark data available for dwellings and non-domestic buildings.

13.82 Whilst GHG emissions will also be generated as a result of additional operational activities, such as mains water consumption, wastewater treatment, and the transport and treatment of waste, emissions from such sources are likely to be minor compared to emissions from energy consumption and as a result are excluded from the assessment.

13.83 Table 13.14 sets out predicted operational energy consumption for the Proposed Development and associated GHG emissions during the assumed first year of full operation (anticipated to be 2027).

13.84 GHG emissions over the assessed 60-year building design life are calculated using UK electricity consumption-based grid factors for the domestic sector published by BEIS (Ref: 13.24) which predict continued decarbonisation of the UK grid from the ongoing uptake of renewables (especially offshore wind) and the closure of coal fired power stations.

13.85 Estimated carbon emissions have been calculated based on the energy strategy produced by Ramboll (Ref: 13.25). There is a commitment for designers to optimise roof mounted solar PV and air source heat pump heating systems within the strategy therefore, the estimated carbon emissions include for reductions based on the renewable energy provisions.

Table 13.14: Operational GHG Emissions

Operational Emission Sources	Carbon Emission Output (ktCO2e)
Total Development Operational GHG Emissions per annum	0.795 ktCO2e*
Total Development Operational GHG Emissions (over 60-year lifecycle)	3.46 ktCO2e**

*Figure has used the Part L 2021 carbon factor of electricity (0.136 kgCO2/kWh). As the grid decarbonises over the 60-year period, the carbon factor will decrease too.

**This calculation has used BEIS predicted carbon factors between 2027-2087.

13.86 Table 13.15 shows how these emissions compare to the estimated UK Carbon Budget for this period, and the South West England region. Construction phase greenhouse gas (GHG) emissions estimated for 2027 are used for comparison between the South West England emissions (given these also represent annual emissions), whilst total operational phase greenhouse gas (GHG) emissions across the 60-year building design life (2027-2087) are used within the context of the UK Carbon Budget. This methodology encapsulates the good practice approach recommended by The Institute of Environmental Management and Assessment (IEMA) guidance published in 2022, which states that a projects carbon footprint should be contextualised against pre-determined carbon budgets; in relation to relevant sector, the carbon footprint of the relevant local authorities' carbon budget, and the carbon footprint of UK wide carbon budget.

Table 13.15: Contextualised Operational Phase GHG Emissions

Context	Operational Phase GHG Emissions (as a %)
South West Carbon Budget 2027-2087	0.0053% (total operational GHG emissions)
UK Carbon Budget 2027-2087	0.0001 % (total operational GHG emissions)

Assessment of Impacts and Effects

13.87 As acknowledged within the IEMA guidance, there is no agreed method of presenting climate information and approaches vary depending on the scale of the development and the application of professional judgement.

13.88 Measures to ensure adaptation to Climate Change and future resilience of the Proposed Development have been paramount to the design process for the Proposed Development.

13.89 Where possible, key evidence to determine the risks posed by climate change to the development have been reviewed to provide context for the qualitative assessment carried out. This approach is considered suitable given the nature of the development and is also a reference point for the climate change adaptation/resilience measures outlined in other technical chapters within the Environmental Statement (ES) which will limit the cumulative impacts.

MITIGATION

13.90 The following design mitigation measures for the Proposed Development are relevant to climate change and have been considered in alignment with this Chapter.

Construction Phase

13.91 In order to manage and mitigate the impacts of construction traffic, a Construction Traffic Management Plan will be produced which will look to manage the arrival of HGVs.

Operational Phase

13.92 The Energy Strategy includes the following measures:

- The potential adoption of local Ground Source Head Pumps (GSHPs) for space heating and domestic hot water,

- The potential adoption of solar PV farm based on 12.8-acre array with capacity of 3.2 MWp.

RESIDUAL IMPACTS

Construction Effects

13.93 There are no likely significant effects considered likely during the construction stage as a result of climate change assuming adherence to the proposed mitigation as set out earlier in this chapter.

Operation Effects

13.94 There are no significant effects considered likely during the operation stage as a result of climate change assuming adherence to the proposed mitigation as set out earlier in this chapter.

Table 13.16: Summary of Impacts

Receptor	Mitigation Measures Proposed	Residual Impact
Construction Phase		
Habitats and Species	See Chapter 9 Ecology	Negligible
Energy infrastructure and climatic system		
Buildings and infrastructure		
Construction site workers		
UK carbon budgets	Compliance with Part L of UK Building Regs	Minor
Operational Phase		
Habitats and Species	See Chapter 9 Ecology	Negligible
Energy infrastructure and climatic system		
Building occupants	CIBSE TM52 dynamic modelling to assess thermal comfort	Minor
Buildings and infrastructure		
Building operations		
UK carbon budgets	Compliance with Part L of UK Building Regs	Minor

CUMULATIVE IMPACTS

13.95 An assessment of the cumulative effect of nearby committed developments is provided below.

Table 13.17: Cumulative Effects

Planning Application Reference	Proposed Development Site Details	Cumulative Effects
Land at Whitesbury Road, Fordingbridge 21/10052	63 residential dwellings together with associated landscape, access and parking	None anticipated due to scale of development.
Edmundsham Road, Verwood 3/16/1291	up to 230 dwellings (inc. affordable housing) Public open space and SANG with associated access and landscaping	None anticipated due to regulated energy use expected to be less than the Assessment Area.
Tinkers Cross 20/11469	Erection of 64 dwellings, change of use of land for Alternative Natural Recreational Greenspace	None anticipated due to scale of development.

Planning Application Reference	Proposed Development Site Details	Cumulative Effects
Whitsbury Road 17/10150	Development of 145 dwellings garages; parking; SANG and public open space;	None anticipated due to regulated energy use expected to be less than the Assessment Area.
North of Ringwood Road, Alderholt 03/19/2077	Erection of 45 dwellings	None anticipated due to scale of development.
Draggons Road, Alderholt 3/06/0769/OUT	89 Dwellings Together with Parking, Garaging and Access Provisions	None anticipated due to scale of development.

13.96 The GHG emissions presented in this Chapter are based on circumstances specific to the development. Whilst external factors could have an impact on the quantity of estimated emissions, reasonable endeavours have been taken to ensure that likely scenarios are accounted for, for example in projections of future emission factors. Beyond this, there are no specific projects identified that are likely to have an inter-project effect on the quantity of GHG emissions.

13.97 Central estimates of the effects of climate change are presented as part of the adaptation section of this Chapter, and no further assessment of cumulative effects is considered necessary.

SUMMARY

13.98 The Climate Change chapter assesses both the impact of the Proposed Development on climate change as a result of GHG emissions and associated mitigation measures, as well as potential impacts of climate change on the Development and the associated adaptation measures to ensure long term resilience.

13.99 In accordance with IEMA guidance and in the context of the UK Climate Change Risk Assessment, the key receptors identified include; habitats and species, construction employees and equipment, energy infrastructure; building occupants; building infrastructure; and building operations.

13.100 The assessment has identified a wide range of primary mitigation inherent to the design of the Proposed Development, and further mitigation which sets out legislative and/or policy requirements which are to be incorporated into the detailed design stage, construction, or operational practices. Mitigation measures that are included to reduce GHG emissions from the operational stage of the Proposed Development are detailed in the Energy and Sustainability Statement submitted with the planning application. Notably, this excludes the use of fossil fuels as a primary heat source, and includes improved fabric performance and the provision of solar PV at an average rate of five per dwelling. There is also a Design Code commitment to optimise the use of roof mounted solar PV across the Proposed Development to maximise on-site energy generation.

13.101 As a result of these the proposed mitigation measures, no likely significant effects are identified.

TABLE 13.18: SUMMARY TABLE

Description of Likely Significant Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Effects					Description of Mitigation / Enhancement Measures	Description of Residual Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Residual Effects				
		B/A	P/T	D/I	ST/M/ LT	L/R/N				B/A	P/T	D/I	ST/M/ LT	L/R/N
Demolition and Construction Phase														
Increased in GHG emissions from Assessment Area	Moderate	Adverse, Temporary					None required	N/A	Slight	Adverse, Temporary				
Operational Phase														
Increased in GHG emissions from Assessment Area	Moderate	Adverse, Temporary					Compliance with Part L of UK Building Regulations	Increase in renewable energy generation	Slight	Beneficial, Temporary				
Impact of Climate Change														
Declining species and natural habitats	Moderate	Adverse, Permanent					See Chapter 9 Ecology	Increase in biodiversity	Negligible	Beneficial, Permanent				
Impact upon existing ground conditions	Slight	Adverse, Temporary, Long Term					No additional mitigation required.	N/A	Slight	Adverse, Temporary, Long Term				
Summertime overheating in buildings	Moderate	Adverse, Temporary, Long Term					Overheating Assessment in line with CIBSE TM52/TM59 to be carried out at Reserved Matters Stage.	Reduced risk of overheating in homes	Slight	Adverse, Temporary				

(Beneficial or Adverse) (B/A), (Permanent or Temporary) (P/T), (Direct or Indirect) (D/I), (Short Term, Medium, Long Term) (ST, M, LT), (Local, Regional, National) (L, R, N)

14 AIR QUALITY

INTRODUCTION

14.1 This Chapter, prepared by Waterman IE, presents an assessment of the likely air quality effects of the Proposed Development. The Chapter provides a description of the methods used in the assessment and a description of the relevant baseline conditions of the Site and surrounding area. This is followed by an assessment of the likely potential effects of the Proposed Development during construction, and once the Proposed Development is completed and operational. Mitigation measures are identified where appropriate to avoid, reduce or offset any adverse effects identified and/or enhance likely beneficial effects. Taking account of the mitigation measures, the nature and significance of the likely residual effects are described.

14.2 The Air Quality Chapter is supported by:

- **Technical Appendix 14.1:** Consultation with Dorset Council, and
- **Technical Appendix 14.2:** Air Quality Detailed Methodology.

CONTEXT

Legislation

EU Framework Directive 2008/50/EC, 2008

14.3 Air pollutants at high concentrations can have adverse effects on the health of humans and ecosystems. European Union (EU) legislation on air quality forms the basis for UK legislation and policy on air quality.

14.4 The EU Framework Directive 2008/50/EC on ambient air quality assessment and management came into force in May 2008 and was implemented by Member States, including the UK, by June 2010. The Directive aims to protect human health and the environment by avoiding, reducing or preventing harmful concentrations of air pollutants.

Air Quality Standards Regulations, 2010

14.5 The Air Quality Standards Regulations implement Limit Values prescribed by the EU Framework Directive 2008/50/EC. The Limit Values are legally binding and the Secretary of State, on behalf of the UK Government, is responsible for their implementation.

The UK Air Quality Strategy, 2007

14.6 The current UK Air Quality Strategy (UK AQS) was published in July 2007 sets out the objectives for Local Planning Authorities (LPA) in undertaking their Local Air Quality Management (LAQM) duties. The 2007 UK AQS introduced a national level policy framework for exposure reduction for fine particulate matter. Objectives in the UK AQS are in some cases more onerous than the Limit Values set out within the relevant EU Directives and the Air Quality Standards Regulations 2010. In addition, objectives have been established for a wider range of pollutants.

14.7 The UK AQS objectives for air pollutants relevant to this assessment are summarised in **Table 14.1**.

Table 14.1: Summary of Relevant UK AQS Objectives

Pollutant	Objective		Date by which Objective to be Met
	Concentration	Measured as	
Nitrogen Dioxide (NO2)	200µg/m3	1 hour mean not to be exceeded more than 18 times per year	31/12/2005
	40µg/m3	Annual Mean	31/12/2005
Particulate Matter (PM10) (a)	50µg/m3	24 hour mean not to be exceeded more than 35 times per year	31/12/2004
	40µg/m3	Annual Mean	31/12/2004

Pollutant	Objective		Date by which Objective to be Met
	Concentration	Measured as	
Particulate Matter (PM2.5) (b)	Target of 15% reduction in concentrations at urban background locations	Annual Mean	Between 2010 and 2020
	25µg/m3	Annual Mean	01/01/2020

Note:

(a) Particulate matter with a mean aerodynamic diameter less than 10 microns (or micrometres – µm) (b) Particulate matter with a mean aerodynamic diameter less than 2.5 microns

The Environment Act, 1995

14.8 In a parallel process, the Environment Act 1995 required the preparation of a national air quality strategy setting health-based air quality objectives for specified pollutants and outlining measures to be taken by LPAs in relation to meeting these objectives (the LAQM system).

14.9 Part IV of the Environment Act 1995 provides a system of LAQM under which LPAs are required to review and assess the future quality of the air in their area by way of a staged process. Should this process suggest that any of the AQS objectives will not be met by the target dates, the LPA must consider the declaration of an Air Quality Management Area (AQMA) and the subsequent preparation of an Air Quality Action Plan (AQAP) to improve the air quality in that area in pursuit of the AQS objectives.

Planning Policy

National Planning Policy Framework, 2023

14.10 The NPPF, updated in September 2023 sets out the Government's planning policies for England and how these should be applied.

14.11 Paragraph 105 states:

"*The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.*"

14.12 Paragraph 174 states:

> *"Planning policies and decisions should contribute to and enhance the natural and 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, taking into account relevant information such as river basin management plans".*

14.13 Paragraph 185 states:

> *"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development.".*

14.14 Paragraph 186 states:

> *"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.".

Christchurch and East Dorset Local Plan, Part 1 – Core Strategy, 2014

14.15 The Core Strategy sets out the planning strategy for the Christchurch Borough and East Dorset district over a period of 15 years to 2028. It sets out how much, what type, where and how development should take place and how this should be catered for. It sets out the vision and objectives for the area which are reflected in planning policies to achieve this.

14.16 There are no policies directly relating to air quality.

Dorset Council Local Plan, Consultation, 2021

14.17 The Dorset Council Local Plan will cover the whole of the Dorset Council area (including East Dorset). It is being produced by the newly formed Dorset Council Unitary Authority. Once adopted, the Local Plan will form part of the development plan alongside the adopted minerals and waste policy and any neighbourhood plans. It will contain both strategic and non-strategic policies to manage development alongside further non-strategic policies contained in neighbourhood plans.

14.18 Policy ENV12: Pollution control states: "*where impacting on an Air Quality Management Area, avoid or mitigate its impact through positively contributing towards the implementation of measures to address the air quality issue including through the provision of green infrastructure and through building design and layout".*

Guidance

Department for Environment, Food and Rural Affairs, Clean Air Strategy, 2019

14.19 Published in January 2019, the Clean Air Strategy sets out a coherent framework and national action to improve air quality throughout the UK.

14.20 The Strategy is underpinned by new national powers to control major sources of air pollution, in line with the risk they pose to public health and the environment, plus new local powers to act in areas with an air pollution problem. The Strategy also supports the creation of Clean Air Zones to lower emissions from all sources of air pollution, backed up with clear enforcement mechanisms.

Improving Air Quality in the UK: Tackling Nitrogen Dioxide in our Towns and Cities. UK Air Quality Plan for Tackling Nitrogen Dioxide, 2017

14.21 The UK Government was required by the High Court to release an Air Quality Plan to meet the NO2 Limit Value in the shortest timescale as possible. This document was adopted on 26th July 2017.

14.22 The plan focuses on reducing concentrations of NOx and NO2 around road vehicle emissions within the shortest possible time. With the principal aims to:

- reduce emissions of NOx from the current road vehicle fleet in problem locations now, and
- accelerate road vehicle fleet turnover to cleaner vehicles to ensure that the problem remains addressed and does not move to other locations.

14.23 The other aims include reducing background concentrations of NOx from:

- Other forms of transport such as rail, aviation and shipping,
- Industry and non-road mobile machinery, and
- Buildings, both commercial and domestic, and other stationary sources.

14.24 The Plan provides measures to reduce NOx and NO2 concentrations in the UK, such measures include:

- Mandate local authorities to implement Clean Air Zones within the shortest possible time,
- Consultation on proposal for a Clean Air Zone Framework for Wales,

- Consultation on a draft National Low Emission Framework for Scotland,
- Commitment to establishing a Low Emission Zone for Scotland by 2018,
- Tackling air pollution on the English Road network,
- New real driving emissions requirement to address real world NOx emissions,
- Additional funding to accelerate uptake of hydrogen vehicles and infrastructure,
- Additional funding to accelerate the uptake of electric taxis,
- Further investment in retrofitting alongside additional support of low emission buses and taxis,
- Regulatory changes to support the take up of alternatively fuelled light commercial vehicles,
- Exploring the appropriate tax treatment for diesel vehicles,
- Call for evidence on updating the existing HGV Road User Levy,
- Call for evidence on use of red diesel,
- Ensure wider environmental performance is apparent to consumers when purchasing cars,
- Updating Government procurement policy,
- New emissions standards for non-road mobile machinery,
- New measures to tackle NOx emissions from Medium Combustion Plants, and
- New measures to tackle NOx emissions from generators.

14.25 The above measures do not provide any actions which are relevant to the operation or design of the Proposed Development.

14.26 A High Court ruling (High Court of Justice, 2018) on 21st February 2018, stated the UK Governments air quality improvement plan adopted on 31st July 2017 was unlawful as *'it does not contain measures sufficient to ensure substantive compliance with the 2008 Directive and the English Regulations'. The UK Government 'must ensure steps are taken to achieve compliance as soon as possible, by the quickest route possible and by a means that makes that outcome likely'*.

14.27 The judgement stated that the UK Government must produce a supplementary plan, setting out requirements for feasibility studies to be undertaken in the 33 Local Authority Areas. DC is not considered within this judgement.

14.28 In May 2018, it was announced the European Union (EU) was going to take the UK to the European Commission over failure to meet the Limit Values for NO2.

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

14.29 Environmental Protection UK (EPUK) and the Institute of Air Quality Management (IAQM) provide guidance for air quality considerations within the local development control processes, promoting a consistent approach to the treatment of air quality issues.

14.30 The EPUK and IAQM guidance explains how development proposals can adopt good design principles to reduce emissions and contribute to better air quality. The guidance also provides a method for screening the need for an air quality assessment and a consistent approach for describing the impacts at individual receptors. The EPUK and IAQM Guidance, advises that:

> *"In arriving at a decision about a specific proposed development the local planning authority is required to achieve a balance between economic, social and environmental considerations. For this reason, appropriate consideration of issues such as air quality, noise and visual amenity is necessary. In terms of air quality, particular attention should be paid to:*
>
> - *Compliance with national air quality objectives and of EU Limit Values;*
> - *Whether the development will materially affect any air quality action plan or strategy;*
> - *The overall degradation (or improvement) in local air quality; or*
> - *Whether the development will introduce new public exposure into an area of existing poor air quality*".

Planning Practice Guidance: Air Quality, 2019

14.31 The Government's online Planning Practice Guidance (PPG) states that all development plans can influence air quality in several ways including the development proposals, location and any provision made for sustainable transporti. Consideration of air quality issues at the plan-making stage can ensure a strategic approach to air quality and help secure net improvements in overall air quality where possible.

14.32 Whether air quality is relevant to a planning decision will depend on the proposed development and its location. Concerns could arise if the development is likely to have an adverse effect on air quality in areas where it is already known to be poor, particularly if it could affect the implementation of air quality strategies and action plans and/or breach legal obligations (including those relating to the conservation of habitats and species). Air quality may also be a material consideration if the proposed development would be particularly sensitive to poor air quality in its vicinity.

14.33 Where air quality is a relevant consideration the local planning authority may need to establish:

- the 'baseline' local air quality, including what would happen to air quality in the absence of the development;
- whether the proposed development could significantly change air quality during the construction and operational phases (and the consequences of this for public health and biodiversity); and
- whether occupiers or users of the development could experience poor living conditions or health due to poor air quality.

Local Air Quality Management Policy Guidance, 2022

14.34 The Local Air Quality Management Policy Guidance LAQM.PG (22) provides guidance to improve local air quality using available levers, including planning, public health and transport responsibilities. LAQM.PG (22) describes how power stations, motor vehicles, industrial and domestic combustion processes all contribute to local air pollution. Transport initiatives are set out to illustrate how transport measures may bring improvements in air quality.

Institute of Air Quality Management: Guidance on the Assessment of Dust from Demolition and Construction, 2014

14.35 The IAQM Construction Dust Guidance provides guidance to consultants and Environmental Health Officers (EHOs) on how to assess air quality impacts from construction related activitiesii. The guidance provides a risk-based approach based on the potential dust emission magnitude of the site (small, medium or large) and the sensitivity of the area to dust impacts. The importance of professional judgement is noted throughout the guidance. The guidance recommends that once the risk class of the site has been identified, the appropriate level of mitigation measures are implemented to ensure that the construction activities have no significant impacts.

Dorset Council Air Quality Action Plan: Chideock

14.36 The Dorset Air Quality Action Plan outlines the action DC will take to improve air quality within Chideock. The measures implemented are considered under the following five broad topics:

- Continue collaborative work with Highways England to investigate, and where appropriate, apply direct measures to improve air quality on the A35 in Chideock,
- Promotion of behaviour change away from single occupancy private vehicle use,
- Promotion of the use of alternatively fuelled vehicles,
- Developing policies to support better air quality,
- Controlling domestic emissions.

METHODOLOGY

Establishing Baseline Conditions

14.37 To establish baseline conditions at and around the Site, information has been taken from a review of DC and the New Forest District Council's (NFDC) Air Quality Updating and Screening Assessment and Progress Reports, published as part of the Local Air Quality Management (LAQM) regime. This includes a review of DC and NFDC's monitoring data.

Assessment Methodology

14.38 Identification and assessment of likely significant air quality effects of the Proposed Development used the following well established models and standard procedures, alongside professional judgement:

- Consultation with DC to agree the approach to the air quality assessment, Technical Appendix 14.1,
- A qualitative assessment of the likely effects of the proposed activities during the construction phase,
- Review of the local area to identify potentially sensitive receptor locations that could be affected by changes in air quality due to the Proposed Development,
- Identification of air quality sensitive receptors within the Site, to determine the air quality conditions to which future users of the Proposed Development would be exposed,
- Review and use of relevant traffic flow data from the Applicant's transport consultant, Paul Basham Associates,
- Dispersion modelling of pollutant emissions using the ADMS-Roads model to predict the likely pollutant concentrations at the Site and surrounding area from road traffic emissions, and the likely effect of the complete and operational Proposed Development on local air quality from additional traffic emissions. Version 8.1 of the NOX to NO2 Calculator, available from the LAQM Support website, has been applied to derive the road-related NO2 concentrations from the modelled NOX concentrations,
- Comparison of the predicted air pollutant concentrations with two DC diffusion tubes. Adjustment of the model results was then undertaken; details are provided in Technical Appendix 14.2,
- Determination of the effects of the completed and operational Proposed Development on air quality, based on the application of the Environmental Protection UK and Institute of Air Quality Management significance criteria to modelled results, and
- Identification of mitigation measures, where appropriate.

14.39 The UK Air Quality Strategy (AQS) identifies the pollutants associated with road traffic emissions and local air quality as:

- Nitrogen oxides (NOx),
- Particulate matter (as PM10 (particles with a diameter up to 10µm) and PM2.5 (particles with a diameter up to 2.5µm)),
- Carbon monoxide (CO),
- 1, 3-butadiene (C4H6), and
- Benzene (C6H6).

14.40 Emissions of total NOx from motor vehicle exhausts comprise nitric oxide (NO) and nitrogen dioxide (NO2). NO oxidises in the atmosphere to form NO2. The most significant pollutants associated with road traffic emissions, in relation to human health, are NO2 and particulate matter (PM10 and PM2.5). This assessment therefore focuses on NO2 and particulate matter (PM10 and PM2.5).

Construction

Dust Emissions

14.41 The assessment of the effects from construction activities in relation to dust has been based on the IAQM's Guidance on the Assessment of Dust from Demolition and Construction, 2014 and the following:

- Consideration of the construction, and
- A review of the sensitive uses in the area immediately surrounding the Site.

14.42 The IAQM guidance indicated that receptors within 350m of the boundary of a site, and within 50m of construction routes up to 500m from the Site entrance, would be sensitive to emissions and nuisance dust from construction activities. For clarification, Figure 14.1: Construction Phase Assessment Bands, shows the area surrounding the Site, where sensitive receptors could be affected during construction, considering the IAQM guidance.

14.43 Following the IAQM guidance, construction activities can be divided into the following four distinct activities:

- Demolition – any activity involved in the removal of an existing building,
- Earthworks – the excavation, haulage, tipping and stockpiling of material, but may also involve levelling the site and landscaping,
- Construction – any activity involved with the provision of a new structure, and
- Trackout – the movement of vehicles from unpaved ground on a site, where they can accumulate mud and dirt, onto the public road network where dust might be deposited.

14.44 The IAQM guidance considers three separate dust effects, with the proximity of sensitive receptors being taken into consideration for:

- Annoyance due to dust soiling,
- Potential effects on human health due to significant increase in exposure to PM10, and
- Harm to ecological receptors (any sensitive habitat affected by dust soiling).

14.45 A summary of the four-step process undertaken for the construction dust assessment, as set out in the IAQM guidance, is presented in Table 14.2.

Table 14.2: Summary of the IAQM Guidance for Undertaking a Construction Dust Assessment

Step		Description
1	Screen the Need for a Detailed Assessment	Simple distance-based criteria are used to determine the requirement for a detailed dust assessment. An assessment would normally be required where there are 'human receptors' within 350m of the boundary of the site and/or within 50m of the route(s) used by construction vehicles on public highway, up to 500m from the site entrance or 'ecological receptors' within 50m of the boundary of the site and/or within 50m of the route(s) used by construction vehicles on public highway, up to 500m from the site entrance.
2	Assess the Risk of Dust Effects	The risk of dust arising in sufficient quantities to cause annoyance and/or health or ecological effects should be determined using three risk categories: low, medium and high based on the following factors: The scale and nature of the construction, which determines the risk of dust arising (i.e., the magnitude of potential dust emissions) classed as small, medium or large; and The sensitivity of the area to dust effects, considered separately for ecological and human receptors (i.e., the potential for effects) defined as low, medium or high.
3	Site Specific Mitigation	Determine the site-specific measures to be adopted at the site based on the risk categories determined in Step 2 for the aforementioned four activities. For the cases where the risk is 'insignificant' no mitigation measures beyond those required by legislation are required. Where a local authority has issued guidance on measures to be adopted these should be taken into account.
4	Determine Significant Effects	Following Steps 2 and 3, the significance of the potential dust effects should be determined, using professional judgement, taking into account the factors that define the sensitivity of the surrounding area and the overall pattern of potential risks.

<u>Construction Vehicle Exhaust Emissions</u>

14.46 The IAQM guidance on assessing construction effects states:

> *"Experience of assessing the exhaust emissions from on-site plant (also known as non-road mobile machinery or NRMM) and site traffic suggests that they are unlikely to make a significant effect on local air quality, and in the vast majority of cases they will not need to be quantitatively assessed. For site plant and on-site traffic, consideration should be given to the number of plant/vehicles and their operating hours and locations to assess whether a significant effect is likely to occur. For site traffic on the public highway, if it*

cannot be scoped out, then if should be assessed using the same methodology and significance criteria as operational traffic impacts."

14.47 The IAQM guidance states that a detailed air quality assessment should be undertaken where there is a change in Heavy Duty Vehicles (HDV) movements greater than 100 annual average daily traffic (AADT). The predicted number of construction vehicles is currently unknown; however, the potential impacts of construction vehicles would be set out and managed within a Construction Management Plan. Construction vehicle emissions would be assessed if required when the construction vehicle traffic data is known. In the absence of available traffic data, a qualitative assessment has been undertaken.

Construction Plant Emissions

14.48 Given the size of the Site and the small contribution of emissions to local air quality, in accordance with the IAQM guidance, it is considered that a quantitative assessment of the exhaust emissions from construction plant is not required, and a qualitative assessment is appropriate.

Complete and Operational Development

ADMS Model

14.49 The likely effect on local air quality from the traffic from the completed and operational Proposed Development has been assessed using the atmospheric dispersion model ADMS-Roads.

14.50 Traffic data has been provided by the Applicant's Transport team, Paul Basham Associates. The year 2019 has been used to assess the baseline, as this is the latest full year of representative monitoring data due to the Covid-19 pandemic.

14.51 It is noted that Defra only predicts future concentrations to the year 2030, and therefore this year has been used to represent the opening year 2041. This approach is considered conservative as trends in pollutant concentrations have helped to predict that overall pollutant concentrations will decline. The year 2041 was used for the 'without Development' and 'with Development' scenarios, which is the anticipated year of completion of the Development.

14.52 The ADMS-Roads dispersion model predicts how emissions from roads combine with local background pollution levels, taking account of meteorological conditions, to affect local air quality. The model has been run for the completion year, using background data and vehicle emission rates for 2041 as inputs. For the verification assessment (referred to later in this Chapter), background data and vehicle emission rates for 2019 have been used. Pollutant concentrations have been modelled at locations representative of nearby sensitive receptors.

14.53 Full details of the dispersion modelling study, including the road traffic data used in the assessment, are presented in Technical Appendix 14.2.

14.54 The ADMS Roads model was also used to assess the impact of the Proposed Development on sensitive habitat areas. Further information is detailed within Chapter 9: Ecology.

Model Uncertainty

14.55 Analyses of historical monitoring data by Defraiii identified a disparity between actual measured NOX and NO2 concentrations and the expected decline associated with emission forecasts, which form the basis of air quality modelling as described above. In February 2020, Air Quality Consultants published a report on Performance of Defra's Emission Factor Toolkit 2013-2019. The report concluded that recent analysis of recent NOX measurements provides evidence that vehicle controls are working, and as a result, the Emission Factor Toolkit (EFT) is now reflecting the rate of observed reductions. This air quality assessment has been undertaken using the latest emission factors published by Defra in the EFT version 11, which accounts for the uptake of low carbon passenger cars and light good vehicles with electric and hybrid electric propulsion systems.

Background Pollutant Concentrations

14.56 To estimate the total concentrations due to the contribution of any other nearby sources of pollution, background pollutant concentrations need to be added to the modelled concentrations. Full details of the background pollution data used within the air quality assessment are included in Technical Appendix 14.2.

Model Verification

14.57 Model Verification is the process of comparing monitored and modelled pollutant concentrations and, if necessary, adjusting the modelled results to reflect actual measured concentrations, to improve the accuracy of the modelling results. The model has been verified by comparing the predicted annual mean NO2 concentrations for the baseline year of 2019, with the 2019 results from two DC diffusion tubes within proximity to the Site. Modelled concentrations have then been adjusted accordingly. The verification and adjustment process is described in detail in Technical Appendix 14.2.

UK Air Quality Strategy Objectives

14.58 The Government has established a set of air quality standards and objectives to protect human health. The current AQS was published in July 2007 and sets out the objectives for Local Planning Authorities (LPA) in undertaking their LAQM duties. The AQS objectives apply at locations where members of the public are likely to be regularly present and are likely to be exposed over the averaging period of the objective. Box 1.1 of Defra's Local Air Quality Management Technical Guidance (LAQM.TG16) explains the locations where these objectives apply.

14.59 The European Union (EU) also sets Limit Values for NO2, PM10 and PM2.5, which have been adopted by the UK. The Limit Value concentrations for NO2, PM10 and PM2.are the same numerical levels as the AQS Objectives but the target dates differ. Achievement of the Limit Values is a national obligation rather than a local obligation. In the UK, only monitoring and modelling carried out by Defra and Central Government meets the specification required to assess compliance with the Limit Values. Further, Defra and Central Government does not recognise local authority monitoring or local modelling studies when determining the likelihood of the Limit Values being exceeded. As such the Limit Values have not been considered further in this Chapter.

14.60 The UK AQS objectives in relation to air pollutants relevant to this assessment are summarised in Table 14.3.

Table 14.3: National Air Quality Strategy Objectives

Pollutant	Objective		Date by which Objective to be Met
	Concentration	Measured as	
Nitrogen Dioxide (NO2)	200µg/m3	1 hour mean not to be exceeded more than 18 times per year	31/12/2005
	40µg/m3	Annual Mean	31/12/2005
Particulate Matter (PM10) (a)	50µg/m3	24 hour mean not to be exceeded more than 35 times per year	31/12/2004
	40µg/m3	Annual Mean	31/12/2004
Particulate Matter (PM2.5) (b)	Target of 15% reduction in concentrations at urban background locations	Annual Mean	Between 2010 and 2020
	25µg/m3	Annual Mean	01/01/2020

Notes:

(a) Particulate matter with a mean aerodynamic diameter less than 10 microns (or micrometres – µm)
(b) Particulate matter with a mean aerodynamic diameter less than 2.5 microns

Significance Criteria

Construction

Dust Emissions

14.61 The potential effects of the construction on local air quality were based on professional judgement and with reference to the criteria set out in IAQM's construction dust guidance. Appropriate mitigation that would be implemented to minimise any adverse effects on air quality were also considered. Details of the assessor's experience and competence to undertake the dust assessment is provided in Technical Appendix 14.2.

14.62 The assessment of the risk of dust effects arising from the likely construction activities, as identified by the IAQM's construction dust guidance, is based on the magnitude of potential dust emissions and the sensitivity of the area. The risk category matrix for construction activity types, taken from the IAQM guidance, are presented in Tables 14.4 to Table 14.7.

Table 14.4: Risk Category from Demolition Activities

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	High	High Risk
Medium	High Risk	Medium	High Risk
Low	Medium Risk	Low	Medium Risk

Table 14.5: Risk Category from earthworks Activities

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

Table 14.6: Risk Category from construction Activities

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Medium Risk	Low Risk
Low	Low Risk	Low Risk	Negligible

14.7: Risk Category from trackout Activities

Sensitivity of Area	Dust Emission Magnitude		
	Large	Medium	Small
High	High Risk	Medium Risk	Low Risk
Medium	Medium Risk	Low Risk	Negligible
Low	Low Risk	Low Risk	Negligible

14.63 The risk category determined for each of the construction activity types is used to define the risk impact and identify appropriate Site-specific mitigation measures that should be applied. The IAQM guidance recommends that significance is only assigned to the effect after considering mitigation because it assumes that all actions to avoid or reduce the environmental effects are an inherent part of the Proposed Development, and that, in the case of construction, mitigation measures (secured through planning conditions, legal requirements or required by regulations) would ensure that likely significant adverse residual effects would not occur.

14.64 However, to maintain consistency with the structure of this EIA and ES, as outlined in Chapter 2: EIA Methodology, pre-mitigation significance criteria as outlined in Table 14.8 have been applied which are based on professional judgement.

Table 14.8: Pre-Mitigation Significance Criteria for the Construction Works

Significance Criteria	Definition
Adverse effect of major significance	Receptor is less than 20m from an active construction site.
Adverse effect of moderate significance	Receptor is 20m to 100m from an active construction site.
Adverse effect of minor significance	Receptor is between 100m and 350m from an active construction site.
Negligible	Receptor is over 350m from an active construction site.

14.65 IAQM outlines that experience of implementing mitigation measures for construction activities demonstrates that total mitigation is normally possible such that residual effects would not be 'significant'. Therefore, it follows that, within this assessment, no post-mitigation matrix of significance criteria is provided for the likely residual effects of the Construction.

14.66 Figure 14.1: Construction Phase Assessment Bands shows the area surrounding the Site, where sensitive receptors could be affected during the construction.

Construction Vehicle Exhaust Emissions

14.67 The significance of the effects of construction vehicle exhaust emissions on air quality references peak construction traffic movements and is based on professional judgement.

Construction Plant Emissions

14.68 The significance of the effects of construction plant emissions on air quality is also based on professional judgement.

Complete and Operational Development

14.69 The EPUK/IAQM guidance provides an approach to assigning the magnitude of changes because of a development as a proportion of a relevant assessment level, followed by an examination of this change in the context of the new total concentration and its relationship with the assessment criterion to provide a description of the impact at selected receptor locations.

14.70 Table 14.9 presents the IAQM framework for describing the impacts (the change in concentration of an air pollutant) at individual receptors. The term Air Quality Assessment Level (AQAL) is used to include air quality objectives or limit values, where these exist.

Table 14.9: Impact Descriptors for Individual Receptors for Annual Mean Objective

Long term average concentration at receptor in assessment year	% Change in concentration relative to the AQAL			
	1	2 – 5	6 – 10	>10
75% or less of AQAL	Negligible	Negligible	Minor	Moderate
76-94% of AQAL	Negligible	Minor	Moderate	Moderate
95-102% of AQAL	Minor	Moderate	Moderate	Major
103-109% of AQAL	Moderate	Moderate	Major	Major
110% or more of AQAL	Moderate	Major	Major	Major

Note: AQAL may be an air quality objective, EU limit value, or an Environment Agency 'Environmental Assessment Level (EAL)'. The table is intended to be used by rounding the change in percentage pollutant concentration to whole numbers. Changes of 0% (i.e. less than 0.5%) are described as negligible. The table is only to be used with annual mean concentrations

14.71 The approach set out in the EPUK / IAQM guidance provides a method for describing the impact magnitude at individual receptors only. The guidance outlines that this change may have an effect on the receptor depending on the severity of the impact and other factors that may need to be considered. The assessment framework for describing impacts can be used as a starting point to make a judgement on significance of effect. However, whilst there may be 'slight', 'moderate' or 'substantial' impacts described at one or more receptors, the overall effect may not necessarily be judged as being significant in some circumstances.

14.72 Following the approach to assessing significance outlined in the EPUK/IAQM guidance, the significance of likely residual effects of the completed Proposed Development on air quality has been established through professional judgement and the consideration of the following factors:

- The geographical extent (local, district or regional) of effects,
- Their duration (temporary or long term),
- Their reversibility (reversible or permanent),
- The magnitude of changes in pollution concentrations,
- The exceedance of standards (e.g., AQS objectives), and
- Changes in pollutant exposure.

Assumptions, Exclusions and Limitations

14.73 For the purposes of the dust emissions assessment, it has been assumed that construction works would be carried out at the boundary of the Site throughout the construction phase. This approach would provide a worst-case assessment.

14.74 The predicted number of construction vehicles is currently unknown; however, the potential impacts of construction vehicles would be set out and managed within a Construction Management Plan. Construction vehicle emissions would be assessed if required when the construction vehicle traffic data is known. In the absence of available traffic data, a qualitative assessment has been undertaken.

14.75 The traffic data provided by Paul Basham Associates assumed a complete and operational year of 2033. The assessed effects for the 'without Proposed Development' and 'with Proposed Development' future scenarios presented in Chapter 14: Air Quality are therefore based on the year 2033. However, for consistency with the rest of the ES, the anticipated year of completion/operation has been presented as 2041.

14.76 Currently there is no methodology to assess and determine the impact of a development against the EU Limit Values. In addition, compliance with the EU Limit Values is the UK Government's responsibility given that national measures (such as vehicle scrappage schemes and increased diesel fuel prices) would be required to meet compliance. As such the effect of the Proposed Development has been assessed against the UK AQS objectives rather than the EU Limit Values. To demonstrate that the Proposed Development would have a positive influence on air quality, a summary of measures which are likely to lead to a benefit to air quality have been outlined.

14.77 There is no standard or recognised methodology to predict the reduction in pollutant concentrations from all air quality mitigation measures or measures likely to have a positive impact on local air quality (such as cycle spaces, electric charging points, sustainable transport options, green infrastructure etc) as these measures are either based on holistic behavioural changes and/or there is a lack of real-world quantifiable data (in µg/m3).

14.78 The Emissions Factor Toolkit and Background Pollutant Concentrations are only projected into the future to the year 2030. Therefore, the vehicle emissions and background concentrations from 2030 have been used in the assessment year of 2035. This represents a conservative assumption as both emission factors and background concentrations are predicted to decrease year on year.

14.79 The Proposed Development would not provide any combustion plant. Heating and comfort cooling would instead be provided by renewable sources, district heating and ground source heat pumps. The Proposed Development would therefore not give rise to any significant adverse air quality impacts. If combustion plant is proposed, it would be designed to meet relevant guidance and assessed if required when the technical specifications are known. Combustion plant has therefore not been considered within the air quality assessment.

Consultation

14.80 Consultation with the Environmental Health Officer at DC was undertaken to agree the approach of the air quality assessment. DC confirmed the approach was acceptable on the 6th of September 2022. Details of the consultation are provided in Technical Appendix 14.1.

BASELINE CONDITIONS

Dorset District Council Review and Assessment of Air Quality

14.81 As a result of work undertaken to date as part of their Review and Assessment of air quality process, DC currently have two AQMA's declared. The Chideock AQMA and Dorchester AQMA are both declared for exceedances of annual mean NO2 AQS objective.

14.82 The Dorchester AQMA, is the nearest AQMA to the Site and located approximately 48km south-west of the Site. The Site is therefore not located within or near an AQMA.

Dorset District Council and New Forest District Council Local Monitoring

14.83 2020 and 2021 data was not considered representative of normal baseline conditions due to the COVID-19 pandemic. 2020 and 2021 monitoring data has therefore not been considered further. 2019 data is considered a conservative estimate of current baseline local air quality conditions.

14.84 The Site is located in the former local authority of East Dorset District Council (EDDC). In 2020, EDDC, North Dorset, Purbeck, West Dorset and Weymouth and Portland were amalgamated into DC. Therefore, EDDC monitoring data was used to inform the air quality baseline.

14.85 Although the Site is located within DC, the New Forest District Council (NFDC) local authority is located approximately 600m to the west of the Site. Monitoring data for both local authorities has therefore been considered within the assessment.

14.86 In 2019, EDDC did not undertake any automatic monitoring. NFDC undertook monitoring of NO2 and PM10 at three locations using automatic monitors in 2019. The automatic monitors are:

- Lyndhurst (CM2), a kerbside monitor measuring NO2, located approximately 17.9km south-east of the Site,
- Totton (CM1), a roadside monitor measuring NO2 and PM10, located approximately 23.9km east of the Site, and
- Fawley (CM3), an industrial monitor measuring PM10, located approximately 34.7km south-east of the Site.

14.87 The nearest automatic monitor to the Site is the Lyndhurst (CM2) kerbside monitor located approximately 17.9km from the Site, and is therefore not considered representative of concentrations at the Site and in the local area. Monitoring data from the three NFDC automatic monitors has not been considered further.

14.88 In 2019, EDDC and NFDC undertook NO2 monitoring at 17 and 40 locations using diffusion tubes respectively. The results for the diffusion tubes located within approximately 10km from the centre of the Site are presented in Table 14.10.

Table 14.10 : Measured Concentrations at the EDDC and NFDC Diffusion Tubes within 10km from the Site

Local Authority	ID	Site	Classifcation	Distrance to Centre of Site (km)	Annual mean NO2 Concentration (ug/m3)			
					2016	2017	2018	2019
EDDC	3	3, Hurn Road, Ringwood	Other	7.3	22.0	25.0	23.0	18.0
EDDC	1	Tawa, Horton Road, Ringwood	Roadside	7.4	22.0	22.0	23.0	20.0
EDDC	2	22, Avon Park Ringwood	Roadside	7.4	22.0	21.0	21.0	18.0
NFDC	46	58 Eastfield Lane, Ringwood (A31)	Roadside	7.4	-	-	27.8	24.3
EDDC	4	45, Davids Lane, Ringwood	Urban Background	7.5	17.0	17.0	18.0	15.0
EDDC	13	14 St Ives Wood, St Ives	Urban Background	7.5	13.0	12.0	14.0	12.0
EDDC	5	9, Castlewood, Ringwood	Urban Background	7.6	15.0	16.0	15.0	13.0

Local Authority	ID	Site	Classifcation	Distrance to Centre of Site (km)	Annual mean NO2 Concentration (ug/m3)			
					2016	2017	2018	2019
EDDC	12	3, Russell Gardens, St Ives	Urban Background	7.6	11.0	11.0	13.0	10.0
EDDC	11	6 Sandy Lane, St Ives	Other	7.8	17.0	17.0	18.0	16.0
EDDC	10	24, Ringwood Road, St Ives	Roadside	7.8	31.0	32.0	33.0	31.0
NFDC	45	St Catherine's, Christchurch Road	Roadside	7.8	-	-	26.3	26.6

Source: EDDC Data obtained from East Dorset district Council Annual Status Report 2019 & 2019 data was obtained online from East Dorset air quality data 2019iv NFDC obtained from New Forest District Council Annual Status Report 2021

14.89 The Monitoring results in Table 14.10 indicate the NO2 AQS objectives were met at all monitoring locations within 10km of the centre of the Site at all years. Annual mean NO2 concentrations have reduced at every location from 2016 to 2019.

Future Baseline

14.90 Notwithstanding the implementation, or otherwise, of the Proposed Development, future air quality baseline conditions are expected to improve as there will likely be a reduction in vehicle emission rates and background concentrations following the uptake of less polluting vehicles.

Sensitive Receptors

14.91 The approach adopted by the UK AQS is to focus on locations at, and close to, ground level where members of the public (in a non-workplace area) are likely to be exposed over the averaging time of the objective in question (i.e. over 1-hour, 24-hour or annual periods). Objective exceedances principally relate to the annual mean NO2 and concentrations, so that associated potentially sensitive locations relate mainly to residential properties and other sensitive locations (such as schools) where the public may be exposed for prolonged periods.

14.92 The receptors selected were identified due to their proximity to the road network and considered to be the receptors most likely to be exposed to poor air quality.

14.93 Table 14.11 presents worst-case existing and proposed high sensitive receptors selected due to their proximity to the road network.

Table 14.11 : Sensitive receptors

ID	Receptor	Description	Grid Reference		Height above ground (m)
1	Ashley Cottages	Residential	413752	104987	0
2	Horton Road	Residential	413278	104504	0
3	30 Ringwood Road	Residential	412755	104134	0
4	Salisbury Road	Residential	414815	105658	0
5	43 Eastfield Lane	Residential	416204	105532	0
6	Belt Cottage	Residential	412094	107658	0
7	Drove End Farm	Residential	412925	111843	0
8	Station Road	Residential	411498	112477	0
9	56 Ringwood Road	Residential	411768	112263	0
10	38 Station Road	Residential	411771	112578	0
11	Kingwood Day Nursery	Nursery	410680	112623	0
12	Corner House	Residential	408903	112344	0
13	5 Edmondsham Road	Residential	408443	109590	0

ID	Receptor	Description	Grid Reference		Height above ground (m)
14	Cardon Place	Residential	407971	109263	0
15	Verwood House	Residential	404426	110974	0
16	2 Cold Harbour	Residential	403685	110609	0
17	Avenue Lodge	Residential	404627	111452	0
18	2 Castle Street	Residential	405570	113230	0
19	Crane View	Residential	407314	112581	0
20	Mooracre Cottage	Residential	412261	113088	0
21	2 Hillbury Road	Residential	412304	113017	0
22	Sandleheath Road	Residential	412018	113231	0
23	15 Bowerwood Road	Residential	414379	113706	0
24	4 Provost Street	Residential	414650	114117	0
25	2 Bridge Street	Residential	414869	114239	0
26	Won Lodge	Residential	415257	114179	0
27	Foxill Farm	Residential	412510	111873	0
28	Proposed: North-west of Site	Residential	411873	112180	0
29	Proposed: West of Site	Residential	412001	111904	0
30	Proposed: East of Site	Residential	412818	112124	0

14.94 The locations of the selected receptors assessed are presented in Figure 14.2.

IMPACTS

Construction Impacts

14.95 The nearest high sensitivity human receptors are residential properties within 20m of the Site boundary along Ringwood Road, Hillbury Road, Hazel Close, Saxon Way and Hillbury Park. Additionally, St. James' CE First School and Nursery is located approximately 350m north of the Site. The Dorset Heathlands Ramsar Site, the Cranbourne Common Site of Special Scientific Interest (SSSI) and the Dorset Heaths Special Area of Conservation (SAC) are all located approximately 20m south-west of the Site.

Demolition

14.96 The volume of building to be demolished would be less than 20,000m3. Based on the volume of demolition and considering the other criteria in Step 2 of the IAQM guidance, the potential dust emissions during demolition activities would be of small magnitude.

Earthworks

14.97 The area of the Site is 122ha. Based on the size and considering the other criteria in Step 2 of the IAQM guidance, the potential dust emissions during earthworks activities would be of large magnitude.

Construction

14.98 The total volume of buildings to be created would exceed 100,000m3. Based on the size and considering the other criteria in Step 2 of the IAQM guidance, the potential dust emissions during construction activities would be of large magnitude.

Trackout

14.99 It is estimated the number of HDV's could peak above 50 movements a day during the peak construction period. Therefore, considering the criteria in Step 2 of the IAQM guidance, the potential for dust emissions due to trackout activities would be of large magnitude.

Sensitivity of the Area

14.100 The sensitivities of the area to each main activity set out above has been assessed based on the number and distance of the nearest sensitive receptors to the activity, and the sensitivity of these receptors to dust soiling and human health.

Sensitivities of People to Dust Soiling Effects

14.101 There were estimated to be between 10 and 100 high sensitive receptors within 20m of the Site. On this basis (as set out in Table 2 of the IAQM guidance) the sensitivity of the area to dust soiling is considered to be high.

Sensitivities of People to Health Effects of PM10

14.102 The Defra background annual mean 2019 PM10 concentration was 12.3 µg/m3. On this basis (as set out in Table 3 of the IAQM guidance) the sensitivity of the area to human health is considered to be low.

Sensitivity of the Area to Ecological Impacts

14.103 The Dorset Heaths SAC and the Cranbourne Common SSSI are located within 20m of the Site. Therefore, considering the criteria in Table 4 of the IAQM guidance, the Site is considered to be an area of high sensitivity to ecological impacts.

Dust Risk Summary

14.104 The dust risk categories, based on the potential magnitude of dust emissions and the sensitivity of the area to dust, are presented in Table 14.12.

Table 14.12: Summary of Risk

Potential Effect	Risk			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Medium Risk	High Risk	High Risk	High Risk
HumanHealth	Negligible	Low Risk	Low Risk	Low Risk
Ecological	Medium Risk	High Risk	High Risk	High Risk

14.105 The Site is considered high risk due to dust soiling and ecological impacts. Therefore, Site specific mitigation measures would be required to ensure that there are no adverse effects from construction. However, based on the criteria in Table 14.7, in the absence of mitigation, the worst-case nuisance dust from the construction would give rise to:

- Temporary, local effects of **major adverse** significance at receptors within 20m from Site boundary,
- Temporary, local effects of **moderate adverse** significance at receptors between 20m and 100m of the Site boundary,
- Temporary, local effects of **minor adverse** significance at receptors between 100m and 350m of the Site boundary, and
- **Negligible** effects at receptors over 350m from the Site boundary.

Construction Vehicle Emissions

14.106 The number of HDV's could peak above 50 movements a day during the peak construction period. Considering the sensitivity of the surrounding rural area and increased traffic, it is considered the potential impact of construction vehicles on air quality would in the worst-case, result in a direct, temporary, adverse, short term, local effect of **minor** significance during the construction period.

Construction Plant Emissions

14.107 Emissions from plant operating on the Site during construction, would be small in comparison to existing background concentrations. It is therefore considered the likely effect on local air quality would be not significant.

Operational Impacts

14.108 Effects on local air quality associated with the completed and operations Proposed Development would likely result from changes to the associated traffic flows. Table 14.13 and Table 14.14 present the predicted concentrations at relevant existing and proposed receptors nearest to road traffic.

Nitrogen Dioxide (NO2)

Table 14.13 : NO2 Results of the ADMS modelling at sensitive receptors

ID	Receptor	NO2 Annual Mean (ug/m3)			
		2019 Baseline	2041 Without Development	2041 with Development	2041 Change
1	Ashley Cottages	27.3	13.2	13.6	0.4
2	Horton Road	26.4	12.8	12.9	0.1
3	30 Ringwood Road	25.9	13.7	13.7	0.0
4	Salisbury Road	26.9	13.2	13.2	0.0
5	43 Eastfield Lane	34.2	15.8	15.9	0.1
6	Belt Cottage	15.9	11.9	12.1	0.2
7	Drove End Farm	16.9	12.0	12.9	0.9
8	Station Road	18.1	12.4	13.0	0.6
9	56 Ringwood Road	15.6	11.6	11.9	0.3
10	38 Station Road	16.9	12.0	12.4	0.4
11	Kingwood Day Nursery	16.5	11.9	12.2	0.3
12	Corner House	16.7	12.0	12.3	0.3
13	5 Edmondsham Road	16.4	11.5	11.8	0.3
14	Cardon Place	16.4	11.7	12.0	0.5
15	Verwood House	17.4	12.2	12.7	0.5
16	2 Cold Harbour	17.2	12.1	12.2	0.1
17	Avenue Lodge	16.1	11.8	11.8	0.0
18	2 Castle Street	18.5	12.5	12.8	0.3
19	Crane View	16.0	11.8	11.9	0.1
20	Mooracre Cottage	18.1	12.4	12.8	0.4
21	2 Hillbury Road	18.2	12.4	13.2	0.8
22	Sandleheath Road	17.0	12.1	12.3	0.2
23	15 Bowerwood Road	17.7	12.0	12.2	0.2
24	4 Provost Street	19.9	12.9	13.2	0.3
25	2 Bridge Street	19.8	12.8	13.2	0.4
26	Won Lodge	18.0	11.9	11.9	0.0

ID	Receptor	NO2 Annual Mean (ug/m3)			
		2019 Baseline	2041 Without Development	2041 with Development	2041 Change
27	Foxill Farm	16.0	11.6	11.6	0.0
28	Proposed: North-west of Site	-	-	11.9	-
29	Proposed: West of Site	-	-	13.0	-
30	Proposed: East of Site	-	-	13.2	-

14.109 The results in Table 14.13 indicate the 2019 annual mean NO2 concentrations are predicted to meet the annual mean NO2 objective at all existing sensitive receptors modelled. The highest concentration of 27.3µg/m3 is predicted at Receptor 1 (Ashley Cottages).

14.110 As discussed in **Technical Appendix 14.2**, the 1-hour mean NO2 AQS objective is unlikely to be exceeded at a roadside location where the annual mean NO2 concentration is less than 60µg/m3. As shown in Table 14.13, the predicted NO2 annual mean concentrations in 2019 were below 60µg/m3 at all the existing receptor locations and as such it is likely the 1-hour mean objective is met at all existing receptor locations.

14.111 Table 14.13 shows that both 'without' and 'with' the Proposed Development, all existing receptors are also predicted to be below the NO2 annual mean objective in 2041. Therefore, the 1-hour mean objective is also predicted to be met at all existing receptor locations.

14.112 Using the impact descriptors outlined in Table 14.9, the Proposed Development is predicted to result in a **negligible** impact on annual mean NO2 concentrations at all existing receptors. The effect of the Proposed Development on existing receptors would be **not significant**.

Particulate Matter (PM10 and PM2.5)

Table 14.4 : Pm10 and PM2.5 Results of the ADMS modelling at sensitive receptors

ID	PM10 Annual Mean (µg/m3)				PM10 - Number of Days >50µg/m3				PM2.5 Annual Mean (µg/m3)			
	2019 Baseline	2041 Without Development	2041 with Development	2041 Change	2019 Baseline	2041 Without Development	2041 with Development	2041 Change	2019 Baseline	2041 Without Development	2041 with Development	2041 Change
1	15.0	14.0	14.1	0.1	0	0	0	0	11.3	10.4	10.7	0.3
2	15.1	14.0	14.0	0.0	0	0	0	0	11.3	10.5	10.6	0.1
3	13.7	12.7	12.7	0.0	0	0	0	0	10.6	9.9	9.9	0.0
4	15.3	14.2	14.2	0.0	0	0	0	0	11.6	10.8	10.8	0.0
5	16.2	15.0	15.0	0.0	0	0	0	0	13.0	12.2	12.2	0.0
6	12.4	11.2	11.2	0.0	0	0	0	0	8.5	7.4	7.5	0.1
7	12.5	11.4	11.7	0.3	0	0	0	0	8.3	7.5	7.8	0.3
8	12.3	11.3	11.4	0.1	0	0	0	0	8.6	7.7	8.0	0.3
9	12.1	11.1	11.2	0.1	1	1	1	0	8.2	7.4	7.6	0.2
10	12.3	11.2	11.3	0.1	0	0	0	0	8.5	7.7	7.8	0.1
11	11.9	10.9	10.9	0.0	1	1	1	0	8.1	7.3	7.4	0.1
12	12.5	11.5	11.5	0.0	0	0	0	0	8.1	7.3	7.4	0.1

13	12.2	11.3	11.4	0.1	0	0	0	0	8.5	7.7	7.9	0.2
14	12.1	11.2	11.3	0.1	1	1	1	0	8.3	7.6	7.8	0.2
15	12.3	11.3	11.4	0.1	0	0	0	0	8.1	7.3	7.5	0.2
16	13.1	12.1	12.1	0.0	0	0	0	0	8.3	7.5	7.5	0.0
17	13.0	12.0	12.0	0.0	0	0	0	0	8.2	7.3	7.4	0.1
18	13.0	12.0	12.0	0.0	0	0	0	0	8.6	7.8	7.9	0.1
19	12.0	11.0	11.0	0.0	1	1	1	0	8.0	7.2	7.2	0.0
20	12.2	11.2	11.3	0.1	0	0	0	0	8.4	7.5	7.7	0.2
21	12.3	11.2	11.4	0.2	0	0	0	0	8.4	7.6	7.9	0.3
22	12.2	11.1	11.2	0.1	1	1	1	0	8.3	7.5	7.6	0.1
23	12.7	11.6	11.7	0.1	0	0	0	0	8.7	7.9	8.0	0.1
24	13.0	11.9	12.0	0.1	0	0	0	0	9.4	8.6	8.7	0.1
25	13.0	11.9	12.0	0.1	0	0	0	0	9.5	8.6	8.8	0.2
26	12.8	11.7	11.8	0.1	0	0	0	0	8.7	7.9	7.9	0.0
27	12.4	11.4	11.4	0.0	0	0	0	0	8.2	7.3	7.4	0.1
28	-	-	11.2	-	-	-	0	-	-	-	7.5	-
29	-	-	11.8	-	-	-	0	-	-	-	8.2	-
30	-	-	11.7	-	-	-	0	-	-	-	8.1	-

14.113 As shown in Table 14.14, the annual mean PM10 concentrations are predicted to be below the objective of 40µg/m3 in 2019 and in 2041 both 'without' and 'with' the Proposed Development at all receptor locations considered. The maximum predicted concentration in all scenarios assessed is 16.2µg/m3 at Receptor 6 (Belt Cottage) in 2019.

14.114 Using the impact descriptors outlined in Table 14.9, the Proposed Development is predicted to result in a **negligible** impact on annual mean PM10 concentrations at all sensitive receptors.

14.115 The results in Table 14.14 indicate that in 2019 and in 2041 both ‘without’ and ‘with’ the Proposed Development, all receptor locations are predicted to be below the 24-hour mean PM10 objective value of no more than 35 days exceeding 50µg/m3.

14.116 The results in Table 14.14 indicate that in 2019 and in 2041 both ‘without’ and ‘with’ the Proposed Development, all receptor locations are predicted to be below the annual mean PM2.5 objective value of 25µg/m3.

14.117 Using the impact descriptors outlined in Table 14.9, the Proposed Development is predicted to result in a **negligible** impact on annual mean PM2.5 concentrations at all existing receptors.

14.118 Using professional judgement, based on the severity of the impact and the concentrations predicted at the sensitive receptors, it is considered the effect of the Proposed Development on PM10 and PM2.5 concentrations would be **not significant**.

Conditions within the Development

14.119 As shown by the results in Tables 14.13 and 14.14, the predicted NO2, PM10 and PM2.5 concentrations for the worst-case proposed receptor locations within the Proposed Development (Receptors 28, 29 and 30) are below the relevant objectives in 2041. As such, it is considered the effect of introducing future sensitive users to the Site would be **not significant**.

MITIGATION

Construction Mitigation

Dust Emissions

14.120 The Site is a high-risk site in relation to nuisance dust emissions, referred to earlier in this Chapter. Consequently, a range of environmental management controls would be developed with reference to the IAQM Guidance for high-risk sites. The mitigation measures would be included within a Construction Environmental Management Plan (CEMP) to be secured via a planning condition and implemented to prevent the release of dust to the atmosphere and / or being deposited on nearby receptors.

14.121 Mitigation measures are routinely and successfully applied to construction projects throughout the UK and are proven to significantly reduce the potential for adverse nuisance dust effects associated with the various stages of the construction work.

Construction Vehicle Emissions

14.122 The predicted number of construction vehicles is currently unknown; however, the potential impacts of construction vehicles would be set out and managed within a Construction Management Plan agreed with DC. Consideration would be given to the avoidance, or limited use of roads during peak hours, where practicable.

Construction Plant Emissions

14.123 None required.

Operational Mitigation

14.124 None required.

14.125 It has been demonstrated the likely effect of the completed and operational Proposed Development on local air quality at all existing receptors would be not significant. Accordingly, no mitigation would be required and the likely residual effects on local air quality at existing receptors would be not significant.

14.126 Sensitive proposed receptors within the Proposed Development are not predicted to exceed NO2, PM10 or PM2.5 AQS objectives as a result of traffic emissions generated from the complete and operational Proposed Development. The Site is therefore considered to be suitable for future sensitive users.

RESIDUAL IMPACTS

Construction Impacts

Dust Emissions

14.127 Residual effects due to fugitive dust emissions would be not significant.

Construction Vehicle Emissions

14.128 The likely residual effect of construction vehicles entering and egressing the Site on local air quality would be not significant.

Construction Plant Emissions

14.129 The likely residual effect of construction plant on local air quality would be not significant.

Operational Effects

14.130 It has been demonstrated that the likely effect of the completed and operational Proposed Development on local air quality at all existing receptors would be negligible. Accordingly, no mitigation would be required and the likely residual effects on local air quality at existing receptors would be not significant.

CUMULATIVE IMPACTS

Construction Impacts

Dust Emissions

14.131 The main effects on air quality during the demolition and construction phases of developments are in relation to dust. Owing to the typical dispersal and deposition rates of dust with distance from their source, without mitigation, Type 2 cumulative dust effects could be an issue for cumulative schemes within 700m of the Site, and only if they were to be constructed at the same time.

14.132 Two of the four cumulative schemes are within 700m. However, the Proposed Development and all cumulative schemes would implement their own CEMP (or equivalent) to mitigate potential dust nuisance. Accordingly, it is unlikely that there would be any Type 2 cumulative dust effects at the nearest sensitive receptors specific to the Site. It is therefore considered that potential Type 2 cumulative residual effects of dust nuisance would be not significant.

Construction Vehicle Exhaust Emissions

14.133 Exhaust emissions from the combined construction traffic of the Proposed Development and the cumulative schemes could also give rise to Type 2 cumulative residual effects on local air quality. However, this would depend upon the extent to which the implementation of the Proposed Development and the cumulative schemes overlap. Even in the worst-case scenario, whereby the construction phases of the cumulative schemes overlap with the construction of the Proposed Development and use the same haulage routes, the proportion of additional construction traffic on the local road network would still be small compared to existing traffic. As with the Proposed Development it is assumed that appropriate traffic management measures and implementation of a Construction Management Plan as appropriate, would be implemented to reduce traffic disruption as much as is practically possible. The likely Type 2 residual effect is therefore considered to be not significant.

Construction Plant Emissions

14.134 The likely residual cumulative effects from construction plant exhaust emissions operating on the Site and on the other Cumulative Schemes would be not significant.

Complete and Operational Development

14.135 The effect of the complete and operational Proposed Development on air quality is mainly linked to associated changes in traffic flows. The traffic data supplied by the Applicant's transport consultant and considered in this assessment already accounts for the cumulative schemes. Therefore, it is considered that the likely Type 2 cumulative residual effects of traffic emissions upon local air quality from the Proposed Development and cumulative schemes would be equivalent to those presented earlier in the report, which are not significant.

SUMMARY

14.136 The main likely effects on local air quality during construction relate to nuisance dust and exhaust emissions from construction vehicles and plant.

14.137 A range of measures to minimise or prevent dust and reduce exhaust emissions generated from construction activities would be set out in within a Construction Environmental Management Plan and implemented throughout the construction phase. Therefore, it is considered effects due to dust emissions would be not significant.

14.138 Construction traffic movements would be agreed with DC and consideration given to the avoidance, or limited use of roads during peak hours. Considering these measures, the effect of construction vehicles on local air quality would be not significant.

14.139 Construction plant emissions would not have a significant effect on local air quality during the construction of the Proposed Development.

14.140 A detailed modelling exercise has been undertaken to assess likely effects on local air quality associated with changes to road traffic from the Proposed Development. The modelling indicates levels of nitrogen dioxide and particulates would not exceed nationally accepted limits at any of the nearby residential properties or within the Proposed Development in 2041. It is concluded that the effect of the Proposed Development on levels of nitrogen dioxide and particulates would be not significant.

TABLE 14.14: SUMMARY TABLE

Description of Likely Significant Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Effects					Description of Mitigation / Enhancement Measures	Description of Residual Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Residual Effects				
		B/A	P/T	D/I	ST/M/ LT	L/R/N				B/A	P/T	D/I	ST/M/ LT	L/R/N
Construction Phase														
Dust Emissions	Short-term, local effects of major adverse significance at receptors within 20m from the Proposed Development;	A, T, D, ST, L					Refer to IAQM for high-risk sites. A CEMP would be implemented. Mitigation measures are routinely and successfully applied to construction projects throughout the UK and are proven to significantly reduce the potential for adverse nuisance dust effects associated with the various stages of the construction work.	No residual effects.	Not significant	N/A				
	Short-term, local effects of moderate adverse significance at receptors between 20m and 100m of the Proposed Development;													
	Short-term, local effects of minor adverse significance at receptors between 100m and 350m of the Proposed Development;													
	Negligible effects at receptors over 350m from the Proposed Development.													

Description of Likely Significant Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Effects					Description of Mitigation / Enhancement Measures	Description of Residual Effects	Significance (Significant, Moderate, Slight, Negligible or Nil)	Residual Effects				
		B/A	P/T	D/I	ST/M/ LT	L/R/N				B/A	P/T	D/I	ST/M/ LT	L/R/N
Construction Vehicle Emissions	Not significant	N/A					Construction traffic logistics would be agreed with DC. Where practicable - avoidance, or limited use of roads during peak hours.	No residual effects	Not significant	N/A				
Construction Plant Emissions	Not significant	N/A					None required	No residual effects.	Not significant	N/A				
Operational Phase														
Nitrogen Dioxide	Not significant	N/A					None required	No residual effects.	Not significant	N/A				
Particulate Matter (PM_{10} and $PM_{2.5}$)	Not significant	N/A					None required	No residual effects.	Not significant	N/A				

(Beneficial or Adverse) (B/A), (Permanent or Temporary) (P/T), (Direct or Indirect) (D/I), (Short Term, Medium, Long Term) (ST, M, LT), (Local, Regional, National) (L, R, N)

15 CUMULATIVE EFFECTS

INTRODUCTION

15.1 This chapter assesses the cumulative effects of the scheme arising from the construction and operation of the Proposed Development. Cumulative effects result from the combined impacts of multiple developments as well as multiple in-scheme impacts, for example, combined landscape and ecology impacts on the same sensitive receptor. The impacts from a single development or a single environmental impact may not be significant on their own but when combined with other developments or impacts these effects could become significant.

15.2 There are several definitions of cumulative effects depending on the context in which the term is applied. However, generally, cumulative effects can be defined as '*impacts that result from the incremental changes caused by other past, present and reasonably foreseeable future actions together with the project'* (Hyder 1999, Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions).

15.3 The guidelines also define impact interactions as "*The reactions between impacts whether between the impacts of just one project or between the impacts of other projects in the area*."

15.4 Cumulative Effects Assessment (CEA) is a systematic procedure for identifying and evaluating the significance of effects from multiple activities and developments. The purpose of CEA at project level is to consider the incremental contribution of any impacts arising from the activities associated with the development of the proposed scheme which is the focus of the ES, together with impacts from any other significant activities that may be taking place in the vicinity.

METHODOLOGY

15.5 The EIA Regulations require an environmental assessment to identify the potential for, and where present, assess the cumulative effects of a project. Cumulative effects can also be considered as effects resulting from incremental changes caused by other past, present or reasonably foreseeable actions together with the scheme. 'Reasonably foreseeable' is interpreted to include other projects that are 'committed'. These should include (but not necessarily be limited to) development projects with valid planning permissions as granted by the Local Planning Authority, and for which formal EIA is a requirement or for which non-statutory environmental impact assessment has been undertaken, but the projects have not been constructed.

15.6 Cumulative effects are the result of multiple actions on receptors or resources. There are principally two types of cumulative effect:

- Type 1 – Where different environmental topic impacts are acting on one receptor, as a result of the scheme; and
- Type 2 – Where environmental impacts are acting on one receptor, but are the result of multiple projects in combination (including the scheme being assessed).

15.7 The methodologies for determining the potential effects of the proposed scheme are detailed in the specialist chapters of this report. The cumulative impacts assessment in this chapter has focused on effects that were significant, therefore only receptors experiencing moderate or major effects are included in the assessment.

15.8 When considering type 2 cumulative effects, the receptors experiencing effects of moderate or major significance were assessed to understand how they would be affected by other proposed development projects.

15.9 The significance of cumulative effects has been determined using the criteria shown in Table 15.1 below, which is taken from DMRB Volume 11, Section 2, Part 5.

Table 15.1 Determining Significance of Cumulative Effect

Significance	Effect
Severe	Effects that the decision-maker must take into account as the receptor/resource is irretrievably compromised.
Major	Effects that may become key decision-making issues.

Significance	Effect
Moderate	Effects that are unlikely to become issues on whether the project design should be selected, but where future work may be needed to improve on current performance.
Minor	Effects that are locally significant.
Not Significant	Effects that are beyond the current forecasting ability or are within the ability of the resource to absorb such change.

STUDY AREA AND BASELINE CONDITIONS

15.10 The study area, and thus receptors, for the assessment of cumulative effects has been informed by the study areas of the specialist environmental assessments – primarily the transport assessment as this had the largest study area, and hence the largest zone of influence of the scheme.

15.11 Baseline conditions are described in the relevant specialist environmental chapters of this ES and form the baseline for the cumulative effects assessment. Paragraph 2.8 of this ES identifies the committed developments which were considered as part of the cumulative effects assessment and are set out in Table 15.2 below for ease of reference.

Table 15.2: Cumulative Development Sites

Site Name	Description of Development	Status
Land at Whitesbury Road, Fordingbridge	Development of 63 dwellings	Permitted (allocation) (ref 21/10052)
Edmundsham Road, Verwood	Development of 230 dwellings	Permitted (allocation) (ref 3/16/1291)
Tinkers Cross , Fordingbridge	Development of 64 Dwellings	Permitted (allocation) (ref 20/11469)
Whitesbury Road, Fordingbridge	Development of 145 dwellings	Permitted (allocation) (ref 17/10150)
North of Ringwood Road, Alderholt	Development of 45 dwellings	Permitted (ref 03/19/2077)
Draggons Road, Alderholt	Development of 89 dwellings	Permitted (ref 3/06/0769/out)

DESIGN AND MITIGATION

15.12 Mitigation measures are proposed in the individual specialist environmental chapters of this report and no further mitigation measures have been proposed for the cumulative impacts. The form of cumulative assessment is based on the residual effects as it has been assumed that the additional mitigation detailed within the individual topic chapters will be implemented.

MAGNITUDE AND IDENTIFICATION OF IMPACTS

Type 1 Cumulative Impacts

15.13 The specialist topic chapters (chapters 7-14) have identified major/moderate significant impacts of the Proposed Development. These are summarised in Table 15.3a below.

Table 15.3a: Major/Moderate Impacts of The Proposed Development

Topic Chapter	Receptor	Construction	Operations	
		Prior to Mitigation Residual	Prior to Mitigation (embedded in Landscape/Visual Context)	Residual (15 years growth in landscape context)
Society, Population, Economy	Provision of housing/housing supply		Moderate Beneficial	Moderate Beneficial

Topic Chapter	Receptor	Construction		Operations	
		Prior to Mitigation	Residual	Prior to Mitigation (embedded in Landscape/Visual Context)	Residual (15 years growth in landscape context)
	Verwood & Fordingbridge shopping facilities			Major Beneficial	Major Beneficial
Landscape Viewpoints	View 7		-	Moderate adverse	Minor-Moderate adverse
Residential Receptors	38-58 Ringwood Road		-	Major Adverse	moderate adverse
	24-26 Pine Road			Moderate adverse	Minor adverse
	37-49 Ringwood Road			Moderate adverse	Minor adverse
	Homes on Ringwood Rd west of Foxhill Farm			Moderate Adverse	Moderate Adverse
	Homes at Hilbury Park			Moderate Adverse	Minor Adverse
Ecology	Heathlands – from recreational pressure			Major Adverse	
	Retained Habitats - Damage	Moderate Adverse	Nil		
	Bats – loss of roosts	Major adverse	Moderate adverse		
	Various SAC/SPA/RAMSAR/SSSI/SINC			Major/Moderate adverse	
	Habitat creation and management			Major/Moderate Beneficial	Major/Moderate beneficial
	Bats - various			Moderate Beneficial	Moderate Beneficial
	Birds - various			Moderate Beneficial	Moderate Beneficial
	Reptiles habitat gain			Moderate Beneficial	Moderate Beneficial
	Amphibians – habitat gain			Moderate Beneficial	Moderate Beneficial
	Invertebrates – habitat gain			Moderate Beneficial	Moderate Beneficial
Climate Change	Increase IN GHG emissions	Moderate Adverse	Slight	Moderate Adverse	Slight Adverse
	Declining species and natural habitat			Moderate Adverse	Negligible
	Summertime overheating in buildings			Moderate Adverse	Slight Adverse

NB – table updated as errors were noticed in the February 2023 ES

Type 2 Cumulative Impacts

15.14 The potential for the other planned or committed developments within the study area to affect sensitive receptors has been considered.

Transport

15.15 In agreement with Dorset Council, the cumulative sites are unlikely to have a direct impact upon traffic flows in the immediate area of the Site. Furthermore, the committed sites in Verwood and Fordingbridge is already factored into the assessment flows. The impacts of the cumulative development are considered to be **not significant** when considered in the round.

Landscape and Visual

15.16 Potential for cumulative effects really only relates to the Hawthorns site in Alderholt given its location adjacent to the Proposed Development. Given its small size relative to the Proposed Development, there is considered to be no cumulative effect on landscape character.

15.17 Cumulative effects on

- viewpoint 6 are considered to be moderate in year 1, reducing to minor in year 15 with maturing of landscaping,
- Viewpoint 8 are considered to be minor in year 1, reducing to not significant in year 15 with maturing of landscaping,
- Homes on Ringwood Road are considered to be minor in year 1, reducing to not significant/minor in year 15 with maturing of landscaping.

15.18 Consideration of indirect effects on tranquillity within the AONB have taken account of committed development traffic volumes as set out at Chapter 7 and within the Transport Assessment.

Ecology

15.19 As each development is required to comply with policy by avoiding and mitigating impacts for recreational pressure, air quality, hydrological change in relation to the Dorset Heathlands, and biodiversity net gain, there are considered to be no cumulative effects.

Socio Economics

15.20 As each development is required to make the appropriate on-site or financial contributions through S106 to socio/community/infrastructure and facilities relative to each proposed development, there are considered to be no significant cumulative effects.

Drainage

15.21 There are no significant cumulative effects in respect of flood risk, risk to ground water, given each individual development has to demonstrate no risk in any event. Similarly re-inforcement to the sewerage and water system in each case will give rise to no significant cumulative effects.

Archaeology/Heritage

15.22 There will be no cumulative effects on heritage significance on any of the heritage assets within the Site either during construction or operation of the Proposed Development in combination with the listed sites.

Air Quality

15.23 Dust effects during construction could be an issue for schemes within 700m of the Site if they are constructed at the same time, ie, those in Alderholt. With the implementation of individual CEMPs the potential for cumulative effects at sensitive receptors is not significant.

15.24 Emissions from construction traffic is dependent on the extent to which the cumulative schemes overlap and use the same haulage routes. The proportion of traffic is still small compared to existing traffic on the network. Consequently, cumulative effects are not significant.

15.25 The likely traffic generation from the cumulative schemes has already been accounted for in the Site assessment, and as such, cumulative effects are not significant.

SUMMARY

15.26 This CEA has examined the impacts of the scheme in combination and /or with other identified developments. Sensitive receptors and impacts identified through the EIA process for the Proposed Development have been considered and the nature and significance of any potential cumulative impacts likely to arise have been examined and found to be of limited occurrence in respect of both Type 1 and Type 2.

16 OVERVIEW AND CONCLUSIONS

16.1 An overview of construction and operational effects is set out in Table 16.1a below.

Table 16.1a: Summary of Effects

TOPIC	IMPACT	SIGNIFICANCE – (Year 1)	MITIGATION	RESIDUAL IMPACT	SIGNIFICANCE (Year 15)
CONSTRUCTION					
Economy, Population and Society	Demographics: population count and demographic stricture	Nil	N/A	N/A	Nil
	Economy and Employment	Slight Beneficial	N/A	N/A	Slight Beneficial
	Wealth and Deprivation	Negligible	N/A	N/A	Negligible
	Housing (house prices, tenure, composition)	Nil	N/A	N/A	Nil
	Education and Training	Negligible	N/A	N/A	Negligible
	Health, Community and Leisure/Recreation	Nil	N/A	N/A	Nil
	Shopping	Slight Beneficial	N/A	N/A	Slight Beneficial
Water Resources	Fluvial Flood Risk Off-site	Negligible		N/A	N/A
	Water Quality – surface water	Negligible/Slight	CEMP (embedded)	N/A	N/A
	Waste water drainage /Foul drainage	Negligible			
	Changes to surface water flood risk	Negligible	CEMP (embedded)	N/A	N/A
	Changes to Fluvial flood risk	Negligible	CEMP (embedded)	N/A	N/A
	Ground Water Quality	Negligible to Moderate	CEMP and NMP (embedded)	N/A	N/A
Climate Change	Increased GHG emissions	Moderate	None required	N/A	Slight
Transport	Potential impacts upon Pedestrian Delay and Amenity; Fear and Intimidation; and Severance across the network due to increase in HGV numbers	Minor	CTMP to manage traffic	Residual effects confined to Ringwood Road and links to the south rather than wider network	Minor

TOPIC	IMPACT	SIGNIFICANCE – (Year 1)	MITIGATION	RESIDUAL IMPACT	SIGNIFICANCE (Year 15)
Ecology	Potential impacts upon Driver Delay and Road Safety across the network due to increase in HGV numbers	Moderate	As above	As above	Minor/Moderate
	Designated sites – vegetation effected by dust	Slight	Implement an approved CEMP - Dust control measures	None	Nil
	Habitats onsite – vegetation affected by dust	Slight	As above	As above	Nil
	Trees - damage	Slight	Implement an approved Tree Protection Plan	As above	Nil
	Retained habitats - damage	Moderate	Implement an approved CEMP – fencing	As above	Nil
	Bats – loss/harm to roosts	Significant	Implement an EPSML – supervised works	Loss of roosts requires compensation	Significant
	Bats - disturbance	Slight	Implement an approved CEMP – regulate timing of works	None required	Nil
	Amphibians - harm	Slight	Implement an approved CEMP and/or EPSML – time supervised clearance to Apr-Sep when active	As above	Nil
	Reptiles -harm	Moderate	Implement an approved CEMP – time supervised clearance to Apr-Sep when active	As above	Nil
	Breeding Birds - nesting	Slight	Implement an approved CEMP – Avoid clearance when nesting Mar-Aug OR Check by ecologist and leave buffer	As above	Nil
	Badgers – disturbance of setts	Slight	Implement an approved CEMP – update survey	As above	Nil
Landscape/Visual	Impacts during construction would be short term and temporary – therefore not assessed	Short term and temporary			
Air Quality	Dust	Short-term, local effects of major adverse significance at receptors within	Refer to IAQM for high-risk sites. A CEMP would be implemented.	N/A	Not significant

TOPIC	IMPACT	SIGNIFICANCE – (Year 1)	MITIGATION	RESIDUAL IMPACT	SIGNIFICANCE (Year 15)
		20m from the Proposed Development;	Mitigation measures are routinely and successfully applied to construction projects throughout the UK and are proven to significantly reduce the potential for adverse nuisance dust effects associated with the various stages of the construction work.		
		Short-term, local effects of moderate adverse significance at receptors between 20m and 100m of the Proposed Development;	As above		Not significant
		Short-term, local effects of minor adverse significance at receptors between 100m and 350m of the Proposed Development;	As above	N/A	Not significant
		Negligible effects at receptors over 350m from the Proposed Development.	As above	N/A	Not significant
	Construction Vehicle emissions	Not significant	Construction traffic logistics would be agreed with DC. Where practicable - avoidance, or limited use of roads during peak hours.	N/A	Not significant
	Construction plant emissions	Not significant	None required	N/A	Not significant
Archaeology and Heritage	Known and as yet unknown archaeological remains associated with medieval agricultural and land management activity	Negligible (not significant)	Programme of archaeological investigation prior to or during construction	Residual effect reduced through preservation by record	Negligible (not significant)

TOPIC	IMPACT	SIGNIFICANCE – (Year 1)	MITIGATION	RESIDUAL IMPACT	SIGNIFICANCE (Year 15)
	Known and as yet unknown archaeological remains associated with post-medieval agricultural and extraction activity	Negligible (not significant)	As above	As above	Negligible (not significant)
	As yet unknown Palaeolithic and geoarchaeological remains	Negligible (not significant)	As above	As above	Negligible (Not significant)
OPERATION					
Society, Population and Society	Demographics: population count and demographic stricture	Slight beneficial	N/A	N/A	Slight beneficial
	Economy and Employment	Moderate Beneficial	N/A	N/A	Moderate Beneficial
	Wealth and Deprivation	Nil	N/A	N/A	Nil
	Housing (house prices, tenure, composition)	Moderate Beneficial	N/A	N/A	Moderate Beneficial
	Education and Training	Negligible/Slight Adverse	Onsite primary, secondary financial contribution	N/A	N/A
	Health/Community Facilities	Negligible	Financial contribution	N/A	Negligible
	Shopping - Alderholt/Leisure/Recreation Facilities	Slight Beneficial	N/A	N/A	Slight/Moderate Beneficial
	Shopping – Verwood/Fordingbridge	Slight adverse (F) – slight/moderate beneficial (V)			Major beneficial
Water Resources	Fluvial Flood Risk Off-Site	Negligible (not significant)	N/A	N/A	N/A
	Surface water Quality	Slight	CEMP	N/A	N/A
	Waste water drainage /Foul drainage	Negligible (not significant)	N/A	N/A	N/A
	Changes to surface water flood risk	Negligible (not significant)			
	Changes to Fluvial flood risk	Negligible (not significant)	N/A	N/A	N/A
	Groundwater Quality	Negligible	N/A	N/A	N/A
Climate Change	Increase in GHG Emissions	Moderate	Compliance with Part L of Building Regulations	Increase in renewable energy	Slight

TOPIC	IMPACT	SIGNIFICANCE – (Year 1)	MITIGATION	RESIDUAL IMPACT	SIGNIFICANCE (Year 15)
	Declining species and natural habitats	Moderate	Various mitigation see Chapter 8	Increase in biodiversity	Negligible
	Impact on existing ground conditions	Slight	None required	N/A	Slight
	Summertime overheating of buildings	Moderate	Overheating assessment to be carried out at RM stage	Reducing risk of overheating homes	Slight
Transportation	Potential impact at the Provost Street/ High Street junction in Fordingbridge due to increases in Driver Delay	Major	Junction improvements including widening and potential one-way system	Delay experienced prior to mitigation no longer occurs	Negligible
	Potential impact at the A31/B3081 eastbound on/off-slips with substantial delay and queuing onto the mainline and well as existing collisions at the opposite on-slip	Major	Junction improvements to include signalising of the four arms reducing delay and conflict for right turners onto on-slip	Delay experienced substantially reduced compared to without development situation and safety issues resolved.	Major
	Potential impact upon driver delay along the B3078 and Harbridge Drove due to potential pinch points	Minor	Potential widening of links as determined necessary	Pinch points removed and so no delay experienced	Negligible
	Potential impact on Road Safety along Hillbury Road and Ringwood Road due to substantial increase in traffic	Moderate	Reduction in speed limit to30mph	Reduction in traffic speeds to include the development site accesses.	Moderate
	Potential impact on Road Safety along Batterley Drove due to increases in traffic	Moderate	Advisory signage on approach to 'S' bend in the middle of link	Greater safety through the centre of this link	Minor
	Potential impact on Pedestrian Delay and Amenity, within Alderholt along Station Road, Ringwood Road and Hillbury Road due to increase in traffic volume.	Major	Wide range of new and/or improved footway/cycle connections between development and existing Alderholt settlement. Also scheme has been designed in a way to promote permeability, whilst Ringwood Road itself will be stopped up and turned itno a active travel friendly route connecting the centre of Alderholt. Further	Improved means of access within Alderholt (both existing and new development)	Negligible

TOPIC	IMPACT	SIGNIFICANCE – (Year 1)	MITIGATION	RESIDUAL IMPACT	SIGNIFICANCE (Year 15)
			measures are covered within TA.		
	Potential impact on Fear and Intimidation, and Severance, within Alderholt along Station Road, Ringwood Road and Hillbury Road due to increase volume of traffic.	Major	Two new footways alongside Ringwood Road ad Hillbury Road, as well as several new connections between the Site the existing Alderholt destinatiosn ensuring alternatives to these busier traffic routes. Further range of mitigation includes reduction in speed limits, advisory cycle lanes, crossing points as well as overall design of the scheme.		Minor
Ecology	Dorset Heathlands SAC/SPA/RMASAR - recreational pressures	Significant	No development within 400m, provision and management in perpetuity of alternative recreation resources (SANG, GI, walking routes). (In accordance with Dorset Heathlands SPD).	None	Nil
	Air pollution of habitats at designated sites	Not significant	None required	As above	Nil
	River Avon SAC/Avon Valley SPA/Ramsar – Nutrient (Phosphate) pollution	Significant	Bespoke nutrient mitigation strategy	As above	Nil
	New Forest SAC/SPA/RAMSR, Cranborne Common SSSI, Other SSSIs in ZOI – recreational pressure	Significant	Provision and management in perpetuity of alternative recreation resources (SANG, GI, walking routes) AND/OR Contribution to strategic mitigation scheme for New Forest.	As above	Nil
	Sleepbrook Farm SNCI, Ringwood Forest SINC and other LWS in ZOI – recreational pressure	Significant	Provision of alternative recreation resources (SANG, GI, walking routes)	As above	Nil

TOPIC	IMPACT	SIGNIFICANCE – (Year 1)	MITIGATION	RESIDUAL IMPACT	SIGNIFICANCE (Year 15)
	Habitats creation and management	Significant	None required assuming implementation of approved SANG/EMES Management Plans.	Biodiversity benefits	Significant
	Bats – loss and gain of Foraging Habitat	Moderate	As above	As above	Moderate
	Bats – disturbance by operational lighting	Moderate	Implementation of lighting strategy	None	Nil
	Reptiles – loss and gain of breeding/foraging habitat	Moderate	None required assuming implementation of approved SANG/EMES Management Plans.	Biodiversity benefits	Moderate
	Badgers – net loss of breeding/foraging habitat	Slight	As above	Biodiversity benefits	Slight
	Birds (Nightjar) – disturbance by operational lighting	Moderate	Implementation of lighting strategy	None	Nil
	Breeding Birds, Barn Owl, Nightjar – loss/gain in breeding/foraging habitat nesting habitat	Moderate	None required assuming implementation of approved SANG/EMES Management Plans.	Biodiversity benefits	Moderate
	Invertebrates – loss/gain of habitat	Moderate	As above	As above	Moderate
	Amphibians – loss/gain of breeding/foraging habitat	Moderate	As above	As above	Moderate
Landscape/Visual	View 1	Minor/moderate	Landscape/planting strategy maturing	N/A	Minor
	View 2	Minor/moderate		N/A	Minor
	View 3	Minor/moderate		N/A	Minor
	View 4	Minor		N/A	Minor
	View 5	Minor		N/A	Neutral/minor

TOPIC	IMPACT	SIGNIFICANCE – (Year 1)	MITIGATION	RESIDUAL IMPACT	SIGNIFICANCE (Year 15)
	View 6	Minor/moderate		N/A	Neutral/minor
	View 7	Moderate		N/A	Minor/moderate
	View 8	Negligible/minor		N/A	Minor
	View 9	Negligible/minor	As above	N N/A	Negligible
	View 10	Negligible	As above	N/A	Negligible
	View 11	Negligible/minor	As above	N/A	Moderate
	View 12	Minor/moderate	As above	N/A	Neutral/minor
	View 13	Minor	As above	N/A	Neutral/minor
	View 14	Minor/ Moderate	As above	N/A	Minor
	View 15	Minor/moderate	As above	N/A	Minor
	Residential receptors (RR) 38-58 Ringwood Road	Major	As above	N/A	Moderate
	RR 24-26 Pine Road	Moderate	As above	N/A	Minor
	RR 37-49 Ringwood Road	Moderate	As above	N/A	Minor
	RR Ringwood Road from Sleepbrook Farm Lane to Alderholt recreation ground	Neutral/minor	As above	N/A	Neutral
	RR Ringwood Road west of Foxhill Farm	Moderate	As above	N/A	Moderate
	RR Foxhill Farm	Neutral	As above	N/A	Neutral
	RR Hazel Close	Minor	As above	N/A	Neutral/minor

TOPIC	IMPACT	SIGNIFICANCE – (Year 1)	MITIGATION	RESIDUAL IMPACT	SIGNIFICANCE (Year 15)
	RR Saxon Way	Minor	As above	N/A	Neutral/minor
	RR Hilbury Park	Moderate	As above	N/A	Minor
	RR Hilbury	Minor	As above	N/A	Neutral/minor
	RR Warren Park Farm	Negligible	As above	N/A	Negligible
Tranquillity within the AONB	TR1 to TR8	Slight	None	N/A	Slight
Air Quality	Nitrogen Dioxide	Not significant	None required	N/A	Not significant
	Particulate Matter (PM10, PM2.5)	Not significant	As above	N/A	Not significant
Archaeology and Heritage	N/A	N/A	N/A	N/A	N/A

CUMULATIVE EFFECTS

16.2 Chapter 15 has assessed the potential cumulative effects arising from the Proposed Development. The CEA has determined that no additional mitigation measures are necessary to address cumulative effects as there are no significant cumulative effects.

CONCLUSIONS

16.3 The ES explains and describes in full the environmental effects likely to be associated with the Proposed Development and places Dorset Council in possession of all the necessary environmental information required by both statute and policy.

16.4 This ES therefore enables a decision to be made on the accompanying planning application with adequate provision to be made for environmental mitigation, where appropriate.

ABBREVIATIONS

AADT	Annual Average Daily Traffic
AAHT	Annual Average Hourly Traffic
ARCADY	Assessment of Roundabout Capacity And Delay
AoD	Above Ordnance Datum
AQMA	Air Quality Management Area
ATC	Automatic Traffic Counters
CEMP	Construction and Environmental Management Plan
CTMP	Construction Traffic Management Plan
CIEEM	Chartered Institute for Ecology and Environmental Management
DAS	Design and Access Statement
DMRB	Design Manual for Roads and Bridges
EA	Environment Agency
EC	European Commission
EIA	Environmental Impact Assessment
ES	Environmental Statement
HGV	Heavy Goods Vehicle
HRA	Habitat Regulations Assessment
IEMA	Institute of Environmental Management and Assessment
LEMP	Landscape and Ecological Management Plan
LAQM	Local Air Quality Management
LCA	Landscape Character Area
LHA	Local Highway Authority
LVIA	Landscape and Visual Impact Assessment
MHCLG	Ministry of Housing, Communities & Local Government
NE	Natural England
NPPF	National Planning Policy Framework 2021
NTS	Non-Technical Summary
PIA	Personal Injury Accident
PICADY	Priority Intersection Capacity and Delay
PPG	Planning Policy Guidance
PRoW	Public Right of Way
SAC	Special Area of Conservation
SPD	Supplementary Planning Document
SSSI	Site of Special Scientific Interest
SUDS	Sustainable Urban Drainage Systems
SWMP	Site Waste Management Plan

TA	Transport Assessment
TP	Travel Plan
TCPA	Town and Country Planning Act
ZoI	Zone of Influence
ZTV	Zone of Theoretical Visibility
m	metres
km	kilometres

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