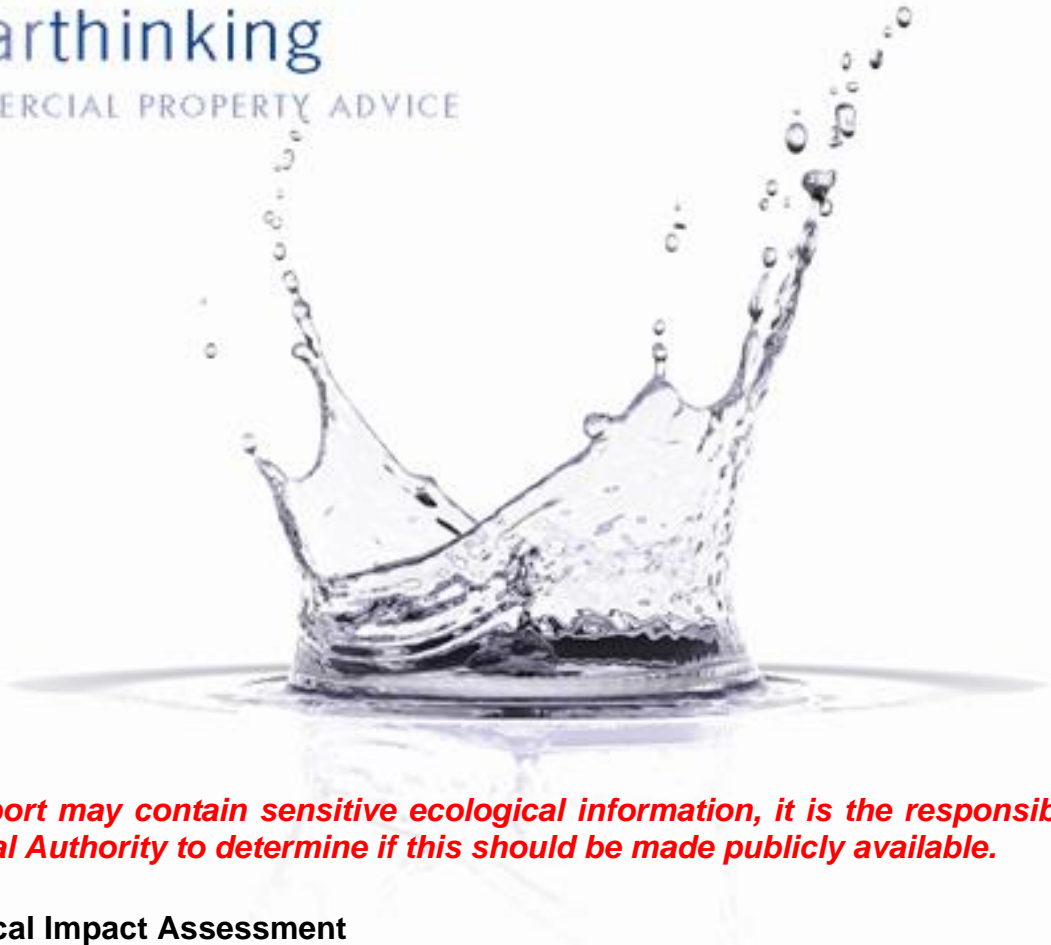


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COMMERCIAL PROPERTY ADVICE



This report may contain sensitive ecological information, it is the responsibility of the Local Authority to determine if this should be made publicly available.

Ecological Impact Assessment (EcIA)

Land off Berrow Green Road, Martley

On Behalf Of:
Hayfield Homes

Prepared By:
Abigail Lloyd
Harris Lamb | Grosvenor House | 75-76 Francis Road | Edgbaston | Birmingham B16 8SP
Telephone: 0121 410 2064 E-mail: Abigail.lloyd@harrislamb.com

Job Ref: PE0343

Date: November 2023

Ecological Impact Assessment (EcIA)

Land off Berrow Green Road, Martley

Main Contributors

Liam Murtagh

Dr Holly Smith MCIEEM

Abigail Lloyd

Issued By

Signature:




Print Name: Abigail Lloyd

Date: 24/11/2023

Approved By

Signature:



Print Name: Holly Smith

Date: 27/11/2023

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EXECUTIVE SUMMARY

Due to the location of badger setts stated within this report, to avoid persecution of badgers, this report should not be made publicly available and only issued to those directly involved with the scheme.

Harris Lamb Property Consultancy (HLPC) was commissioned by Hayfield Homes to undertake an Ecological Impact Assessment (EclA) at land at Berrow Green Road, Martley. The majority of the site comprises of arable land with hedgerows and scattered trees. To the north of the site a section of allotments are present, with a strip of broadleaved woodland.

HLPC carried out a Phase 1 Habitat Survey of the site in September 2022 undertaken by a suitably experienced ecologist and updated in Summer 2023. Desk-based consultation was undertaken with the local ecological records centre for records of protected species and habitats within 2 km of the site.

Depending on the timings of the works, it is recommended that nesting bird checks are undertaken prior to works or vegetation is cleared outside of breeding bird season. If the trees are to be felled, a presence/absence survey or tree climbing would be required to determine the presence/absence of roosting bats. The site provides suitable foraging and commuting habitat for bats, as such, seasonal transect surveys were recommended and at time of writing two out of three of these had been completed and moderate levels of bat activity have been recorded. It is advised that the development should incorporate a bat sensitive lighting scheme. An updated detailed badger survey should be undertaken due to the time elapsed since the last one was conducted. An arboricultural survey is recommended for trees, to establish root protection zones.

General recommendations in relation to new planting mixes to achieve net enhancement in biodiversity have been provided, at a high level, as at the time of writing this report a detailed landscaping scheme was not provided and landscaping design will be a reserved matter.

A Landscape and Ecological Management Plan (LEMP) should be produced at the reserved matters stage setting out how the landscape design achieves Biodiversity Net Gain (minimum 1%) for habitats and hedgerows and the appropriate measures to manage and monitor the proposed habitats over the long term.

1.0 INTRODUCTION

1.1 Terms of reference

1.1.1 Due to the location of badger setts stated within this report, to avoid persecution of badger, this report should not be made publicly available and only issued to those directly involved with the scheme.

1.1.2 Harris Lamb Property Consultancy (HLPC) was commissioned by Hayfield Homes to undertake an Ecological Impact Assessment (EclA) of Land off Berrow Green Road, Martley (central national grid reference SO 74991 59561) hereafter termed the 'site' (see Figure 1 below).



Figure 1: Site location. Not to scale.

1.2 Site location

1.2.1 The site is c. 3.8 ha and is located to the south of Martley, which is a small village in the Malvern Hills district in Worcestershire. The site is dominated by arable land with hedgerow boundaries, and smaller sections of allotments and broadleaved woodland to the northern extent of the site. A public footpath crosses the site.

1.3 Proposed development

1.3.1 The Applicant is submitting an outline planning application for the construction of c. 50 dwellings with driveway parking, access roads, drainage system, and blue and green infrastructure.

1.4 Purpose of this report

1.4.1 The purpose of this report is to:

- Identify key ecological constraints associated with the proposed development and input into the scheme design to minimise ecological impacts where possible.
- Set out mitigation measures required to ensure compliance with nature conservation legislation and address potentially significant ecological effects.
- Identify how mitigation measures could be secured.
- Provide an assessment of significance of residual effects.
- Identify appropriate enhancement measures.
- Identify appropriate post-construction monitoring if relevant.

2.0 PLANNING CONTEXT

2.1 National Planning Policy Framework (NPPF)

2.1.1 National Planning Policy Framework (NPPF)¹ is the top tier of planning policy. The Framework provides guidance to local authorities and other agencies on planning policy and the operation of the planning system. Section 15 relates to 'Conserving and enhancing the natural environment'. Relevant paragraphs are:

"174. Planning policies and decisions should contribute to and enhance the natural and local environment by:

- *a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*
- *b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;*
- *c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;*
- *d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
- *e) 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; and*
- *f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.*

¹ National Planning Policy Framework (2023) September 2023 - Department for Levelling Up, Housing and Communities

175. Plans should: distinguish between the hierarchy of international, national, and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework²; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

179. To protect and enhance biodiversity and geodiversity, plans should:

- a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national, and locally designated sites of importance for biodiversity³; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration, or creation⁴; and
- b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

180. When determining planning applications, local planning authorities should apply the following principles:

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not

² Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality.

³ Circular 06/2005 provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.

⁴ Where areas that are part of the Nature Recovery Network are identified in plans, it may be appropriate to specify the types of development that may be suitable within them.

normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

- *c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons⁵ and a suitable compensation strategy exists; and*
- *d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.*

181. The following should be given the same protection as habitats sites:

- *a) potential Special Protection Areas and possible Special Areas of Conservation;*
- *b) listed or proposed Ramsar sites⁶; and*
- *c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.*

182. The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects) unless an

⁵ For example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat.

⁶ Potential Special Protection Areas, possible Special Areas of Conservation and proposed Ramsar sites are sites on which Government has initiated public consultation on the scientific case for designation as a Special Protection Area, candidate Special Area of Conservation or Ramsar site.

appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site”.

2.2 Relevant local planning policy

2.2.1 Identified relevant local planning policy is summarised in Table 1 below.

Table 1: Summary of relevant biodiversity local planning policy

Policy	Description
South Worcestershire	Development Plan (SWDP): Adopted February 2016 ⁷
ENVIRONMENTAL ENHANCEMENT AND PROTECTION SWDP 22: Biodiversity and Geodiversity	<p>A. Development which would compromise the favourable condition of a Special Area of Conservation (SAC)(47) or other international designations or the favourable conservation status of European or nationally protected(48) species or habitats will not be permitted.</p> <p>B. Development likely to have an adverse effect on a Site of Special Scientific Interest (SSSI)(49) will not be permitted, except where the benefits of the development at that site clearly outweigh both its likely impact on the features of the site that make it of special scientific interest and any broader impacts on the national network of SSSIs.</p> <p>C. Development which would result in the loss or deterioration of an Ancient Woodland (AW), a Veteran Tree (VT), or a nationally protected species will not be permitted unless the need for and the benefits of the proposed development in that location clearly outweigh the loss or deterioration.</p> <p>D. Development which would compromise the favourable condition or the favourable conservation status of a Grassland Inventory Site (GIS), a Local Wildlife Site (LWS), a Local Geological Site (LGS), an important individual tree or woodland and species or habitats of principal importance recognised in the Biodiversity Action Plan, or listed under Section 41 of the Natural Environment and Rural Communities Act 2006, will only be permitted if the need for and the benefits of the proposed development outweigh the loss.</p> <p>E. Where the policy requirements of B, C or D have been met, full compensatory provision, to include establishment (secured through a legal agreement where appropriate), commensurate with the ecological / geological value of the site will be required. In the first instance this should be through on-site mitigation, the details of which should be agreed with the Local Planning Authority. Off-site mitigation will only be acceptable where on-site mitigation is shown not to be possible.</p> <p>F. Development should, wherever practicable, be designed to enhance biodiversity and geodiversity (including soils) conservation interests as well as conserve on-site</p>

⁷ <https://www.swdevelopmentplan.org/swdp-2016>

Policy	Description
	biodiversity corridors / networks. Developments should also take opportunities, where practicable, to enhance biodiversity corridors / networks beyond the site boundary.

3.0 METHODOLOGY

3.1 Study area

3.1.1 The study area is the site boundary shown on Figure 1. The study area was extended beyond the site boundaries where appropriate to undertake species-specific appraisals as detailed below. The study area and assessments comply with industry guidance from the CIEEM Guidelines for Preliminary Ecological Appraisal⁸.

3.2 Desk study

3.2.1 The desktop study was undertaken in October 2022 and data sources included:

- Herefordshire Biological Record Centre (HBRC),
- Worcestershire Biological Record Centre (WBRC),
- Multi Agency Geographic Information for the Countryside (MAGIC) website⁹,
- Ordnance Survey (OS)¹⁰, and
- Aerial imagery⁶.

3.2.2 The geographical extent of the search area for biodiversity information was related to the significance of sites and species and potential zones of influence which might arise from development within the site. For this site the following search areas were considered to be appropriate:

- 10 km around the site boundary for sites of International Importance (e.g. Special Area of Conservation (SAC), Special Protection Area (SPA), Ramsar site));
- 2 km around the site boundary for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest (SSSI)), protected or otherwise notable species and non-statutory

⁸ CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester

⁹ www.magic.gov.uk accessed November 2021

¹⁰ www.bing.co.uk accessed November 2021

designated sites of County Importance (e.g. Local Wildlife Sites (LWS));

- 1 km for ancient woodland, and
- 2 km for biological records.

3.3 Field survey

Flora

3.3.1 HLPC carried out an Extended Phase 1 Habitat Survey of the site in September 2022 and updated in Summer 2023. The survey was carried out by an experienced and suitably qualified ecologist with Full CIEEM and 17 years' of experience. The survey was updated in August 2023. The survey was undertaken in accordance with 'Extended Phase 1' methodology¹¹.

3.3.2 Specific habitat features were mapped using Target Notes (TN) to record ecological features of particular note where necessary.

Fauna

3.3.3 The fauna included within this assessment is based on the habitats present, data from the desk-based searches, and the following legislation¹²:

- Wildlife and Countryside Act 1981 (as amended);
- The Protection of Badgers Act 1992;
- Environment Act 2021;
- The Conservation of Habitats and Species Regulations 2017 (as amended)
- The Natural Environment Research Council (NERC) Act 2006 – S41 Species of Principal Importance (SPI) for the conservation of biodiversity.
- The Countryside Rights of Way Act 2000.

¹¹ Joint Nature Conservation Committee (2010) Handbook for Phase 1 Habitat Survey. A Technique for Environmental Audit.

¹² See www.legislation.gov.uk

Reptiles

- 3.3.4 An assessment of the suitability of the habitats present to support common reptile species was undertaken. In accordance with current guidance, this assessment involved a review of habitats and habitat structure for suitable shelter for reptiles such as areas of scrub and woodpiles, grassland with well-developed and varied structure, areas suitable for basking, large tussocks etc.

Birds

- 3.3.5 Bird species identified at the time of survey were noted and nesting birds recorded as seen. An assessment of habitats was undertaken to determine the likely value to breeding and foraging birds.

Bats - Roosting

- 3.3.6 Trees were initially assessed externally from ground level with the use of torch and binoculars, where required. During the survey Potential Roosting Features (PRF) for bats following current best practice^{13, 14, 15} were recorded.

Bats - Foraging and Commuting

- 3.3.7 The potential for the site and immediate surrounds to support foraging and commuting bats was also assessed, with particular regard given to the presence of continuous treelines providing good connectivity in the landscape, and the presence of varied habitat such as scrub, woodland, grassland in the vicinity.
- 3.3.8 Seasonal walked bat transect surveys were undertaken in Summer and Autumn 2023, with Spring anticipated to be collected in April/May 2024, in accordance with the methodologies contained within Collins, 2016¹⁶. The transect surveys involved two experienced ecologists taking acoustic recordings across a pre-determined transect route and point count locations (see Figure 2).

¹³ Bat Conservation Trust (BCT) 2016. Bat Surveys for Professional Ecologists, Good Practice Guidelines, 3rd Edition

¹⁴ Mitchell-Jones, A.J., & McLeish, A.P. Ed. 2004. Bat Workers' Manual 3rd Edition

¹⁵ BCT (2015) Surveying for Bats in Trees and Woodland – Guide

¹⁶ Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines. The Bat Conservation Trust

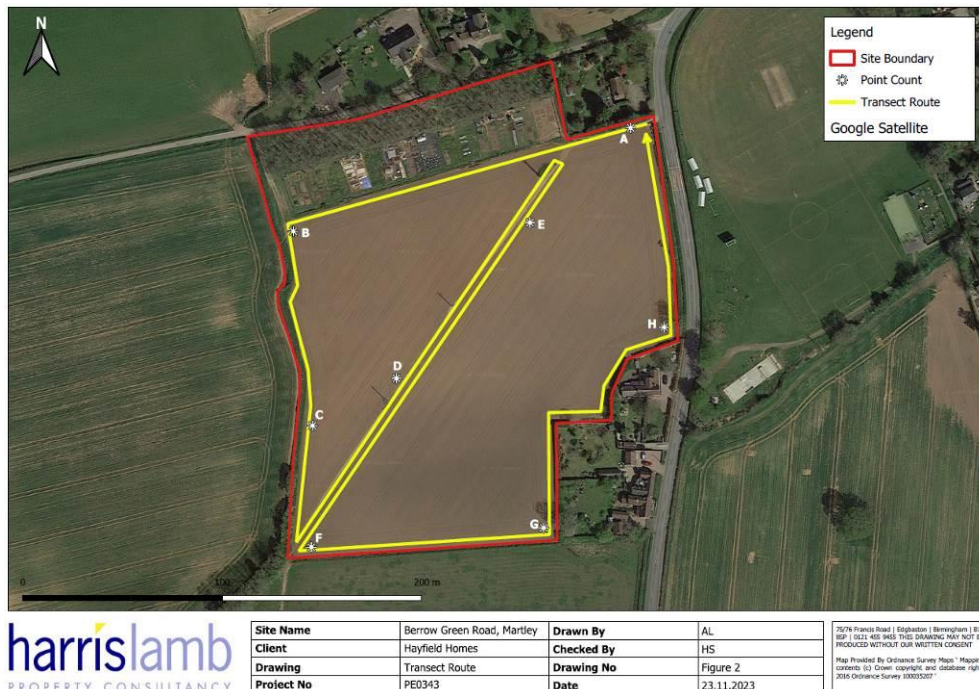


Figure 2: Transect Route

3.3.9 The transect surveys targeted habitats and features suitable for foraging and commuting activity, including woodland, hedgerow boundaries and the brook on site. Prominent aboveground features, such as hedgerows also provide navigational cues and any bat activity associated with such features was recorded.

3.3.10 The surveys observed nocturnal bat activity at suitable points along the route and targeted the above interest features. The surveyors were equipped with Echo Meter Touch bat detectors and high-powered torches. The transect routes were walked at a steady pace, during which all visual and audible bat activity was recorded. The dates, timings and weather condition during the surveys are given in Table 2.

Table 2: Transect Survey Details and Weather Conditions

Date	Sunset (h)	Start time (h)	End time (h)	Temperature (°C)	Weather
01/08/2023	20:59	20:59	23:00	17°C	95% cloud cover, dry and light breeze.
18/09/2023	19:17	19:17	21:10	14°C	15% cloud cover, dry and gentle breeze.

3.3.11 One automated static Anabat Express bat detector was deployed on site for the purpose of providing supplementary bat activity data over 2023. The extent of tree and hedgerow removal was not known prior to deployment and the detectors were placed at appropriate locations to capture activity occurring along these different areas of the site (see Figure 3).



Figure 3: Static Detector Location

3.3.12 The static detector units were seasonally with a total of five consecutive days' worth of activity captured for each season Summer and Autumn 2023, with Spring anticipated to be collected in April/May 2024 (see Table 3 & 4, respectively). Data were analysed using AnalookW and/or Anabat Insight and assessed to species/genus level through sonogram identification. This was supported by species guidance produced by Russ (2012)¹⁷.

¹⁷ Russ, J., (2012). British Bat calls: a guide to species identification. Pelagic Publishing, Exeter.

Table 3: Summer Static Detector Survey Details and Weather Conditions

Date	Sunset	Air Temperature	Weather
01/08/2023	20:59	17°C - 19°C	Low cloud cover, dry and gentle breeze.
02/08/2023	20:59	16°C - 19°C	Thunderstorms and scattered clouds.
03/08/2023	20:57	17°C - 19°C	Scattered showers and scattered clouds.
04/08/2023	20:56	17°C - 19°C	Low cloud cover, dry and gentle breeze.
05/08/2023	20:54	14°C - 16°C	Scattered showers and scattered clouds.

Table 4: Autumn Static Detector Survey Details and Weather Conditions

Date	Sunset	Air Temperature	Weather
18/09/2023	19:17	13°C - 17°C	Scattered showers, gentle breeze and passing clouds.
19/09/2023	19:16	15°C - 18°C	Rain showers, gentle breeze and passing clouds.
20/09/2023	19:13	15°C - 17°C	Scattered light showers, gentle breeze and passing clouds.
21/09/2023	19:11	12°C - 13°C	Low cloud cover, dry and light breeze.
22/09/2023	19:09	9°C - 12°C	Dry, gentle breeze and passing clouds.

3.3.13 Signs of badger *Meles meles* occupation and activity of the site and where accessible up to 30 m from the site boundary was undertaken during the walkover. Areas of suitable habitat were surveyed for evidence of badger activity, such as mammal paths, setts, snuffle holes or latrines. The level of activity associated with badger hole/s when found are graded into one of three categories as described below:

- **Well used** – clear of any debris or vegetation, are obviously in regular use and may or may not have been excavated recently.
- **Partially used** – Not in regular use and have debris such as leaves and twigs in entrance or have moss or other plants growing around entrance. Partially used holes could be in regular use after a minimal amount of clearance.
- **Appears disused** – Do not appear to have been used for some time and are partially or completely blocked.

3.3.14 Setts were also classified according to the four recognised types according to the Mammal Society guidance¹, namely; Main Sett, Annexe Sett, Subsidiary Sett, and Outlying Sett.

3.3.15 A thorough site walkover was completed to ensure all possible sett locations could be observed. Key signs that were searched for included:

- sett entrances, e.g. entrances that are normally 25 to 35cm in diameter and shaped like a 'D' on its side;
- large spoil heaps outside sett entrances;
- bedding outside sett entrances;
- badger footprints;
- badger paths;
- latrines;
- badger hairs on fences or bushes;
- scratching posts, and
- signs of digging for food.

3.3.16 One trail camera was deployed between 1st August 2023 and 29th August 2023 to determine if a mammal hole recorded on site was an active badger sett. Location of the mammal hole and camera deployment are displayed in Figure 4. The camera was deployed for at least 21 days and retrieved, and footage reviewed.



Figure 4: Trail Camera Location

Other notable species

3.3.17 Signs of other notable species were recorded as seen.

Legally controlled species

3.3.18 Evidence of species listed on Schedule 9 of the Wildlife and Countryside Act (1981) as amended were recorded as seen.

Scoped out

3.3.19 Survey for hazel dormice were scoped out due to lack of records for this species in this locality and poor habitat suitability. Otter and Water vole have also been scoped out due to the lack of watercourse within the site or wider area.

3.3.20 No waterbodies were identified within 250m of the site via online Ordnance Survey maps and aerial imagery¹⁸. Therefore, great-crested newts *Triturus cristatus* were not considered likely to be a receptor with respect to the proposed development and scoped out of further assessment.

¹⁸ www.bing.com/maps accessed May 2021

3.4 Assessment methodology

3.4.1 The importance of ecological features and impact assessment methodology is based on CIEEM guidelines for ecological impact assessment in the UK and Ireland¹⁹. Significant effects are defined as “*an effect that either supports or undermines biodiversity conservation objectives for important ecological features*” (CIEEM, 2016). A significant effect does not necessarily equate to an affect so severe that consent for a project should be refused planning permission if they can demonstrate following the mitigation hierarchy (avoid, mitigate, compensate) has been applied as part of the decision-making process. Significant effects are qualified with a scale: international and European, national, regional, metropolitan/county, local or within the zone of influence (defined here as site level).

3.4.2 This report assumes that construction will commence within 1-2 years of the date of the assessment in accordance with the British Standard 42020:2013²⁰ unless otherwise stated.

Determining importance

3.4.3 Determining the importance of identified ecological features is based on CIEEM guidance. Various characteristics contribute to the importance of ecological features including:

- naturalness;
- animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
- ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
- endemic species or locally distinct sub-populations of a species;
- habitat diversity;
- habitat connectivity and/or synergistic associations;

¹⁹ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester

²⁰ BSI (2013) Biodiversity – Code of Practice for Planning and Development.

- habitats and species in decline;
- rich assemblages of plants and animals;
- large populations of species or concentrations of species considered uncommon or threatened in a wider context;
- plant communities (and their associated animals) that are considered to be typical of valued natural/seminatural vegetation types, including examples of naturally species-poor communities;
- species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.

3.4.4 Geographic context is also considered within a defined geographical context.

- International and European.
- National
- Regional
- Metropolitan, County, vice-county, or other local authority-wide area
- Local (including district or borough context) or within a zone of influence (here termed the site).

3.5 Assessment limitations

3.5.1 The assessment for designated sites is based on site citations provided by the local biological record holder and no visits have been made to designated sites.

3.5.2 Any absence of desk study records cannot be relied upon to infer absence of a species/habitat as the absence of records may be a result of under-recording within the given search area.

3.5.3 The survey aims to characterise the habitat on site and is not intended to give a complete list of plant species present. It represents a snapshot in time and does not constitute a full botanical survey, or a Phase 2 pre-construction survey that would include accurate GIS mapping for invasive or protected plant species.

- 3.5.4 Ecological surveys are limited by factors that affect the presence of plants and animals, such as the time of year, weather, migration patterns and behaviour. The survey was conducted in August which is considered optimal for the assessment of botanical value of some habitat types.
- 3.5.5 This report assumes that construction will commence within 1-2 years of the date of the assessment in accordance with the British Standard 42020:2013 unless otherwise stated.
- 3.5.6 Attention was paid to the presence of any invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). However, the detectability of such species varies due to a number of factors, e.g. time of year, site management, etc., and hence the absence of invasive species should not be assumed even if no such species were detected during the Phase 1 survey.
- 3.5.7 Owing to the dynamic nature of the work undertaken, if more than twelve months have elapsed since this report was written, advice should be sought to determine whether update work is required. The findings of this report should not be relied upon without such updated advice, and we shall not be liable for any losses stemming from reliance on any report more than 12 months after it was produced.

4.0 RESULTS

4.1 Ecological designations

Internationally designated sites for nature conservation

4.1.1 No internationally designated sites were recorded within 10 km of the site boundary.

Nationally designated sites for nature conservation designation

4.1.2 Five nationally designated sites, all comprising of Sites of Special Scientific Interest (SSSI), were identified within 2 km of the site, as summarised in Table 5 below.

Table 5: Nationally designated sites for nature conservation recorded within 2 km of the site.

Name of Site	Status	Approx. Distance and Direction from the Site	Brief Description
River Teme	SSSI	0.67 km west	The site is important for its range of wetland bird species, crayfish, and otters.
Hillend Meadow and Orchard	SSSI	1.35 km north	The site is important for its grassland meadows and orchard habitats.
Quarry Farm Meadow	SSSI	1.54 km north	The site is important for its traditional grassland hay meadow.
Hay Wood and Tinker's Coppice	SSSI	1.87 km south	The site is important for its semi-natural woodland and unimproved grassland.
Penny Hill Bank	SSSI	1.95 km north	Penny Hill Bank is an area of Silurian limestone grassland situated on an east facing slope of one of a small range of hills lying to the north of the Malvern's.

4.1.3 These sites are considered to be of national importance to nature conservation.

Non-statutorily designated sites for nature conservation designation

4.1.4 Eight notified non-statutorily designated sites were identified within 2 km of the site all sites Local Wildlife Sites (LWS). Consultation with the local

biological record holders also identified two Grassland Inventory sites within 2 km of the site, the closest being Martley Bank located c. 0.3 km north of the site boundary. The LWS are listed in Table 6 below:

Table 6: Non-statutorily designated sites within 2 km

Site Name	Approximate distance from the site	Feature
Birch Hill Coppice	0.38 km west	The site is mostly Ancient Semi-Natural Woodland but includes a narrow meadow with areas of herb-rich grassland and three man-made ponds.
River Teme	0.67 km west	The site is important for its range of wetland bird species, crayfish, and otters.
Oxleasow Coppice and Berrow Hill	0.73 km south-west	This site is a complex of broadleaved woodland, much of which is semi-natural ancient in origin and areas of neutral/acidic grassland.
Great Hopehouse Coppice	1.11 km south-east	A small low-lying wood at the head of a shallow valley. The wood is an Ancient Semi-Natural Woodland; it is oak woodland with some ash, silver birch, hawthorn, beech and lime.
Cockshot, Rodge, Pudford and Walsgrove hills	1.32 km north	A string of wooded hills, approximately 5 kilometres long between Great Witley and Martley. A little more than half of the site is Ancient Semi-Natural Woodland.
Laughern Brook	1.4 km east	A major tributary of the River Teme, the Laughern Brook drains much of the west Worcestershire plain. It begins in a series of tiny feeder streams, occasionally ditched, running through a network of orchards and grasslands north-west of Worcester. Here the brook is often modified but still forms an important wildlife corridor through an otherwise heavily managed landscape.

Site Name	Approximate distance from the site	Feature
Cherry Dene Meadow	1.41 km north	Located at Hill Side, Martley, this is a small orchard and meadow surrounding the garden and lawns of a private house.
Penny Hill	1.57 km north	A block of woodland surrounding a landfill site in a limestone quarry on a hill overlooking Martley. The site includes a derelict orchard and some small old quarry sites. Part of the site is Ancient Semi-Natural Woodland.

4.1.5 These sites are considered to be of local importance to nature conservation.

Priority Habitat

4.1.6 Numerous Priority habitats were identified to be within 1 km of the site including, Lowland Meadows, Deciduous Woodlands and Traditional Orchards. The closest recorded is a deciduous woodland located c. 0.31 km north-east of the site.

Ancient Woodland

4.1.7 Four Ancient Woodlands were identified within 1 km of the site. The closest recorded in c. 0.43 km west of the site boundary.

Living England Habitat Map

4.1.8 The site is recorded as Arable and Horticultural habitat on www.magic.gov.uk (accessed November 2022)

Habitats

4.1.9 All habitats recorded within the site are described below and are shown on Figure 5.

Arable – Other Cereal Crops c1c7 16 81 528 616

4.1.10 The site was dominated by arable land (Plate 1; Appendix 7.1) containing field margins of c. 1 m wide with species of dandelion *Taraxacum officinale*,

Yorkshire fog *Holcus lanatus*, common stinging nettles *Urtica dioica*, bramble *Rubus* spp agg., hogweed *Heracleum sphondylium*, cow parsley *Anthriscus sylvestris*, mugwort *Artemisia vulgaris*, false oat grass *Arrhenatherum elatius* and scentless mayweed *Tripleurospermum inodorum*.

4.1.11 The arable fields on site are classified as c1c7 (other cereal crop) under the primary hierarchy of the UK Habitats Classification with the secondary codes 16 (tall forbs), 81 (ruderal or ephemeral), 538 (walking or cycling route), and 616 (allotments).

4.1.12 This habitat is considered to be of site-level importance to nature conservation.

Allotments – Polyculture c1f7 528 616

4.1.13 A section of allotment is present in the northern proportion of the site. The allotments on site are classified as c1f7 (polyculture) under the primary hierarchy of the UK Habitats Classification with the secondary codes 538 (walking or cycling route), and 616 (allotments).

4.1.14 This habitat is considered to be of site-level importance to nature conservation.

Broadleaved Woodland w1g 30 616

4.1.15 A section of broadleaved woodland is present in the northern-most proportion of the site. This broadleaved woodland on site is classified as w1g (other broadleaved woodland) under the primary hierarchy of the UK Habitats Classification with the secondary codes 30 (semi-natural woodland), and 616 (allotments). It is not shown as Priority Habitat woodland on www.magic.gov.uk (accessed November 2023).

4.1.16 This habitat is considered to be of local-level importance to nature conservation.

Hedgerows h2a6 116

4.1.17 Hedgerows were present along most of the boundaries of the site. The hedgerows on site are classified as h2a6 (other native hedgerow) under the primary hierarchy of the UK Habitats Classification with the secondary codes 116 (flailed hedgerow).

4.1.18 A summary of the hedgerows on site is listed in Table 7 below:

Table 7: On-site hedgerow descriptions

Hedgerow No.	Description
H1	Hedgerow 1 is c. 40 m long and is located along the northern boundary of the site with an approximate height of 5 m. Species include hawthorn <i>Crataegus monogyna</i> , ivy <i>Hedera helix</i> and <i>prunus</i> spp (Plate 2; Appendix 7.1). The remaining northern field boundary is bound by fence.
H2	Hedgerow 2 is c. 100 m long and is located along the north-eastern boundary of the site adjacent to the road off site. A dry ditch is located within the base of the hedgerow. Species include hawthorn, dog rose <i>Rosa canina</i> and ivy (Plate 3; Appendix 7.1). This hedgerow also contains a semi-mature oak tree with low BRP.
H3	Hedgerow 3 is c. 140 m long, and borders residential gardens located beyond the site boundary to the south-east. The hedgerow was managed with species of leylandii <i>Cupressus x leylandii</i> , ash <i>Fraxinus excelsior</i> , ivy, <i>prunus</i> spp, snowberry <i>Symphoricarpos albus</i> , honeysuckle <i>Lonicera periclymenum</i> and beech <i>Fagus sylvatica</i> (Plate 4; Appendix 7.1).
H4	Hedgerow 4 is a defunct hedgerow and is c. 134 m long. It is located along the southern boundary of the site beyond a post and rail fence. Species include ivy, blackthorn <i>Prunus spinosa</i> and leylandii (Plate 5; Appendix 7.1).
H5	Hedgerow 5 is c. 165 m long and is located along the western boundary of the site. The hedgerow was defunct with gaps larger than 10 %. Species include hawthorn and ivy.

4.1.19 The hedgerows on site comprised of one or more woody, UK native species, and qualify as a habitat of principal importance under Section 41 of the NERC Act (2006). However, initial assessment identified that the hedgerows were likely to be species poor and not deemed 'Important' under the landscape and wildlife criteria of the Hedgerow Regulations 1997.



Site Name	Berrow Green Road, Martley	Drawn By	AL
Client	Hayfield Homes	Checked By	HS
Drawing	UK Habitat Classification Map	Drawing No	Figure 5
Project No	PE0343	Date	23.11.2023

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Figure 5: UK Habitat Classification Map (not to scale)

4.2 Species

Common Amphibians & Reptiles

- 4.2.1 The WBRC provided eleven records of slow-worm *Anguis fragilis*, six records of grass snake *Natrix helvetica* and one adder *Vipera berus*. The closest record being a slow-worm located c. 0.32 km north-east of the site in 2016. Several records of common toad *Bufo bufo*, which are a biodiversity priority species listed under the Natural Environment and Rural Communities (NERC) Act (2006) because of recent declines, were identified by WBRC within 2 km of the site. In addition, multiple records of common frog *Rana temporaria* were identified by WBRC. None of the identified amphibian records occurred within 0.5 km of the site boundary.
- 4.2.2 The majority of the habitats on site were considered sub-optimal to support a population of reptiles due to the dominance of arable fields which lacks the complex habitat structure typically required by reptiles. In addition, the record of slow worm provided is separated by the B4197 and residential housing. However, there is some limited suitable habitat within the area of allotments and woodland. Although a large proportion of the site is considered sub-optimal, some limited suitable habitat exists in the northern section of the site. Therefore, presence of reptile species cannot be ruled out in its entirety and are considered to be a potential receptor with respect to the proposed development as a precaution.

Birds

- 4.2.3 Multiple records of bird species within 2 km of the site were provide by WBRC. Some species recorded are listed on the Birds of Conservation Concern (BoCC) Red List such as hawfinch *Coccothraustes coccothraustes*, yellowhammer *Emberiza citrinella*, skylark *Alauda arvensis*, house sparrow *Passer domesticus*, and mistle thrush *Turdus viscivorus*. In addition, records of barn owl *Tyto alba*, fieldfare *Turdus pilaris*, redwing *Turdus iliacus*, hobby *Falco subbuteo*, red kite *Milvus milvus*, and kingfisher *Alcedo atthis* were identified, which are listed on Schedule 1 Part 1 of the Wildlife and Countryside Act 1981.

4.2.4 The arable field on site is considered to be of limited value to bird species for foraging. Due to the use of the site for cultivated arable land and there is potential for the use by ground nesting birds such as skylark *Alauda arvensis*. The hedgerows may provide some foraging and nesting habitat for a range of bird species such as thrushes and corvids.

4.2.5 Based on the presence of hedgerows, trees, and arable land, foraging and nesting birds could be a potential receptor in relation to development of the site. The value is considered to be of site level importance only due to the small footprint of the site, limited habitat diversity and abundance of suitable alternative habitat in the surrounding environs.

Bats

4.2.6 The data search provided records of brown long-eared *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, Daubenton’s bat *Myotis daubentoniid*, lesser horseshoe bat *Rhinolophus hipposideros*, whiskered bat *Myotis mystacinus* and unidentified *Pipistrellus*.

Nocturnal Activity Surveys (Walking Transects)

4.2.7 The habitats on site are considered suitable for foraging/commuting bat species due to the presence of trees, hedgerows, and woodland habitats. The following series of tables provide a summary of the seasonal bat activity survey results in 2023.

Table 8: Summary of Activity Survey Results - Summer 2023

1 st August 2023			
Point Reference	Count	Species Recorded	Point Count Results
A		No bats observed.	N/A
B		No bats observed.	N/A
C		Common pipistrelle, soprano pipistrelle, noctule, leislers bat	One individual common pipistrelle observed foraging along hedgerow. All other not seen but heard, and also considered to be foraging along the hedgerow.
D		Common pipistrelle, soprano pipistrelle	Two bats heard but not seen, considered to be foraging.
E		No bats observed.	N/A
F		Common pipistrelle, soprano pipistrelle, myotis sp.	Two pipistrelles heard but not seen, considered to be foraging. Myotis observed commuting across site.
G		Myotis sp	One individual bat heard but not

		seen, considered to be foraging.
H	Common pipistrelle	One individual bat heard but not seen, considered to be foraging.

Table 9: Summary of Activity Survey Results - Autumn 2023

18 th September 2023			
Point Reference	Count	Species Recorded	Point Count Results
A		No bats observed.	N/A
B		No bats observed.	N/A
C		Soprano pipistrelle,	One individual observed foraging along hedgerow.
D		No bats observed.	N/A
E		No bats observed.	N/A
F		Brown long-eared bat, soprano pipistrelle,	Two bats heard but not seen, considered to be foraging.
G		Soprano pipistrelle,	One individual bat heard but not seen, considered to be foraging.
H		No bats observed.	N/A

Automated Bat Static Detector Surveys – Summer 2023

4.2.8 The static detector recorded 1090 registrations. Common pipistrelle was the dominant species and comprised 56% of these (615 registrations). The remainder were soprano pipistrelle (378 passes), NSL (16 registrations), *Myotis* sp. (80 registrations), and brown long-eared bat (1 registration).

Table 10: Static Detector Survey Results – Summer 2023

Date	Label	Count
01/08/2023	Mnat	3
01/08/2023	NSL	14
01/08/2023	Ppip	96
01/08/2023	Ppyg	25
02/08/2023	MbraMmys	19
02/08/2023	Mnat	3
02/08/2023	NSL	1
02/08/2023	Ppip	132
02/08/2023	Ppyg	106
03/08/2023	MbraMmys	28
03/08/2023	Mdau	1
03/08/2023	Mnat	1
03/08/2023	NSL	1
03/08/2023	Ppip	129
03/08/2023	Ppyg	71
04/08/2023	MbraMmys	19
04/08/2023	Mnat	1
04/08/2023	Paur	1
04/08/2023	Ppip	124

Date	Label	Count
04/08/2023	Ppyg	156
05/08/2023	MbraMmys	4
05/08/2023	Mnat	1
05/08/2023	Ppip	134
05/08/2023	Ppyg	20

Automated Bat Static Detector Surveys – Autumn 2023

- 4.2.9 The static detector recorded 3094 registrations. Common pipistrelle was the dominant species and comprised 61% of these (1890 registrations). The remainder were soprano pipistrelle (700 passes), NSL (66 registrations), and *Myotis* sp. (437 registrations).

Table 11: Static Detector Survey Results – Summer 2023

Date	Label	Count
18/09/2023	MbraMmys	6
18/09/2023	Mdau	3
18/09/2023	Mnat	4
18/09/2023	NSL	33
18/09/2023	Ppip	464
18/09/2023	Ppyg	156
19/09/2023	Ppip	223
19/09/2023	Ppyg	82
20/09/2023	MbraMmys	2
20/09/2023	Mdau	1
20/09/2023	NSL	1
20/09/2023	Ppip	156
20/09/2023	Ppyg	136
21/09/2023	MbraMmys	214
21/09/2023	Mdau	173
21/09/2023	Ppip	275
21/09/2023	Ppyg	223
22/09/2023	MbraMmys	15
22/09/2023	Mdau	19
22/09/2023	NSL	32
22/09/2023	Ppip	772
22/09/2023	Ppyg	104

Summary

- 4.2.10 The static bat detector surveys recorded five species of bat species; common pipistrelle, soprano pipistrelle, brown long-eared, NSL, and *Myotis* sp.

- 4.2.11 The highest level of bat activity recorded was associated with the hedgerow boundaries that forms the site boundary. These provide optimal foraging habitats as well as navigational pathways for commuting bats. Common pipistrelle and soprano pipistrelle were the dominant species recorded throughout the static survey recorded period. Noctule was recorded throughout the static survey period. Similarly *Myotis* sp. Were identified frequently. It is considered likely that these were utilising the hedgerows for foraging and commuting as identified during the transect surveys.
- 4.2.12 There were also infrequent recordings of brown long eared bat *Plecotus auritus* in August 2023. Due to the low numbers of recordings of this species they would not be considered to regularly use the site.
- 4.2.13 Based in the survey data gathered, the site is used by a number of common bat species for foraging and commuting throughout the period which bats are active. The site is, therefore, considered to be of Site - Local importance to foraging and commuting bats.

Roosting - Trees

- 4.2.14 A number of scattered trees were present across the site ranging from young to semi- and mature specimens. Mature trees were recorded on site with bat roost potential (e.g. cracked limbs, fissures in branches and woodpecker holes), but remain unaffected by the proposed development. A single oak tree with BRP features was located along the eastern boundary. The tree contained ivy cover on the trunk, thus preventing any visibility of BRP features. Based on current proposals roosting bats are not considered to be a receptor with respect to the proposed development.

Badger

- 4.2.15 The data search provided ten records of badgers to be within 2 km of the site. The closest record being located c. 0.55 km north of the site in 2014.
- 4.2.16 The habitats on site were considered to be suitable to support commuting, foraging, and sheltering badgers. Additionally, an extensive area of woodland was recorded off-site in close proximity to the site. A possible badger outlier sett and latrine was found during the survey. No definitive evidence of badger was recorded; however, one hole was of the correct

shape and sufficient size for badger. Review of the trail camera footage, which was subsequently deployed, determined that the hole was not used during that time as an active badger sett. No badgers were recorded entering or exiting the hole.

- 4.2.17 It is considered that the site is used by badger for commuting through the local area and linked to the wider area. It should also be acknowledged that badgers are a highly mobile species and can establish a sett quickly at any time. Therefore, as a precaution badgers have been scoped into the assessment. Based on the habitats present, the site is considered to be of site level importance to foraging and commuting badgers.

Other notable species

- 4.2.18 Records of hedgehogs and harvest mouse have been recorded within 2 km of the site. The habitats on the site are suitable for supporting harvest mouse and hedgehogs are considered a potential receptor with respect to future development.

Invasive non-native species.

- 4.2.19 No invasive species were identified on site at the time of survey.

5.0 ASSESSMENT OF EFFECTS AND MITIGATION MEASURES

5.1 The proposed development

5.1.1 The Applicant is submitting an outline planning application for the construction of c. 50 dwellings with driveway parking, access roads, drainage system, and blue and green infrastructure.

5.1.2 The following assessment is based on the following collection of drawings for the proposed development by Hayfield Homes and Pegasus Group:

- P22-1974_DE_003_A_06 Indicative Land Area Plan
- P22-1974_DE_001_C_02 Indicative Masterplan

5.1.3 No detailed landscaping strategy was available at time of writing this report and landscaping design will be a reserved matter.

5.2 Statutory and non-statutory designated sites for nature conservation

5.2.1 No internationally designated sites for nature conservation were identified within 10 km of the site.

5.2.2 Five nationally designated sites, all comprising of Sites of Special Scientific Interest (SSSI), and eight non-statutory sites were identified within 2 km of the site. The site does not support similar habitat types to statutory or non-statutory sites within 2 km and given the distance and degree of separation from the proposed development, taken together with the nature of the proposed development (i.e. no significant additional traffic impacts, recreational or residential impacts due to low quantity of new dwellings) no mechanism has been identified that would result in a likely significant effect on the integrity of the nearby statutory and non-statutory sites directly, indirectly. The scheme may introduce new recreational users; however, a substantial area of public open space has been proposed within the development layout and with the low numbers of dwellings proposed and degree of separation between these sites significant adverse effects are considered unlikely.

5.3 Habitats

Potential Impacts

5.3.1 The development will require land take of arable fields, and bare ground within the site. At this stage the woodland and allotments are anticipated to be retained. It is anticipated that a small section of hedgerow on the eastern boundary will be removed to facilitate access to the development.

Mitigation measures

5.3.2 Based on the outline scheme design and the following assumptions the proposed development is anticipated to deliver over 1 % BNG for habitats based on the following:

Table 12: Proposed Habitat Creation required at the RMA to deliver >1% BNG (habitats)

Broad Habitat Created	Proposed Habitat Created	Area of habitat created (ha)	Target Distinctiveness	Target Condition	Strategic significance
Grassland	Other Neutral Grassland	0.7819	Medium	Poor	Area/compensation not in local strategy/ no local strategy
Urban	Sustainable drainage system	0.1313	Low	Moderate	Location ecologically desirable but not in local strategy
Grassland	Other neutral grassland	0.1087	Medium	Moderate	Location ecologically desirable but not in local strategy
Lakes	Ponds (non-priority habitat)	0.0265	Medium	Moderate	Location ecologically desirable but not in local strategy
Urban	Developed land; sealed surface	1.5234	V.Low	N/A - Other	Area/compensation not in local strategy/ no local strategy
Urban	Vegetated garden	0.6529	Low	Condition Assessment N/A	Area/compensation not in local strategy/ no local strategy
Individual trees	Urban tree	0.6922 (35no. small and 15no medium)	Medium	Moderate	Location ecologically desirable but not in local strategy

- 5.3.3 To deliver BNG for hedgerows it is anticipated the retained hedgerows could be enhanced to a higher condition score and/or new hedgerow planted at the detailed design stage.
- 5.3.4 A copy of the DEFRA metric²¹ with the assumptions has been submitted with the planning application and an extract is shown in Appendix 7.2.
- 5.3.5 A Landscape and Ecological Management Plan (LEMP) should be produced at the reserved matters stage setting out how the landscape design achieves Biodiversity Net Gain (minimum 1%) for habitats and hedgerows and the appropriate measures to manage and monitor the proposed habitats over the long term. The detailed landscape planting should include the following.
- Planting or enhancing retained hedgerows using 5 or more native species to deliver a greater length or condition of hedgerow lost to development.
 - Appropriate grassland selection in the POS using native, wildlife supporting species mix with at least 10 species per m² and include species tolerable of wetland and/or marshy grassland habitat around the SUDS.
 - Planting at least 50no. (as suggested in the indicative masterplan) (35no. small and 15no. medium) native broadleaved trees that are:
 - Native species.
 - Heavy standard trees.
 - Managed in a way to achieve moderate condition criteria.
 - Native scrub and shrub planting
 - Berry-bearing species to encourage birds, and invertebrates.
 - Non-native shrub planting with wildlife friendly properties (i.e. flowering, fruiting) will also be of benefit to local fauna.
 - Ponds (Non-priority)

²¹ PE0343 Berrow Green Road, Martley - Biodiversity Metric 4.0 Calculation Tool - For Issue November 2023

- Should not be stocked artificially with fish.
- Managed in a way to achieve moderate condition criteria.
- **SUDS**
 - Species mix to be mostly native and should not be detrimental to habitat or native wildlife.
 - Species mix of wetland or riparian suitability.
 - Managed in a way to achieve moderate condition criteria.

5.3.6 Based on these assumptions it is anticipated that the final layout and landscape design could achieve measurable BNG on site. A final Biodiversity Metric should be submitted with the RMA and LEMP demonstrating the final BNG for habitats and hedgerows.

Enhancement

5.3.7 No further enhancement measures are considered to be required at this stage.

Monitoring

5.3.8 The success of the landscape scheme could be monitored through standard landscape management practices via a LEMP or similar to be agreed with the LPA and secured via a planning condition.

Significance

5.3.9 Assuming the above measures are undertaken, it is anticipated that the proposed development would deliver a net gain in relation biodiversity.

5.4 Species

Common Amphibians & Reptiles

5.4.1 Common amphibians are afforded protection the Wildlife and Countryside Act in relation to sale and trade. All species are UK Biodiversity Action Plan Priority species²².

5.4.2 All terrestrial native common reptiles are protected under Schedule 5 Section 9 of the Wildlife and Countryside Act (1981) as amended which

²² This is not legal advice. See www.legislation.gov.uk for further details of UK protected species legislation.

prohibits the intentional killing and injuring, and trade (i.e. sale, barter, exchange, transporting for sale and advertising to sell or to buy) of this species²³. England and Wales the Natural Environment and Rural Communities (NERC) Act 2006 lists UK Species of Principal Importance. All terrestrial native reptiles are listed as UK Species of Principal Importance.

Potential impacts

- 5.4.3 The majority of habitats on site are considered suboptimal for supporting common reptiles. However, there is limited suitable habitat present in the allotments in the northern section of the site which are currently proposed to be retained, therefore it is considered that there is low risk that common amphibians and reptiles may be present on site at the time of works.

Mitigation measures

- 5.4.4 Full details of proposed timing of works and methods are not known at this stage. Taking a precautionary approach, construction should be undertaken following a Reptile and Amphibian Method Statement (RAMS) that should be agreed with the LPA prior to works commencing.

Enhancement

- 5.4.5 The creation of hibernacula in appropriate parts of the site at the reserved matters stage, such as surrounding the new wildlife pond and SUDS area, should be included for the benefit of the local population of amphibians and reptiles.

Monitoring

- 5.4.6 No monitoring is considered to be required at this stage.

Significance

- 5.4.7 Assuming the above measures are undertaken, it is anticipated that the proposed development would not result in an impact to amphibians, should they be present at the time of works.

Birds

²³ This is not legal advice for further details of legislation for protected species in this report see www.legislation.gov.uk

5.4.8 All species of native British birds are protected by the Wildlife and Countryside Act 1981 (as amended) making it an offence to intentionally kill, injure or take any species of wild bird, and to take, damage or destroy their nests or eggs. Several species receive higher levels of protection from disturbance under the Schedule 1 of the Act. Several declining bird species are also Priority Species under the NERC Act 2006.

Potential impacts

5.4.9 Loss of arable fields that could impact foraging and commuting bird species.

Mitigation measures

5.4.10 If practicable, any tree felling, hedgerow removal, and vegetation removal should occur outside of the nesting bird season (nesting season runs March-August, inclusive). Should the works be scheduled during the nesting bird season, it is advised that a pre-works inspection for nesting birds is undertaken by a suitably experienced ecologist immediately beforehand.

5.4.11 To prevent disturbance or harm to nesting birds, work should not be carried out within a minimum of 5m of any in-use nest, although this distance could be more depending on the sensitivity of the species.

5.4.12 The final landscape scheme should include native hedgerows to replace loss using at least 5 native species and native trees.

Enhancement

5.4.13 It is recommended that new residential dwellings are designed to include integrated bird boxes on each suitable dwelling and/or installed on retained mature trees and detailed within the LEMP. A detailed plan of the proposed make, model and positions of the nest boxes will be produced and agreed with the LPA.

Monitoring

5.4.14 No monitoring is considered to be required at this stage.

Significance

5.4.15 Assuming the above measures are secured through a planning condition it is anticipated that the proposed development would not result in an adverse impact to birds.

Bats

- 5.4.16 In Britain all bat species and their roosts are legally protected, by both the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2017 (as amended). Several species are also Priority Species under the NERC Act 2006.

Potential impacts

- 5.4.17 Without mitigation introduced artificial lighting could disrupt potential foraging and commuting activities of bats within the local area.
- 5.4.18 Loss of any hedgerows could disrupt foraging and commuting bat activity.

Mitigation measures

- 5.4.19 A final bat activity surveys should be undertaken in Spring 2024 (April/May) to complete the dataset. Any new data that has been collected following the completion of this report shall be issued as an addendum.
- 5.4.20 Should at the reserved matters stage trees require felling an updated assessment of the trees should be undertaken by a suitably experienced bat ecologist and if required presence/absence surveys undertaken prior to felling.
- 5.4.21 It is anticipated that a section of hedgerow will be removed to facilitate access and should be replaced which will enable bats to continue to commute across the site. Planting native trees would also benefit foraging and commuting bats.
- 5.4.22 To minimise disturbances to foraging and commuting bats, artificial lighting introduced during the construction works should be fitted with a directional cowl. Lighting should then be positioned in such a way that avoids unnecessary light spill. Lighting outputs should be maintained at, or below, 1lux which is equivalent to twilight conditions, where practicable.
- 5.4.23 Any additional permanent lighting should be kept to a minimum and be sensitive to local bat foraging and commuting activity and avoid unnecessary light spill. Design of the lighting scheme should follow the principles within

the Institution of Lighting Professionals guidance (ILP, 2023)²⁴ where possible within the context of the existing lit environment.

- 5.4.24 It should be appreciated that bats only require small cavities for roosting and very small roost entry gaps. Bats have multiple roost sites and almost any structure/tree with suitable crevices has the potential to be utilised opportunistically by an individual bat. Should a bat be discovered during works, works in that area should cease immediately and a licensed bat ecologist consulted for advice.

Enhancement

- 5.4.25 It is recommended that a minimum of 6 no. bat boxes are installed on retained mature trees or incorporated into the new structures of the proposed development. A detailed plan of the proposed make, model and positions of the boxes will be produced and agreed with the LPA within the LEMP.

Monitoring

- 5.4.26 No monitoring is considered to be required at this stage.

Significance

- 5.4.27 Assuming the above measures are secured through a planning condition it is anticipated that the proposed development would not result in an adverse impact to bats.

Badger

- 5.4.28 Badgers and their setts are protected under the Protection of Badgers Act 1992. It is an offence under the act to kill, injure or take a badger. It is also an offence to destroy, damage or obstruct a currently active badger sett, or to disturb animals within the sett.

Potential impacts

- 5.4.29 No active badger sett was recorded on site. However, it is considered that the site is likely to be used for commuting and foraging.

²⁴ ILP (2023). Guidance Note 08/23: Bats and artificial lighting at night. Institute of Lighting Professionals.

5.4.30 Badgers are highly mobile and can establish or re-open a disused sett at any time. If badgers become established within 30m of the site prior to construction, there is a risk of disturbance or harm from construction activities.

Mitigation measures

5.4.31 A detailed badger survey should be undertaken in winter when vegetation levels are at their lowest (December to March, inclusive), to determine if any new setts have established in the time elapsed since previous survey (September 2022). Any new data that has been collected following the completion of this report shall be issued as an addendum.

5.4.32 Prior to construction commencing an update badger survey should be undertaken by a suitably experienced ecologist. Should an active badger sett be found, works within 30 m of the sett should not occur until appropriate mitigation, and if necessary, a Natural England licence is in place.

5.4.33 A precautionary approach should be adopted during the construction phase. In order to prevent any badger (or other small mammal) becoming trapped within any footings/trenches these should be securely covered where possible or profiled to allow an escape route from any such trench within the development site. If this is not feasible, sturdy wooden planks should be placed within each trench at the end of each working day, to provide a ramp by which trapped animals may escape.

5.4.34 Any trenches/pits will be inspected each morning to ensure badgers or other mammals have not become trapped overnight. Should a badger become trapped in a trench it will likely attempt to dig itself into the side of the trench, forming a temporary sett. Should a trapped badger be encountered, a suitably qualified ecologist will be contacted immediately for further advice.

5.4.35 Any open drainage or pipework with a diameter of 150 mm or above should be capped at the end of each day and secured to prevent access to badger. The storage of any chemicals at the site will be contained in such a way that they cannot be accessed or knocked over if investigated by badgers or other mammals.

- 5.4.36 The site manager will ensure the above methods are carried out at the end of each works day until the completion of all ground works are complete. In the unlikely event that a badger is seen or suspected to be on site, works must stop immediately, and a suitably qualified ecologist consulted.

Enhancement

- 5.4.37 None anticipated to be required at this stage.

Monitoring

- 5.4.38 None anticipated to be required at this stage.

Significance

- 5.4.39 Assuming the above measures are secured through a planning condition it is anticipated that the proposed development would not result in an adverse impact to badgers.

Other notable species

Potential impacts

- 5.4.40 The habitats on site could be used by hedgehogs and harvest mouse. Hedgehogs are listed as a Priority Species under the NERC Act 2006. Priority Species under the UK Post-2010 Biodiversity Framework.

- 5.4.41 The proposed development should include grassland planting with native species and new native hedgerow which would be of benefit to terrestrial invertebrate species.

Mitigation measures

- 5.4.42 Should a hedgehog be found, it should be moved using a gloved hand to a place of safety and shelter.

- 5.4.43 Any new boundary treatments and garden fences at the reserved matters stage should include a c. 13 cm x 13 cm gap to allow hedgehogs to pass through. Boundary treatments should allow adequate gaps to allow hedgehog to move across the site. These can be marked with signs so that they are not blocked off in the future (<https://www.hedgehogstreet.org/help-hedgehogs/link-your-garden/>).

Enhancement

- 5.4.44 Consideration should be given to installing 'bug hotels' and hedgehog boxes within the final landscape design.
- 5.4.45 Planting of tussocky grassland to maintain connectivity to the wider area for harvest mouse.

Monitoring

- 5.4.46 Implementation of the enhancement measures above could be monitored through a LEMP secured via planning condition.

Significance

- 5.4.47 Assuming the above measures are secured through a planning condition it is anticipated that the proposed development would not result in an adverse impact to hedgehog, should they be present.

6.0 CONCLUSIONS

- 6.1.1 Based on the data collected and information provided about the proposed development, it is anticipated that impacts to species and habitats identified within this report could be avoided or mitigated and enhanced. This can be secured through appropriately worded planning conditions.
- 6.1.2 On this basis there are no insurmountable constraints to development from an ecology or biodiversity perspective and the proposals would accord with relevant national and local planning policy on such matters.

7.0 APPENDICES

7.1 Site Photographs



Plate 1: Arable Fields



Plate 2: Hedgerow 1



Plate 3: Hedgerow 2



Plate 4: Hedgerow 3



Plate 4: Oak Tree with low BRP

7.2 Biodiversity Net Gain Metric 4.0 Summary

On-site baseline	<i>Habitat units</i>	13.15	
	<i>Hedge row units</i>	1.06	
	<i>Watercourse units</i>	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	14.56	
	<i>Hedge row units</i>	1.22	
	<i>Watercourse units</i>	0.00	
On-site net change (units & percentage)	<i>Habitat units</i>	1.41	10.71%
	<i>Hedge row units</i>	0.16	15.06%
	<i>Watercourse units</i>	0.00	0.00%

Summary Figures			
Net project biodiversity units (Including all on-site & off-site habitat retention / creation)	<i>Habitat units</i>	1.41	
	<i>Hedge row units</i>	0.16	
	<i>Watercourse units</i>	0.00	
Total project biodiversity % change (Including all on-site & off-site habitat creation + retained habitats)	<i>Habitat units</i>	10.71%	
	<i>Hedge row units</i>	15.06%	
	<i>Watercourse units</i>	0.00%	
Combined habitat retention and enhancement			
	Habitats	Hedgerows	Watercourses
Total on-site and off-site baseline area / length	4.41	0.53	0.00
Total on-site and off-site baseline units	13.15	1.06	0.00
Total on-site and off-site baseline area / length retained	1.18	0.42	0.00
Total on-site and off-site baseline units retained	6.70	0.83	0.00
Area / length proposed for enhancement	0.00	0.10	0.00
Baseline units proposed for enhancement	0.00	0.20	0.00
Total on-site and off-site baseline area / length lost	3.23	0.01	0.00
Total on-site and off-site baseline units lost	6.45	0.02	0.00