



Moth Farm Barn, Brown Candovers, Hampshire SO24 9FQ

Preliminary Ecological Appraisal

20/03/2024

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Executive Summary

Vesper Conservation & Ecology undertook a Preliminary Ecological Appraisal of a site known as 'Moth Farm Barn'. This included an extended Phase 1 Habitat Survey (P1HS). Preliminary Ecological Appraisals are used during the site development process to gather data on existing conditions, with the intention of conducting a preliminary assessment of likely impacts of development schemes or establishing the baseline for future monitoring. As a precursor to a proposed project, evaluation can be made within these appraisals of the ecological features present, as well as scoping for notable species or habitats, identification of potential constraints to proposed development schemes, and recommendations for mitigation.

The development proposals briefly comprise the demolition of old green houses and the creation of a new office with associated landscaping.

Baseline Conditions	
<i>Designated Sites</i>	The survey area is not on or adjacent to any statutory or non-statutory sites designated for nature conservation. The nearest statutory designated is the River Itchen SSSI, SAC which is about 900m to the south.
<i>Habitats</i>	The P1HS identified showed that the site has no suitable habitats as it is set with in a working farmyard
<i>Species</i>	This site could be used by different species that are highly mobile with in the landscape, there are negligible opportunities of bat roosting within the barn and areas of foraging around tree and hedgerows is a possibility. There are opportunities for reptile and amphibians on site due the nature of the management of the area. Hedgehogs may use the site as the as they pass through form areas good habitat. No signs of badgers were recorded within the site or within 50m of the site.
<i>Invasive and non-native species</i>	No invasive species were noted during this survey.

Discussion of Impacts and Recommendations	
Discussion of Impacts and mitigation	<p>Impacts The creation of three dwellings inside of the existing barns footprint under class q planning.</p> <p>Mitigation The addition of the below recommendations</p>
Recommendations	<p>Recommendations The site is mainly hardstanding and buildings all habitats are just outside of the proposed boundary.</p> <ul style="list-style-type: none"> • Recommendations: • design of wildlife friendly lighting. <ul style="list-style-type: none"> ○ So not to disturb any foraging bats along hedgerows and tree lines, also so there is limited spill into neighbouring fields and hedge and tree lines. • measures to protect trees and animals from construction activities. <ul style="list-style-type: none"> ○ If there is to be any digging within the drip zone around the trees, then a suitable tree protection zone should be created when working near retained trees. ○ Any open diggings should be covered over during the evenings so not to trap any animal within the trenches. ○ If nesting birds are discovered on site, then work will need to stop and a suitable buffer zone created (20m) to allow the nestlings to fledge. ○ In the highly unlikely event of bats or other protected species been discovered during the works then all works must stop and a suitable qualified ecologist should be contacted for further advice. • Addition of nesting/roosting opportunities to the new building. <ul style="list-style-type: none"> ○ 4 sparrow terrace boxes to be place under the eaves of the new buildings facing either southeast or northwest. ○ 2 Wall mounted or built in bat boxes to be incorporated into the southwest and northeast gable walls as high as is possible up at the apex. ○ 3 Wall mounted bee/insect boxes to be place on the southwestern elevation.

1.0 Introduction and Context

1.1 Background

Vesper Conservation & Ecology limited were commissioned by the clients to undertake a Preliminary Ecological Appraisal (PEA) of a site known as 'Moth Farm Barn' (hereafter referred to as 'the site' or 'site') and surrounding land within 50m, where accessible, of the red line boundary. The survey included an Extended Phase 1 Habitat Survey, in line with methodology set out in JNCC's *Handbook for Phase 1 habitat survey – a technique for environmental audit* (JNCC, 2010); the assessment is based on the *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017).

1.2 Scope of the Report

This report describes the baseline ecological conditions at the site; evaluates habitats within the survey area in the context of the wider environment; and describes the suitability of those habitats for notable or protected species. It identifies significant ecological impacts as a result of the development proposals; summarises the requirements for further surveys and mitigation measures, to inform subsequent mitigation proposals, achieve Planning or other statutory consent, and to comply with wildlife legislation.

The aim of the PEA was to obtain data on existing ecological conditions, and to conduct a preliminary assessment of the likely significance of ecological impacts on the proposed development. To achieve this, the following steps were taken:

- The desk *study area* and field *survey area* (generally 50m from the site boundary/proposed footprint and including the 'zone of influence' of the scheme) have been identified.
- A desk study has been carried out, including a request for information from local records centres and publicly available data online from the likes of Magic.gov etc.
- Baseline information on the site and surrounding area has been recorded through an 'Extended Phase 1 Habitat Survey', including a Phase 1 Habitat Survey (JNCC 2010), and recording further details in relation to notable or protected habitats and species.
- The ecological features present within the survey area have been evaluated, where possible (IEEM, 2006)
- Invasive plant and animal species (such as those listed on Schedule 9 of the Wildlife & Countryside Act [WCA]) have been identified.
- Likely impacts on features of value, as a result of the development proposals, have been identified.
- Recommendations for further survey and assessment have been made.
- Recommendations for mitigation and opportunities for enhancement have been provided based on current information.

The Phase 1 habitat map of the survey area, with supporting target notes, is included in Appendix 1, the proposed project plan is presented in Appendix 2, and photographs taken during the site survey are

included in Appendix 3. A description of relevant legislation, planning policy, and nature conservation Status' is included in Appendix 4, and desk study information is in Appendix 5.

1.3 Site Context

The site is located at National Grid Reference **SU 58102 38576** and comprises an area of approximately 0.04ha. The site is situated in the Hampshire countryside. This is a rural farming location; the surrounding sites have residential and commercial use.

1.4 Project Description

This report is prepared in relation to a planning application to create three new dwelling houses with associated landscaping.

The development proposals include:

- Creation of 3 dwellings in an agricultural barn under class Q planning

All works areas, storage and haul routes will be included within the site boundary; access will be provided by existing roads and as such, no additional working footprints are anticipated.

2.0 Methods

2.1 Desk Study

Existing records relating to the site and a surrounding 1km radius (the study area) were requested from the local biological records centre. The study area has been defined at this scale as an assessment of any trees suitable for roosting bats is included within this report. There is a single designated site SSSI/SAC river Itchen which is 900m to the south. This data search is confidential information that is not suitable for public release; therefore, only a summary is given within this report.

Freely available information on designated sites, habitats and species of Principal Importance was also reviewed, including a search on Magic.go.uk and using OS OpenData (2020), Landapp. Information obtained from the desk study included:

- Landscape structure.
- Habitats and species of Principal Importance (as listed on S41 of the Natural Environment and Rural Communities (NERC) Act 2006 (habitats and species of Principal Importance)
- Information on designated sites
- Information on the surrounding area, including waterbodies.

2.2 Extended Phase 1 Habitat Survey

The survey was undertaken by Robert West BA (Hons) PGDip MCIEEM on the **22nd February 2024**.

The survey area generally comprised all land that will be impacted by the proposals; in this instance taken to be the site boundary and a buffer of 50m. However, where waterbodies were identified by the desk study within 500m of the proposed works area, the survey area will have been extended to inform an assessment of habitat suitability for great crested newts *Triturus cristatus*. For details of the site boundary and survey area, please refer to Figure 1 in Appendix 1.

2.2.1 Habitats and flora

The methodology for the Phase 1 Habitat Survey (P1HS) was based on the best practice publication *Phase 1 Habitat Survey methodology* (JNCC, 2010). All land parcels were described and mapped according to JNCC P1HS habitat types. Target notes provide supplementary information on habitat conditions, features too small to map, species composition, structure, and management. Scientific names are given after the first mention of a species in this report, subsequently common names are used.

2.2.2 Protected species and Species of Principal Importance

During the survey, habitats were assessed for their suitability to support protected species and notable species assemblages, and field signs indicating their presence or absence recorded. This assessment took into consideration findings of the desk study, habitat conditions on site and in the context of the

surrounding landscape, and the ecology of the species. Special attention was made to the following features suitable for protected species:

- Ponds or other water bodies within 500m of the site, were identified. The suitability of these and the available terrestrial habitat for great crested newt was assessed, along with considerations of connectivity. Natural England's Great Crested Newt Mitigation Guidelines (English Nature, 2001) recommend that any waterbodies within 500m of a site, and sites with suitable terrestrial habitats within 500m of a waterbody, should be assessed for great crested newt potential. However, the great crested newt Rapid Risk Assessment (RRA; from Natural England's EPSL method statement for the species) assesses habitat losses of up to 5 hectares (ha) of land situated greater than 250m from a breeding pond as 'Green: offence highly unlikely'. Thus, for sites less than 5ha (such as this one), greater emphasis is put upon ponds up to 250m from the site boundary.
- Any trees to be impacted by the scheme proposals were assessed for their likelihood to support roosting bats by conducting a non-intrusive visual appraisal from the ground using binoculars. The external features of the trees were also assessed for potential access/egress points, and for signs of bat use.
- Any vegetation cover and topography suitable for badger *Meles meles* sett construction were investigated, and evidence of badger activity recorded.
- Any habitat complexes with a diverse structure and features suitable for basking, foraging and hibernating reptiles were recorded. Reptile habitat on site may be impacted by the proposed works.
- Any suitable foraging, refuge and/or hibernation areas for hedgehogs were inspected for signs of use.
- Evidence of bird nesting/breeding activity on or adjacent to site.

Due to the lack of suitable habitat, field signs, and their known distribution, it is considered unlikely that the survey area supports any other protected species. Therefore, only those species listed above are considered further in this report.

2.2.3 Invasive / non-native species

The distribution and extent of any invasive species listed on Schedule 9 of the Wildlife and Countryside Act (1981) were also noted throughout the survey area.

2.3 Suitability Assessment and Ecological Value

2.3.1 Likelihood of the presence of protected species

The likelihood of occurrence of protected species is ranked according to the criteria listed in Table 1. The habitats on site were evaluated as to their likelihood to provide sheltering, roosting, foraging, basking or nesting habitat.

Table 1: showing criteria considered when assessing the likelihood of occurrence of protected species

Present	Species are confirmed as present from the current survey or recent confirmed records.
High	The site is of high quality for a given species/species group, due to the presence of e.g. Habitat and features of high quality for species/species assemblage. Species known to be present in wider landscape (desk study records). Good quality surrounding habitat and good connectivity.
Medium	The site is of moderate quality for a given species/species group, due to the presence of e.g. Habitat and features of moderate quality. The site in combination with surrounding land provides all habitat/ecological conditions required by the species/assemblage. Within known national distribution of species and local records in desk study area. Factors limiting the likelihood of occurrence may include small habitat area, habitat isolation, and/or disturbance.
Low	Habitats within the site are of poor to moderate quality for a given species/species group. Few or no records from data search. Despite above, presence cannot be discounted as within national range, all required features/conditions present on site and in surrounding landscape. Limiting factors could include isolation, poor quality landscape, or disturbance.
Negligible	Whilst presence cannot be absolutely discounted, the site includes very limited or poor-quality habitat for a particular species or species group. No local records from desk study; site on edge of, or outside, national range. Surrounding habitats considered unlikely to support species/species assemblage.

2.3.2 Assessment of Ecological Value

The ecological value of the survey area has been assessed based on the *Guidelines for Ecological Impact Appraisal* (CIEEM, 2017) and *Handbook of Biodiversity Methods: Survey, evaluation, and monitoring* (David Hill, 2005), using geographic frames of reference. The biodiversity value of the identified designated sites, habitat types and associated species/assemblages has been considered. The criteria listed below have been used to reach an evaluation; examples under each category of biodiversity value are provided in Table 2.

- Presence of designated sites or features
- Presence of UK priority habitats and species (S41 of the NERC Act), and species listed as Birds of Conservation Concern (Eaton *et al* 2009)
- Size of habitat, diversity of species, or population
- Habitats or species which are rare, species which are on the edge of their range.
- Large populations of uncommon species, or plant communities that are typical of valued natural/semi-natural vegetation types.
- Habitats or features that have supporting value for high value habitats, designated sites or protected species, e.g. buffer habitat to ancient woodland.
- Presence of legally protected species

Table 2: Examples of criteria defining conservation evaluation

Evaluation on geographical scale	Examples of criteria defining evaluation
International	Biodiversity feature that is designated or warrants designation as a European Protected Site
National	biodiversity feature that is designated or warrants designation as a National designated site (Site of Special Scientific Interest (SSSI) or National Nature Reserve (NNR))
Metropolitan or County	Biodiversity feature that is designated or warrants designation as a county wildlife site, local nature reserve, or a Site of Metropolitan Importance for Nature Conservation (SMI). Species and habitats of principle importance.
Borough	Biodiversity feature that is designated or warrants designation as a Site of Importance for Nature Conservation (SNCI), or other feature which is one of the best examples of its type within the Borough. Diverse and/or ecologically valuable hedgerow network, or ancient woodland greater than 0.25ha
Local	Biodiversity feature which is one of the best examples of its type within a local context (i.e. within ~1km of the scheme extent)/local Parish. Habitat complex considered to enrich the habitat/biodiversity resource within the context of the local neighbourhood.
within the vicinity of the site	Biodiversity features of value within the zone of influence (site plus approximately 50m buffer).
negligible	Biodiversity features of negligible value.

Following CIEEM guidance it should be noted that legal protection or UK Biodiversity Action Plan (BAP) status does not necessarily imply biodiversity status at the equivalent scale. For example, a badger *Meles meles* sett would receive legal protection at a national scale and a native hedgerow would be a UK BAP priority habitat, but neither feature is likely to be of biodiversity value at a national scale.

Where this report accompanies a planning application, the ecological interest of the study area and the proposed development has also been evaluated in terms of the planning policies relating to biodiversity. It will be clearly stated where a preliminary value can be given and where further information is required.

2.4 Limitations

It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site.

Where only four figure grid references are provided for biological data, it is not possible to determine their precise location as they could be present anywhere within the given 1km x 1km National Grid square.

This survey provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the local area, the ecology and biology of species as currently understood, and the known distribution of species as recovered during the desk study.

Ecological surveys are limited by a variety of factors, which affect the presence of flora and fauna (e.g. climatic variation, season and species behaviour). A lack of evidence of a protected species during a survey does not mean that the species is absent; hence the surveys also record and assess' the ability of habitats to support such species. The time frame in which the survey is conducted provides a snapshot of activity within the survey area and cannot necessarily detect all evidence of use by a species. The survey was completed in August and as such the timings of the habitat survey did not present any issues when classifying habitats.

It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation of the natural environment. The Extended Phase 1 habitat survey does not constitute a full botanical survey. Some plant species may have been under-recorded, unidentifiable or not visible due to the time of year the survey was carried out, i.e. some wildflowers do not flower until later in the summer and may not have shown much growth or gone over by August.

3.0 Results and Evaluation

3.1 Desk Study

Further desk study data is reproduced in Appendix 5.

3.1.1 Designated sites

The survey area is not subject to any statutory or non-statutory nature conservation designations. There are no statutory designated site and there are two non-statutory designated sites within the 1km study area the closest is Statutory designation is 2km away; these are described in Table 3.

Table 3: Designated Nature Conservation sites within the study area

Designated site name	Distance from site (approximately)	Reasons for notification and integral value
Statutory designated site (SSSI, SAC, SPA and Local Nature Reserve)		
River Itchen SSSI, SAC	900m south	Habitats: A chalk stream which is spring fed with notable species including: Southern damselfly, Coenagrion mercuriale Freshwater crayfish, Austropotamobius pallipes Brook lamprey, Lampetra planeri, Atlantic salmon, Salmo salar, Bullhead, Cottus gobio and Otter, Lutra lutra

3.1.2 Habitats of principal importance

The site is mainly hard standing with some sparsely vegetated areas to the south, just off site there are areas of mature hedgerows and coppice woodland.

3.1.3 Protected species and notable species

The desk study returned records of 40 plant species within the study area; 39 are locally rare, 1 is protected under the Wildlife & Countryside Act 1981, 4 are nationally scarce, and 1 is listed under Section 41 (S41) of the 2006 Natural Environment and Rural Communities (NERC) Act. None of these records are known to have been recorded on the site.

3.1.4 Previously granted European Protected Species Mitigation Licences (EPSML)

A search of the magic.go.uk database yields two records of EPSML previously being granted within 1km of site. These are for species including Common Pipistrelle and Brown long eared. There are no records of other protected species recorded within 1km of the site.

3.1.5 Landscape structure

A review of aerial photographs (Figure 1) and OS maps shows the site has limited potential for some level of importance in the context of the surrounding landscape; with only roadside hedgerow network which could provide corridors for a range of species to the wider landscape. As the area around is predominantly arable land

Figure 1: Aerial photograph of the site and surrounding landscape (Map data 2022 Google)



3.2 Phase 1 Habitat Survey

3.2.1 Summary

The survey area is 0.04ha in size, the site is mainly hardstanding with a derelict steel frame agricultural barn. The building is in a complex of agricultural barns, the areas around all the barns have been put down to concrete. There are over mature hedgerows and woodlands outside of the development boundary.

3.2.2 Grassland vegetation

There are no grasslands on site.

3.2.3 Trees

The site has a wooded area outside of the boundary of the site, no trees will be affected by the proposed works.

3.2.4 Buildings

The buildings on site on the development site is an agricultural barn which has asbestos sheet roofing with large roof lights, there are missing and broken roof materials. The building has block walls to the top of the door height with a steel frame above that which is clad in asbestos sheeting. This building is not the only agricultural barn on site the other barns are still in use.

3.2.5 Hedgerows

The site has hedgerows leading up to the site from the road, there are no hedges on site.

3.3 Protected Species and Species of Principal Importance

The protected species/species groups considered potentially present within the survey area are:

- Bats
- Breeding birds
- Reptiles (common)

The likelihood of these species being present, or invasive species, is evaluated in Table 4.

Table 4: Assessment of likelihood of protected and invasive species occurrence

Species / group	Likelihood of occurrence	Justification for evaluation	Legislation/policy
Bats	Foraging/ commuting: Moderate Roosting: Negligible	The site shows potential to play a connecting role between nearby woodland fragments and other foraging areas; along the tree line and hedgerow network. The buildings have no obvious areas that would allow bats to roost	Wildlife and Countryside Act 1981 (as amended). The Conservation of Habitats and Species Regulations 2019 (as amended).
Breeding birds	Moderate	Whilst no active nesting activity was observed on site during the survey, no nests were seen during this survey. Suitable habitat within the hedgerows and tree lines	Wildlife and Countryside Act 1981 (as amended).
Reptiles	Negligible	There no suitable habitats on site that could be used by reptiles	Wildlife and Countryside Act 1981 (as amended). The Conservation of Habitats and Species Regulations 2017.
Invasive plant species	NONE	NONE SEEN ON SITE	

3.3. Evaluation

Habitats and species across the survey area were evaluated; this evaluation is described in Table 5.

Table 5: Evaluation of ecological receptors

Evaluation	Description of features and explanation of evaluation
<i>International</i>	The site is not designated for its international nature conservation importance. There is one international statutory designated site within the 1km study area.
<i>National</i>	The site is not subject to any national statutory nature conservation designations, and it is not considered that any habitats or species within the site would meet the criteria for the designation of a SSSI.
<i>Metropolitan or County (e.g. Kent)</i>	The site is not subject to any non-statutory nature conservation designations such as Local Wildlife Sites. There are no habitats or species recorded on site considered likely to be of Metropolitan importance.
<i>Borough or District (e.g. Maidstone)</i>	The site is not subject to any non-statutory nature conservation designations such as LWS; nor does it share similar habitats or strong connectivity with nearby LWS.
<i>Local</i>	The site has limited value for biodiversity as it is mainly hard standing and agricultural barns.
<i>Within the vicinity of the site (approx. 50m)</i>	The site has negligible value in the local context as it is all down to hard standing and barns.

4.0 Discussion and Recommendations

4.1 Discussion

The site is not subject to any statutory or non-statutory designations.

The site has hardstanding which surrounds agricultural buildings there are no ecological features with in any of the barns or the barn that is the focus of this report.

The existing building on site is block and steel constructed which is clad in asbestos sheets, there are no obvious area internally that would be suitable for bats to be roosting, the building may be used by nesting birds (no evidence of past nesting was seen) in the future as the doors are missing and there are missing roofing sheets.

There are no suitable habitats that could be used by reptiles on site as the site consists of a concrete apron around the building.

The hedgerows beyond the site boundaries could support nesting birds and have the potential to support bats foraging and commuting routes. All other protected species are likely absent from the site, due to unsuitable habitats, levels of disturbance, species range, and/or landscape context.

4.1.1 Discussion of impacts and the mitigation hierarchy

A description of significant impacts on habitats and species at value greater than the vicinity of the site (that cannot be avoided and can be identified at this stage of the assessment) is provided below. This impact assessment is based on current design proposals; please refer to the project plan in Appendix 2 illustrating and further describing the proposed works. Where sufficient information exists to design mitigation, this is also discussed. Any requirements for further survey to inform detailed mitigation proposals are provided in 4.2. Where further surveys for a particular habitat/complex or species are required prior to Planning Application, mitigation is not discussed in detail at this stage.

Designated sites

Direct impacts on designated sites are unlikely to arise as the works would be a sufficient distance to avoid dust, noise, and visual effects on the reasons for designation. The site is far enough away for any designated site to be concerned about the small-scale development.

Habitats and plants

There are no habitats or floral species found on site; No significant impacts on biodiversity are anticipated.

Protected species and species of principal importance.

Bats: Loss or severance of treelines and hedgerows may affect bat commuting routes. An increase in general light levels could also affect bat foraging and commuting. The removal of the existing built structures will not affect any bat roosting potential.

Breeding birds: Loss of boundary trees and scrubby vegetation may affect birds that use the site for breeding and foraging by causing a decrease in nesting sites and food resources. Loss of these habitats may directly harm nesting birds if carried out during the breeding season (March to August inclusive). Although the plans are not to change any of the boundary features.

Reptile: The site has no suitable habitat for these species.

4.2 Recommendations – further surveys

The sections below provide an outline of the additional survey work that should be carried out prior to development, and also a suggested outline for the development of an Ecological Opportunities and Constraints Plan. Where surveys are required prior to Planning Application, this is clearly stated.

4.2.1 Bat surveys

Further surveys for bats are NOT considered to be necessary, due to the negligible potential of the existing building to have roosting opportunities.

Bat roosting opportunities will be incorporated into the proposed new building.

The use of artificial lighting is to follow the protocols outlined in the Institute for Lighting Engineers document “*Guidance for the Reduction of Obtrusive Lighting*” (2005) and BCT’s “*Artificial Lighting and Wildlife Interim Guidance: Recommendations to Help Minimise the Impact of Artificial Lighting*” (2014) to minimise disturbance and sky-glow across the site; and onto the boundaries in particular.

The retained trees should be protected during works, in line with *BS 5837: 2012 Trees in relation to design, demolition and construction*. There is to be no loss or major severance (>10m) of treelines.

4.2.2 Breeding bird surveys

Further surveys for birds are NOT considered to be necessary, provided the following avoidance measures can be accommodated:

The treelines and hedgerow boundaries are likely to be the most valuable to nesting birds and should be retained as far as possible. All trees due to be retained should be protected in line with *BS 5837: 2012 Trees in relation to design, demolition, and construction*.

Nesting birds may be present in the trees and other vegetation during the bird breeding season (March to August inclusive). If vegetation removal is planned during these months, then a prior check (within a 24 hour period preceding works) for nesting birds should be undertaken by an ecologist. Any active nests that are found must not be moved until fledglings have dispersed.

4.2.3 Reptiles

No suitable habitat was seen on site that would be suitable for any of our reptile species, NO further surveys are required at this time.

4.2.4 Invasive species

Works on site; particularly the transport of soil/materials off site, have the potential to cause the spread of this Schedule 9 species, which could constitute a criminal offence. Contractors must be briefed regarding suitable avoidance measures to prevent the spread of this species, and specialist advice should be sought. No invasive species recorded on site so this will not be needed.

4.3 Recommendations – opportunities for enhancement

Ecological Constraints and Opportunities Plan

The bullet points below represent some broad suggestions that could be included within an ECOP to inform the development proposals. These recommendations should be developed further in coordination with the landscape designers and other specialists as the design progress. (See appendix 3)

- design of wildlife friendly lighting.
 - So not to disturb any foraging bats along hedgerows and tree lines, also so there is limited spill into neighbouring fields and hedge and tree lines.
- measures to protect trees and animals from construction activities.
 - If there is to be any digging within the drip zone around the trees, then a suitable tree protection zone should be created when working near retained trees.
 - Any open diggings should be covered over during the evenings so not to trap any animal within the trenches.
 - If nesting birds are discovered on site, then work will need to stop and a suitable buffer zone created (20m) to allow the nestlings to fledge.
 - In the highly unlikely event of bats or other protected species been discovered during the works then all works must stop and a suitable qualified ecologist should be contacted for further advice.
- Addition of nesting/roosting opportunities to the new building.
 - 4 sparrow terrace boxes to be place under the eaves of the new buildings facing either southeast or northwest.
 - 2 Wall mounted or built in bat boxes to be incorporated into the southwest and northeast gable walls as high as is possible up at the apex.
 - 3 Wall mounted bee/insect boxes to be place on the southwestern elevation.

16.0 Bibliography

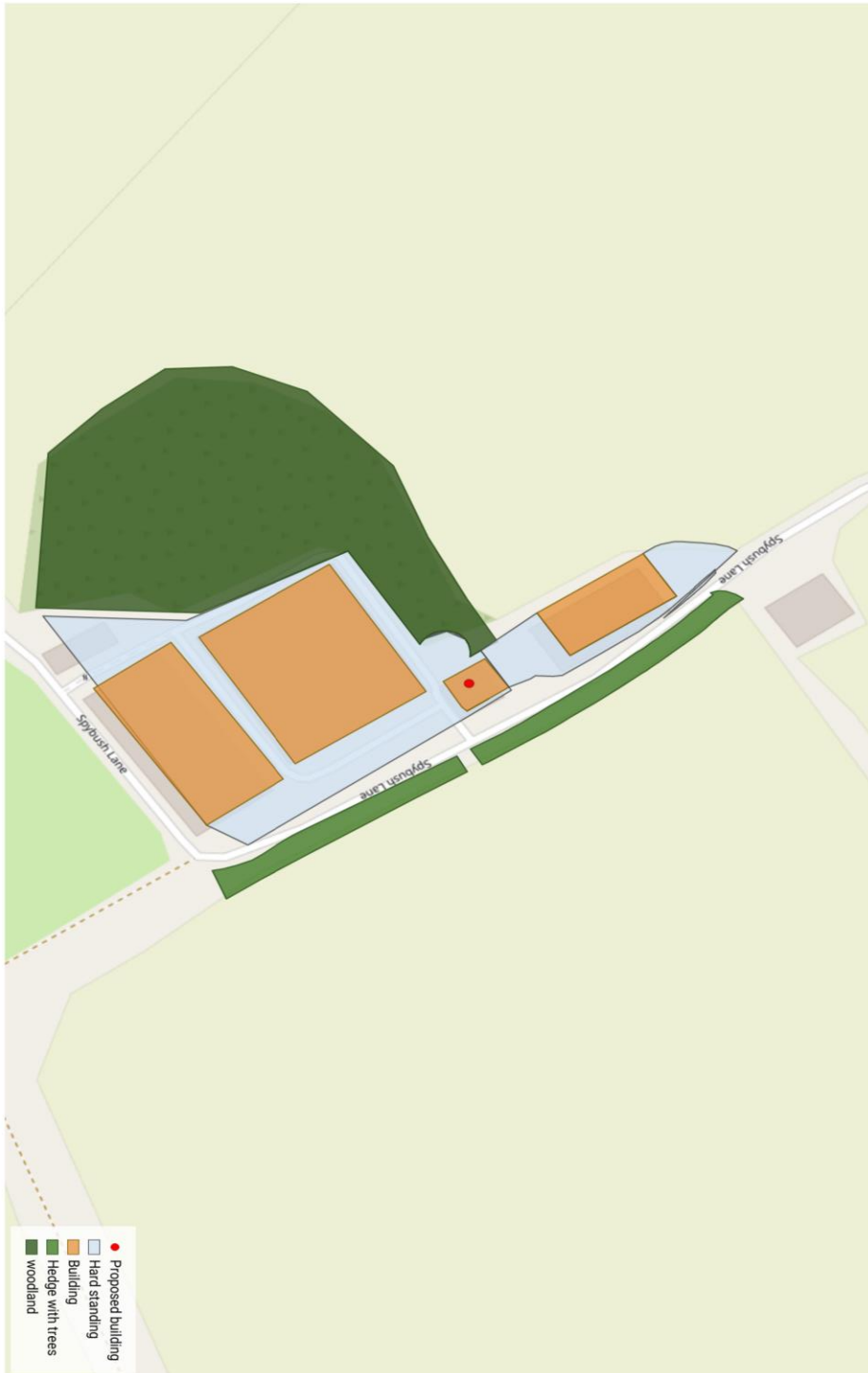
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Appendices

Appendix 1: Phase 1 Habitat Map (current site conditions)



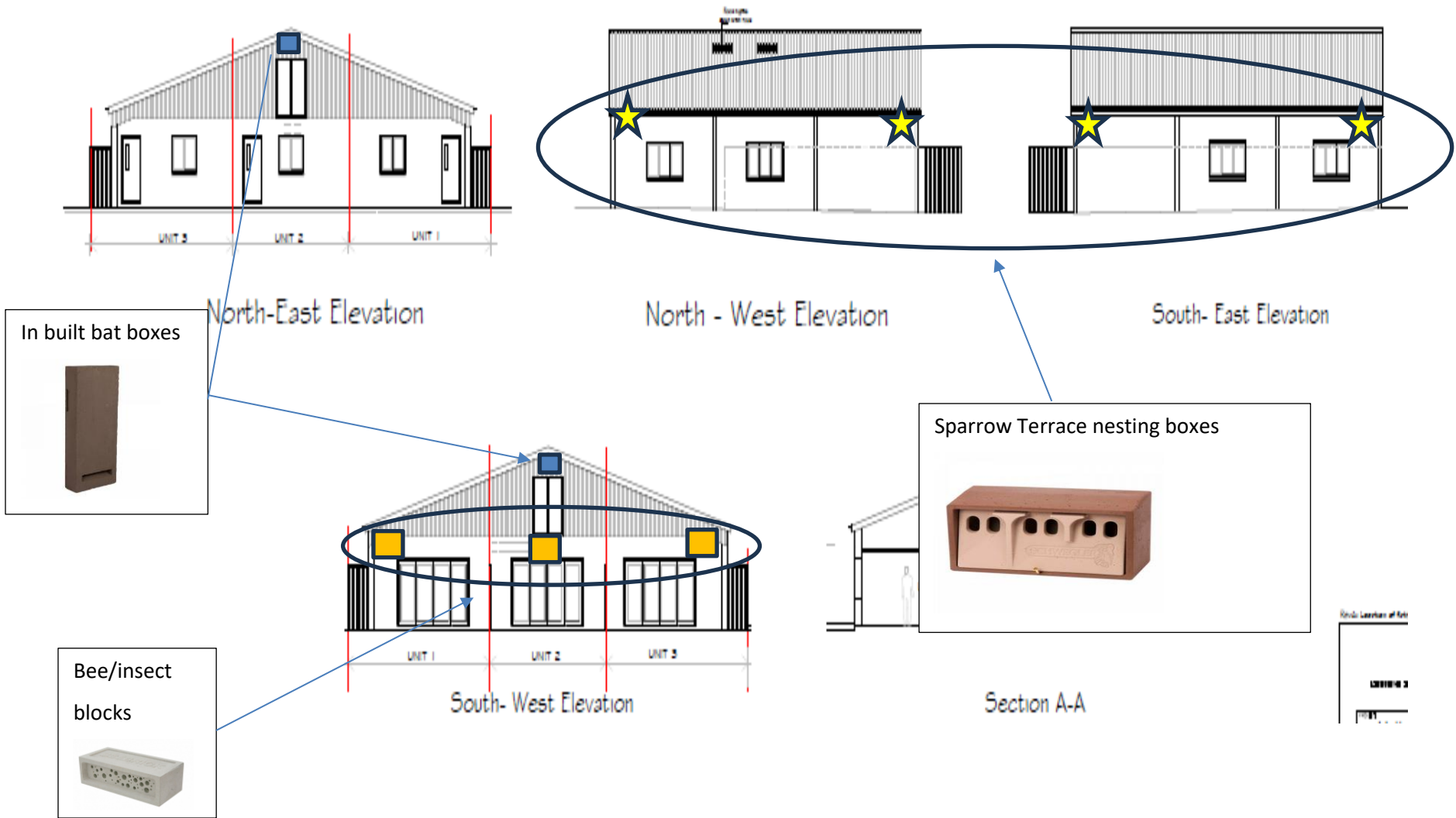
Phase 1 survey



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Appendix 2: Mitigation/bio enhancements proposals



Appendix 4: Photographs



Image 1: showing the southern elevations of the building



Image 2: looking from north



Image 3: internal shots of the building



Image 4: internal shots of the building.

Appendix 4: Legislation and Planning Policy

LEGAL PROTECTION

Legislation Afforded to Habitats

National Statutory Designations

Sites of Special Scientific Interest (SSSI) are designated by nature conservation agencies in order to conserve key flora, fauna, geological or physio-geographical features within the UK. The original designations were under the National Parks and Access to the Countryside Act 1949 but SSSIs were then re-designated under the Wildlife & Countryside Act 1981 (as amended). As well as reinforcing other national designations (including National Nature Reserves), the system also provides statutory protection for terrestrial and coastal sites which are important within the European Natura 2000 network and globally. Further provisions for the protection and management of SSSIs have been introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and the Nature Conservation (Scotland) Act 2004.

Local Statutory Designations

Local authorities in consultation with the relevant nature conservation agency can declare **Local Nature Reserves (LNRs)** under the National Parks and Access to the Countryside Act 1949. LNRs are designated for flora, fauna or geological interest and are managed locally to retain these features and provide research, education, and recreational opportunities.

Non- Statutory Designations

All non-statutorily designated sites are referred to as **Local Wildlife Sites (LWS)** and can be designated by the local authority for supporting local conservation interest. Combined with statutory designation, these sites are considered within Local Development Frameworks under the Town and Country Planning system and are a material consideration during the determination of planning applications. The protection afforded to these sites varies depending on the local authority involved.

National and European Legislation Afforded to Species

The Habitats Directive

The EC Habitats Directive aims to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore wild species listed on the Annexes to the Directive at a favourable conservation status, introducing robust protection for those species of European importance. The Directive is transposed into UK law by The Conservation of Habitats and Species Regulations 2010 (the Conservation Regulations) and the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (as amended). The following notes are relevant for all species protected under the EC Habitats Directive: In the Directive, the term 'deliberate' is interpreted as being somewhat wider than intentional and may be thought of as including an element of recklessness.

The Habitats Regulations do not define the act of 'migration' and, therefore, as a precaution, it is recommended that short distance movement of animals for e.g. foraging, breeding or dispersal purposes are also considered.

In order to obtain a European Protected Species Mitigation (EPSM) licence, the application must demonstrate that it meets all of the following three 'tests':

- the action(s) are necessary for the purpose of preserving public health or safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequence of primary importance for the environment;
- there is no satisfactory alternative; and
- the action authorised will not be detrimental to the maintenance of the species concerned at a favourable conservation status in their natural range.

The Wildlife and Countryside Act (WCA) 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and implements the species protection requirements of EC Birds Directive 2009/147/EC on the conservation of wild birds in Great Britain (the birds Directive). The WCA 1981 has been subject to a number of amendments, the most important of which are through the Countryside and Rights of Way (CROW) Act (2000) and Nature Conservation (Scotland) Act 2004.

Other legislative Acts affording protection to wildlife and their habitats include:

- Deer Act 1991
- Natural Environment & Rural Communities (NERC) Act 2006
- Protection of Badgers Act 1992
- Wild Mammals (Protection) Act 1996

Badgers

Badgers *Meles meles* are protected under The Protection of Badgers Act which makes it an offence to:

- Wilfully kill, injure, take, or attempt to kill, injure, or take a badger
- Cruelly ill-treat a badger, including use of tongs and digging
- Possess or control a dead badger or any part thereof
- Intentionally or recklessly damage, destroy or obstruct access to a badger sett¹ or any part thereof
- Intentionally or recklessly disturb a badger when it is occupying a badger sett
- Intentionally or recklessly cause a dog to enter a badger sett
- Sell or offers for sale, possesses, or has under his control, a live badger

¹ A badger sett is defined in the legislation as "any structure or place which displays signs indicating current use by a badger".

This includes seasonally used setts. Natural England (2009) have issued guidance on what is likely to constitute current use of a badger sett: www.naturalengland.org.uk/Images/WMLG17_tcm6-11815.pdf

Effects on development works

A development licence will be required from the relevant countryside agency for any development works liable to affect an active badger sett, or to disturb badgers whilst they occupy a sett. Guidance has been issued by the countryside agency's to define what would constitute a licensable activity². It is no possible to obtain a licence to translocate badgers.

Birds

With certain exceptions, all birds, their nests, and eggs are protected under Sections 1-8 of the WCA. Among other things, this makes it an offence to:

- Intentionally (or recklessly in Scotland) kill, injure, or take any wild bird
- Intentionally (or recklessly in Scotland) take, damage, or destroy (or, in Scotland, otherwise interfere with) the nest of any wild bird while it is in use or being built
- Intentionally take or destroy an egg of any wild bird
- Sell, offer, or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.
- In Scotland only, intentionally, or recklessly obstruct or prevent any wild bird from using its nest

Certain species of bird, for example the barn owl, bittern and kingfisher receive additional protection under Schedule 1 of the WCA and Annex 1 of the European Community Directive on the Conservation of Wild Birds (2009/147/EC) and are commonly referred to as "Schedule 1" birds. This affords them protection against:

- Intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young
- Intentional or reckless disturbance of dependent young of such a bird
- In Scotland only, intentional, or reckless disturbance whilst lekking
- In Scotland only, intentional, or reckless harassment

Effects on development works

Works should be planned to avoid the possibility of killing or injuring any wild bird, or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction in particular is

² For guidance on what constitutes disturbance and other licensing queries, see Natural England (2007) Badgers & Development: A Guide to Best Practice and Licensing. www.naturalengland.org.uk/Images/badgers-dev-guidance_tcm6-4057.pdf, Natural England (2009) Interpretation of 'Disturbance' in relation to badgers occupying a sett www.naturalengland.org.uk/Images/WMLG16_tcm6-11814.pdf, Scottish Natural Heritage (2002) Badgers & Development. www.snh.org.uk/publications/online/wildlife/badgersanddevelopment/default.asp and Countryside Council for Wales (undated) Badgers: A Guide for Developers. www.ccw.gov.uk.

to undertake work outside the main bird nesting season which typically runs from March to August³. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

Schedule 1 birds are additionally protected against disturbance during the nesting season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest.

Herpetofauna (Amphibians and reptiles)

The sand lizard *Lacerta agilis*, smooth snake *Coronella austriaca*, natterjack toad *Epidalea calamita*, pool frog *Pelophylax lessonae* and great crested newt *Triturus cristatus* receive full protection under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring, or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
 - to impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - to impair their ability to hibernate or migrate
 - to significantly affect the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

With the exception of the pool frog, these species are also listed on Schedule 5 of the WCA and they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering, or exposing for sale, possession or transporting for purpose of sale.

Other native species of herpetofauna are protected solely under Schedule 5, Section 9(1) & (5) of the WCA, i.e. the adder *Vipera berus*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis*. It is prohibited to intentionally or recklessly kill or injure these species.

Effects on development works

A European Protected Species Mitigation (EPSM) Licence issued by the relevant countryside agency (e.g. Natural England) will be required for works liable to affect the breeding sites or resting places amphibian and reptile species protected under Habitats Regulations. A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation, but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

³ It should be noted that this is considered the main breeding period. Breeding activity may occur outside this period (depending on the particular species and geographical location of the site) and thus due care and attention should be given when undertaking potentially disturbing works at any time of year.

Although not licensable, appropriate mitigation measures may also be required to prevent the intentional killing or injury of adder, grass snake, common lizard, and slow worm, thus avoiding contravention of the WCA.

Bats

All species are fully protected by Habitats Regulations 2010 as they are listed on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. all bats)
- Deliberate disturbance of bat species in such a way as:
 - to impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - to impair their ability to hibernate or migrate
 - to significantly affect the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

Bats are afforded the following additional protection through the WCA as they are included on Schedule 5:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Effects on development works

Works which are liable to affect a bat roost or an operation which are likely to result in an illegal level of disturbance to the species will require an EPSM licence. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Wild Mammals (Protection Act) 1996

All wild mammals are protected against intentional acts of cruelty under the above legislation. This makes it an offence to mutilate, kick, beat, nail, or otherwise impale, stab, burn, stone, crush, drown, drag, or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention, due care and attention should be taken when carrying out works (for example operations near burrows or nests) with the potential to affect any wild mammal in this way, regardless of whether they are legally protected through other conservation legislation or not.

Legislation afforded to Plants

With certain exceptions, all wild plants are protected under the WCA. This makes it an offence for an 'unauthorised' person to intentionally (or recklessly in Scotland) uproot wild plants. An authorised person can be the owner of the land on which the action is taken, or anybody authorised by them.

Certain rare species of plant, for example some species of orchid, are also fully protected under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). This prohibits any person:

- Intentionally (or recklessly in Scotland) picking, uprooting or destruction of any wild Schedule 8 species (or seed or spore attached to any such wild plant in Scotland only)

- Selling, offering, or exposing for sale, or possessing or transporting for the purpose of sale, any wild live or dead Schedule 8 plant species or part thereof

In addition to the UK legislation outlined above, several plant species are fully protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2010. These are species of European importance. Regulation 45 makes it an offence to:

- Deliberately pick, collect, cut, uproot, or destroy a wild Schedule 5 species
- Be in possession of, or control, transport, sell or exchange, or offer for sale or exchange any wild live or dead Schedule 5 species or anything derived from such a plant.
- Impacts of legislation on development works

An EPSM licence will be required from the relevant countryside agency for works which are liable to affect species of plants listed on Schedule 5 of the Conservation of Habitats and Species Regulations 2010. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Invasive Species

Part II of Schedule 9 of the WCA lists non-native invasive plant species for which it is a criminal offence in England and Wales to plant or cause to grow in the wild due to their impact on native wildlife. Species include Japanese knotweed *Fallopia japonica*, giant hogweed *Heracleum mantegazzianum* and Himalayan balsam *Impatiens glandulifera*.

Impacts of legislation on development works

It is not an offence for plants listed in Part II of Schedule 9 of the WCA 1981 to be present on the development site however it is an offence to cause them to spread. Therefore, if any of the species are present on site and construction activities may result in further spread (e.g. earthworks, vehicle movements) then it will be necessary to design and implement appropriate mitigation prior to construction commencing.

NATIONAL PLANNING POLICY (ENGLAND)

National Planning Policy Framework

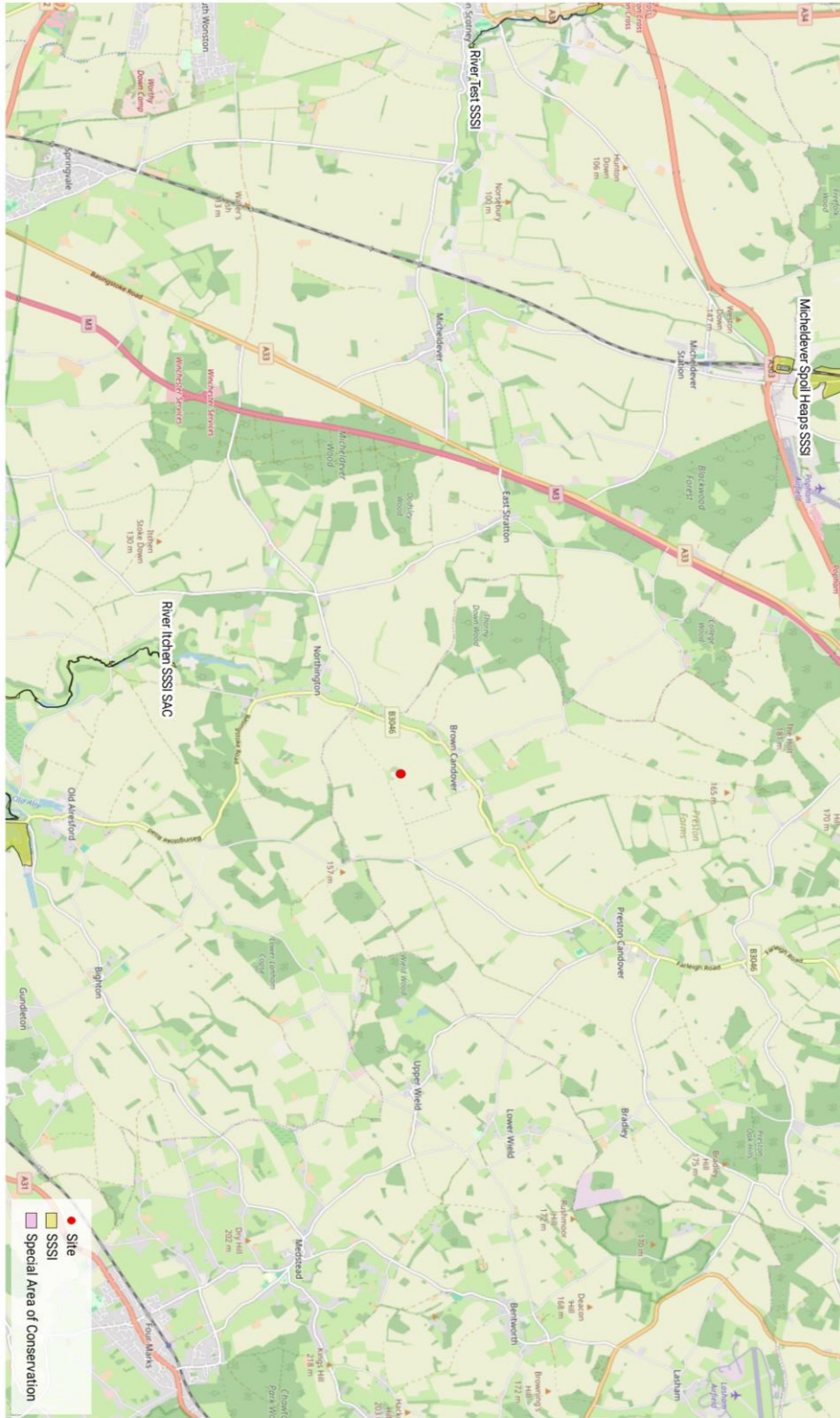
The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration, and re-creation. The protection and recovery of priority species (considered likely to be those listed as UK Biodiversity Action Plan priority species) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and The Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act, 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act (Section 42 in Wales) requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity.' This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.



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Designated Sites