




Preliminary Ecological Appraisal

Site Location	Dunsty Hill Farm, Edgcott Road, Calvert Green, OX27 0BJ
Document reference	CE1831
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Biological Data Search	Buckinghamshire & Milton Keynes. Ref: BM/E01045
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Validity of data

The findings of this study are valid for a period of 24 months from the date of survey. If works have not commenced by this date, it may be necessary to undertake an updated survey to allow any changes in the status of bats on site to be assessed, and to inform a review of the conclusions and recommendations made.

Executive Summary

Chase Ecology was instructed by the client to undertake a Preliminary Ecological Appraisal (PEA) at the named site. The aim of the appraisal was to consider the value and suitability of the site and surrounding areas.

Site Location	Dunsty Hill Farm, Edgcott Road, Calvert Green, OX27 0BJ
Survey Methodology	<p>A site visit was carried out on the 9th June 2021 following standard Phase 1 habitat survey methodology. The habitats on site were assessed for their suitability to support any legally protected or notable species that may present constraints to the proposed development. This also included invasive non-native plant species. Any incidental sightings of individual species or field signs such as footprints, latrines or feeding remains identified during the survey would be noted.</p>
Conclusion and recommendations	<p>See section 6.0</p> <p>It has been established that the site and surrounding habitats would offer a valuable environment to various UP protected species in which local biological records have demonstrated multiple species.</p> <p>At this current stage, it is not possible to determine the full value of the site or possible impacts to protected species as a suitable level of phase-2 activity surveys for amphibians, reptiles, mammals and bats have been identified.</p> <p>The data from the additional surveys will offer a better understanding of the impacts caused along with determining a suitable level of mitigation, protection, avoidance and all requirements for biodiversity gain.</p> <p>It is recommended that the identified habitats of value throughout the site suffer no disturbance or modification prior to any additional required surveys as this may offer disturbance to UP protected species and or their habitats.</p>
Requirements for Additional Survey	<p>See section 6.0</p> <p>Amphibians</p> <p>The three ponds within the site have all demonstrate a level of value to amphibians with several records and mitigation works for Great Crested Newts observed. It is recommended that an eDNA survey of all water features within the site is conducted to establish any activity along with establishing any additional population studies and protection/mitigation works.</p>

This survey should be carried out within the recommended survey season of Mid April to June inclusive.

Reptiles

The site has demonstrated a moderate level of connectivity/shelter for reptiles along with surrounding records for three common species.

It is recommended that an extended please-2 study should be carried out within the site to assess for any activity/populations which may be impacted during the proposed development works.

A refugia survey would be undertaken where habitats within which offer value would be assessed in which a suitable level of refugia sheets would be applied throughout and inspected up to 8 times of a suitable level of time during the months of Mid-April to June or Mid-August to early October which are considered to be the optimal times for such a survey.

Bats

Building 1 – Confirmed evidence from bats – Three emergence surveys required.

Building 2 – Low value features – One emergence survey required.

Building three – Low value features – One emergence survey required.

Building four – No value.

Building five – No value.

Emergence survey must be carried out within the recommended survey season of May to September with the majority of the survey conducted within the optimal season time of May to August. For a structure which only requires a single emergence survey, this must be conducted within the optimal time only.

Nesting Birds

Consideration must be given for nesting birds between March & September if any of the habitats including all five structures are to suffer disturbance during development works.

	<p>A suitably experienced ecologist should conduct a nesting bird survey to said areas 24 hours prior to such disturbance works. If during this time nesting birds are identified a suitable level of avoidance & protection must be applied.</p> <p>In addition, a suitable Barn Owl study of the site must be conducted as evidence from barn owl was observed within building three.</p> <p>.</p> <p>Badger/larger mammals</p> <p>It is recommended that an external survey for badger is conducted within the site with the aid of trail cameras at multiple locations throughout to establish/record activity from mammals to determine possible species and activity within.</p> <p>This data will determine any mitigation and protection measures likely to be required during such development works.</p>
<p>Predicted Impacts of Development on surrounding areas</p>	<p>Further surveys required to establish the impacts caused to UK protected species during any proposed development works.</p> <p>See section 6.0</p>

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1.0 Introduction

Brief

- 1.1** This report is produced to present an initial assessment of the potential ecological constraints and opportunities relating to the names site. The report has been prepared to advise the client of potential ecological constraints and opportunities, in preparing an application for planning permission. The report provides a sufficient baseline for the Site, and is suitable in its current form for submission to planning.

Site description

- 1.2** See section 5.0 – Habitat Plan & images of containing habitats.
- 1.3** The site is located from Perry Hill nr Bicester, Oxfordshire. The site is approximately 30 ha in size overall. At the time of the survey, the site demonstrated five farm buildings and agricultural fields associated with Dunsty Hill Farm, with an access track running east to west from Perry Hill (Road).

Several hedgerows with associated ditches were present along the boundaries, with scattered trees of varying ages and areas of scrub located throughout the site.

A total of three ponds were located within the site.

The site is bordered by pockets of woodland and residential properties to the north, quarry workings to the east, another pocket of woodland and a grass field to the south, and Perry Hill (Road) to the west.

The large proportions of the site are of unmanaged semi-improved grassland and improved grassland.

2.0 Legislation

This is not an exhaustive list but sets out briefly the relevance of Legislation, Policy and Guidance in terms of planning applications and this assessment.

Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (EC Habitats Directive). Provides framework at an international (EU) level for the consideration / protection of European Protected Species (EPS), and habitats through the designation of sites.

Council Directive 79/409/EEC on the Conservation of wild birds (EC Birds Directive) and The Ramsar Convention on Wetlands of International Importance (1971) Provides framework at an international (EU) level for the consideration / protection of important bird populations and the sites on which they are dependant.

The Conservation of Habitats and Species Regulations (2017) This transposes 1) into UK law and provides the basis on which all EPS are protected and impacts on them can be licensed in the UK.

The Wildlife and Countryside Act (1981) as amended This provides the basis on which UK species are legally protected or restricted and confers protection on Sites of Special Scientific Interest SSSIs. It contains annexes of plants and animals which are legally protected as well as those which are considered to be invasive or harmful. It provides the basis on which impacts on such species can be licensed in the UK and provides controls on work on or near SSSIs.

The Countryside and Rights of Way Act 2000 (CRoW) Provides a statutory basis for nature conservation, strengthens the protection of SSSIs and UK protected species and requires the consideration of habitats and species listed on the UK and Local Biodiversity Action Plans (UKBAP / LBAP).

Natural Environment and Rural Communities Act 2006 (NERC) Sets out the responsibilities of Local Authorities in conserving biodiversity. Section 41 of the Act requires the publishing of lists of habitats and species which are "of principal importance for the purpose of conserving biodiversity". At present these largely reflect those making up the UKBAP lists. Hedgerows Regulations (1997) Define and provide protection for Important Hedgerows.

Protection of Badgers Act (1992) Protects badgers from persecution, this includes excavation / development in the proximity of setts.

Protected Sites Statutory EU / International Protected Sites Special Areas of Conservation (SACs); and Special Protection Areas (SPAs) and Ramsar Sites contain examples of some of the most important natural ecosystems in Europe. Work on or near these sites is strictly protected and Local Authorities will be expected to carry out 'Appropriate Assessment' of development

in proximity of them. In this case there is often an increased burden on the developer in relation to provision of information and assessment.

Statutory UK Protected Sites

Local Nature Reserves (LNRs); National Nature Reserves (NNRs); Sites of Special Scientific Interest (SSSIs) all receive strict protection under UK legislation. Work in or in proximity to these sites would be restricted with any needing to be agreed with Natural England. Natural England now provide guidance on the nature of development which could impact on SSSIs through Impact Risk Zones.

Locally Protected Sites

Local Authorities have a variety of protected wildlife sites designated at a local or regional level. These are gradually being brought under the banner of Local Wildlife Sites (LWS) but at present a plethora of different designations exist - all subject to local policy.

Protected Species

European Protected Species

A number of species (most relevantly bats, great crested newts [GCN], and otters) receive strict protection from killing, injury and disturbance under The Conservation of Habitats and Species Regulations (2010). Protection is also conferred on the habitats on which they rely such as roost space in the case of bats and ponds and fields etc. in the case of GCN.

UK Protected Species

A number of species (including bats, GCN, water vole and white clawed crayfish) are strictly protected under The Wildlife and Countryside Act (1981) as amended, from killing, injury, disturbance and damage or destruction of their resting places etc. Certain species (such as reptiles) and some birds (such as barn owl) receive partial protection e.g. at certain times of the year or from certain activities only. All nesting bird species are protected from damage or destruction of their nests - whilst active.

Invasive species

Schedule 9 of the Wildlife and Countryside Act (1981) as amended, lists these species and makes it an offence to cause or allow their spread in the wild. This often has impacts on development and planning in relation to the presence of invasive plant species such as: himalayan balsam (*Impatiens glandulifera*), japanese knotweed (*Fallopia japonica*) and giant hogweed (*Heracleum mantegazzianum*).

Planning Policy / Guidance

The National Planning Policy Framework (NPPF)

The National Planning Policy Framework was published in 27 March 2012 replacing the majority of previous Planning Policy Guidance notes (PPGs) and

Planning Policy Statements (PPSs). The most relevant paragraphs from the NPPF are set out below.

The general approach to assessing the natural environment is now embedded within the definition of what 'sustainable development' is. Paragraph 7 (P7) of the NPPF states that sustainable development should “contribute to protecting and enhancing our natural environment” and “help to improve biodiversity”. There is also a need for positive inclusion of the natural environment in development design and “moving from a net loss of bio-diversity to achieving net gains for nature” (P9). P14 sets out the Frameworks presumption in favour of sustainable development.

The natural environment is stated within the NPPF core principles: development should “recognise the intrinsic character and beauty of the countryside” and contribute to conserving and enhancing the natural environment and reducing pollution. Allocations of land for development should, “prefer land of lesser environmental value, where consistent with other policies in this Framework” (P17).

Section 11 of the NPPF details the approach to the natural environment. The Framework states that development should “minimise impacts on biodiversity and provide net gains in biodiversity, where possible, contributing to the Government’s commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures” (P109). The Framework sets out ways to minimise the impacts on biodiversity through “promoting the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets” (P117). The NPPF requires the consideration of the impacts of development on the natural environment. The Framework also encourages “opportunities to incorporate biodiversity in and around developments” (P118). Importantly this paragraph (P118) sets out the hierarchy of avoiding, mitigating and compensating harm from development - plans should ensure that they can demonstrate engagement with this hierarchy when required.

Biodiversity 2020: A Strategy for England’s Wildlife and Ecosystem Services. This strategy builds on the Natural Environment White Paper (June 2011) - The Natural Choice: securing the value of nature. Setting out the current UK Government's approach to nature conservation. It promotes a more coherent and inclusive approach to conservation and the valuing in economic and social terms of economic resources.

The strategy promotes initiatives such as Biodiversity Offsetting, Nature Improvement Areas and a focus on well-connected natural networks and introduces the concept of securing a 'no net loss' situation with regard to UKBAP / Section 41 habitats and species.

ODPM circular 06/05 (2005) Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System

Provides guidance to Local Authorities on their obligations to biodiversity – particularly in relation to assessing planning applications and ensuring the adequacy of information.

BSI (2013) British Standards Institute BS 42020:2013 Biodiversity — Code of Practice for Planning and Development.

Provides a standard for the biodiversity assessment and development industries and decision makers such as Local Planning Authorities to work to.

Ancient Monuments and Archaeological Areas Act 1979

No works of any kind affecting the site can be carried out without the prior consent

3.0 METHODOLOGY

- 3.1** The site visit was undertaken by Mr Garry Smith who is an experienced ecologist with over 9 years' experience of professional ecological surveys.

Great Crested Newt Licence (2015-7216-CLS-CLS)
Bat Licence Class 2 (2017-28032-CLSCLS)

Past associations & Practical enhancements • Black Country & Staffordshire Naturalists group 2012 – 2014 • Staffordshire Bat Group 2012 – 2014 • Derbyshire Bat Group 2017 – 2018 • ARG Staffordshire – 2015 – 2016 • ARG Shropshire & Staffordshire 2017 – Current

- 3.2** The report is also based on a Desk Study of designated wildlife sites and records of protected or notable species, and an extended Phase 1 Habitat Survey carried out on the site, This involves walking the site, mapping and describing different habitats (for example: woodland, grassland, scrub). The survey method was “Extended” in that evidence of fauna and faunal habitat was also recorded (for example droppings, tracks or specialist habitat such as ponds for breeding amphibians). This modified approach to the Phase 1 survey is in accordance with the approach recommended by the Guidelines for Baseline Ecological Assessment (IEA, 1995) and Guidelines for Preliminary Ecological Appraisal (CIEEM 2017).

4.0 Results

Desk Study

Environmental record search

4.1 A biological data search was undertaken to assess the names species for distribution/record within a 2km study area as detailed below

Species (Common names)	
Great Crested Newt - Amphibian	Common Toad – Amphibian
Barn Owl	Slow Worm – Reptile
Grass Snake - Reptile	Common Lizard – Reptile
Hare - Mammal	Hedgehog - Mammal
Otter - Mammal	Badger – Mammal
Brandt's - Bat	Daubenton's – Bat
Common Pipistrelle - Bat	Soprano Pipistrelle – Bat
Brown Long-eared - Bat	Natterer's – Bat
Whiskered - Bat	Noctule – Bat

4.2 Designated sites; Statutory (5km)

Site	Designation	Distance (km)	Direction
Sheephouse Wood	SSSI	1.00	E
Grendon and Diddershall Woods	SSSI	2.00	SE
Finemere Wood	SSSI	2.80	SE
Ham Home-cum-Hamgreen Woods	SSSI	4.10	S

The site is located within a SSSI impact zone

Non-Statutory (2km)

Site	Rationale
Wood Between Lawn Hill and Dunsty Hill	Small wood with Ancient Woodland indicators.
Calvert Jubilee Nature Reserve	Important site for overwintering wildfowl. Interesting variety of habitats host some rare plants.
Shrubs Wood	Ancient woodland site, relatively intact, good structure and diversity
Calvert Railway Station	Old railway station with wet grassland and scattered scrub supports good invertebrate and bird communities and some rare plants.
Calvert Brick Pits, Great Moor Sailing Club	Large site with huge central lake, used for sailing. Very species-rich glades with lots of butterflies. Mosaic of habitats.
Decoypond Wood	Small wood with Ancient Woodland indicators.

Priority Habitat Inventory within 2km

HABITAT	Distance (km)	DIRECTION
Deciduous Woodland	0.10	N
Deciduous Woodland	1.00	E
Deciduous Woodland	1.70	SE
Deciduous Woodland	1.90	N

None of the above names sites/locations would be effected in any way from the proposed development plan for this site, including both habitats and species.

4.3 Aerial photographs of the site were consulted to determine if there are important landscape features surrounding and within vicinity of the site.

4.4 A search of previous Granted European Protected Species Applications revealed within 2km;

- 1.20KM – NORTH/EAST – GREAT CRESTED NEWT
- 1.20KM – EAST – GREAT CRESTED NEWT
- 1.80KM – SOUTH/EAST – GREAT CRESTED NEWT

Field study

4.5 A site visit was completed by Garry Smith where the site and surrounding areas were assessed following standard Phase 1 habitat survey methodology. Weather conditions were optimal for such a survey of this kind.

4.6 The habitats on site were assessed for their suitability to support any legally protected or notable species that may present constraints to the proposed development. fauna and faunal habitat was also recorded (for example droppings, tracks or specialist habitat such as ponds for breeding amphibians). This modified approach to the Phase 1 survey is in accordance with the approach recommended by the Guidelines for Baseline Ecological Assessment (IEA, 1995) and Guidelines for Preliminary Ecological Appraisal (CIEEM 2012).

4.7 Preliminary Protected / Notable Species Assessment

Species	Evidence	Habitat
Reptiles	No	<p>The site has demonstrated a moderate level of value for reptiles with sections of scrub around several of the buildings, long unmanaged grass and refugia from waste materials which all offer a suitable level of shelter and environments for feeding.</p> <p>The location of the site would offer a suitable level of connectivity from other habitats of importance with intact hedgerows throughout.</p> <p>No direct evidence from reptiles were observed during the site walkover. However the moderate level of scrub in areas has limited visibility.</p> <p>Biological data has demonstrated local records for Grass Snake, Slow Worm and Common Lizard which would all benefit the habitats offered within this site.</p> <p>No records of mitigation works identified within 2km of this site.</p>
Amphibians		<p>Similar to reptiles, this site would offer a suitable level of shelter and connectivity during the terrestrial phase of amphibian like via the undamaged grassland, scrub, old buildings and refugia created by waste materials.</p> <p>There are three ponds within the site which would likely offer suitable breeding environments.</p> <p>Biological data records have demonstrated Great Crested Newt locally along with records of three individual mitigation works within 2km of this site.</p> <p>Aquatic habitat within 500M outside of the site</p> <ul style="list-style-type: none"> - 300M – Land Drain – East - 310M – Pond – South - 420M – Land Drane - North

Birds	Yes	<p>Nesting activity from birds was observed within buildings 1, 3, 4.</p> <p>No active nests or signs of nesting observed during the site walkover survey.</p> <p>Birds recorded within and close to the site during the site walkover survey;</p> <ul style="list-style-type: none"> - Common Buzzard - Red Kite - Rooke - Crow - Brack Bird - Great Tit - Robin - Pigeon - Kestrell <p>The habitats within he site and directly surrounding would offer a valuable environment for both feeding/foraging with suitable nesting features offered from mature trees, hedgerows, scrub, long grass and accessible structures.</p> <p>A single Barn Owl pellet was identified upon the floor areas within building three.</p>
Mammals (not including bats)	Yes	<p>The location of the site and accessibility would offer a suitable habitat for larger mammals which opportunities for both commuting and feeding from a lack of restricted access on all boundaries.</p> <p>Several mammal tracks were observed in multiple areas of the site within the unmanaged semi improved grassland.</p> <p>Biological records for Badger, Hare & Hedgehog were recorded of which said species would take value from the habitats within and surrounding connectivity.</p>
Bats	Yes	<p>The site and surrounding habitats would offer a moderate level of value to bats for both feeding and commuting with several surrounding sites/environments of importance.</p>

	<p>A total of eight species of bats were identified during a biological data search of the local environments.</p> <p>Building 1 – The structure has demonstrated several features of value to bats with suitable access/daytime roosting features which has included gaps to the stoneworks, missing/slipped roof tiles, broken windows and gaps throughout the eaves.</p> <p>Internally up to 200 bat droppings of various age were observed within the main roof void spaces along with a small number throughout both the ground and 1st floor.</p> <p>Building 2 – The structure has demonstrated a small number of crevice features within the brickworks and below the roof coverings which may offer daytime roosting features commonly used by crevice dwelling bats.</p> <p>Building 3 – The open fronted structure has demonstrated a felt membrane covering below the roof tiles which offers access to bats within the crevice spaces between the two surfaces along with a small number of gaps between the roof coverings and brickworks which would provide further shelter.</p> <p>Building 4 – A fabricated structure which offers a single skin wall system and roof coverings where no value or evidence from bats was observed.</p> <p>Building 5 – A fabricated structure which offers a single skin wall system and roof coverings where no value or evidence from bats was observed.</p>
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5.0 Plans & Photographs
6.0 Image 1 – Habitat plan

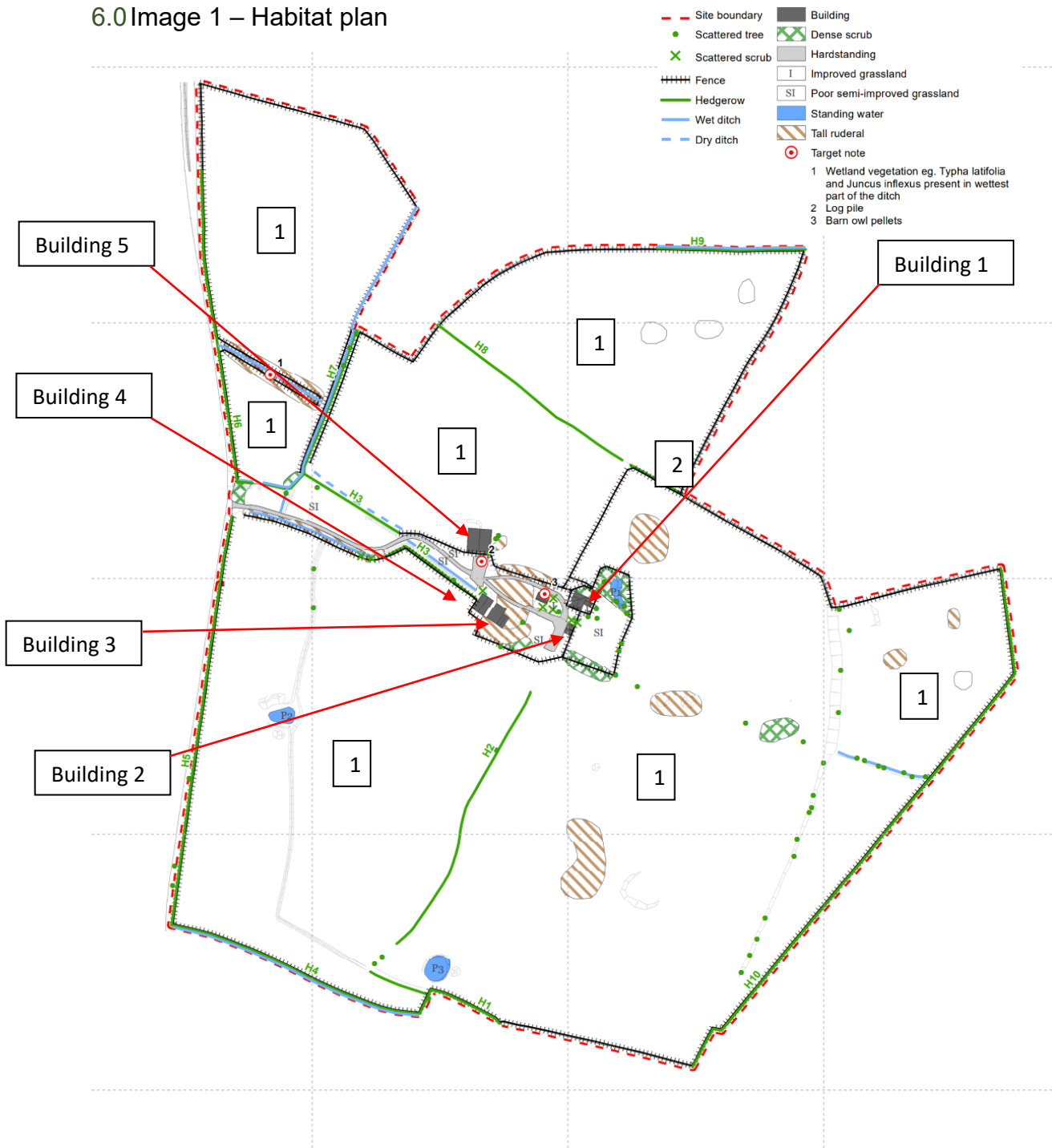


Image 2 – Site entrance via bare ground track running East to West from the Western boundary



Image 3 – Looking West to East across mixed areas of poor semi-improved & Improved grassland



Image 4 – Mid point along track looking East across the areas of semi-improved grassland which lead up to the farm buildings



Image 5 – Far East section of the site directly behind building one which offers an area of semi improved grassland



Image 6 – Evidence of possible mammal tracks which we observed within the grassland areas to the North & East of building one



Image 7 – Grassland to the North of building one



Image 8 – Looking East to West across the North section of the site which has demonstrated both areas of improved and semi improved grassland



Image 9 – Building one – East facing elevation



Image 10 – Building one – East facing elevation which has a moderate floor cover of scrub/brambles surrounding



Image 11 – Building one, Moderate level of gaps within the main roof coverings which offer adequate access features for both bats and nesting birds



Image 12 – Building one, confirmed bat droppings within the main roof void spaces of the property which has demonstrated activity from bats within



Image 13 – Building one, Internal view from within the main roof void spaces in which a moderate level of natural lighting was observed from several gaps throughout



Image 14 – Building two, North & West facing elevation of the structure



Image 15 – Building two, deterioration to the brickworks/roof coverings which offer adequate low value roosting features commonly used by bats for daytime roosting



Image 16 – Building three, North and East facing elevations of the structure



Image 17 – Building three, internal view from within the structure which has demonstrated a felt membrane below the roof coverings with accessible gaps of value to bats



Image 18 – Building three, single Barn Owl pellet located on the floor within the structure.



Image 19 – Building four, External views of the fabricated structure which has a moderate level of scrub/brambles around the external areas



Image 20 – Building four, internal evidence from nesting birds within multiple locations of the structure



Image 21 – Building five which is located across a large section of hardstanding, South facing elevation



Image 22 – Building five, internal view from within the internal areas of the structure



7.0 Conclusion and recommendations

All recommendations provided in this section shall be on Chase Ecology current understanding of the site proposals and current planning application, correct at the time the report was compiled. Should any aspect of the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate

7.1 Amphibians

The three ponds within the site have all demonstrate a level of value to amphibians with several records and mitigation works for Great Crested Newts observed. It is recommended that an eDNA survey of all water features within the site is conducted to establish any activity along with establishing any additional population studies and protection/mitigation works.

This survey should be carried out within the recommended survey season of Mid April to June inclusive.

7.2 Reptiles

The site has demonstrated a moderate level of connectivity/shelter for reptiles along with surrounding records for three common species.

It is recommended that an extended please-2 study should be carried out within the site to assess for any activity/populations which may be impacted during the proposed development works.

A refugia survey would be undertaken where habitats within which offer value would be assessed in which a suitable level of refugia sheets would be applied throughout and inspected up to 8 times of a suitable level of time during the months of Mid-April to June or Mid-August to early October which are considered to be the optimal times for such a survey.

7.3 Bats

Building 1 – Confirmed evidence from bats – Three emergence surveys required.

Building 2 – Low value features – One emergence survey required.

Building three – Low value features – One emergence survey required.

Building four – No value.

Building five – No value.

Emergence survey must be carried out within the recommended survey season of May to September with the majority of the survey conducted within the optimal season time of May to August. For a structure which only requires a single emergence survey, this must be conducted within the optimal time only.

7.4 Nesting Birds

Consideration must be given for nesting birds between March & September if any of the habitats including all five structures are to suffer disturbance during development works.

A suitably experienced ecologist should conduct a nesting bird survey to said areas 24 hours prior to such disturbance works. If during this time nesting birds are identified a suitable level of avoidance & protection must be applied.

In addition, a suitable Barn Owl study of the site must be conducted as evidence from barn owl was observed within building three.

7.5 Badger/larger mammals

It is recommended that an external survey for badger is conducted within the site with the aid of trail cameras at multiple locations throughout to establish/record activity from mammals to determine possible species and activity within.

This data will determine any mitigation and protection measures likely to be required during such development works.

7.6 General Recommendations for Enhancement

In addition to any specific required to compensate for impacts on protected species or habitats, both national and local planning policy encourages ecological enhancement in all development. Based on the existing ecological value of the site and information available about the proposed development, consideration should be given to the use of native species or those with recognised benefit to wildlife in areas of soft landscaping to enhance the value of the site for wildlife.

A suitable level of biodiversity net gain must also be agreed to prevent any further loss during development of which the above surveys will help to determine this.

8.0 References

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Appendix 1: Location plan

