

Update Preliminary Ecological Appraisal



Rhencullen Farm

On behalf of Mr and Mrs Richardson

April 2023

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Contents

1	Executive Summary	4
2	Introduction.....	5
2.1	Background	5
2.2	Site Description.....	5
2.3	Proposed Works	5
2.4	Previous Ecology	5
2.5	Aims of Report	5
2.6	Personnel	6
3	Methods	7
3.1	Desk Study	7
3.2	Preliminary Ecological Appraisal.....	7
3.3	Preliminary Roost Assessment	8
3.4	Limitations/Constraints	8
4	Results and Interpretation	10
4.1	Designated Sites	10
4.2	Habitats.....	12
4.3	Species	14
4.4	Preliminary Roost Assessment	16
5	Potential Impacts and Recommendations	19
5.1	Introduction	19
5.2	Designated Sites	19
5.3	Habitats.....	21
5.4	Species	21
5.5	Opportunities for Ecological Enhancement.....	24
6	Conclusions.....	26
7	Relevant Legislation and Policy	27
7.1	National Planning Policy Framework.....	27
7.2	Natural Environment and Rural Communities (NERC) Act 2006	28
7.3	Biodiversity 2020	28
7.4	Wildlife and Countryside Act 1981 (as amended)	28
7.5	Local Plan	29
8	References.....	33
Appendix 1 -	Photographs	34
Appendix 2 -	Figures.....	37
Appendix 3 -	Species list	38
Appendix 4 -	Definitions of the Geographic Context of Habitat Importance	39
Appendix 5 -	Definitions of the Geographic Context of Species Importance	40
Appendix 6 -	Proposed Faunal Enhancements	41

1 Executive Summary

Report purpose	<p>This report identifies the potential ecological impacts, mitigation, compensation and enhancement measures for works to Rhencullen Farm, Chivery, Tring, HP23 6LD. The proposals for the site involve an extension to the existing residential property, the demolition of the existing barns and stables along with the construction of new stables, barns and landscaping.</p>
Date and methods of survey	<p>An update baseline ecological survey of the site was conducted in March 2023 which included:</p> <ul style="list-style-type: none"> • A habitat survey; and • Preliminary roost assessment of all buildings for roosting bats.
Key findings	<p>The site comprises a series of fields, a residential property, two barns, two stables and a mobile home.</p> <p>The site is located immediately adjacent to Dancersend SSSI and Tatnall's Wood LWS. Dancersend Waterworks SSSI, West of The Crong LWS and Wendover Woods LWS are all located within 0.5km of the site.</p> <p>Protected and priority species present or potentially present include roosting bats, foraging and commuting bats, nesting birds, reptiles, amphibians, badgers, hedgehogs and other wild mammals.</p>
Further survey	<p>Nocturnal bat roost surveys are required for B1 to inform an ecological impact assessment. The results of the surveys will need to be included as part of a full Ecological Impact Assessment (EclA) report to inform a planning application at the site.</p>
Measures to avoid and/or reduce impacts	<p>Adopting the following, in addition to any necessary species-specific measures highlighted by further ecological survey work, would minimise ecological impact at the site:</p> <ul style="list-style-type: none"> • The production of a Construction Ecology Management Plan (CEMP) to protect the nearby designated sites and the adjacent woodland during construction. • Mitigation measures will be required to ensure the favourable conservation status of bats is maintained. • Protection of nesting birds and wild mammals during works.
Enhancements	<p>Recommendations for appropriate ecological enhancements that could be incorporated within detailed proposals are included within the report. These include wildflower meadows, a native species rich hedgerow, bird boxes and a native buffer of naturalised vegetation on the northern boundary of the site.</p>

2 Introduction

2.1 Background

2.1.1 Ecology by Design Ltd was commissioned by Mr and Mrs Richardson to undertake an update Ecological Appraisal at Rhencullen Farm, Chivery, Tring, HP23 6LD (grid reference SP 89799 09161).

2.2 Site Description

2.2.1 The site is approximately 2ha in extent and comprises an intensively managed horse pasture with buildings in the north including a residential dwelling, a mobile home, two barns and two wooden stables. There is a manège to the west of the dwelling.

2.3 Proposed Works

2.3.1 A planning application is being prepared for the site to include:

- Modifications of the residential dwelling;
- Removal of the existing mobile home;
- Replacing the large barn with a smaller structure (for farm machinery and storage);
- Replacing the old stables and barn with a new building;
- Tidying up the site in an ecological sensitive manner.

2.4 Previous Ecology

2.4.1 A Preliminary Ecological Appraisal (PEA) was completed by Ecology by Design on 25 March 2021 (Ecology by Design, 2021), which identified that the site provided suitability to support roosting bats, nesting birds, reptiles and amphibians. A brown long-eared bat (*Plecotus auritus*) was found hibernating within the loft void of the residential building during the PEA. Bat surveys were completed in May 2021 (Samsara Ecology, 2021) which confirmed that the building supports a single day roost for common pipistrelle (*Pipistrellus pipistrellus*). A bat hibernation survey was undertaken by Samsara Ecology in February 2023 (Samsara Ecology, 2023) which did not identify any bats present within the loft void during the survey period.

2.5 Aims of Report

2.5.1 This report presents a preliminary appraisal of the potential ecological impacts of the proposed development works. The report outlines recommendations for avoidance, mitigation, compensation and enhancement measures. This report is not suitable for submission to inform

a planning application at the site until further surveys are completed to inform the assessment of potential impacts and refine the recommendations.

2.6 Personnel

2.6.1 The preliminary ecological appraisal was conducted by Ecology by Design Ecologist Jo Sykes BSc (Hons). Jo has four years' experience carrying out habitat and protected species assessments. Jo was supported by Ecology by Design Seasonal Ecologist Michelle Lewis who is in her first year in the industry.

2.6.2 The project was overseen and report reviewed by Associate Ecologist Laura Grant BSc (Hons), MCIEEM who has been an ecological consultant for 15 years.

3 Methods

3.1 Desk Study

3.1.1 A desk study was carried out to identify:

- internationally protected sites within 7km of the site;
- nationally protected sites within 5km of the site; and
- non-statutory designated sites and records of protected or priority species within 2km of the site.

3.1.2 A 2km search radius for species and non-statutory designated sites is justified due to the small-scale proposals at the site. It is thought highly unlikely that species or non-statutory sites outside of the search zone would be negatively impacted by the category of development proposed at the site. A larger search radius is applied for internationally and nationally designated sites as these sites are protected to a higher level and can often be more sensitive to impacts. These search distances are also based on industry standard guidance and exceed the minimum distances recommended for international designated sites.

3.1.3 Sources consulted include:

- Herts Environmental Records Centre (HERC) (returned on 3rd March 2023);
- Buckinghamshire and Milton Keynes Environmental Records Centre (BMERC) (returned on 3rd March 2023)
- MAGIC (www.magic.gov.uk) (last accessed 17th March 2023);
- publicly accessible data from Natural England; and
- local planning policy documents

3.2 Preliminary Ecological Appraisal

3.2.1 An update Preliminary Ecological Appraisal (PEA) was conducted on 13th March 2023 using standard techniques and methodologies (CIEEM, 2017) and the nomenclature of Stace (2019).

3.2.2 The PEA includes a survey of the habitats utilising the UK Habitat Classification System (Butcher et al, 2020). Weather conditions during the survey were mild (13°C), with strong winds (wind 8/12 on the Beaufort scale¹) and cloudy (cloud 7/8²). Photographs of the site are given in Appendix 1 and a UKHab habitat map is included in Appendix 2.

¹ The Beaufort scale is an empirical measure from 0-12 which relates wind speed to observed conditions. 0- Calm, 1- Light air, 2- Light breeze, 3- Gentle breeze, 4- Moderate breeze, 5- Fresh breeze etc.

² Cloud cover is measured using the system called oktas. The visible sky is divided into eight and cloud presence is determined within each section. A value of one to eight is then assigned (1 okta being cloudless to 8 oktas being total cloud cover).

3.2.3 Opportunities for protected and priority species were also identified. Where potential impacts on features of ecological interest are identified, the PEA was extended to include an assessment of impact. Any further surveys required are outlined and recommendations are made for appropriate avoidance, mitigation and compensation. Recommendations for appropriate enhancement measures are also made.

3.3 Preliminary Roost Assessment

3.3.1 During the PEA the buildings onsite were subject to internal and external assessments by licensed bat ecologist Jo Sykes (Level 1 Natural England licence 2021-10092-CL17-BAT). The assessment was based on the guidance included in Bat Survey for Professional Ecologists: Good Practice Guidance (3rd edn) (Collins, 2016).

3.3.2 The buildings were assessed to identify opportunities for bats to enter buildings and/or roost within external features. A high-powered torch was used to illuminate features and close focussing binoculars to inspect features of interest. Evidence searched for included the presence of free hanging bats and bats within gaps and crevices, bat droppings, urine stains, rub marks, scratch marks and feeding remains.

3.3.3 Each building was identified as having high, moderate, low or negligible suitability for roosting bats. Collins (2016) categorises the suitability of buildings and trees for roosting bats as follows:

- Negligible = Negligible habitat features likely to be used by roosting bats;
- Low = A structure with one of more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by large numbers. Also includes trees of sufficient size and age to contain potential roosting features but with none visible from the ground;
- Moderate = A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status; and
- High = A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

3.4 Limitations/Constraints

3.4.1 The wildlife and wider ecological interest of a site can change. The report presented here is a statement of the findings of surveys carried out March 2023. For the purpose of this report the results of site visit is discussed in the present tense. It is recognised that conditions within the

site could have changed since the survey was undertaken e.g. due to changes or absence of management. Any appreciable delay in referring to this report or changes to the proposed development boundary may necessitate a re-survey.

- 3.4.2 Further survey is needed in order to complete the assessment of potential impacts of the proposals.
- 3.4.3 The habitat assessment was conducted in March which is outside the optimal period given many species are not in flower. Species composition was readily identified given the common and widespread habitats present within the site, therefore, this is not considered to have constrained the identification of habitat types, habitat condition or assessment of potential impacts.
- 3.4.4 The species information gained from local record centres is largely derived from data submitted from members of the public and volunteers. For this reason, it should be understood that the desk study may not provide an exhaustive list of all protected species that could occur in the local area.

4 Results and Interpretation

4.1 Designated Sites

4.1.1 The desk study identified one internationally designated site within 7km of the site, eight nationally designated sites within 5km and 16 non-statutory designated sites within 2km. Details of the designated sites are shown below in Table 4.1

Table 4.1: Records of Statutory and non-statutory designated sites (7km for International, 5km for National designations and 2km for local designations)

Site Name	Designations	Distance (km)	Direction
Internationally Designated Sites			
Chilterns Beechwoods SAC	<p>Annex I habitats that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> 9130 Asperulo-Fagetum beech forests <p>Annex II species that are a primary reason for selection of this site:</p> <ul style="list-style-type: none"> 1083 Stag beetle (<i>Lucanus cervus</i>) <p>There are three SSSI components of the SAC within 7km: Tring Woodlands 1.52km east, Ashridge Commons and Woods 6.5km east, and Ellesborough and Kimble Warrens 6.6km south-west.</p>	1.54	E
Nationally Designated Sites			
Dancersend SSSI	An area of unimproved chalk grassland, scrub, coppiced and regenerating woodland and plantations.	Adjacent	N
Dancersend Waterworks SSSI	This site supports a rich assemblage of herbs, grasses and shrubs, supports a wide assemblage of breeding birds and badgers.	0.66	E
Tring Woodlands SSSI	One of the best examples of ancient semi-natural beech (<i>Fagus sylvatica</i>) woodland. This is the closest component of Chilterns Beechwoods SAC which has a Zone of Influence for recreational impacts of 1.7km.	1.52	E
Aston Clinton Ragpits SSSI	Supports a rich assemblage of herbs, shrubs and invertebrates including several which are rare in the county.	1.72	NW
Oddy Hill and Tring Park SSSI	Two areas of calcareous grassland situated on a chalk scarp. These grasslands support a diverse range of grasses and flowering	2.63	NE

	plants including locally uncommon and rare species.		
Western Turville Reservoir SSSI	An unpolluted freshwater reservoir, fringed with extensive reed beds, tall fen and willow (<i>Salix</i> sp.). The reservoir is of particular importance for overwintering wildfowl.	3.12	W
Tring Reservoirs SSSI	Four reservoirs which are fed by natural springs. They show typical characteristics of shallow marl lakes. Nationally important for shoveler (<i>Anas clypeata</i>).	3.43	N
Bacombe and Coombe Hills SSSI	This site supports a very species rich example of chalk grassland typical of this part of the Chilterns with juniper (<i>Juniperus</i> sp.) and areas of mixed scrub. The site also supports the entire UK population of fringed gentian (<i>Gentianella ciliata</i>).	3.72	SW
Locally Designated Sites			
Tatnall's Wood LWS	An ancient woodland site.	Adjacent	W
West of The Crong LWS	A species rich chalk grassland and supports numerous plant species very rare in Bucks, including kidney vetch (<i>Anthyllis vulneraria</i>), blue fleabane (<i>Erigeron acer</i>), and meadow oat grass (<i>Avenula pratensis</i>).	0.35	SE
Wendover Woods LWS	A large woodland block comprising a variety of species and supports numerous taxa.	0.42	S, W and N
The Crong Meadow BNR LWS	A steep bank, known to support adder's-tongue (<i>Ophioglossum vulgatum</i>), a rare plant in Bucks.	0.61	SE
Pavis and Northill Wood LWS	Two woodland blocks with 38 ancient woodland indicator species recorded including road-leaved and narrow-lipped helleborine (<i>Epipactis helleborine</i> & <i>E.leptochila</i>), bird's-nest orchid (<i>Neottia nidus-avis</i>) and white helleborine (<i>Cephalanthera damasonium</i>) which are county rarities.	0.67	SE
Vickery's Field, Aston Hill LWS	A species rich chalk grassland. Basil thyme (<i>Acinos arvensis</i>) has been recorded here, which is a plant only found on chalk and is rare in Bucks.	0.72	NW
Woods at Aston Hill Coppice LWS	Two large partially ancient woodland sites.	0.93	N
RAF Halton: N & SW of Haddington Hill LWS	A chalk grassland, which is locally and internationally important habitat type. Supports pyramidal orchid (<i>Anacamptis pyramidalis</i>), which is rare in Bucks.	1.16	W

Milesfield Wood LWS	A beech (<i>Fagus sylvatica</i>) woodland with 30 ancient woodland indicator species recorded.	1.27	S
Chiltern Forest Golf Course LWS	A golf course that supports lowland calcareous grassland (HPI), notable invertebrate species and protected mammals including badger (<i>Meles meles</i>).	1.31	N
Near the Hale LWS	A chalk bank adjacent to semi-natural ancient woodland.. The chalk grassland is of international importance. Restharrow (<i>Ononis repens</i>), rock rose (<i>Helianthemum nummularium</i>), common spotted orchid (<i>Dactylorhiza fuchsii</i>) and cowslip (<i>Primula veris</i>) have been recorded on this site.	1.43	S
Fox Lane LWS	This site follows the county boundary between Buckinghamshire and Hertfordshire and runs between Grove Wood and Pavis Wood, both ancient woodlands.	1.62	E
Halton Camp Meadow LWS	A remnant of lowland calcareous grassland bordered by Wendover Woods.	1.63	SW
Hale Wood LWS	A large mixed replanted ancient woodland site with good connectivity to other ancient woodland parcels.	1.70	S
Buckland Wood LWS	A woodland site with 23 ancient woodland indicator species recorded, including lemon-scented fern (<i>Oriopteris limbosperma</i>), which is rare in Bucks.	1.88	SE
Baldwin's Wood and Oaken grove LWS	Two large woodland blocks of mixed replanted ancient woodland.	1.89	S

*Where

SAC = Special Area of Conservation

SSSI = Site of Special Scientific Interest

LWS = Local Wildlife Site

4.2 Habitats

4.2.1 At the time of the survey (March 2023) the following habitats were recorded on site. They are described in Table 4.2 below, photographs are included in Appendix 1 and a habitat map is included in Figure 1, Appendix 2.

Table 4.2: Habitat types identified during the habitat survey

Habitat type	Description
Modified grassland (g4) Secondary codes:	The majority of the site comprises a series of fields (Photograph 1). The southern fields are actively horse grazed. These grasslands are dominated by grass species, species recorded include perennial ryegrass (<i>Lolium perenne</i>), red fescue (<i>Festuca rubra</i>) and cocksfoot

<ul style="list-style-type: none"> • Horse grazed (61) • Ruderal/ephemeral (17) 	<p>(<i>Dactylus glomerata</i>). Tufted hairgrass (<i>Deschampsia cespitosa</i>) and hard rush (<i>Juncus inflexus</i>) are present occasionally within the sward in the northern field. Herbaceous species are present, with species including dove’s-foot crane’s-bill (<i>Geranium molle</i>) recorded frequently, and spear thistle (<i>Cirsium vulgare</i>) and yarrow (<i>Achillea millefolium</i>) rarely.</p> <p>The grasslands to the north of the site supported short swards of up to 2cm (Photograph 2) with the central field supporting a longer sward (Photograph 3) of up to 10cm.</p> <p>A fenced section in the middle of the southern field, previously used as a dumping area, supports significantly higher proportions of bare ground and ephemeral growth (Photograph 4). There is anecdotal evidence of this area being recently treated for significant growth of horse tail (<i>Equisetum arvense</i>).</p>
Buildings (u1b5)	Six buildings are present on site: a residential dwelling (B1), a mobile home (B2), two barns (B3 and B5) and two stable blocks (B4 and B6). These are detailed fully in Section 4.4.
Hardstanding (u1b6)	Hardstanding in the form of paving is present to the east of the residential building used for car parking (Photograph 5).
Artificial unvegetated unsealed surface (u1c) <ul style="list-style-type: none"> • Bare ground (73) 	Gravelled areas and bare ground surround the buildings at the north of the site, the west of B1 and form the access road off St Leonards. There is a manège to the west of B1 (Photograph 6) which is covered with sand.
Introduced shrubs (u, 1160)	Ornamental shrubs, including conifers and cherry laurel (<i>Prunus laurocerasus</i>) are planted along the driveway (Photograph 4). A line of cherry laurel are also present on the northern boundary of the manège (Photograph 7).

Adjacent habitats

4.2.2 Dancersend SSSI is located immediately adjacent to the northern boundary of the site, with Tatnall’s Wood LWS immediately adjacent to the west. A residential property and associated gardens lies to the east with Dancersend SSSI extending beyond. Woodland parcels, open greenspace and arable land is present in the wider landscape, with Dancers End to the north east and Wendover to the south west.

Habitat summary

4.2.3 All habitats on site are of limited ecological value having low species and structural diversity and the species present being common within local and national context. These habitats are of negligible ecological interest but contribute to the biodiversity value of the site (see Appendix 4).

4.3 Species

4.3.1 The results of the preliminary ecological appraisal and desk study are presented together in Table 4.3 below. The species / species groups present or potentially present are presented in order of relevance to this development. Relevant legislation and policy is referred to as appropriate and further details are provided in Section 6.

4.3.2 There are no watercourses within the site or 500m of the site; therefore species associated with such habitats such as white-clawed crayfish (*Austropotamobius pallipes*), otter (*Lutra lutra*) and water vole (*Arvicola amphibius*) are considered unlikely to be affected by the proposals. As such, they are not discussed further within this report.

Table 4.3: Presence of or potential for protected/notable/invasive species within the site and local area

Species	Protection or Status *	Presence/potential at the site
Bats	EPS. Some species are also SPIs. W&CA 1981 Sch5	<p>The desk study returned 55 records for bats within 2km of the site. Records were returned for common pipistrelle (<i>Pipistrellus pipistrellus</i>) and brown long-eared bat. There are a number of records were also returned for unidentified bat species.</p> <p>A search of MAGIC returned four EPSLs within 2km of the site. The closest is located 0.79km east of the site, granted in 2015 for the damage and destruction of a resting place for brown long-eared bats and common pipistrelle.</p> <p>The grasslands and introduced shrubs offer limited opportunities for foraging bats; however, the woodlands on the boundaries are provide optimal habitat. The site is likely to be unlit so will act as a dark feature for bats to use to commute around the site and wider landscape. The site is well connected to the wider landscape, which comprises several local wildlife sites which will likely be highly suitable for bats. As such, the site is likely to be a valuable commuting resource for bats.</p>
Nesting birds	W&CA 1981 Sch1 / Sch5	<p>Over 3,000 records of notable and protected bird species were returned by the desk study. These are for species on the BoCC red list, Schedule 1 of the W&CA and Species of Principal Importance listed on the NERC Act 2006. A large majority of these records are attributed to woodpigeon (<i>Columba palumbus</i>) and wren (<i>Troglodytes troglodytes</i>).</p> <p>Much of the site offers little opportunities for nesting bird. The introduced shrubs, barns and stables do offer potential for breeding birds, with anecdotal evidence of nesting birds being present in previous years. However, the site is unlikely to support an important assemblage of birds.</p>
Great crested newt (<i>Triturus cristatus</i>) and other amphibians	EPS. SPI. W&CA 1981 Sch5	<p>The desk study returned 15 records for common toad (<i>Bufo bufo</i>) and common frog (<i>Rana temporaria</i>). The most recent record is for common toad in 2022.</p>

		<p>A search on MAGIC returned one great crested newt class survey positive licence return 0.6km north-east of the site in 2016.</p> <p>There are no waterbodies on site and no waterbodies identified using aerial imagery within 500m of the site. As such, it is highly unlikely that terrestrial stage amphibians will be present in the immediate landscape. Additionally, the grassland on site offers no opportunities for terrestrial stage amphibians as it is regularly managed/grazed to a short sward. There is a pile of bricks within the centre of one of the fields (TN1, Photograph 8) which may provide hibernation and resting opportunities.</p>
Badger (<i>Meles meles</i>)	Protection of Badgers Act 1992.	<p>70 records of badger were returned by the desk study, with the most recent record being returned from 2018.</p> <p>No evidence of badger was recorded during the survey. Whilst badger could make use of the site for foraging, with further opportunities present within the immediate and wider landscape to which the site is well connected, the site is of low suitability and is unlikely to be of importance to the species.</p>
Invasive species	W&CA 1981 Sch9	<p>The desk study returned 21 records for invasive plant species within 2km of the site, including few-flowered garlic (<i>Allium paradoxum</i>), variegated yellow archangel (<i>Lamium galeobdolon</i> subsp. <i>argentatum</i>) and wall cotoneaster (<i>Cotoneaster horizontalis</i>).</p> <p>No invasive species were identified on site during the survey. The site is not considered to provide elevated opportunities to notable invasive species beyond widespread and well-established ubiquitous invasive species.</p>
Western European hedgehog (<i>Erinaceus europaeus</i>)	SPI	<p>One record for hedgehog was returned by the desk study, which was recorded in 2019.</p> <p>The site provides opportunities throughout for hedgehog and other wide-ranging wild mammals, with connectivity to the wider landscape which is likely to provide further opportunities.</p>
Reptiles	EPS. W&CA 1981 Sch5	<p>The desk study returned 31 records for reptiles within 2km of the site. These records are for slow-worm (<i>Anguis fragilis</i>) and grass snake (<i>Natrix helvetica helvetica</i>).</p> <p>The majority of the site offers no opportunities for reptiles. As the grasslands all support short swards and are actively grazed, there are no tussocks that provide resting or hunting opportunities. There is a small area of rubble within a circular fenced enclosure within the centre of the southern paddock which may provide opportunities for reptiles (TN1, Photograph 8).</p>
Dormouse (<i>Muscardinus avellanarius</i>)	EPS. SPI. W&CA 1981 Sch5	<p>The desk study returned five historic records for dormouse, with the most recent record from 2004, 0.4km south west of the site within Wendover Woods LWS.</p> <p>Whilst dormouse may be present in the surrounding woodlands there are no habitats present on site that are suitable to</p>

		support dormouse. Additionally, the proposals will not result in any loss of habitats with suitability for this species.
Invertebrates	EPS. SPIs.	246 records of protected and notable invertebrate species were returned by the desk study, including records for centre-barred sallow (<i>Atethmia centrago</i>) and small blue (<i>Cupido minimus</i>). The majority of the habitats present onsite provide opportunities for invertebrates. However, given the common and widespread habitats onsite, it is unlikely to support any specialist species or unique assemblages.
Protected plants	W&CA 1981 Sch8	725 records were returned by the desk study for protected and notable plant species, including records for bluebell (<i>Hyacinthoides non-scripta</i>) and meadowy clary (<i>Salvia pratensis</i>). The majority of these records are associated with nearby designated sites. No protected plant species were recorded within the site and the habitats present are common in the wider landscape and unlikely to support any specialist species.

* Where:

EPS = European Protected Species under the provisions of the Conservation of Habitats and Species Regulations 2017 (as amended)

SPI = Species of Principal Importance under Section 41 of the NERC Act 2006

W&CA 1981 = Wildlife and Countryside Act 1981 (as amended)

Sch1 = Schedule 1 Birds which are Protected by Special Penalties (W&CA 1981)

Sch5 = Schedule 5 Animals which are Protected (W&CA 1981)

Sch8 = Schedule 8 Plants which are Protected (W&CA 1981)

Sch9 = Schedule 9 Animals and Plants to which Section 14 Applies (W&CA 1981)

4.4 Preliminary Roost Assessment

4.4.1 Six buildings are present on site: the main residential buildings, two barns, two stables and a mobile home. Table 4.4 details the results of the PRA, with notable potential roosting features (PRF) displayed on Figure 2.

Table 4.4: Results of the PRA

Building	Roost suitability	Description	Bat roost evidence and/or potential
Main residential house (B1)	Moderate	A two-storey brick building constructed c. 2002; c. 11m x 8m with a jerkinhead roof constructed of clay tiles (Photograph 9). There are two dormer windows on the southern aspect and three on the northern aspect, each with clay hanging tiles (Photograph 10). A loft void is present, approximately 1.5m in height, which supports exposed struts and a breathable / modern membrane.	This structure supports a number of external features suitable to support roosting bats: <ul style="list-style-type: none"> • North western aspect <ul style="list-style-type: none"> – Lifted hanging tiles and gaps beneath corner hanging tiles. – Slipped/lifted roof tiles. • Eastern aspect <ul style="list-style-type: none"> – Missing mortar on ridge tile (PRF 1, Photograph 11).

			<ul style="list-style-type: none"> – Gap in the soffit board at apex (PRF 2, Photograph 12). – Slipped/lifted roof tiles • Southern aspect <ul style="list-style-type: none"> – Gaps beneath corner hanging tiles. – Lifted roof tiles. • Western aspect <ul style="list-style-type: none"> – Lifted roof tiles. <p>The internal inspection in 2023 did not identify any live bats or droppings within the void. In 2021 a brown long-eared bat was present.</p>
Mobile home (B2)	Negligible	A single storey fibreglass mobile home c. 11m x 6m with a pitched roof comprising machine-made prefabricated closely interlocking tiles (Photograph 13).	A small gap in the ridge is present on the eastern aspect, which may lead to the internal space. However, the feature is located close to the hedgerow, limiting the potential of bats using the feature as bats require a clear flight path from a potential feature.
Barn (B3)	Negligible	An old barn c. 13m x 11m in extent with single-skin walls comprising wooden cladding and corrugated metal and a pitched roof to c. 4.5m height comprising corrugated metal with corrugated plastic skylights. The barn has a large open stable doorway to the west c. 3m x 2m (Photograph 14). Internally, the barn is split into three interconnected sections with exposed beams (Photograph 15).	No evidence of roosting bats was identified during the inspection and no suitable roosting features are present.
Stable block (B4)	Negligible	A single-skin wooden clad stable c. 18m x 5m and 3m height with a pitched corrugated asbestos roof (see Photograph 16) aside from a portion of corrugated metal roof on the eastern end. There are five stable doors on the southern aspect which are kept open and windows with a mesh grille c. 4cm in diameter.	No evidence of roosting bats was identified during the inspection and no suitable roosting features are present. Due to the exposed nature of structure, the temperature is likely to be unsuitable to support roosting bats.
Barn (B5)	Negligible	A double height barn, part corrugated metal part wooden cladded. The structure supports a pitched corrugated asbestos roof	No evidence of roosting bats was identified during the inspection and no suitable roosting features present.

		with plastic corrugated skylights and plastic fascia boards (Photograph 17).	Due to the exposed nature of structure, the temperature is likely to be unsuitable to support roosting bats.
Mobile field shelter (B6)	Negligible	A relatively newly built single storey, wooden panelled mobile field shelter on skids, with a pitched corrugated metal roof. This structure is permanently open, with no doors present.	No evidence of roosting bats was identified during the inspection and no suitable roosting features present. Due to the exposed nature of structure, the temperature is likely to be unsuitable to support roosting bats.

Conclusion

4.4.2 The valuation of species importance below is based on set criteria or professional judgement as appropriate within a fixed range of geographic contexts (CIEEM, 2017) as outlined in Appendix 5.

4.4.3 The site has the potential to support the following protected/notable species:

- Roosting bats within B1;
- Foraging and commuting bats;
- Nesting birds;
- Reptiles;
- Great crested newt and other amphibians;
- Badger; and
- Hedgehog and other wild mammals.

5 Potential Impacts and Recommendations

5.1 Introduction

Adoption of the Mitigation Hierarchy

5.1.1 In accordance with the National Planning Policy Framework (NPPF) (see Section 7) and British Standard 42020:2013 'Code of Practice for Planning and Development' (BSI Standards Limited, 2013), the 'Mitigation Hierarchy' has been adopted with regards to the potential ecological impacts of development at the site. The mitigation hierarchy outlines a stepwise process as follows:

- **Avoidance** – as a first option, adverse impacts should be avoided through good design, such as retaining and safeguarding important ecological features wherever practicable;
- **Mitigation** – where unavoidable, adverse impacts should be reduced as much as possible, such as reducing land-take of important habitats;
- **Compensation** – where residual effects remain, compensation should be secured to offset adverse impacts, such as through compensatory habitats creation; and
- **Enhancement** – opportunities for net gains in biodiversity should be explored and included wherever appropriate.

5.1.2 Development at the site in a way that adopts the mitigation hierarchy is entirely plausible, achieving net gains in biodiversity provided that habitats of elevated value are retained and new habitats of ecological value are incorporated.

5.2 Designated Sites

Chilterns Beechwoods SAC

5.2.1 A mitigation strategy for recreational impacts on Chilterns Beechwoods SAC has been approved by Buckinghamshire Council. This strategy requires all net new homes within 12.6km of the SAC that are granted planning permission from 14 March 2022 to contribute towards the Strategic Access Management and Monitoring (SAMMS) projects and secure or make proportionate contributions towards the delivery of Suitable Alternative Natural Greenspace (SANG).

5.2.2 As the proposals involve the extension of an existing residential dwelling, this falls into the case-by-case category development type. An appointed planning consultant should be contacted to confirm whether this development is required to contribute to the SAMMS for Chilterns Beechwoods SAC.

Sites of Special Scientific Interest

- 5.2.3 Natural England defines Impact Risk Zones (IRZs) around Sites of Special Scientific Interest (SSSIs), Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites. Within each IRZ, categories of qualifying development are outlined for local authorities to determine if they need to consult Natural England in regard to potential impacts upon them.
- 5.2.4 The site lies within the IRZ of at least two SSSIs – Dancersend SSSI and Dancersend Waterworks SSSI - which included several categories of development. However, householder applications are exempt from consultation with Natural England or the local planning authority. However, as Dancersend SSSI is located immediately adjacent to the northern boundary of the site further consideration for this designation is deemed necessary.
- 5.2.5 There is a risk that the proposed works could negatively impact the adjacent and nearby designated sites. Policy NE1 of the existing Local Plan states *“Internationally or nationally important Protected Sites (SACs and SSSIs) and species will be protected.”*. The proposals for the site are small-scale, so are not anticipated to have significant impacts to the adjacent SSSI. However, there is the potential for the following impacts to occur without the implementation of mitigation measures:
- impacting or damaging the roots of trees within the ancient woodland;
 - damage to overhanging branches;
 - pollution events such as fuel or chemical spillages during construction;
 - Increased lighting on the edges of the designated sites;
 - accidental damage from construction works / plant movement straying into the boundary of the SSSI; and
 - introduction of inappropriate species to the designation through spread from landscape planting.
- 5.2.6 Other potential impacts include impacts on notable wildlife supported by the SSSI. Notable wildlife supported by the designation includes various breeding birds, invertebrate assemblages and bats.
- 5.2.7 Implementation of the measures outlined in Recommendation R1 below, the proposals are not anticipated to impact these designated sites.

Other Designated Sites

- 5.2.8 Three non-statutory designated sites lie within very close proximity to the site: Tatnall’s Wood LWS, West of the Crong LWS and Wender Woods LWS. Considering the nature and limited scale of the proposals it is considered that, should the measures outlined in Recommendation R1

below be followed, it is highly unlikely that the proposed development will have an impact on these designated sites.

Recommendation R1

- 5.2.9 A Construction Environmental Management Plan (CEMP) will need to be produced (to be secured via condition) to ensure the proposals are sensitively designed to protect the off-site designated sites and adjacent woodland during construction.
- 5.2.10 The management plan will be implemented to ensure the protection of ecological interest. Particular regard will be given to safeguarding from pollution (such as dust, noise, light, fuel/chemical spillage etc) and hydrological impacts during construction and implementation phases.

5.3 Habitats

Potential Impacts

- 5.3.1 The current proposals retain the majority of natural habitats on site, with only small areas of modified grassland, gravelled areas and buildings anticipated to be removed to facilitate works. Impacts to these habitats are considered to be of negligible ecological importance.
- 5.3.2 The adjacent off-site ancient, replanted woodland SSSI habitat is of national importance. The habitat could be impacted during construction activities.

Recommendation R2

- 5.3.3 Trees located within the habitats adjacent to the site should be wholly safeguarded during any construction works in line with standard arboricultural best practice (BS5837:2012) or as otherwise directed by a suitably competent arboriculturalist.

5.4 Species

- 5.4.1 The following focuses on those ecological features likely to be impacted (adverse or beneficial impacts) only. In order to avoid and/or mitigate for any such impacts, further ecological survey, assessment and mitigation work is required prior to any development or vegetation clearance/building demolition at the site. Following completion of all necessary further surveys, a full detailed EclA report will be required to inform a planning application at the site. This PEA report should not be submitted alongside a planning application.

Bats

5.4.2 Previous surveys identified a single common pipistrelle day roost beneath a roof tile on the northern aspect of the residential building and a brown long-eared bat hibernation roost within the loft void.

5.4.3 Numerous features were identified within the residential building (B1) and has been assessed as having moderate suitability for roosting bats. There is a risk that bats may be killed, injured or disturbed in their roosts from demolition of suitable buildings, and that bat roosts will be destroyed without appropriate mitigation measures.

5.4.4 All bat species are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of Conservation of Habitats and Species Regulations 2017 (as amended); (see Appendix 1). Bats are also Species of Principal Importance listed on Section 41 of the NERC Act (2006). It is an offence to deliberately disturb a bat, damage or destroy a bat roost, intentionally or recklessly disturb a bat at a roost, or obstruct access to a roost.

Recommendation R3

5.4.5 To ensure that bat data is within the most recent survey season, update nocturnal bat roost surveys are required for B1 to ascertain whether bats are currently utilising this building. A minimum of one dusk emergence or one dawn re-entry survey will be required to ascertain whether there have been any changes to the characterisation of the roosts previously present.

5.4.6 Increased levels of artificial light can cause disturbance to bats. Though several bat species can take advantage of artificial lighting systems for foraging, feeding off the insects they attract, other species avoid them as foraging within an illuminated area increases the risk of predation by nocturnal birds of prey or even domestic cats. If lighting is intensive and widespread, particularly lighting from lamps, which emit UV light (such as mercury vapour); it can deter some bats from utilising the site and in some instances can act as a barrier across commuting lines. Research has also shown that certain types of artificial lighting have been proven to disturb the emergence patterns of bats when they are placed within the vicinity of entrances to a bat roost.

5.4.1 The lighting strategy will be sensitively designed, adopting the following principles:

- Maintaining dark corridors along the site boundaries, particularly the northern boundary;
- Where lighting is required, ensuring:
 - Light levels are less than 3 Lux;
 - LED luminaires with a warm white spectrum ideally <2700Kelvin (to avoid blue / UV elements);

- Bollard or low-level downward directional luminaires are used and mounted on the horizontal (with no upward tilt); and
- Security lighting, if required, is motion-activated with short (<1 minute) timers.

Nesting birds

5.4.2 The proposals have the potential to remove suitable bird nesting habitats, which would result in a contravention of relevant wildlife legislation if active nests are present.

Recommendation R4

5.4.3 Any wild birds' nests are protected whilst in use. If any active wild birds' nests are found prior to the vegetation clearance or building demolition, then these must be left alone until they cease to be in use. Ideally, works to suitable nesting habitat / features should be scheduled to avoid the bird nesting season (March to August inclusive). Should such works take place during March-August inclusive, they must be immediately preceded by a check for any active nests by a suitably qualified ecologist. Any active nests identified during works (regardless of time of year) would need to be protected and left with a suitable buffer (to be defined by the ecologist) until the nest is no longer active.

Reptiles and amphibians

5.4.4 The rubble pile present within the fenced area of the southern field has the potential to support reptiles and terrestrial stage amphibians.

5.4.5 All native reptile species receive legal protection in Great Britain under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

Recommendation R5

5.4.6 If the rubble pile is to be impacted by the proposals, it will need to be destructively searched by hand under supervision of an experienced ecologist to ensure the protection of any reptiles or amphibians which may be present. Any individuals found will be translocated to the bund on the northern boundary of the site which supports similar tall ruderal vegetation.

Badger, hedgehog and other wild mammals

5.4.7 Badger, hedgehog and other wild mammals may make occasional use of the site for foraging/commuting. There is a potential for wild mammals to enter active construction sites and become injured or trapped. This would be considered an offence as all wild mammals are protected from unnecessary harm (see Section 7).

Recommendation R6

5.4.8 Measures should be implemented during the proposed clearance works to ensure mammals are protected during works. This would reduce the risk of injuring/trapping a badger or other wild mammal as a result of the proposals. These measures should be detailed within the CEMP (Recommendation R1) to include standard mitigation measures such as:

- trenches or pits left overnight should be provided with a means of escape for wild animals should they enter such as a collapsed edge or a flat roughened stable plank (no steeper than 45°) acting as a ramp to the surface;
- pipes should be capped off overnight to prevent animals entering and becoming trapped; and
- all trenches and pits will be inspected each morning to ensure no wild animals have become trapped overnight. Should a badger become trapped in a trench it will likely dig itself into the side of the trench. Should a trapped badger be encountered, a suitably qualified ecologist should be contacted immediately for further advice.

5.5 Opportunities for Ecological Enhancement

5.5.1 In line with planning policy, which requires developments to enhance the site for wildlife, a number of enhancements will be included within the design plans (example specifications are included in Appendix 6).

Recommendation R7

5.5.2 In order to enhance the local area for wildlife ecological features and contribute towards biodiversity net gain, it is recommended that proposals include the following:

- The landscape proposals are not defined at this stage but will include various areas of meadow planting and native scrub. Native scrub planting is proposed on the northern boundary. The native buffer planting will comprise scattered native shrubs, including field maple (*Acer campestre*), buckthorn (*Rhamnus cathartica*), wayfaring tree (*Viburnum lantana*), guelder rose (*Viburnum opulus*) and dewberry (*Rubus caesius*). Dogwood (*Cornus sanguinea*) will be avoided as it is known to cause problems as a native invasive species throughout Dancersend SSSI.
- A new native hedgerow will be planted along the north western boundary of the site. It is recommended that this is planted with at least five UK native species to form a native species-rich hedgerow. Species can include blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*), field maple, spindle (*Euonymus europaea*) and hazel (*Corylus avellana*).

- Wildflower meadows will be created by sowing a species-rich seed mix such as Emorsgate 'EM3 special general purpose meadow mix' (<https://wildseed.co.uk/mixtures/view/4>). In addition, wild cowslip and primrose seed will be sown to increase opportunities for Duke of Burgundy larvae. Once established, the meadows will be managed as traditional hay meadows with a summer hay cut in combination with autumn mowing.
- Two woodcrete / woodstone bird boxes should be included within the proposals, either integrated into the building, affixed to the building following construction, or mounted on retained trees. Specified boxes should target local notable species which are likely to occur within the area, including starling (*Sturnus vulgaris*). Examples are detailed in Appendix 6.
- Bat boxes should be included within the proposals. These will be detailed following the nocturnal bat roost surveys.

6 Conclusions

- 6.1.1 Ecology by Design were commissioned to undertake an update ecological appraisal at Rhencullen Farm, Chivery, Aston Clinton, Tring, HP23 6LD. The proposals involve an extension to the existing residential building, the demolition of the existing barns, mobile home and stable block to the north of the site followed by the construction of a new barn, combined barn and stable block and hard and soft landscaping.
- 6.1.2 The site is located immediately adjacent to Dancersend SSSI and Tatnall's Wood LWS. Dancersend Waterworks SSSI, West of The Crong LWS and Wendover Woods LWS are all located within 0.5km of the site. A CEMP should be produced to protect the adjacent and nearby designated sites during construction.
- 6.1.3 None of the habitats present within the site boundary are considered to be ecologically valuable.
- 6.1.4 The potential protected species constraints identified relate to roosting bats, foraging and commuting bats, nesting birds, reptiles, amphibians, badger, hedgehog and other wild mammals. Measures to protected wild mammals should be implemented during construction and should be detailed within the CEMP.
- 6.1.5 Nocturnal bat roost surveys are required of building B1 in order to ascertain the continued presence / likely absence of roosting bats.
- 6.1.6 The buildings hold potential to support nesting birds. Any works that may disturb or impact nesting birds should be timed to avoid the bird nesting season which runs from March to August inclusive. If this is not possible, it will be necessary to complete a nesting bird check to ensure no active birds' nests are impacted by works.
- 6.1.7 Recommendations have been made, where possible, for an ecologically sensitive design scheme, aimed to incorporate biodiversity wherever possible and comply with the avoid-mitigate-compensate hierarchy. Adopting these recommendations would reduce ecological impacts of the proposals.

7 Relevant Legislation and Policy

7.1 National Planning Policy Framework

7.1.1 The National Planning Policy Framework (NPPF) was updated in July 2021 (MHCLG, 2021) thereby replacing the older version of February 2019. The new framework sets out in section 15 that to protect and enhance biodiversity and geodiversity, plans should:

- 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 biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation and
- 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.

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

- 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;
- 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 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;
- 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 reasons and a suitable compensation strategy exists; and
- development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

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

- potential Special Protection Areas and possible Special Areas of Conservation;
- listed or proposed Ramsar sites; and
- 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.

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

7.2 Natural Environment and Rural Communities (NERC) Act 2006

7.2.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places a statutory duty on Local Planning Authorities (LPAs) to consider the effects upon biodiversity when exercising their functions in England and Wales. In addition, Section 41 of the Act makes for the provision of a list of habitats and species of principal importance for the conservation of biodiversity.

7.3 Biodiversity 2020

7.3.1 In 2013, the UKBAP Priority Habitats and Priority Species, and the Section 41 Species and Habitats of Principal Importance for Conservation under the NERC Act 2006, were rationalised. This rationalisation occurred under the 'Post-2010 Biodiversity Framework'. As a result, a new list of Priority Species and Priority Habitats is now in operation at the UK level. These new lists supersede the former UKBAP; they are the new 'Biodiversity Indicators' that are used to monitor the status of biodiversity at the UK level. Each of the four devolved countries of the UK also has a similar list. Within England, the new rationalised lists of 24 Priority Habitats and 213 Priority Species are provided in Biodiversity 2020 which is the national biodiversity policy for England.

7.4 Wildlife and Countryside Act 1981 (as amended)

7.4.1 The Wildlife and Countryside Act 1981 (as amended) consolidates and implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the conservation of wild birds (Birds Directive). The Act stipulates the protection of a range of protected species and habitats and provides a legal framework for designating Sites of Special Scientific Interest (SSSIs).

7.4.2 The precise protections to species and habitats provided by the Wildlife and Countryside Act 1981 (as amended) are detailed below where relevant to this assessment.

7.4.3 Sites of Special Scientific Interest (SSSI) are notified under the Act by Natural England as being of special importance for nature conservation. Natural England assent is required before any listed, potentially damaging operations, development or change in land use etc. can be carried out which would impact SSSIs or their notified features.

7.5 Local Plan

7.5.1 The following Aylesbury Vale District Council policies are contained within the Vale of Aylesbury Local Plan 2013-2033 which was published in November 2017.

Policy NE1: Biodiversity and geodiversity

7.5.2 Protected Sites

7.5.3 *Internationally or nationally important Protected Sites (SACs and SSSIs) and species will be protected. Avoidance of likely significant adverse effects should be the first option. Development likely to affect the Chiltern Beechwoods SAC will be subject to assessment under the Habitat Regulations and will not be permitted unless any significant adverse effects can be fully mitigated.*

7.5.4 *Development proposals that would lead to an individual or cumulative adverse impact on an internationally or nationally important Protected Site or species, such as SSSIs or irreplaceable habitats such as ancient woodland or ancient trees, will be refused unless exceptional circumstances can be demonstrated as follows:*

- a. the benefits of the development at this site significantly and demonstrably outweigh both the impacts that it is likely to have on the features of the site that make it internationally or nationally important and any broader impacts on the national network – for example of Sites of Special Scientific Interest, and*
- b. the loss can be mitigated and compensation can be provided to achieve a net gain in biodiversity/geodiversity*

7.5.5 *Sufficient information must be provided for the council to assess the significance of the impact against the importance of the Protected Site and its component habitats and the species which depend upon it. This will include the area around the Protected Site and the ecosystem services it provides and evidence that the development has followed the mitigation hierarchy set out in (d) below.*

7.5.6 Protection and enhancement of Biodiversity and Geodiversity

7.5.7 *“Protection and enhancement of biodiversity, geodiversity and the natural environment will be achieved by the following:*

- c. *A net gain in biodiversity on minor and major developments will be sought by protecting, managing, enhancing and extending existing biodiversity resources, and by creating new biodiversity resources. These gains must be measurable using best practice in biodiversity and green infrastructure accounting and in accordance with any methodology (including a Biodiversity Impact Assessment) to be set out in the Buckinghamshire Biodiversity Accounting SPD.*
- d. *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 development will not be permitted. If a net loss in biodiversity is calculated, using a suitable Biodiversity Impact Assessment (see c) then avoidance, mitigation and compensation, on site first, then offsite must be sought so the development results in a net gain (percentage of net gain to meet any nationally-set minimum standard and or as detailed in an SPD) in order for development to be permitted. Mitigation, compensation and enhancement measures must be secured and should be maintained in perpetuity. These assessments must be undertaken in accordance with nationally-accepted standards and guidance (BS 8683 Biodiversity net gain in project design and construction; and CIRIA Biodiversity Net Gain Good practice principles for development).*
- e. *Development which would result in damage to or loss of a site of biodiversity or geological value of regional or local importance (such as Local Wildlife Sites or Local Geological Sites) including habitats of principal importance (known as Priority Habitats) or the habitats of species of principal importance (Priority Species) or their habitats will not be permitted except in exceptional circumstances where the need for, and benefits of the development significantly and demonstrably outweigh the harm it would cause to the site, and the loss can be mitigated and compensation provided to achieve a net gain.*
- f. *The Council will, where appropriate, expect ecological surveys for planning applications. These must be undertaken by a suitably qualified person and consistent with nationally accepted standards and guidance (BS 42020: Biodiversity – Code of Practice for planning and development; and CIEEM Ecological Report Writing guidance) as replaced.*
- g. *Where development proposals affect a Priority Habitat (As defined in the Buckinghamshire Biodiversity Action Plan or UK Biodiversity Action Plan and as listed in*

accordance with s41 of the NERC Act 2006) then mitigation should not be off-site. Where no Priority Habitat is involved then mitigation is expected to follow the mitigation hierarchy, where options for avoidance, mitigation and compensation on-site, and then offsite compensation, should be followed in that order as outlined in d. When there is a reasonable likelihood of the presence of protected or priority species or their habitats, development will not be permitted until it has been demonstrated that the proposed development will not result in adverse impacts on these species or their habitats. The only exception will be where the advantages of development to the protected site and the local community clearly outweigh the adverse impacts. In such a case, the council will consider the wider implications of any adverse impact to a protected site, such as its role in providing a vital wildlife corridor, mitigating flood risk or ensuring good water quality in a catchment.

- h. *Development proposals will be expected to promote site permeability for wildlife and avoid the fragmentation of wildlife corridors, incorporating features to encourage biodiversity, and retain and where possible enhance existing features of nature conservation value on site. Existing ecological networks should be identified and maintained to avoid habitat fragmentation, and ecological corridors including water courses should form an essential component of green infrastructure provision in association with new development to ensure habitat connectivity.*
- i. *Planning conditions/obligations will be used to ensure net gains in biodiversity by helping to deliver the Buckinghamshire and Milton Keynes Biodiversity Action Plan targets in the biodiversity opportunity areas and other areas of local biodiversity priority. Where development is proposed within, or adjacent to, a biodiversity opportunity area, biodiversity surveys and a report will be required to identify constraints and opportunities for biodiversity enhancement. Development which would prevent the aims of a Biodiversity Opportunity Area from being achieved will not be permitted. Where there is potential for development, the design and layout of the development should secure biodiversity enhancement and the council will use planning conditions and obligations as needed to help achieve the aims of the biodiversity opportunity area. A monitoring and management plan will be required for biodiversity features on site to ensure their long-term suitable management (secured through planning condition or Section 106 agreement).*
- j. *Development proposals adversely affecting a Local Nature Reserve will be considered on a case-by-case basis, according to the amount of information available about the site and*

its significance, relative to the type, scale and benefits of the development being proposed and any mitigation. Any mitigation strategy will need to include co-operation with the nature reserve managers.

8 References

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Appendix 1 - Photographs

Photograph 1: View of the site from the southern access point



Photograph 2: Example of well managed modified grassland



Photograph 3: Longer swarded horse grazed grassland



Photograph 4: Fenced grassland within southern field



Photograph 5: Paving to east of B1



Photograph 6: Manège



Photograph 7: Line of cherry laurel along northern boundary of the manège.



Photograph 8: Rubble pile within central fenced area (TN1)



Photograph 9: Eastern aspect of B1



Photograph 10: Southern aspect of B1



Photograph 11: Missing mortar on eastern aspect of B1



Photograph 12: Gap in the soffit at the apex of the eastern aspect



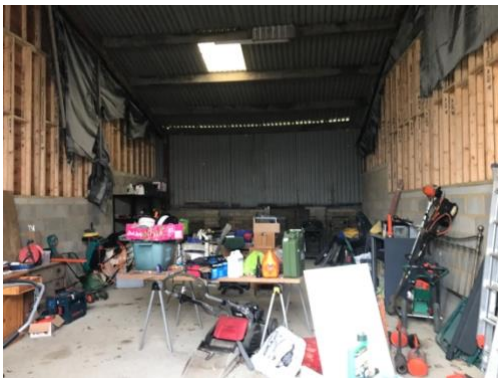
Photograph 13: Mobile home (B2)



Photograph 14: External aspect of barn B3



Photograph 15: Example of internal of B3



Photograph 16: Stable block B4



Photograph 17: Barn B5



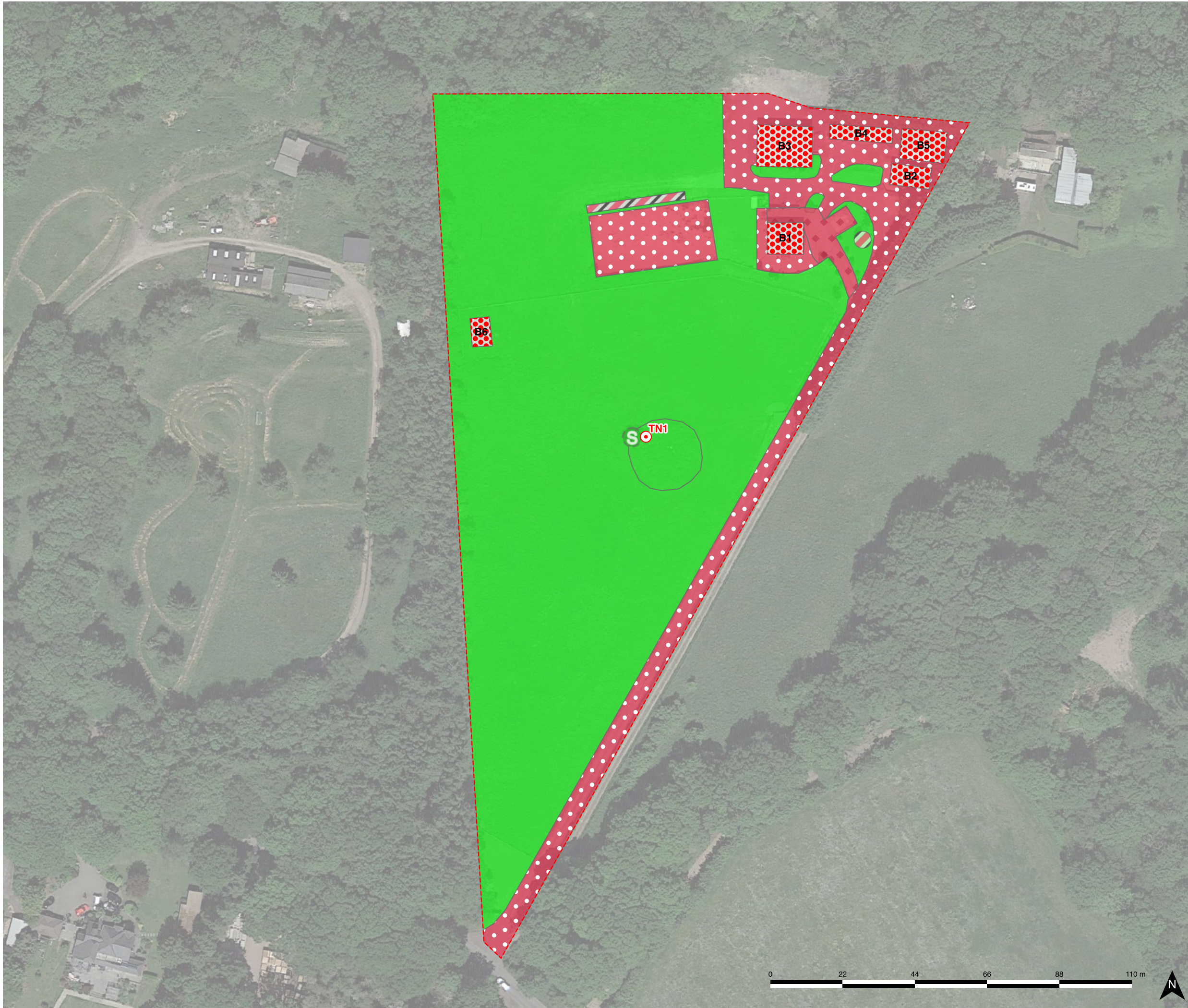
Photograph 18: Mobile field shelter (B6)



Appendix 2 - Figures

EBD_2815_DR001 Habitats map

EBD_2815_DR002 Preliminary roost assessment results



LEGEND

Site boundary (2.25 ha)

Habitats

g4 - modified grassland (1.7794 ha)

u(11) - scattered tree, small (1 trees)

u1(1160) - introduced shrub (0.0093 ha)

u1b5 - buildings (0.0672 ha)

u1b6 - hardstanding (0.0272 ha)

u1c - artificial unvegetated unsealed surface (0.3644 ha)

Target Notes

Location (1:75,000):



Project:

Rhencullen Farm

Client:

Mr and Mrs Richardson

Drawing Title:

Habitat map

Drawing No.:

EBD_1829_DR001

Scale (@A3):

1:1,105

Central Eastings, Northings:

489741, 209082

Date Drawn:

20/03/2023

Drawn by:

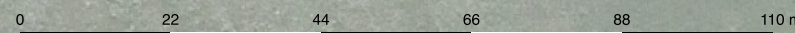
JS

Approved by:

LG

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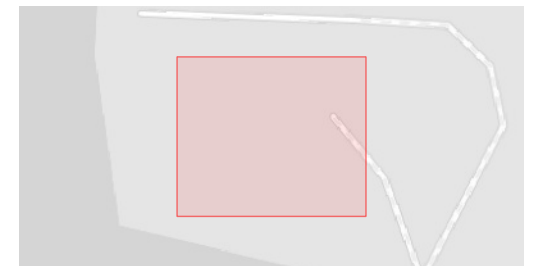




LEGEND

◆ Potential Roosting Feature

Location (1:2,500,000):



Project:

Rhencullen Farm

Client:

Mr and Mrs Richardson

Drawing Title:

PRA results

Drawing No.:

EBD_1829_DR001

Scale (@A3):

1:76

Central Eastings, Northings:

489797, 209164

Date Drawn:

20/03/2023

Drawn by:

JS

Approved by:

LG

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Appendix 3 - Species list

Modified grassland (g4)

Common Name	Scientific name	Abundance (DAFOR)
Red fescue	<i>Festuca rubra</i>	A
Dove's-foot crane's-bill	<i>Geranium molle</i>	F
Perennial ryegrass	<i>Lolium perenne</i>	F
Common couch	<i>Elymus repens</i>	F
Cock's-foot	<i>Dactylis glomerata</i>	O
Common daisy	<i>Bellis perennis</i>	O
Creeping cinquefoil	<i>Potentilla reptans</i>	O
Hard rush	<i>Juncus inflexus</i>	R
Meadow fescue	<i>Festuca pratensis</i>	O
Ribwort plantain	<i>Plantago lanceolata</i>	O
Spear thistle	<i>Cirsium vulgare</i>	O
Birds-foot trefoil	<i>Lotus corniculatus</i>	R
Bristle oxtongue	<i>Helminthotheca echioides</i>	R
Common nettle	<i>Urtica dioica</i>	R
Creeping buttercup	<i>Ranunculus repens</i>	R
Dandelion	<i>Taraxacum officinale</i> agg.	R
Green alkanet	<i>Pentaglottis sempervirens</i>	R
Horse tail	<i>Equisetum arvense</i>	R
Mouse-ear	<i>Cerastium</i> sp.	R
Tufted hairgrass	<i>Deschampsia cespitosa</i>	R
White clover	<i>Trifolium repens</i>	R
Yarrow	<i>Achillea millefolium</i>	R

Appendix 4 - Definitions of the Geographic Context of Habitat Importance

Geographic Context of Importance	Examples
International value	Ramsar Sites, Special Protection Areas, Biosphere Reserves, Special Areas of Conservation. Sites supporting populations of internationally important species.
National value	SSSIs or non-designated Sites meeting SSSI selection criteria, NNRs, Marine Nature Reserves, NCR Grade 1 Sites. Sites containing viable areas of key habitats identified in the UK Biodiversity Action Plan.
Regional value	Sites containing viable areas of threatened habitats listed in a Regional BAP (or some Natural Areas), comfortably exceeding SINC criteria, but not exceeding SSSI criteria.
County / Metropolitan	Sites meeting the criteria for county or metropolitan designation (SINC, CWS, etc.). Ancient semi-natural woodland, LNRs or viable areas of key habitat types listed in county BAPs/Natural Areas.
District / Borough	Undesignated Sites or features considered to appreciably enrich the habitat resource in the District or Borough.
Local (parish/ neighbourhood)	Undesignated Sites or features which appreciably enrich the habitat resource within the Parish or Neighbourhood.
Negligible value	Low grade and widespread habitats.

Appendix 5 - Definitions of the Geographic Context of Species Importance

Geographic Context of Importance	Examples
International	<p>Any regularly occurring population of an internationally important species, which is threatened or rare in the UK. i.e. it is a UK Red Data Book species or listed as occurring in 15 or fewer 10km squares in the UK (categories 1 and 2 in the UK BAP) or of uncertain conservation status or of global conservation concern in the UK BAP.</p> <p>A regularly occurring, nationally significant population/number of any internationally important species.</p>
National	<p>Any regularly occurring population of a nationally important species which is threatened or rare in the region or county (see local BAP).</p> <p>A regularly occurring, regionally or county significant population/number of any nationally important species.</p>
Regional	<p>Any regularly occurring, locally significant population of a species listed as being nationally scarce which occurs in 16-100 10km squares in the UK or in a Regional BAP or relevant Natural Area on account of its regional rarity or localisation;</p> <p>A regularly occurring, locally significant number of a regionally important species.</p>
County/ Metropolitan	<p>Any regularly occurring, locally significant population of a species which is listed in a County/Metropolitan “red data book” or BAP on account of its regional rarity or localisation;</p> <p>A regularly occurring, locally significant number of a County/Metropolitan important species.</p>
District / Borough	<p>A population of a species that is listed in a District/Borough BAP because of its rarity in the locality or in the relevant Natural Area profile because of its regional rarity or localisation;</p> <p>A regularly occurring, locally significant number of a District / Borough important species during a critical phase of its life cycle.</p>
Local (parish/ neighbourhood)	<p>Species that are not threatened but are valued at a local level on intrinsic appeal.</p>
Negligible	<p>Common or widespread species.</p>

Appendix 6 - Proposed Faunal Enhancements

Products	Description
	<p>Schwegler Bird Box 1B (or similar)</p> <p>The 1B nest box will attract a wide range of species and is available with different entrance hole sizes to prevent birds from competing with each other for the boxes.</p> <p>https://www.nhbs.com/1b-schwegler-nest-box</p>
	<p>Vivara Pro WoodStone House Sparrow Nest Box</p> <p>A strong and highly insulating box which helps to provide a thermally stable environment. It also protects against damage from predators such as cats, woodpeckers and squirrels.</p> <p>https://www.nhbs.com/vivara-pro-woodstone-house-sparrow-nest-box</p>
	<p>Vivara Pro Seville 32mm WoodStone Nest Box</p> <p>These nest boxes are suitable for blue tits, tree sparrows, house sparrows, great tits, crested tits, nuthatches, coal tits and pied flycatchers. The best height for your nest box is between 1.5m and 3m high, and should be sited higher if your area has a particularly high cat population.</p> <p>https://www.nhbs.com/vivara-pro-seville-32mm-woodstone-nest-box</p>