EXTENDED PHASE 1 HABITAT SURVEY REPORT

LAND OFF OXFORD RD, BODICOTE

REC REFERENCE: 103869EC1R1

REPORT PREPARED FOR: HOLLINS STRATEGIC LAND LLP

DATE: APRIL 2018

National Consultancy, Locally Delivered

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EXECUTIVE SUMMARY

Site Address	Land off Oxford Road, Bodicote, Banbury, OX16 9HA
Grid Reference	SP461383
Site Area	Approximately 2.2 ha
Current Site Use	The site currently comprises of an area of managed grassland, and a Farm Shop and associated barns.
Adjacent Site Use	The surrounding area is predominantly residential.
Designated Sites	It is not anticipated that this development will have any effect on any designated sites due to the distance and presence of anthropogenic barriers
Habitat Features	The following habitat features were located within, and within 30 m of the site boundary; ▶ Improved grassland; ▶ Hedgerow; ▶ Scattered trees; ▶ Bare ground; and, ▶ Buildings.
Conclusions and Recommendations	The proposals include the demolition of existing buildings and removal of two Category B trees to accommodate a residential development. It is anticipated that impacts upon the site ecology will be minimal. Nevertheless, the following recommendations have been made: ▶ Undertake a nesting bird check prior to removal of suitable nesting bird habitats. NB: only required if works undertaken during the breeding bird season (generally considered to be March to September, inclusive); ▶ Undertake soft fell measures on trees with low bat roosting potential which are to be removed; ▶ Undertake a dusk and a dawn bat survey on trees with moderate bat roosting potential which are to be removed; and, ▶ Undertake a single dusk/ dawn survey on B1. The development provides the opportunity to enhance the site's biodiversity and, in line with the National Planning Policy Framework, suggestive measures to

	enhance the site's biodiversity have also been recommended. It is considered that the overall masterplan will promote biodiversity.

TABLE OF CONTENTS

1. INTRODUCTION

1.1 Background

Resource and Environmental Consultants Ltd (REC) have been commissioned by Hollins Strategic Land LLP to undertake an Extended Phase 1 Habitat Survey of an area of land off Oxford Road, Bodicote, Banbury; hereafter referred to as the 'site'. The proposed works are for a residential development and associated amenity gardens.

1.2 Objectives

The purpose of the Extended Phase 1 Habitat Survey was to identify:

- The major habitats present;
- The potential for legally protected species to be present; and,
- Additional ecological surveys likely to be required.

The Extended Phase 1 Habitat Survey included a desktop review, consultation and a site visit. The results of this review were used to assess the nature conservation importance of the site. The potential for each habitat to support protected species was also noted. An Extended Phase 1 Habitat Survey does not constitute a full survey for protected species to standard survey methodologies, but is used as a tool to recommend which surveys are required for protected species (or other species of significant nature conservation interest). Recommendations for further ecological surveys are made at the end of the report.

1.3 Site Description

The site application is located to the north of Bodicote and is accessed via White Post Road. Residential houses surround the site, including a primary school to the west. Agricultural fields, bordered by hedgerows and trees are located within the wider area.

Please refer to Drawing 103869-001 for the Site Location Plan.

2. SURVEY METHODOLOGY

2.1 Data Study and Consultation

The desktop study involved conducting database searches for statutory and non-statutory designated sites, legally protected species and features of interest within and immediately surrounding the site within a 1km radius. The central grid reference of the parcel was used as the central point of all searches. The baseline conditions were based on a review of existing available data.

- MAGIC (Multi-Agency Geographical Information for the Countryside) website;
- Ordnance Survey mapping (to identify potentially notable habitats);
- Aerial photography (e.g. google mapping);
- UK Biodiversity Action Plan (UKBAP); and,
- Consultation with the local biological records centre.

2.2 Habitat Survey

The Extended Phase 1 Habitat Survey of the site was carried out on the 26th March 2018 by Katie Bird MEnvSci, gradCIEEM. Weather conditions were sunny with a gentle breeze. The field survey comprised a walkover of the land and habitats present, with a classification of the habitats to Phase 1 Habitat Survey standard, following the 'Preliminary Ecological Appraisal' methodology as set out in the 'Guidelines for Preliminary Ecological Appraisal' (Chartered Institute of Ecology and Environmental Management [CIEEM], 2017), which is a development of the method described in the 'Handbook for Phase 1 Habitat Survey – a technique for environmental audit' (Joint Nature Conservation Committee, 2010). The Extended Phase 1 Habitat Survey provides information on the habitats in the survey area and identifies actual or potential presence of legally protected or otherwise notable species/habitats in or where appropriate, adjacent to the site.

The main habitats within the site were mapped and are shown at an appropriate scale on Drawing No. 103869-002 - Extended Phase 1 Habitat Plan.

Target notes (more detailed descriptions of a particular area in terms of habitat and species composition or means of highlighting a particular feature of ecological interest), are given in Appendix 1.

Plant names follow 'New Flora of the British Isles' (Stace, 2011). The common and scientific name of each of the botanical species is provided when first mentioned in the text, but only the common name is stated thereafter. All species identified during the site survey are listed in Appendix 2. In

addition to establishing the baseline ecological interest within the area, the survey intended to identify areas where further surveys may be required, during the appropriate season.

2.3 Protected Species Assessment

The potential of the site to support legally protected or national/local BAP species was assessed from field observations carried out during the site walkover and combined with the results of the desk top study. The site was inspected for indications of the presence of protected species as follows:

- The presence of nesting habitat for breeding birds, such as mature trees, dense scrub, hedgerows and buildings and/or field margins suitable for ground nesting birds, and evidence of bird nesting including bird song, old nests, faecal marks etc;
- The presence of features in, and on trees, indicating potential for roosting bats such as fissures, holes, loose bark and ivy and those associated with buildings such as cavities, roof voids, hanging tiles, unenclosed soffits etc. Direct evidence such as the presence of bats, staining, droppings and feeding remains was also looked for;
- Evidence of badger, including setts, runs, snuffle holes and hairs;
- Scrub/grassland mosaic and potential hibernation sites for reptiles;
- Suitable habitat for dormice, such as woodland, scrub and dense/species-rich hedgerows, particularly when connected to suitable habitats across the wider landscape;
- Assessment of any on-site ponds and surrounding terrestrial habitat as to their potential to support great crested newts and other amphibians; and,
- Assessment of water bodies, such as ditches and streams as to their potential to support water vole and/or otter.

The likelihood of occurrence of any protected and/or invasive species is ranked as follows and relies on habitat suitability and an evaluation of existing data:

Rank	Evaluation
Negligible	While presence cannot be absolutely discounted, the site includes very limited or poor quality habitat for a particular species or species group. There may be no local returns from a data search and the surrounding habitats are considered unlikely to support wider populations of a species/species group. The site may also be outside or peripheral to the known natural range for a species/species group.
Low	Habitats within the site are of poor to moderate quality for a given species/species group. There are few or no returns from the data search, but presence cannot be discounted on the basis of national distribution, the nature of surrounding habitats, habitat fragmentation or

	recent on-site disturbance, etc.
Medium	Habitats within the site are of moderate quality providing opportunities for a given species/species group. Desk study reveals local occurrence or site is within the national distribution and with suitable surrounding habitat. Factors limiting the likelihood of occurrence may include small habitat area, habitat isolation, and/or disturbance.
High	Habitats within the site are of high quality for a given species/species group. Desk-top study provides evidence of local occurrence. The site is within/peripheral to a national or regional stronghold and/or has good quality surrounding habitat and good connectivity.
Confirmed Presence	Presence confirmed from the current survey or by recent, confirmed records.

Natural England's Great Crested Newt Mitigation Guidelines (English Nature, 2001) recommend that any waterbodies within 500 m of a site and sites with suitable terrestrial habitats within 500 m of a waterbody should be assessed for great crested newt potential.

The CIEEM EcIA guidelines (2016) recommend that the value or potential value of an ecological resource or feature should be determined within a defined geographical context. They recommend that the following frame of reference be used (or adapted to meet local circumstances):

- International and European;
- National;
- Regional;
- County (or Metropolitan); or
- Local.

The purpose of this assessment is to identify whether sufficient information is available to accurately assess the nature conservation value of a site for a given protected species or whether more comprehensive Phase 2 surveys for protected species are necessary.

2.4 Limitations

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

habitat surveys were suitably skilled at classifying habitats and identifying plants outside of the core flowering season.

It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation can ensure the complete characterisation of the natural environment. The Extended Phase 1 habitat survey does not constitute a full botanical survey. Plant species may have been under-recorded, unidentifiable or not visible due to a number of factors including the time of year the survey was carried out.

The protected species assessment provides a preliminary view of the likelihood of protected species occurring on the site. This is based on the suitability of the habitat, known distribution of the species in the local area (provided by data searches) and any direct evidence within the survey area. It should not be taken as providing a full and definitive survey of any protected species group. It is only representative of the time the survey was carried out. Additional surveys may be recommended if, on the basis of the preliminary assessment or during subsequent surveys, it is considered reasonably likely that protected species may be present. Desk study data is not likely to be exhaustive and it is therefore possible that protected species not identified during the data search do in fact occur within the vicinity of the site.

3. BASELINE CONDITIONS

3.1 Aerial Photography and OS Maps

The site is located to the north of Bodicote, within a predominantly residential area. The habitats immediately surrounding the site were residential; however in the wider area large agricultural fields were present, lined by treeline and hedges which will have value for wildlife.

To the east of the site, a new build residential development was under construction. To the west of the site, a school with associated playing and recreational fields were present.

The River Cherwell is located approximately 1.5 km to the east of the site. In addition, the Oxford Canal is located approximately 1 km east of the site. Both of these features are anticipated to act as high value foraging and commuting resources for a range of wildlife, in particular birds and bats.

A single waterbody was located within 1 km of the site boundary. This was associated with Cherwell District Council offices, and was located approximately 145 m south of the site boundary. Please refer to the sections below for further discussion of the waterbody.

3.2 Statutory and Non-Statutory Designated Sites

The site was found to be located within the Risk Impact Zone of Bestmoor Site of Special Scientific Interest (SSSI), located approximately 8.7 km south of the site. This SSSI is designated for its semi – improved floodplain meadow. The meadow is known to contain one of the largest known British populations (estimated at over 30000) narrow leaved water dropwort (*Oenanthe silaifolia).* The site is also known to have value for wintering bird species.

Other designated sites within the local area include:

- Adderbury Lakes Local Nature Reserve (LNR), located approximately 3.2 km south of the site boundary; and
- Farthinghoe LNR, located approximately 5.6 km east of the site boundary.

3.3 Biodiversity Action Plans (BAP)

Consultation identified several areas of UK BAP Habitats within the local area. These included:

- An area of deciduous woodland, located approximately 170 m south of the site boundary;
- An area of “No main habitat but additional habitat exists”, located approximately 250 m east of the site boundary; and,
- A large area of Floodplain and Grazing Marsh, located approximately 1 km east of the site associated with the River Cherwell.

4. HABITATS

4.1 Site Summary

The main habitats within each parcel are described below. The location of each habitat is shown on the Extended Phase 1 Habitat Plan (see drawing number 103869-002) and target notes are listed in Appendix 1. An indication of the species present in each habitat is listed in Appendix 2.

The site is known to be often used for fairground and car boot sales within the local area. The site has no agricultural purpose, and is used for amenity.

4.2 Improved Grassland

The site was predominantly comprised of an improved grassland field (TN1), which comprised of species such as perennial rye grass (*Lolium perenne*), common dandelion (*Taraxacum officinale*), white clover (*Trifolium repens*), common daisy (*Bellis perennis*), herb Robert (*Geranium robertianum*), broad leaved dock (*Rumex obtusifolius*), Yorkshire fog (*Holcus lanatus*) and lesser celandine (*Ficaria verna*). The field was found to be partly ploughed to the north at the time of survey.

4.3 Hedgerows and Trees

The site was bordered by hedgerows, which defined the site boundary.

H1 – was located to the east of the site boundary and was approximately 2 m in height, well managed though gappy in places. Species present included hawthorn (*Crataegus monogyna*), bramble (*Rubus fruticosus*), ash (*Fraxinus excelsior*), buckthorn (*Frangula alnus)* and ivy (*Hedera helix*).

H2 – was located to the north of the site, and was comprised of trees and hedge. Species present included holly (*Ilex aquifolium*), hawthorn, buckthorn and oak (*Quercus robur*).

H3 – was located to the west of the site and was found to be similar in composition to H2 and ran adjacent along the access road.

H4 – was located to the north of the Farm Shop, and was short in length and partially gappy. It was predominantly comprised of hawthorn, with some ash, lime and maple trees.

H5 – was located to the south of the site and was approximately 3 m in height. This hedgerow was found to be defunct, and was comprised predominantly of hawthorn, which was choked by ivy.

H6 – was a small strip of hedgerow associated with the Farm Shop. This was approximately 2 m high and defunct but managed. The hedge was predominantly hawthorn, with a grassland understorey.

To the centre of the site, several scattered trees were present. Species present included; horse chestnut (*Aesculus hippocastanum*), oak, common beech (*Fagus sylvatica*), elder (*Sambucus nigra)*, cherry (*Prunus sp*.), lime (*Tilia sp*.) and sycamore (*Acer pseudoplatanus*).

4.4 Buildings and Structures

In the south west corner of the site, a Farm Shop and associated buildings were present. Please refer to Drawing 103869 – 002 for the layout of the buildings on site.

B1 comprised of the main building which is a part of a farm shop. This was a two storey red brick building which is understood to have previously been stables. The roof was pitched and was found to be in good condition.

B2 was interconnected to B1 and comprised of an open faced barn, constructed of wood and metal sheet. It was currently being used as part of the farm shop with numerous stock shelves.

B3 comprised of an open outhouse to the north of B1 and was constructed of brick and wooden beams.

B5 comprised of and open barn constructed of limestone brick and wooden beams and used for storage purposed.

B5, 6, 7 and 8 comprised of open barns, constructed of wood and metal. All were used for storage purposes.

4.5 Bare ground

To the south west of the site, the yard area and car park surrounding the buildings comprised of bare ground of compact soil with little vegetation present (TN2). Some vegetation colonised the boundary, including; common dandelion, common nettle, white clover, broadleaved dock and purple dead nettle (*Lamium purpureum*).

5. PROTECTED SPECIES

5.1 Overview

The legislation that relates to the protected species referred to in this section is included in Appendix 3. Additional species/species groups have been considered as part of this report; however, only those that occur within the same geographical range and where suitable habitats are present within or adjacent to the site are included below.

5.2 Amphibians

Consultation with Thames Valley Biological Records Centre identified records for smooth newt (*Lissotriton vulgaris*), common toad (*Bufo bufo*) and common frog (*Rana temporaria*) within 1km of the site. The closest record was located approximately 600 m south west of the site boundary within Town Furlong Farm.

One waterbody was located approximately 145 m to the south of the site, within an amenity garden of the County Council offices. The pond was assessed with regard to the potential to support great crested newt. The great crested newt Habitat Suitability Index (HSI) is a quantitative measure of habitat quality that evaluates the suitability of habitat for great crested newts (ARG UK, 2010). The scoring system evaluates the suitability of the habitat quality and quantity for great crested newts based on a numerical score for ten indices. Table 5.1 lists the score that was achieved for each of these indices and calculates their subsequent HSI score for the waterbody located on site.

Waterbodies	WB1	
SI1 - Location	A	1
SI2 - Pond area m^2	180m^2	0.4
SI3 - Pond drying	Never dries	0.9
SI4 - Water quality	Poor	0.33
SI4 - Shade	60%	1
SI6 – Fowl	Minor	0.67
SI7 – Fish	Possible	0.67
SI8 - Ponds	2	0.55
SI9 – Terr. habitat	Mod	0.67
SI10 - Macrophytes	0%	0.3
HSI Scores	0.60	
	Average	

The site itself contains no waterbodies suitable for great crested newt breeding. The site provides no suitable terrestrial habitats for the species, given that the majority of the site is comprised of either short grazed improved grassland. No significant terrestrial or overwintering opportunities were identified. However, the hedgerows would provide limited terrestrial habitat for common amphibians.

The ecological value of the site with regards to great crested newts as negligible, however the site was assessed as low for common amphibians.

5.3 Avifauna

Consultation with Thames Valley Biological Records Centre identified large number records for notable bird associated with the surrounding area.

Records included shoveler (*Anas clypeata*), tufted duck (*Aythya fuligula*), little grebe (*Tachybaptus ruficollis*), red kite (*Milvus milvus*), lapwing (*Vanellus vanellus*), swift (*Apus apus*), green woodpecker (*Picus viridis*), grey wagtail (*Motacilla cinerea*), tree sparrow (*Passer montanus*), brambling (*Fringilla montifringilla*), yellowhammer (*Emberiza citronella*) and reed bunting (*Emberiza schoeniclus*).

During the site survey, a number of bird species were identified. Species present included house sparrow (*Passer domesticus*), feral pigeon (*Columba livia domestica*), blue tit (*Cyanistes caeruleus*), blackbird (*Turdus merula*), and lesser spotted woodpecker (*Dryobates minor*). A buzzard (*Buteo buteo*) was also identified flying over the site at the time of the survey.

The habitats on site, in particular the boundary features and scattered trees provide good opportunities for a range of breeding birds. A number of old nests were located within the open barns (B4 and B7). The habitats present are common and widespread within the local area, and therefore the ecological value for the site was assessed as local, within the zone of influence only, with respect to birds.

5.4 Badger

Consultation identified a single record for badger (*Meles meles)* within 1 km of the site.

During the site survey no setts (used or disused) were identified. The habitats on site would provide limited value for badgers, and the site is largely isolated by residential housing and main roads. Therefore the ecological value for the site with regards to badgers was assessed as negligible, however habitats in the wider area of suitable for the species.

5.5 Bats

Consultation with the Thames Valley Biological Records Centre identified a number of records for bats in the vicinity of the site. Species identified included pipistrelle sp (*Pipistrellus sp*.) and common pipistrelle (*Pipistrellus pipistrellus*).

During the site survey a visual assessment of all trees and buildings within and adjacent to the site was undertaken to determine their potential to support bat roosts (as per the categories listed within the Good Practice Guidelines; Collins, 2016).

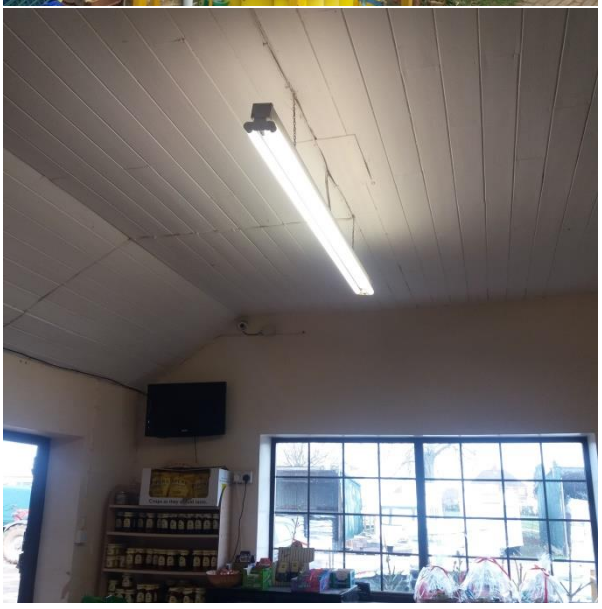
A total of 6 trees were assessed as having bat roosting potential within the site boundary. Please refer to Table 5.2 for the description and image.

Tree	Photograph
T1. A mature Horse chestnut (*Aesculus hippocastanum*) was located to the south of the site within the improved grassland field. A large hole was located on south eastern aspect, approximately 3m high. A number of branches had fallen which provided gaps in the main stem which may lead to an internal crevice. T1 was assessed as having **Moderate** bat roosting potential.	
T2. A mature Hawthorn (*Crataegus monogyna*) was located within the centre of the site. A number of small holes were present where branches have been removed. T2 was assessed as having **Low** bat roosting potential.	

T3. A mature oak (*Quercus robur*) was located within the centre of the site. A hole was located on the eastern aspect, approximately 3 m high which may provide roosting opportunities. T3 was assessed as having **Low** bat roosting potential.	
T4. A mature oak (Quercus robur) was located within H1. No obvious crevices were found within the stem of the tree, however it was densely covered by ivy which may cover potential roosting points. T4 was assessed as having **Low** bat roosting potential.	

T5. A mature oak (*Quercus robur*) was located to the north of the site within the semi-improved grassland field. There was evidence of previous felling and a small gap was located where a branch had begun pulling away from the stem, on the northern aspect of the tree which may provide roosting opportunities. T5 was assessed as having **Low** bat roosting potential.	
T6. A mature oak (*Quercus robur*) was located to the north of the site within H2. A large hole was located on the northern aspect of the tree. Ivy was also present which may cover potentional roosting points. T6 was assessed as having **Moderate** bat roosting potential.	

All the structures on site were assessed for their bat roosting potential. Please refer to Table 5.2 below:

Features	Photograph
B1. The current farm shop which was of two storey red brick construction. The building was found to be well sealed internally. On the eastern elevation, wooden panelling covered the walls and ceiling. A loft void was also present within the centre of the building, and upon inspection no light gaps were present, indicating no access was present in to the loft void. A small open outhouse was located on the western aspect and upon inspection, the brick walls were well sealed with no roosting opportunities identified. The roof was constructed of slate tiles which were in good condition; however to the east on the southern roof, a tile was missing which would provide internal access to the cavity between the roof and the internal wooden boards. B1 was assessed as having **low bat roosting potential**.	 

	
B2 comprised of an open barn which was apart of B1. It was constructed of wooden boards and metal sheeting. No obvious roosting opportunities were located within the building. B2 was assessed as having **negligible** bat roosting potential.	
B3 comprised of a storage building constructed of limestone bricks, wooden beams and a metal corrugated roof. It appeared to be former stables. No obvious roosting points were located and it appeared well sealed. B3 was assessed as having **negligible** bat roosting potential.	No photo available

B4 was an open barn, constructed of limestone bricks, wooden beams and a corrugated roof. The brick walls were well sealed with no crevices located. B4 was assessed as having **negligible** bat roosting potential.	
B5 to 8 were of similar construction and comprised of open barns, constructed of wooden beams and metal corrugated sheets. All were assessed as having **negligible** bat roosting potential.	

The majority of the site provided low opportunities for bats, being comprised of short managed grassland. However the boundary features, comprising of hedgerows and treelines; will provide commuting and foraging opportunities for bats.

The likelihood of bat presence within the site (i.e. foraging along boundary hedgerows or commuting along the sites boundary) is assessed as medium. The sites value for bats was assessed as moderate.

5.6 Reptiles

Consultation identified five records of grass snake (*Natrix natrix*) within the search area. The closest record was located approximately 150 m south west of the site boundary, within the grounds of the council offices.

The site provides negligible opportunities for reptiles, as the majority of the site is heavily managed and species poor. Negligible basking or resting places were identified. The site lacks the structural diversity to support reptiles. The sites value for reptiles was assessed as negligible.

5.7 Invertebrates

Consultation identified a small number of records for notable invertebrates which were typically associated with The Saltway (Banbury). Records included wall (*Lasiommata megera*), small heath (*Coenonympha pamphilus*) and white letter hairstreak (*Satyrium w-album*).

The site itself was comprised of generally species poor habitats which lacked structural diversity, making it unlikely to support significant populations of notable species.

Based on the local records and range of habitats on site and in close proximity to the site, the ecological value of the site with regard to notable invertebrates is considered to be of negligible

value.

5.8 Other species

Consultation identified two records of West European Hedgehog (*Erinaceus europaeus*), the closest of which was located approximately 760 m south west of the site.

The site does provide sub- optimal habitat for hedgehogs by way of the boundary hedgerows. As such the sites value for the species was assessed as low.

5.9 Flora

Consultation did not identify any notable species for flora within the search area.

No notable species were recorded during the surveys and the site was generally found to be species poor and lacking diversity.

The sites value for notable flora was assessed as negligible.

5.10 Invasive Species

Consultation identified no local records for Schedule 9 species. No invasive plant species were recorded within or immediately adjacent to the site.

No high risk areas for invasive plant establishment (e.g. significant soil/rubble heaps or imported soils) were recorded during the survey.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Scheme Proposals

The proposals include the demolition of the current buildings on site and the retention of hedgerows and trees, to accommodate the construction of a new residential development of 52 dwellings. Please refer to Drawing 003 for the proposed site.

The scheme proposes a number of enhancements, including;

- Sensitively planted new trees;
- Gapping up and reinforcement of existing hedgerows;
- Planting of species rich grassland; and,
- Provision of a SUDS basin which will be planted to create a wildlife feature.

It is anticipated that the development will increase the biodiversity on site, through the provision of the above. The features of highest value are to be retained and enhanced; additional habitat types are to be introduced to overall improve the ecological value of the site. Further recommendations have been listed below to target specific species known to be in the local area.

6.2 Statutory/Non-Statutory Designated Sites

It is not anticipated that the proposed development will have any impact on any statutory or non-statutory designated sites, due to the distance they are from the site, and the presence of anthropogenic barriers.

6.3 Habitats

The habitats within the site were largely found to be heavily managed and species poor.

The habitats with the highest value were the boundary features, which are to be retained and enhanced through development if possible.

Please refer to the Arboricultural Report (Report Ref: AWA2120), produced by AWA Tree Consultants. The majority of trees are to be retained and incorporated within the proposed development design.

Two trees are to be removed which of Tree Protection Order

All trees to be retained on site will be adequately protected using tree protection fencing following the guidance provided in 'BS 5837:20012 Trees in Relation to Design, Demolition and Construction – Recommendations'.

6.4 Protected Species

Below is a description of the potential impact to species and species groups that may be adversely affected as a result of the proposed works. The National Planning Policy Framework (NPPF) requires that developments should "contribute to conserving and enhancing the natural environment". Thus, where appropriate, recommendations have also been made to enhance the sites biodiversity for these species.

Amphibians

The site itself contains no habitats suitable to support breeding. The only terrestrial habitats with any value for amphibians are the boundary hedgerows which are to be retained.

The majority of the site was comprised of short and managed grassland, which provides no opportunities for the species. No records of great crested newts are available for the area.

It is not anticipated any further surveys or mitigation is required in relation to amphibians for development to continue.

Reptiles

The site was found to be unsuitable for reptiles, and as such no further surveys or mitigation are deemed necessary.

Avifauna

Direct impacts to nesting birds can be avoided through undertaking any vegetation clearance and the demolition of the barns outside of the nesting period. However, should these works be required within the breeding bird season then it is recommended that a check for breeding birds is undertaken by a suitably experienced surveyor prior (within 24 hours) to works commencing. If a nest (or nest in construction) is found, a suitable stand-off area should be maintained until the young have fledged.

In line with the NPPF, it is recommended that any proposed tree and shrub planting for landscaping/screening purposes aims to include native fruit bearing specimens to increase foraging opportunities for birds within the site. Species such as dogwood (*Cornus sanguinea*), hazel (*Corylus avellana*), rowan (*Sorbus aucuparia*) and wild cherry (*Prunus avium*) are considered appropriate for this development as they have both aesthetic and nature conservation qualities.

Where possible, bird boxes should be installed in appropriate locations such as within landscaped areas and on retained mature trees. The specifications for the proposed boxes are detailed in Table 6.1 below.

Table 6.1 Suggested Bird Boxes

Bird Box Specifications	Photograph
Schwelger 32mm Nest Box Height: 23cm Diameter: 16cm Weight: 3.6kg Material: Schwegler Woodcrete These nest boxes are appropriate for many different species of common and urban passerine bird species such as; tits, thrush and wren. They are made of woodcrete construction which is durable and long lasting, requiring significantly less cleaning than traditional nest boxes thereby lowering maintenance required. These boxes are designed to be easily hung from tree branches to make for easy installation, and are available in a range of styles and colours. Source: http://www.nhbs.com/title/158587/1b-schwegler-nest-box	

Bats

The site currently supports boundary features which have value for bats for foraging and commuting. It is recommended that these are retained and enhanced throughout the development.

In line with the NPPF, it is recommended that any proposed tree and shrub planting for landscaping/screening purposes aims to include native fruit bearing specimens to increase foraging opportunities for birds within the site. Species such as dogwood (*Cornus sanguinea*), hazel (*Corylus avellana*), rowan (*Sorbus aucuparia*) and wild cherry (*Prunus avium*) are considered appropriate for this development as they have both aesthetic and nature conservation qualities.

B1 (the farm shop) was assessed as having low bat roosting potential, and therefore it is recommended, as per the Good Practice Guidelines, that a minimum of one dusk/ dawn emergence survey be undertaken to assess if bats are utilising the building for roosting. If roosting is located, further surveys may be required and a Natural England Mitigation License may be needed.

The majority of the trees which were assessed as having bat roosting potential are to be retained throughout the development. However T2 (mature Hawthorn) which was assessed as having low bat

roosting potential is to be removed and replaced. It is recommended that the tree is to be removed under Precautionary Working Measures (PWM's) by using a soft felling technique. The soft fell approach should be used under the supervision of an Ecological Clerk of Works (ECoW):

- Carefully section fell the tree avoiding cutting through or close to any cavities;
- Cut sections will be lowered to the ground with the use of ropes; and,
- Allow all felled sections to lie on the ground for 24 hours before removing side branches.

It is recommended to mitigate for the potential loss of bat roosting features within the site, bat boxes should be installed on the remaining mature trees along the sites boundaries, or the newly planted trees. Proposed specifications for bat boxes are shown in Table 6.2 below.

Table 6.2 Suggested Bat Boxes

Bat Box Specifications	Photograph
1FF Schwegler Bat Boxes With Built-in Wooden Rear Panel • Height: 43.0 cm • Width: 27.0 cm • Depth: 14.0 cm • Entrance hole: 12.0 cm x 24.0 cm • Weight 9.5 kg The Schwegler 1FF bat box is spacious enough for bats to use as a summer roost or nursery sites and is open at the bottom, allowing droppings to fall out so it does not need cleaning. The 1FF is manufactured from long-lasting Woodcrete, which is a blend of wood, concrete and clay which will not rot, leak, crack or warp, and will last for at least 20 - 25 years. Source: http://www.nhbs.com/title/158636/1ff-schwegler-bat-box-with-built-in-wooden-rear-panel	

It is recommended that no lighting be directed at the boundary features and the retained trees during development, as this may discourage bats from using the features. The use of artificial lighting should aim to follow the protocols outlined in the Institute for Lighting Engineers document "Guidance for the Reduction of Obtrusive Lighting" (2005) and BCT's "Artificial Lighting and Wildlife

Interim Guidance: Recommendations to Help Minimise the Impact of Artificial Lighting" (2014) to minimise disturbance.

6.5 Recommended Further Ecological Surveys and Mitigation

Table 6.2 summarises further ecological survey and mitigation requirements.

Table 6.2 Recommended further ecological surveys and mitigation

Species / Feature & Location	Recommended Survey/Action	Potential Impact/Mitigation Required	Survey Timing
Amphibians	Undertake Reasonable Avoidance Measures	Killing/ injuring amphibians	March - October
Avifauna	Nesting bird check prior to removal of suitable nesting bird habitats. NB: only required if works undertaken during the breeding bird season.	Disturbance of breeding birds. Area to be declared free immediately prior to site works.	March to September.
Bats *Buildings* *Trees*	A single dusk/dawn survey to be carried out on B1 Soft fell T2	Disturbance/destruction of a bat roost.	May-September Anytime of the year.

REFERENCES

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- Collins, J (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd edition. Bat Conservation Trust.
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APPENDIX 1 TARGET NOTES

APPENDIX 1 – TARGET NOTES (TN)

TN	Feature	Photograph of feature
1	The majority of the site comprised of an improved grassland field.	
2	A larger area of bare ground was located the south west of the site.	

H1	H1 bordered the site to the east.	
H2	H2 bordered the site to the north.	

H3	H3 bordered the site to the west, and ran adjacent to the access road.	
H4	H4 was located to the west of the site.	

H5	H5 was to the south of the site.	
H6		

H7		
WB1	WB1 was located approximately 145 to the west of the site.	

APPENDIX 2 SPECIES LIST

APPENDIX 2 – INDICATIVE SPECIES LIST

Flora

Horse chestnut (*Aesculus hippocastanum*)
Sycamore (*Acer pseudoplatanus*)
Common daisy (*Bellis perennis*)
Hawthorn (*Crataegus monogyna*)
Beech (*Fagus sylvatica*)
Lesser celandine (Ficari*a verna*)
Buckthorn (*Frangula alnus)*
Ash (*Fraxinus excelsior*)
Herb Robert (*Geranium robertianum*)
Ivy (*Hedera helix*).
Yorkshire fog (*Holcus lanatus*)
Holly (*Ilex aquifoliu)*
Purple dead nettle (*Lamium purpureum*)
Perennial rye grass (*Lolium perenne*)
Cherry (*Prunus sp*.)
Oak (*Quercus robur*)
Broad leaved dock (*Rumex obtusifolius*)
Bramble (*Rubus fruticosus*)
Elder (*Sambucus nigra)*
Common dandelion (*Taraxacum officinale*)
White clover (*Trifolium repens*)
Lime (*Tilia sp*.)

Fauna

Blue tit (*Cyanistes caeruleus*)

Feral pigeon (*Columba livia domestica*)

Lesser spotted woodpecker(*Dryobates minor*)

House sparrow (*Passer domesticus*)

Blackbird (*Turdus merula*)

APPENDIX 3 PROTECTED SPECIES LEGISLATION

APPENDIX 3 – PROTECTED SPECIES LEGISLATION

Breeding Birds

Under the Wildlife & Countryside Act 1981 (as amended), a wild bird is defined as any bird of a species that is resident in or is a visitor to the European Territory of any member state in a wild state. Game birds, however, are not included in this definition (except for limited parts of the Act). They are covered by the Games Acts, which fully protect them during the closed season.

All birds, their nests and eggs are protected by law and it is an offence, with certain exceptions, to;

- Kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird while it is being built or in use;
- Take or destroy the eggs of any wild bird; and,
- Possess or control any wild bird or egg unless obtained legally.

Birds listed under Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) are afforded additional protection, which makes it an offence to disturb a bird while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

The UK's birds can be split in to three categories of conservation importance - red, amber and green.

Red list criteria:

- Globally threatened;
- Historical population decline in UK during 1800–1995;
- Severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period (the entire period used for assessments since the first BoCC review, starting in 1969); or,
- Severe (at least 50%) contraction of UK breeding range over last 25 years, or the longer-term period.

Amber list criteria:

- Species with unfavourable conservation status in Europe (SPEC = Species of European Conservation Concern);
- Historical population decline during 1800–1995, but recovering; population size has more than doubled over last 25 years;
- Moderate (25-49%) decline in UK breeding population over last 25 years, or the longer-term period;
- Moderate (25-49%) contraction of UK breeding range over last 25 years, or the longer-term period;
- Moderate (25-49%) decline in UK non-breeding population over last 25 years, or the longer-term period;
- Rare breeder; 1–300 breeding pairs in UK;
- Rare non-breeders; less than 900 individuals;
- Localised; at least 50% of UK breeding or non-breeding population in 10 or fewer sites, but not applied to rare breeders or non-breeders; or,
- Internationally important; at least 20% of European breeding or non-breeding population in

UK (NW European and East Atlantic Flyway populations used for non-breeding wildfowl and waders respectively).

Green list species occur regularly in the UK but do not qualify under any or the above criteria.

Bats

All bat species are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way Act (2000) and the Conservation (Natural habitats &c.) Regulations 2010 (as amended). Together, this legislation makes it illegal to:

- Intentionally or deliberately take, kill or injure a bat;
- Damage to, destruction of, and obstruction of access to, a bat roost; and,
- Disturbance of a bat occupying a roost.
- A bat roost is defined in the legislation as “any structure or place which a bat uses for shelter or protection”.

DRAWINGS

Site Location Plan

Revision	Date	Issue	Drawn	Authorised
R0	03.04.2018	1	KB	OW

Client: Hollins Strategic Land LLP

Job Number: 103869

Drawing No: 001

Scale: N/A

Job Title: Land off Oxford Road, Bodicote

Site Location Plan

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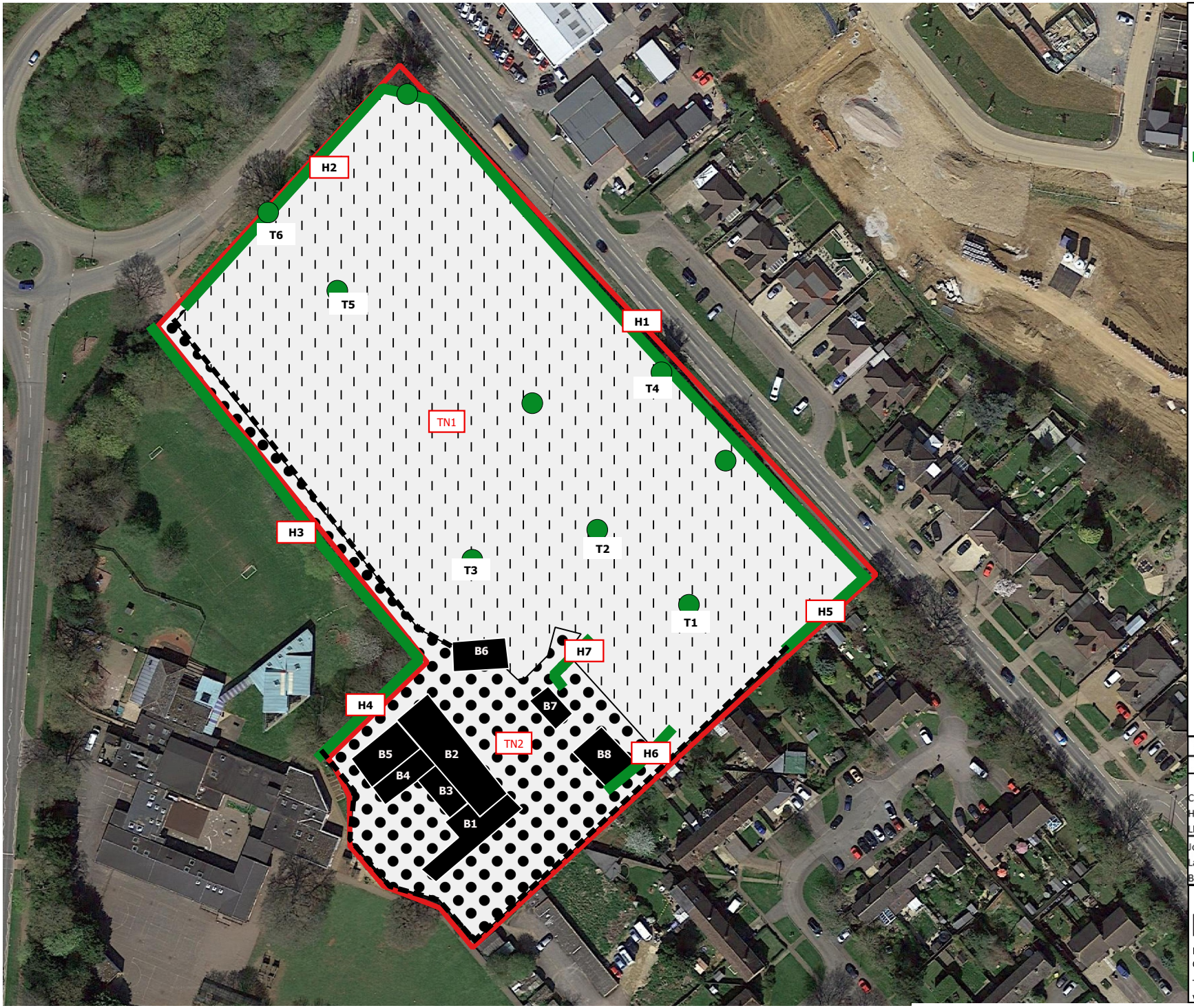

Legend

- Site Boundary
- Fence
- Tree
- Hedgerow
- Building
- J4 - Bare ground
- B4 - Improved grassland
- TN1 Target Note

Revision	Date	Issue	Drawn	Authorised
R0	03.04.2018	1	KB	OW

Client: Hollins Strategic Land LLP	Job Number: 103869	
	Drawing No: 002	Scale: 1:1,500
Job Title: Land off Oxford Road, Bodicote	Site Habitat Plan	

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