

**112 Brize Norton Road,
Minster Lovell
Preliminary Ecological Assessment
and Preliminary Bat Survey**

On Behalf of:
Jack James Homes Ltd

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4 Acre Ecology Limited

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Executive Summary

- 1.1 The site consists of a 1950s bungalow and out-buildings, with the associated garden around them. This is set within a rural location in West Oxfordshire. It lies on the western edge of Minster Lovell, a former Charterville allotment site, set off the B4477 Brize Norton Road (SP 31201015).
- 1.2 The site is approximately 0.35ha and surrounded by houses and gardens to the north and south, and east beyond the Brize Norton road. To the west is a grass field covering around 4.5ha. The wider landscape is agricultural fields and small copses to the east and west, with the main village to the south.
- 1.3 There are plans to demolish the bungalow and replace this with four houses. This Preliminary Ecological Assessment, including a Preliminary Bat Survey, has been commissioned to help inform the planning decision.
- 1.4 The field survey was undertaken on 6th May 2022 by an experienced Ecologist using standard Phase I methodology and who holds a Bat Survey Class a Licence.
- 1.5 The site consists of a 1950s bungalow, with associated sheds and barns to the south and west of this. There is a small area of former orchard trees in the north-east corner of the site, but the majority of the habitat present is mown lawn with some boarders.
- 1.6 Around 100 bat droppings were found scattered around the single loft space, with. Therefore, further bat surveys, consisting of three surveys to include at least one dawn survey, are required to confirm the presence of roosting bats or be confident of their likely absence.
- 1.7 An active Starling nest was found in the eastern soffit, with potential nesting habitat in the barns and trees on the site. Therefore, a method statement to avoid disturbing nesting birds is presented.
- 1.8 Orchards are a BAP habitat and it is recommended that some of the fruit trees are retained.
- 1.9 No other protected species or species of conservation concern were identified as likely to be present on the site.
- 1.10 Any removal of trees and scrub will be carried out using methods to avoid disturbance to nesting birds.
- 1.11 Some suggestions have been made to enhance the site for wildlife to fulfil the aims of the NPPF.

2. Introduction

Background

- 2.1 The site (Central Grid Reference SP 31201015) is approximately 0.35ha in area and is situated in a rural location off of the B4477 Brize Norton Road on the western edge of the village of Minster Lovell in the district of West Oxfordshire, in the county of Oxfordshire. The site is part of a former Charterville allotment, with the former bungalow replaced by a 1950s bungalow, and the remainder of the Charterville allotment outside the redline of the proposed development site.
- 2.2 Access to the site off of the Brize Norton Road is via a tarmac track leading to the bungalow and the sheds/barns. The remainder of the site is the garden of the bungalow.
- 2.3 There are plans to demolish the bungalow and erect four houses on the site. Therefore, Preliminary Ecological Assessment, including a Preliminary Bat Survey, has been requested to help inform the planning decision.
- 2.4 Jack James Homes Limited commissioned 4 Acre Ecology Limited on the 9th May 2022 to undertake an Extended Phase I Habitat Survey and Preliminary Bat Survey of the site, to allow this report to be written.

Aims and Objectives

- 2.5 The aim of the survey was to determine the ecological value of the site and to assess possible ecological constraints that may be present on the site, suggesting any further surveys or mitigation required. The objective was to support a successful planning application, whilst maintaining the conservation status of the area.

About the Author

- 2.6 Mark Satinet has been working in the field of Wildlife Conservation and Ecology since 1992. 13 years at the Wildlife Trusts working on wider countryside habitat and species projects provided a good background in habitat surveys, species identification, habitat management advice to landowners and dealing with the public and media. He became the County Mammal Recorder for Wiltshire in 2000 and set up the Wiltshire Mammal Group in 2005. He is also a voluntary Bat Warden for Natural England and has been an active member of the Wiltshire Bat Group since 2001.
- 2.7 Since 2006 he has been a consultant ecologist, first as a senior ecologist at a multi-disciplinary company for a year and then the principle ecologist running the ecology team in a specialised ecological firm for a further four years. He is a full member of the Chartered Institute of Ecology and Environmental Management and a Chartered Environmentalist.

2.8 He now owns and runs his own company, 4 Acre Ecology Limited. He holds disturbance licences for bats, Great Crested Newts, Dormice, Barn Owls and Shrews and has held development licences for Great Crested Newts, bats and Dormice and both a Bat Low Impact Class Licence and Great Crested Newt Low Impact Class Licence.

3. Methodology

Desk Study

- 3.1 A data search was commissioned from Thames Valley Environmental Records Centre (TVERC) for the site and all land within 2km of the site. Biological Records Centres hold information regarding statutory designated sites, local nature reserves, sites of conservation interest, records of protected species and other species of conservation concern. However, this data cannot be considered fully comprehensive and therefore the absence of data, in response to a data search, does not imply that a species, important habitat or designation does not exist within that search area.
- 3.2 The Multi-Agency Geographical Information for the Countryside (MAGIC) website was also consulted to obtain any additional information and to determine if there were any sites designated for bats within 5km of the site boundary, or any designated sites within 2km. The land within 500m of the site was examined through aerial/satellite images and on-line mapping tools to identify any likely ponds that may support Great Crested Newts (GCNs).

Field Survey

Phase I Habitat Survey

- 3.3 A Phase I habitat survey (JNCC, 2010) was carried out across the site and up to 30m beyond its boundary to investigate the potential for badger setts. Phase I habitat survey is a standardised, rapid mapping technique for obtaining baseline ecological information over large areas of land. It uses standard habitat definitions for classifying areas of land based on the vegetation present. The technique was modified to provide more detail over a smaller area and give further consideration to the presence of fauna. The standard habitat definitions were used, with coarse grassland as an additional category to cover unmanaged, secondary grasslands that are species poor.
- 3.4 Easily identified higher plant species from each habitat type were recorded and their abundance was assessed on the DAFOR scale:

D Dominant (81-100% Cover)
A Abundant (61-80% Cover)
F Frequent (41-60% Cover)
O Occasional (21-40% Cover)
R Rare (1-20% Cover)

- 3.5 This scale is only representative of the area covered within each habitat type on the site and does not reflect national, regional or local abundances. As plant cover is stratified total percentage cover by adding up the scale can easily be greater than 100%. The names of all species follow the *National Biodiversity Network's Species Dictionary*.

- 3.6 No other specific faunal surveys were undertaken. However, incidental records were made and the habitats identified on site were evaluated for their potential to support species of conservation interest, including protected and Biodiversity Action Plan (BAP) Priority species.

Preliminary Bat Survey

- 3.7 An external and internal inspection of the buildings was made by a Natural England Licensed bat surveyor (Class Licence Registration number 2015-13769-CLS-CLS). The exterior of the buildings were searched for evidence of bats, looking for grease stains in external crevices and searching for droppings on windows sills, windows, walls and ledges and on the ground below potential entrance/exit areas to the roof or walls.
- 3.8 The interior roof spaces of the buildings were searched using high powered torches for evidence of bats. This evidence includes sightings, dead bats, feeding remains, smell, droppings and grease marks at entry/exit points. The potential of the buildings as bat roosts was judged and any signs of bats or features offering roost potential were noted.

4. Legislation and Planning Policy

4.1 There are a number of tiers of legislation protecting wildlife in England and Wales. The highest tier is for those species protected by European Legislation, such as the Dormouse, Great Crested Newt, Otter and all species of bat. These are known as European Protected Species (EPS), which gain their protection from the Conservation of Habitats and Species Regulations (Habitat Regulations) 2017 (and amendments), whereby under section 43 it is an offence to

- deliberately capture, injure or kill an EPS
- deliberately disturb or take/destroy the eggs of an EPS
- damage or destroy a breeding site or resting place of an EPS

4.2 Nationally protected species are either fully protected (e.g. Water Vole) or partially protected (e.g. Adder or Smooth Newt) under the Wildlife and Countryside Act (WCA) 1981 and amendments, including the Countryside and Rights of Way Act (CRoW) 2000. Under the WCA it is an offence to:

- intentionally kill, injure or take any wild bird, take or destroy any wild bird egg or take, damage or destroy any nest while it is in use or being built
- intentionally or recklessly disturb any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or disturb dependent young of such a bird
- intentionally or recklessly at any other time take, damage, destroy or otherwise interfere with any nest habitually used by any wild bird included in Schedule A1
- intentionally or recklessly kill, injure or take from the wild or possess all or any part of a Schedule 5 species
- intentionally or recklessly damage or destroy any structure or place which a schedule 5 species uses for shelter or protection, or disturb a schedule 5 species while it is occupying such a place
- obstruct access to any structure or place which a schedule 5 species uses for shelter or protection
- intentionally pick, uproot or destroy any wild plant included in Schedule 8

4.3 The CRoW Act 2000 added the term recklessly after intentionally in the Wildlife and Countryside Act 1981 and introduced a maximum custodial sentence of 6 months for offences.

- 4.4 The Natural Environment and Rural Communities Act 2006 (NERC) made provision about bodies concerned with the natural environment and rural communities and in connection with wildlife, sites of special scientific interest, National Parks and the Broads. Section 41 established a list of the living organisms and types of habitat which in the Secretary of State's opinion are of principal importance for the purpose of conserving biodiversity. This is known as the UK Biodiversity Action Plan (BAP) list.
- 4.5 Under the Protection of Badgers Act 1992 it is an offence to wilfully kill, injure or take a Badger and damage, destroy or obstruct a badger sett, cause a dog to enter a Badger sett or disturb a badger while it is occupying a sett.
- 4.6 The National Planning Policy Framework (NPPF) updated in 2018 states that Planning policies and decisions should contribute to and enhance the natural and local environment by:
- a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
 - b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
 - c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
 - d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
 - e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
 - f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.
- 4.7 To protect and enhance biodiversity and geodiversity, plans should:
- a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for 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

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

5. Results

Desk Survey

- 5.1 The data search from the local Biological Records Centre has been summarised in the tables below, with Table 1 showing the sites of wildlife interest, Table 2 the areas of ancient woodland and Table 3 the species of conservation interest.
- 5.2 80 species records exist within 1km of the site, with 21 bat records within 2km of the site. These records have been included if the species is protected or appears on the national or local BAP lists, otherwise they have been omitted from the tables below.
- 5.3 No European sites were identified within 2km of the site, however there were two sites of national importance identified within 2km of the site. The SSSI Worsham Lane site lies 700m south-west of the site and the Cotswold ANOB lies 880m to the north. There are six Local Wildlife sites within 2km of the site.
- 5.4 No protected sites designated for bats were identified within 5km and there were no EPSL licences issued for bats within 5km of the site. There are 21 bat records within 2km of the site; ‘Bat’ 3, Brown Long-eared 4, Common Pipistrelle 3, Noctule 2, Pipistrelle Bat Specie 5, Serotine 1 record and Soprano Pipistrelle 3. One of the records is an historical record dating from 1988 for a roost.
- 5.5 During the desk study, no ponds were located within 500m of the site, but there is one record of a Great Crested Newt within 2km of the site, but north of the River Windrush, an effective barrier to their movement.

Table 1. Sites of Wildlife Interest

Site Name	Grid Ref.	Area (ha)	Distance from Site	Direction from site	Description
European Importance					
-	-	-	-	-	-
National Importance					
Cotswold ANOB	SP3111	2041.1 sq. km	840m	N	Limestone scarp with grassland and ancient Beech woods. No impacts to this are envisaged due to the small scale of the development on previously developed land.
Worsham Lane SSSI	SP308096	0.5	700	SSW	Ancient track with associated grass verge supports rare plant species. No impacts to this are envisaged due to the distance from the site, the small scale of the development on previously developed land.
Local Importance					
Foxhill Bottom, Asthall Leigh Valley	SP306115	5.2	1.4km	NW	Lowland Calcareous Grassland area supports notable grassland species. No impacts to this are envisaged due to the small scale of the development on previously developed land.
Minster Lovell Marsh	SP314118	7.6	1.5km	N	Species rich Fen. No impacts to this are envisaged due to the small scale of the development on previously developed land.
Pumping Station Meadow	SP301105	5.7	1.1km	W	Species rich Limestone Grassland Pasture. No impacts to this are envisaged due to the distance from the site, the small scale of the development on previously developed land.

Site Name	Grid Ref.	Area (ha)	Distance from Site	Direction from site	Description
Local Importance					
Worsham Meadows	SP304110	14.1	1km	W	Lowland Floodplain Hay Meadow. No impacts to this are envisaged due to the small scale of the development on previously developed land.
Minster Lovell Bank	SP327112	4.9	1.7km	NNW	Wetland area. No impacts to this are envisaged due to the distance from the site, the small scale of the development on previously developed land.
Minster Lovell Meadows	SP333115	34.1	1.7km	NNW	Lowland floodplain meadow, supports variety of species. No impacts to this are envisaged due to the distance from the site, the small scale of the development on previously developed land.

SSSI = Site of Special Scientific Interest, AONB = Area of Outstanding Natural Beauty

Table 2. Ancient or Semi-Ancient Woodland

Site Name	Grid Ref.	Area (ha)	Distance from Site	Direction from site	Description
-	SP303102	0.27	500m	SW	Ancient Semi-Natural Woodland
Standridge Copse	SP314123	4.6km	2km	N	Ancient Semi-Natural Woodland

Table 3. Species of Wildlife Interest

Species	European Protected	Nationally Protected	UK BAP	NERC	No. of Records	Suitable Habitat on-site
Birds						
Barn Owl	No	Yes	No	No	11	No
Hobby	No	Yes	No	No	1	No
House Sparrow	No	No	Yes	Yes	3	Yes
Kingfisher	Yes	Yes	No	No	9	No
Lapwing	No	No	Yes	Yes	1	No
Quail	No	No	Yes	Yes	5	No
Starling	No	No	Yes	Yes	6	No
Invertebrates (Butterflies)						
Small Heath	No	No	Yes	Yes	2	No
Invertebrates (Moths)						
Lackey	No	No	Yes	Yes	1	No
Shaded Broad-Bar	No	No	Yes	Yes	3	No
Terrestrial Mammal (Bats)						
Bats	Yes	Yes	No	No	3	Yes
Brown Long-Eared	Yes	Yes	Yes	Yes	4	Yes
Common Pipistrelle	Yes	Yes	No	No	3	Yes
Noctule Bat	Yes	Yes	Yes	Yes	2	No
Pipistrelle Bat Species	Yes	Yes	No	No	5	Yes
Serotine	Yes	Yes	No	No	1	No
Soprano Pipistrelle	Yes	Yes	Yes	Yes	3	Yes
Terrestrial Mammals						
Badger	No	Yes	No	No	6	No
Brown Hare	No	No	Yes	Yes	2	No
Hedgehog	No	No	Yes	Yes	2	No
Otter	No	No	Yes	Yes	2	No
Polecat	No	No	Yes	Yes	13	No
Water Vole	No	No	Yes	Yes	23	No
Reptiles						
Grass Snake	No	No	Yes	Yes	2	No

Species	European Protected	Nationally Protected	UK BAP	NERC	No. of Records	Suitable Habitat on-site
Vascular Plants						
Bluebell	No	Yes	No	No	2	No
Downy Woundwort	No	Yes	No	No	22	No

NB: Protection under the Bern or Bonn convention has not been classed as European, only those protected under the Habitats Regulations 2010. Generic national protection (e.g. all nesting wild birds) is not included in this table, only specific species protection.

- 5.6 Surveys at St Kenelm’s church identified maternity roosts of Natterer’s and Brown Long-eared bats, plus day roosts of Serotine, Common Pipistrelle and Soprano Pipistrelle. Noctule, Daubenton’s, Leisler’s and Barbastelle bats were also recorded around the church and ruins. Adjacent barns had day roosts of Common Pipistrelle and Brown Long-eared bats in 2019.
- 5.7 Surveys at the Minster Mill and Old Swan found no evidence of roosting bats. However, the mill stream was used by Soprano and Common Pipistrelles to commute and forage along. A 2020 survey at wash meadow identified Common and Soprano Pipistrelles, Daubenton’s, Noctule, Brown Long-eared and Myotis spp.
- 5.8 A minor day-time Serotine roost has been identified in St Kenelm’s School when one entered the class room from the roof.

Field Survey

5.9 The Extended Phase I Habitat survey was undertaken on 6th May 2022 by an experienced ecologist. The weather conditions were dry, 50% cloud cover and a temperature of 18.0 degrees centigrade, with a moderate wind. The results are summarised on the Phase I map (Figure 1) and the following habitats were identified during the survey:

- Amenity Grassland
- Ruderals and Scrub vegetation
- Hedge
- Tree
- Hard Standing
- Buildings

5.10 The site is bounded by chain-link fencing on the southern side, closed board wooden fencing along the eastern and eastern half of the northern side, with the remainder delineated by reconstituted stone walls, around 1.8m high.

Amenity Grassland

5.11 This forms the approximately 50% of the site, containing abundant Red Fesue, occasional Upright Brome, Perennial Rye Grass and Black Medic, with Cocksfoot, Red Clover, Creeping Buttercup, Dandelion, Ribwort Plantain, Selfheal, Common Vetch and Daisy occurring rarely. This is generally well maintained, but with some longer areas around the barns to the west.

Ruderal

5.12 Ruderals are found on the edges of the site, to the west and along the northern side amongst the buildings. This is dominated by Common Nettle, but with White Dead Nettle, Forget-me-not, Comfrey, Hogweed, Broad-leaved Dock, Spear Thistle and Cleavers all occurring rarely.

Scrub

5.13 Bramble scrub is found within a former vegetable garden on the central west of the site, with more around the buildings, where it also includes Elder scrub and rarely Dog Rose.

Hedge

5.14 There is a well-managed Hawthorn hedge along the eastern boundary next to the road, from the northern boundary to the entrance drive. The remainder of this boundary is a low dry-stone wall.

5.15 To the west of the bungalow there is a small garden, with a short length of Box and Privet hedge, plus a Magnolia, on the southern side and a Leylandii hedge on the northern side and at the southern end of the western side.

Tree

5.16 In the rear garden of the bungalow (to the west of it) there are two old Apple trees and a young conifer. Most of the remaining trees are in the south-east corner, consisting of Damson, Yellow Plum and Greengage, but also with a couple of young Ash.

Hard Standing

5.17 There is a tarmac drive off of the B4477 Brize Norton Road leading to and past the bungalow on the southern side, to a tarmac area between the first set of sheds. There is a concrete apron in the front and side of the garage, while there is an area of concrete paving slabs to the east and west of the bungalow.

5.18 This is all in moderate condition, with some encroachment by ruderals and grass.

Buildings

5.19 There are 9 buildings on the site (See Figure 1), including the bungalow, a large barn, a garage, a chicken coop and several sheds, all of which are single storey, but in various states of repair, generally poor.

The Bungalow

5.20 This is a 1950s detached bungalow with multi-pitched, hipped concrete tile building with rendered walls. To the rear there is a flat, felt roofed extension towards the northern end. There is a rendered brick chimney protruding from the western eaves, plus two further chimneys at the southern end.

5.21 There are two cross gables projecting on the eastern side, the gables of which are sealed by barge boards, while the remaining eaves are sealed by wooden soffit boxes, only 100mm wide. This is in poor condition, with a central eastern hole allowing Starling to nest in the soffit.

5.22 The interior has one large roof space. It is a low collar construction with a mineral felt lining that is torn in many places. There is a ridge board along all the ridges, while the ceiling is covered in 200mm fibre glass insulation.

5.23 On top of this insulation there were a number of bat droppings, 1.5mm in diameter, 6-8mm long and smooth in texture. These were mainly scattered down the central areas beneath the ridges, numbering around 100 in total.

The Shed (1)

5.24 At the eastern edge of the site there is a small shed adjacent to the drive. This is a wooden and corrugated tin shed with a mono-pitch corrugated asbestos roof, dropping from 2m high to 1.5m. It is single skinned and in a very dilapidated condition.

Nisan Garage (2)

5.25 This is a Nisan-style shed with a rounded corrugated asbestos roof, two wooden doors at the front (west) between a concrete block wall, with a window at the southern end. This is all single skin with no roof space.

Twin Garages (3)

5.26 This is a pair of similar single garages with a conservatory attached at the rear (south) end. They have single-skin tongue and groove walls with low, twin-pitched roofs covered corrugated tin sheets. The rear conservatory has glass on all three sides, with a transparent flat roof.

Work Shop and Garage (4)

- 5.27 This building has single-skin concrete block walls with a corrugated mono-pitch tin and fibreglass roof. The height drops from 2.5m at one end to 2.0m at the other. On the eastern side there is a double garage door, with a single wooden door and window to the south of this.

Glass Chicken Shed (5)

- 5.28 This is a small corrugated tin and fibreglass shed with a mono-pitch tin roof. The eastern end is a sheet of glass, with windows in the northern side. It is 5m long, 3m wide and 2m tall.

Barn (6)

- 5.29 This is a large metal frame barn, open-sided on the east side, with corrugated tin-sheet walls and a corrugated asbestos roof. The roof is a low, twin-pitched one with a mono pitch corrugated tin extension to the rear (west). It is 4m to the eaves, with the roof apex rising another metre beyond this. Within the light interior there was a Blackbird nest and a woodpigeon roost.
- 5.30 On the northern side of the barn there is a wooden make-shift shed 2m high, 1.5m wide and 3m long. There is an open doorway in the north wall of this.

Garden Shed (7)

A rendered brick shed stands in the rear garden. This has a twin-pitched concrete tile roof. The eaves are at 2m, with the apex being a further 1.5m above these. There is a small chimney in the middle of the northern side, next to a door, while there are windows in the west and south walls.

The interior has a ceiling, but gaps into this revealed the small roof space was completely full of cobwebs, with no lining.

Chicken Coop (8)

- 5.31 This is a small 1.5m high wooden chicken coop to the west of the barn. It has a collapsing twin-pitched roof and is partly subsumed by Bramble scrub on its southern side.

- 5.32 There was no evidence of bats found in or around any of the outbuildings.

Other Fauna

- 5.33 Whilst on site Rabbit, Starling, Woodpigeon, Red Kite, Robin, Collared Dove, and Blackbird were observed.

6. Discussion

Habitats

- 6.1 The grassland on the site has low ecological value in terms of shelter and food resources due to a lack of species and the short nature of the sward. The ruderal vegetation offers some potential cover and a food source for birds and invertebrates, but this has limited value. The hedges on site provide potential habitat for nesting birds, which is discussed further in the species section below.
- 6.2 The fruit trees present constitute a small orchard, typical of Charterville allotments. This is a Biodiversity Action Plan (BAP) habitat and as much of this retained as possible.

Species

Amphibians

- 6.3 There are no ponds within 500m of the site and the local records centre holds no records of Great Crested Newt within 1km of the site, although it is known that GCN are in the pond in the ruins of Lovell Hall, on the far side of the River Windrush 1.7km to the north-east.
- 6.4 Although the ruderal vegetation on site could offer suitable terrestrial habitat for GCN the absence of ponds within 500m leads to GCN being regarded as absent from the site and therefore not a constraint to the development.

Bats

- 6.5 The local record centre hold 21 records of bats covering 5 species within 2km of the site, Brown Long-eared, Common Pipistrelle, Noctule, Pipistrelle Sp., Serotine and Soprano Pipistrelle. One of the records is an historical record dating from 1988 for a Pipistrelle roost. 4 Acre Ecology has found more species, including Natterer's and Daubenton's, but these were associated with the River Windrush 1.7km to the north-east.
- 6.6 There was no evidence of bats found in the single storey out-buildings, with poor construction of all of these and single skin walls and roofs. The only building with an enclosed roof space (7) was unlined and full of cobwebs. With no potential roosting features in any of these outbuildings a no evidence of bats, all these buildings are regarded as having negligible potential for roosting bats.
- 6.7 The bungalow had a number of external access points due to the poor condition it is in. Around 100 bat droppings were found scattered beneath the apex. These were 1.5mm in diameter, 6-8 mm long and smooth in texture. This is indicative of Pipistrelle bats.

(Jones and Racy, 2008). Therefore the building is regarded as having high potential for roosting crevice dwelling bats.

- 6.8 This building requires further emergence surveys, both dusk and dawn survey to determine likely absence or presence of roosting bats, following best practice (BCT, 2016). If roosting bats are present then these will classify the status of the roost(s).
- 6.9 The remaining buildings and structures on the site have been classified as having negligible potential for roosting bats.

Badger

- 6.10 There are 6 records of Badgers within 1km of the site, but no evidence of the presence of Badgers was found on-site.
- 6.11 As no evidence of Badgers was found during the survey, such as latrines, setts, or snuffle holes, Badgers are believed to be likely absent from the site and are not considered a constraint to the development.

Birds

- 6.12 The main habitat for birds on site are the hedges, trees and ruderal vegetation, which is limited. The barn had a Blackbird nest in it and a Woodpigeon roost, while a starling nest with four Starling chicks about to fledge was found in the eastern soffit of the bungalow.
- 6.13 The creation of gardens associated with housing are likely to provide a great deal of opportunities for nesting and foraging birds.
- 6.14 All breeding birds are protected by law. Hedges and trees contain habitat that will be used by nesting birds. Clearance of the site of any nesting habitat should be undertaken outside the breeding bird season, which runs from March to August.
- 6.15 If this is not possible an experienced ecologist should inspect the habitat for nests before it is removed. If nests are found they should remain intact with enough surrounding habitat to avoid disturbance and left until the young have fledged. After this the nests can be removed and the habitat cleared.

Dormouse

- 6.16 There are no records of Dormice within 2km of the site and there is limited poor quality habitat on the site, in the form of species poor hedges. With poor connectivity to any suitable off-site habitat Dormice are likely absent from the site and not a constraint to the development.

Invertebrates

6.17 There are 6 records of BAP invertebrate species within 1km of the site. However, the habitat on site is of a poor quality and is generally not suitable for these species. As the terrestrial habitat present on-site is of poor quality with limited structure and species numbers it is only suitable for common invertebrate species, mainly those associated with poor quality hedges, ruderal vegetation and grassland.

6.18 Invertebrates are therefore not regarded as a constraint to the development.

Otter

6.19 There no records of Otter within 1km of the site and there is no suitable habitat on-site for Otters. Therefore, Otters are regarded as likely absent from the site and not a constraint to the site's development.

Reptiles

6.20 There are two records of reptiles within 2km of the site. The ruderal vegetation and the grassland provides very limited habitat for reptiles, but this is also poorly connected to off-site habitat. Therefore, they are regarded as likely absent from the site and are not considered a constraint to the development.

Water Voles

6.21 There are no records of Water Voles within 1km of the site. There is no suitable habitat on-site for Water Voles, therefore Water Voles are considered likely absent and not a constraint to the development.

7. Further Surveys, Recommendations and Enhancements

Further Surveys

- 7.1 The bungalow has a number of scattered droppings, therefore three emergence surveys, to include at least one dawn, are required to determine absence of roosting bats, or to classify the roost if one is Present. At least two of these surveys need to be carried out between mid-May and the end of August, with the other within the active period for bats from May to September inclusive.

General Recommendations

- 7.2 It is recommended that the hedges and fruit trees are retained where possible to provide nesting and foraging habitat for birds and foraging/commuting areas for bats.
- 7.3 If any tree or hedge removal is carried out, this will be undertaken outside the bird nesting period, which is March to August. If this is not possible and habitat is to be removed during the nesting season, an ecologist will check the habitat to be removed for active birds' nests. If nests are found they will be left in place, with suitable surrounding habitat (e.g. 5m of surrounding hedgerow), until the birds have fledged before their removal.
- 7.4 Native plants should be used where possible in any planting schemes for the site, with particular regard for night flowering shrubs to encourage insects for bats.

Enhancements

- 7.5 Four bird boxes could be erected around the site to improve nesting opportunities for small passerines. These could be placed on the new buildings or on any of the retained trees.
- 7.6 Brash or log-piles could be created at the edge of the site if any tree/shrub clearance is undertaken, to provide wildlife stacks for invertebrates and small mammals.
- 7.7 If closed-board fencing is used around the gardens, these will have hedgehog holes put into the base of them (holes 150mm long and 100mm high) to maintain porosity for hedgehogs and other small animals.

8. Figures

Figure 1: Phase I Plan

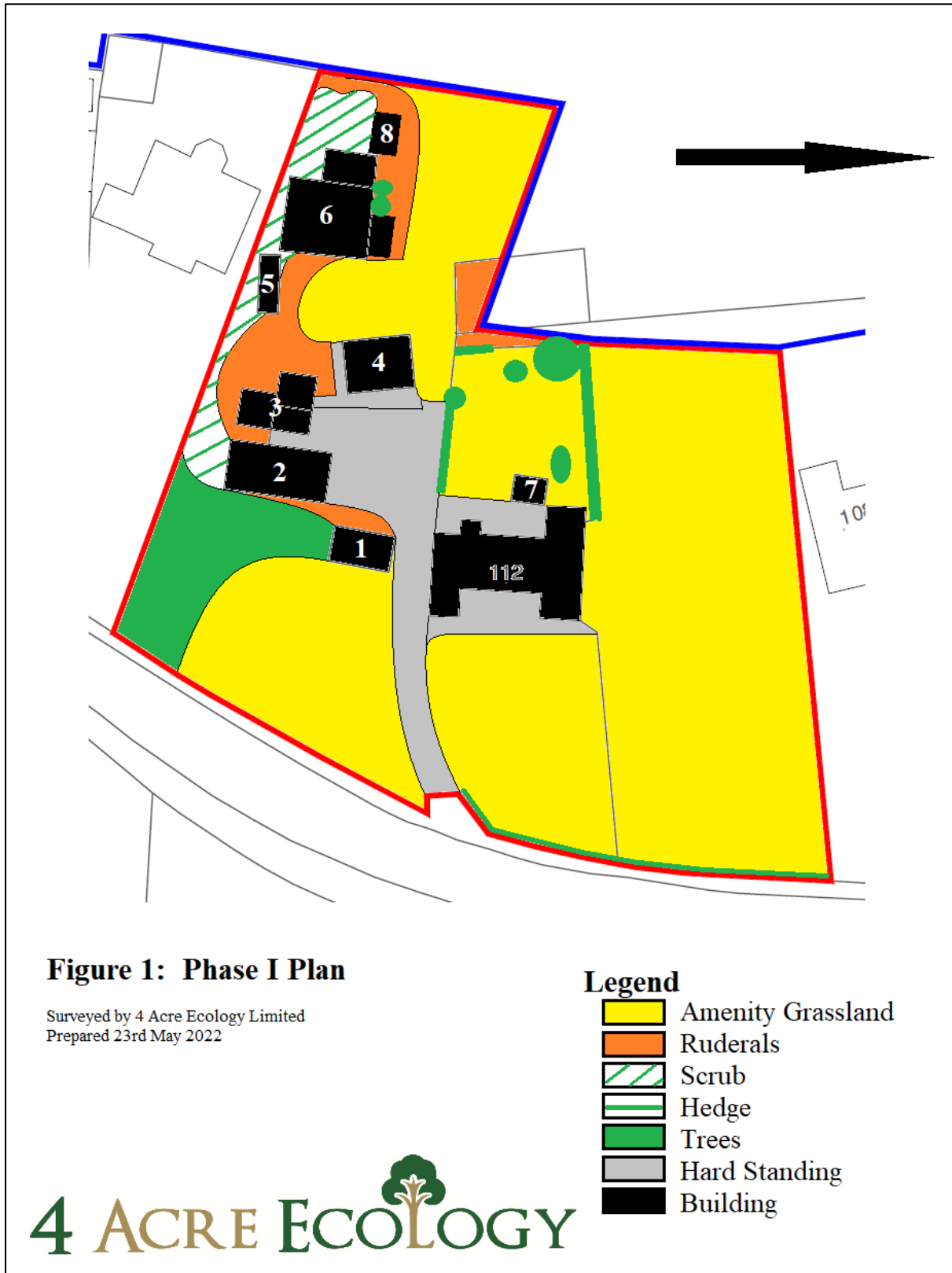


Figure 2: Images



1. Looking south towards the fruit trees



2. The bungalow from the south-east



3. The wooden shed (1)



4. The nisan garage (2)



5. The twin garages from the west (3)



6. The double garage and workshop (4)



7. Glass Chicken shed (5)



8. The barn (6)



9. The garden shed



10. The collapsing chicken coop



11. The bungalow roof space



12. Bat droppings on fibreglass

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Appendix 1: Information on British Bats

There are 18 species of bat in the UK (17 of which are known to be breeding here). They range from the tiny **Pipistrelle**, weighing in at around 5g (less than a £1 coin), to our biggest bat, the **Noctule**, which is still smaller than the palm of your hand.

All British bats eat insects exclusively, a **Pipistrelle** bat eating as many as 3,000 midges in one night, while **Long-eared** bats eat moths and **Noctule** or **Greater Horseshoes** also eat larger beetles.

The **Alcothoe** bat is the latest addition to the UK bat family, only being confirmed as a resident species in 2010 due to its similarity to the **Whiskered** and **Brandt's** bat species.

The **Daubenton's** bat is known as the 'water bat', as they fish insects from the water's surface with their large feet or tail. In England and Wales the majority of known summer colonies are in humid, more or less underground sites near water. These may be tunnels or bridges over canals and rivers, or in caves, mines and cellars. They are only occasionally found in buildings, usually old stone structures such as moated castles and waterworks.

Bats do not build nests, but use small spaces to shelter and rest in during the day, or hibernate in during winter. These places are known as roosts. There are a variety of different types of roost, from winter hibernation roosts, spring and autumn transitory roosts to summer maternity roosts. However, not all bats will roost within buildings, with the following being those most likely to:

Pipistrelle bats (both Common and Soprano species) are the most common bats in this country. They prefer to roost in very confined spaces around the outside of buildings, typically behind hanging tiles, soffits and barge boards, under roofing felt or in cavity walls. They do not usually enter roof spaces, although well-established large colonies in older buildings may do so.

Brown Long-eared bats are the third most commonly occurring species, after the two **Pipistrelle** species. They roost singly or in small groups among the roof timbers at the apex, particularly around ridge ends and chimneys, and in crevices in ridge tiles. These medium sized bats spend more time inside the roof space than many other bats, and are generally very quiet inside the roost, not leaving until after dark.

The **Serotine** bat, one of the largest bat species in the UK, is almost exclusively found roosting in houses across southern England and Wales. Rarer than **Pipistrelles** and **Brown Long-eared** bats, **Serotines** usually roost in crevices around chimneys and in cavity walls. Their favoured prey is large beetles, which they find over farmland and grassland.

Horseshoe bats, probably the most unusual looking of the UK's bats, are sometimes found roosting in houses in south-western England and Wales. **Greater** and **Lesser Horseshoe** bats hang free in the roost from their feet.

(Find further details from the Bat Conservation Trust Website at: www.bats.org.uk)