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Biodiversity Assessment of Barn at Wykin House Farm, Higham lane, Hinckley,

LE10 3EF.

On behalf of:

Lyson Design c/o Mr & Mrs Harrison

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Contents

0 SUMMARY 3
1 INTRODUCTION 4
1.1 Background 4
2 METHODOLOGY 4
2.1 Desk Study 4
2.2 Study Limitations 4
2.3 Initial Site Survey 4
3 RESULTS AND RISK 6
3.1 Site Description & Location 6
3.2 Nature Conservation Sites & Valuable Habitats 7
3.3 Data Search 8
3.4 Protected, BAP & Rare Species 9
3.5 Other Protected and BAP Species 10
4 DISCUSSION OF RISK AND LEGISLATION 10
4.1 Protected and BAP Species 10
4.2 Other Issues 12
5 RECOMMENDATIONS 12
5.1 Further Surveys & Precautionary Measures 12
5.2 Likely Bat Mitigation Options 13
5.3 Suggested Enhancements 13
6 CONCLUSION 14
7 REFERENCES 14
8 APPENDICES 15
8.1 Appendix 1: Photographs 15
8.2 Appendix 2: Table 18

Figures, Photographs & Tables

Figure 1: Ordnance survey map of the site. 7

Figure 2: Habitat Inventories in relation to the site location. 8

Table 1: Data search for bats and protected and BAP bird species within a 10km grid square of the site. 8

Photograph 1: Barn proposed for development at Wykin House Farm, Higham Lane, Hinckley, LE10 3EF. 9th of May 2011. 15

Photograph 2: Barn, link and lean-to at Wykin House Farm, Higham Lane, Hinckley, LE10 3EF. 9th of May 2011. 15

Photograph 3: Outside of the barn showing potential access gaps in the ridge tiles at Wykin House Farm, Higham Lane, Hinckley, LE10 3EF. 9th of May 2011. 16

Photograph 4: Inside the barn at Wykin House Farm, Higham Lane, Hinckley, LE10 3EF. 9th of May 2011. 16

Photograph 5: Fresh bat droppings inside the barn at Wykin House Farm, Higham Lane, Hinckley, LE10 3EF. 9th of May 2011. 17

Table 2: Bat emergence survey results for the evening of the 9th of May 2011 at Wykin House Farm Higham Lane, Hinckley, LE10 3EF. 18

0 SUMMARY

0.1 Skilled Ecology Consultancy Ltd. was commissioned by Mr & Mrs Harrison to undertake a Biodiversity Assessment of a barn at Wykin House Farm, Higham lane, Hinckley, LE10 3EF. The site consisted of an L-shaped single-storey barn attached via a covered link and lean-to to Wykin House. The report is required to accompany a planning application for development of the site into a residential property and office space. It is understood that the northern end of the barn will remain undeveloped.

0.2 The survey was conducted on the 9th of May 2011 by experienced ecologist Roger Spring BSc AIEEM (bat survey licence number 20110772 & great crested newt licence number 20102094) and consisted of a check for preferred habitat types and signs and evidence of protected and Biodiversity Action Plan (BAP) species, such as for bats and barn owls following Natural England (English Nature) Guidelines. An evening bat emergence survey was also conducted. The surrounding habitat was noted to put the findings into context.

0.3 It is understood that green space would not be impacted by the development.

0.4 The barn was a single-storey, brick building with a pitched, tiled and unlined roof. Potential access for bats was present through gaps in the roof and an open doorway. Potential for roosting was present under the ridge tiles and around the timber frame. Two small piles of fresh bat droppings (likely brown long-eared and pipistrelle) were observed in the eastern side of the barn and two brown long-eared bats were observed roosting under the ridge tiles above one of the dropping piles.

0.5 The bat emergence survey revealed one common pipistrelle and two brown long-eared bats emerging from the barn and frequently flying in and out of the barn. No further bats or signs or evidence of bats were noted on the site.

0.6 Three active bird nests were observed in the barn (robin, blackbird and house sparrow), though signs or evidence of protected bird species (such as barn owls) were not recorded.

0.7 Therefore, it is recommended that to prevent harm to protected and BAP species that precautionary measures for nesting birds and further surveys for bats (outlined later in the report) should be undertaken. Following the further surveys for bats a mitigation method statement would need to be designed and a development site licence applied for through Natural England to conduct the development legally.

0.8 Enhancement suggestions for local wildlife are also included in the report.

1 INTRODUCTION

1.1 Background

1.1.1 Skilled Ecology Consultancy Ltd. was commissioned by Mr & Mrs Harrison to undertake a Biodiversity Assessment of outbuildings at Wykin House Farm, Higham Lane, Hinckley, LE10 3EF. Grid reference: SP404 953.

1.1.2 The site consisted of an L-shaped, single-storey barn attached via a covered link and lean-to to Wykin House. The report is required to accompany a planning application for development of the site into a residential property and office space. It is understood that the northern end of the barn will remain undeveloped.

1.1.3 It is understood that green space would not be impacted by the development.

1.1.4 Wildlife such as bats and nesting birds are protected by law. Any protected or Biodiversity Action Plan (BAP) species and habitats are also a material consideration for individual planning decisions under Planning Policy Statement 9 (PPS9) (ODPM, 2005).

2 METHODOLOGY

2.1 Desk Study

2.1.1 A local record search was undertaken through the National Biodiversity Network (NBN) to check for any local records of bats and protected, BAP or rare birds.

2.1.2 A search of the Multi-agency Geographical Information for the Countryside (MAGIC) was also conducted to check for statutory nature conservation sites.

2.1.3 These results were then combined with the findings of the site survey in order to assess the risk of ecology issues, relevant to planning, occurring on the site.

2.2 Study Limitations

2.2.1 The site and surrounds were assessed based on their condition at the time of the survey visit.

2.3 Initial Site Survey

Habitats and Surroundings

2.3.1 The site was visited on the 9th of May 2011 to survey for ecology issues. This included the following:

- Noting the suitability of habitats present on the site with regard to protected, BAP and rare species, such as for bats and nesting birds. The assessment also checked for protected birds (such as barn owls), BAP birds and Birds of Conservation Concern (BoCC);
- Assessing the habitats surrounding the site and in the local area;
- Direct survey for evidence of protected species as far as possible, e.g. for bats;
- Checking for invasive species such as Japanese Knotweed *Fallopia japonica* and Giant Hogweed *Heracleum mantegazzianum*.

Bat Check

2.3.2 The assessment for bats was conducted by an experienced ecologist, licensed by Natural England to disturb and take bats for science and education (licence no. 20110772). The survey was undertaken in daylight, to look over the buildings externally, and internally. The survey methods followed English Nature Bat Mitigation Guidelines (English Nature, 2004) and Bat Conservation Trust Best Practice Guidelines, therefore considerations were:

- the availability of access to roosts for bats;
- the presence and suitability of cracks, crevices, hollows, ivy growth and other places as roosts;
- signs of bat activity or presence such as; the bats themselves, droppings, grease marks, scratch marks, urine spatter and prey remains.

2.3.3 The availability of access to roosts was assessed based upon the presence of holes large enough to allow entry to bats and lack of cobwebs and dirt.

2.3.4 The outside of the barn was inspected for gaps, cavities, access points and crevices, and any signs of bats (droppings, staining, urine spatter), in accordance with Natural England (English Nature) guidelines (English Nature, 2004).

2.3.5 The inside of the barn was then inspected for signs of bat activity and opportunities for roosts. As many crevices as could safely be accessed were checked for suitability and signs of bats. All surfaces including windowsills were inspected.

2.3.6 It should be noted that absence of external signs of bat activity around a potential bat roost does not necessarily mean that bats are not present or using the roost.

2.3.7 All internal areas of the barn were accessible to the surveyor, though the outer western side of the barn was inaccessible as it formed the boundary of the clients land.

Bat Emergence Survey

2.3.8 The emergence survey consisted of both the use of a static bat detector (SM2) positioned in the corner of the L-shaped barn and the surveyor positioned in the driveway outside of the open doorway, using a Batbox Duet connected to a Zoom H2 digital recorder, to observe and detect any bats using the barn and the surrounding habitats.

2.3.9 Bat recordings were analysed using both Analook and Bat Scan software.

2.3.10 The survey followed Natural England and Bat Conservation Trust Guidelines and was conducted for approximately 2hrs, at the peak time of year for bat surveys. Weather conditions were mild, dry and with a slight breeze.

Barn Owl Survey

2.3.11 The inspection for barn owls included searching for signs and evidence of use, such as:

- Pellets;
- Feathers;
- Egg shells;
- Dropping splashes;
- Barn owls themselves, and other signs.

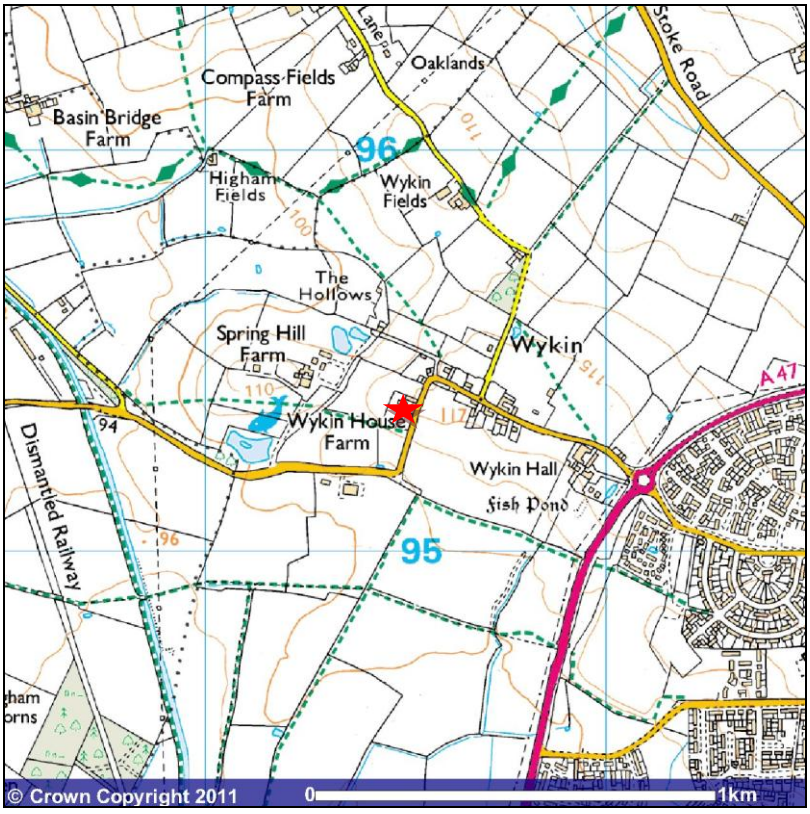
3 RESULTS AND RISK

3.1 Site Description & Location

3.1.1 The site consisted of an L-shaped, single-storey barn attached via a covered link and lean-to to Wykin House. The barn was a single-storey, brick building with a pitched, tiled and unlined roof. (see Photographs 1 and 2 in Appendix 1).

3.1.2 Habitats immediately surrounding the site included a large mature garden to the south, scrub and horse pasture to the west and mostly buildings and hardstanding to the north and east. Beyond the immediate site boundaries, habitats were dominated by grazed and arable fields with several fishing lakes present within 1km of the site (see Figure 1 below).

Figure 1: Ordnance survey map of the site.



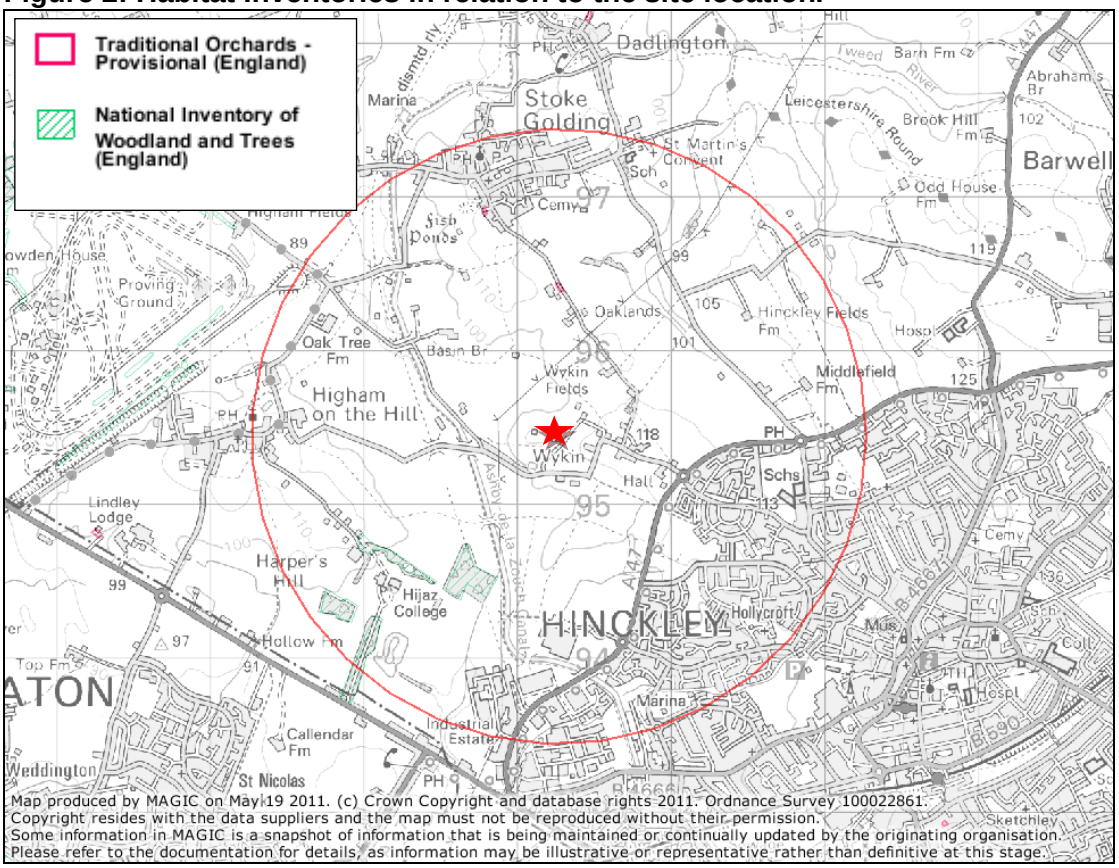
Reproduced from Ordnance Survey map data by permission of Ordnance Survey, © Crown copyright.

3.2 Nature Conservation Sites & Valuable Habitats

3.2.1 No Local Nature Reserves (LNR), Sites of Special Scientific Interest (SSSI) or other statutory nature conservation sites were present within 2km of the site.

3.2.2 Several traditional orchards and small areas of woodland were located within 2km of the site (see Figure 2 below).

Figure 2: Habitat Inventories in relation to the site location.



3.3 Data Search

3.3.1 The bat and bird data search through NBN revealed protected and UK priority BAP species such as:

Table 1: Data search for bats and protected and BAP bird species within a 10km grid square of the site.

Species	Location from Site	Year of Record
Mammals		
Natterer's (UK & EU protected)	Approximately 2km north west.	Up to 2009
Brown long-eared (EU & UK protected)	Approximately 2km north west.	Up to 2009
Common pipistrelle (EU & UK protected)	Approximately 2km north west.	Up to 2009
Pipistrelle bat (EU & UK protected)	Approximately 2km north west.	Up to 2009
Daubenton's (EU & UK protected)	Approximately 5km south east.	2008
Whiskered (EU & UK protected)	Approximately 4km south east.	Up to 2009
Birds		
Barn Owl (Schedule 1 protected)	Within the same grid square which includes the site.	1983/84
Tree sparrow (BAP & red-listed)	Approximately 3km east.	2004-2009

Grey partridge (BAP)	Approximately 6km north.	2004-2009
House sparrow (BAP & red-listed)	Approximately 300m east.	2008
Spotted flycatcher (BAP & red-listed)	Approximately 5km south east.	2004-2009
Yellowhammer (BAP & red-listed)	Approximately 4km north.	2009
Tree pipit (BAP)	Within the same grid square which includes the site.	1968-1972

3.4 Protected, BAP & Rare Species

Vegetation on the site

3.4.1 It is understood that green space will not be impacted by the development.

Foraging Bats

3.4.2 Habitats in the close vicinity to the barn were considered to be of medium to high potential value for foraging bats, with the mature gardens, grazed fields, hedgerows and nearby lakes considered likely to produce moderate to high quantities of flying insects for feeding bats.

Building Suitability for Bats

3.4.3 The barn and lean-to contained potential roosting habitat, under the ridge tiles and amongst the timber supporting beams, there was also plenty of potential access opportunities for bats, most notably the open doorway facing north (see Photographs 3 and 4 in Appendix 1).

3.4.4 Two relatively small piles of bat droppings (approximately 15-20 in each) were observed on the floor of the barn. One of the piles was very close to the open doorway, the second was in the corner of the L-shape and both piles were directly beneath the ridge beam. The droppings appeared likely to have been caused by brown long-eared and pipistrelle species (see Photograph 5 in Appendix 1). The floor of the barn was relatively clean and it is understood that the gardener regularly sweeps in open areas of the barn and it is likely that greater quantities of droppings would have been present if cleaning did not occur.

3.4.5 Two brown long-eared bats were observed roosting under the ridge tiles just in from the open doorway above one of the piles of droppings.

3.4.6 No further signs or evidence of bats were observed on the site during the daylight inspection.

Bat Emergence Survey

3.4.7 The emergence survey revealed one common pipistrelle bat flying inside the barn shortly after sunset and subsequently emerging through the open doorway. Four minutes after the common pipistrelle emerged from the barn two brown long-eared bats emerged from the open doorway. Following emergence, all three bats were observed regularly entering and exiting the

barn and flying nearby. No other bat species were recorded (see Table 2 in Appendix 2). The static bat detector positioned inside the barn confirmed what was observed and detected by the surveyor.

Birds

3.4.8 Three active bird nests were observed in the barn (blackbird, robin and house sparrow). Both robins and blackbirds are common, widespread species and green-listed Birds of Conservation Concern (BoCC). House sparrow is widespread, though declining in numbers and is now a priority Biodiversity Action Plan (BAP) species and red-listed BoCC.

3.4.9 The BoCC ratings are summarised as follows:

- Red-listed - highest conservation concern;
- Amber-listed - moderate conservation concern;
- Green-listed - least conservation concern.

3.4.10 No other signs or evidence of birds (such as barn owls) were observed in the barn.

3.5 Other Protected and BAP Species

3.5.1 No signs or evidence of any other protected or BAP species (such as otters, badgers, reptiles or great crested newts) were observed on site, nor were there any particularly suitable habitats present for such species.

4 DISCUSSION OF RISK AND LEGISLATION

4.1 Protected and BAP Species

Bats

4.1.1 Bats are protected under the Wildlife and Countryside Act 1981 as amended by the Countryside Rights of Way Act 2000 and under the Conservation of Habitats and Species Regulations 2010. Some bats are also Priority UK BAP species. A summary of the offences likely to be relevant to development are:

- Intentionally or deliberately kill, injure or take a bat;
- Intentionally or recklessly damage, destroy or obstruct access to any place that a bat uses for shelter or protection, whether bats are present or not;
- Damage or destroy a breeding site or resting place of any bat;

- Intentionally or recklessly disturb a bat while it is occupying a structure or place that it uses for shelter or protection;
- Deliberately disturb a bat anywhere.

4.1.2 Several bat species have been recorded locally and local habitats were considered to be of moderate to high suitability for foraging bats.

4.1.3 The signs and evidence of bats recorded during the daylight inspection and evening emergence survey would indicate that low numbers of common pipistrelles and brown long-eared bats are using the building for roosting. Roosting appears to be mostly concentrated around the ridge and the main exit/entry point for the bats is the open doorway, though it was likely that the gaps in the roof would also be regularly used.

4.1.4 However, to more accurately determine the use of the building, numbers and species of bats using the barns, it is recommended that further surveys for bats, outlined later in the report, should be undertaken. The information from the surveys would be used to inform a mitigation method statement for application for a site licence through Natural England, in order to conduct the development lawfully.

Birds

4.1.5 Wild birds are protected under the Wildlife and Countryside Act 1981 and, with certain exceptions (e.g. pest species) in certain situations, it is an offence to intentionally:

- Kill or injure any wild bird;
- Take, damage or destroy the nest of any wild bird while it is in use or being built;
- Take or destroy the egg of any wild bird.

4.1.6 Some bird species (such as barn owls) are also specially protected under Schedule 1 of the Wildlife and Countryside Act 1981 and others are priority UK BAP species.

4.1.7 No signs or evidence of barn owls or other protected birds were noted and it was considered unlikely that any protected birds would be using the site or would be significantly impacted by the development.

4.1.8 However, the barn does support nesting common, widespread birds and the BAP and red-listed BoCC house sparrow.

4.1.9 Therefore, to prevent the risk of harm to the nesting birds (including house sparrow) it is recommended that precautionary measures, outlined later in the report, should be followed.

Other Protected and BAP species

4.1.10 It was considered that there was negligible risk of other protected or BAP species occurring on the site, or being impacted by the proposed development.

4.1.11 No further surveys, precautionary measures, compensation of habitats or mitigation were considered necessary for any other species.

4.2 Other Issues

Sensitive Habitats

4.2.1 The site was a considerable distance from the closest nature conservation site or area of significant ecological value. Therefore, it was considered highly unlikely that the proposed development would impact on any local nature conservation sites or other valuable habitats.

Invasive Non-native Plants

4.2.2 No invasive species such as Japanese knotweed or giant hogweed were observed on the site. Therefore, it was considered that there was negligible risk of the proposed development spreading a Schedule 9 species or infringing the related legislation.

5 RECOMMENDATIONS

5.1 Further Surveys & Precautionary Measures

Bats

5.1.1 In order to collate enough information on the use of the site by bats to inform a mitigation method statement, it is recommended that the following further surveys should be undertaken:

- At least one dusk and one dawn survey in a 24 hour period with two surveyors positioned around the barn using bat detection equipment to record bats using the building. The surveys should be conducted between May and August, during suitable weather conditions following Natural England and Bat Conservation Trust Guidelines.

Nesting Birds

5.1.2 To prevent harm to nesting birds it is recommended that the development should commence outside of the main bird breeding season (March until the end of September). If this timescale is not possible then an ecologist should check the site for active bird nests before clearance works commence.

5.1.3 If an active bird nest was found, it would be necessary to protect the nest from harm/disturbance until the bird had finished nesting.

5.1.4 To maintain nesting potential on the site for house sparrow, it is recommended that a house sparrow nesting box should be installed on the building post development. The box should be a Schwegler 1SP terrace which is known to be durable and regularly attract nesting birds and should be positioned on the southern side of the building, close to shrubs and trees. The box can be purchased online through suppliers such as Alana Ecology (www.alanaecology.co.uk).

5.2 Likely Bat Mitigation Options

5.2.1 A detailed mitigation strategy would need to follow the further surveys. Based on the survey results to date, the following are some mitigation options likely to be required to prevent harm to bats, bat roosts, local bat conservation and to retain the ecological functionality of the site for bats:

- Timing constraints on the commencement of development to avoid the more important times of year for bats (summer and winter);
- Soft strip of the buildings, including hand removal of the tiles (as necessary) with a bat licensed ecologist present;
- Replacement/retention of roosts within the development such as; creation of a loft space and addition of bat boxes/bat bricks in or on the newly developed building;
- Precautionary measures to minimise external lighting on site to prevent disturbance to foraging/commuting bats.

5.3 Suggested Enhancements

5.3.1 The following are suggestions that the client may wish to consider to enhance the area for wildlife (PPS9 promotes opportunities for the incorporation of biodiversity enhancements within developments). Please note that these are only suggestions and are <u>not</u> required for mitigation or compensation of impacts.

5.3.2 The addition of further bat and bird boxes on the newly developed building would increase the potential roosting and nesting sites for local bats and birds. Installing many and varied bird boxes with different sized entrance holes could attract a larger diversity of species to nest. Both bird and bat boxes should be Schwegler types as these have been found to attract both bats and birds and to have a long lifespan. To ensure maximum effectiveness installation locations should be discussed with an ecologist.

6 CONCLUSION

6.1 The site supports roosting bats and nesting birds.

6.2 With the further surveys for bats and subsequent mitigation, as well as precautionary measures for nesting birds, followed as described, it was considered that the proposed development could proceed with minimal risk of harm to protected, BAP and rare species or to local nature conservation.

6.3 If some, or all, of the suggestions are followed, the value of the development for local wildlife could be increased.

7 REFERENCES

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8 APPENDICES

8.1 Appendix 1: Photographs

Photograph 1: Barn proposed for development at Wykin House Farm, Higham Lane, Hinckley, LE10 3EF. 9th of May 2011.



Photograph by Roger Spring 2011

Photograph 2: Barn, link and lean-to at Wykin House Farm, Higham Lane, Hinckley, LE10 3EF. 9th of May 2011.



Photograph by Roger Spring 2011

Photograph 3: Outside of the barn showing potential access gaps in the ridge tiles at Wykin House Farm, Higham Lane, Hinckley, LE10 3EF. 9th of May 2011.



Photograph by Roger Spring 2011

Photograph 4: Inside the barn at Wykin House Farm, Higham Lane, Hinckley, LE10 3EF. 9th of May 2011.



Photograph by Roger Spring 2011

Photograph 5: Fresh bat droppings inside the barn at Wykin House Farm, Higham Lane, Hinckley, LE10 3EF. 9th of May 2011.



Photograph by Roger Spring 2011

8.2 Appendix 2: Table

Table 2: Bat emergence survey results for the evening of the 9th of May 2011 at Wykin House Farm Higham Lane, Hinckley, LE10 3EF.

Survey start time: 20.15

Survey end time: 22.30

Weather: Dry, mild 15°C, 40% cloud, wind 0-1 on Beaufort scale.

Time	Bat Species	Activity on Site
20.59	1 common pipistrelle	Detected and observed flying inside the barn.
21.08-21.09	1 common pipistrelle	Detected and observed exiting the barn through the main barn doorway. The bat then quickly re-entered
21.15	1 common pipistrelle	Detected and observed exiting the barn.
21.18	1 common pipistrelle	Detected and observed flying over the barn.
21.19-21.20	1 brown long-eared	Observed exiting the barn through the main doorway. The bat then re-entered straight away.
21.22	2 common pipistrelles	Detected very briefly, not observed.
21.25-21.28	2 brown long-eared	Detected and observed entering and exiting the barn frequently.
21.34	2 common pipistrelles	Detected and observed foraging around trees south of the barn.
21.36	1 common pipistrelle	Detected and observed flying inside the barn.
21.47-22.30	1 common pipistrelle and brown long-eared bats	Regularly detected and observed entering and exiting the barn and flying nearby.