



Hillier Ecology

Bat Emergence and Activity Surveys at Cold Comfort Farm, Rogues Lane, Hinckley, Leicestershire



Prepared for Mr Chris McManus

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Report Type	Emergence and Activity Survey
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Due to the dynamic nature of ecological conditions the results of the survey(s) and related conclusions and recommendations as contained within this report should only be considered valid for up to 24 months from the date the last survey was undertaken.

Any alterations to the site proposals may invalidate the recommendations contained within this report.

Contents

Executive Summary	4
1.0 Introduction	5
2.0 Relevant Policy and Legislation	5-7
3.0 Site Details	7-11
4.0 Survey Methodology	11
5.0 Survey Results	12
6.0 Discussion and Impact Assessment	12-14
7.0 Requirements and Recommendations	15
8.0 References	16
9.0 Appendices:	
Appendix 1 Survey Results	17-22
Appendix 2 Site Location	23
Appendix 3 Buildings Surveyed	24
Appendix 4 Location and Block Plan	25
Appendix 5 Proposed Site Plan	26
Appendix 6 Location of Surveyors	27

Executive Summary

Hillier Ecology were commissioned to carry out a bat *Chiroptera* sp. emergence/activity surveys on buildings at Cold Comfort Farm, Hinckley to identify the potential for roosting bats in the buildings.

A Preliminary Roost Assessment was carried out on the 20th August 2021 by two surveyors. The barn did have evidence of bat usage, in the form of old droppings of two species probably Common Pipistrelle *Pipistrellus pipistrellus* and Brown Long-eared *Plecotus auritus* and feeding remains, it also had suitable roosting features.

The buildings came out as a medium probability to support roosting bats and it was recommended that; a single emergence/activity surveys should be completed during the active bat season (May to September).

Initially a single emergence/activity survey was carried out in September 2021, two Natterer's bats *Myotis nattereri* were recorded using the upper level of the barn for roosting, the 2022 survey recorded two Natterer's bats and a single Brown Long-eared flying in the upper level of the barn, the 2023 survey recorded a three Natterer's flying and feeding in the upper level of the barn. Common Pipistrelle were recorded, in small numbers, foraging in the adjoining Dutch Barn on all surveys. The activity surveys recorded Common Pipistrelle, *Myotis* sp. Natterer's, Brown Long-eared and Noctule foraging in the yard and commuting over the site.

The renovation of the building will therefore result in the loss of a summer day roost (non-maternity).

Two further emergence/activity survey was carried out in the active bat season 2022 and 2023, to inform the licence application.

It will be necessary to apply for a European Protected Species Licence (EPSL) to permit the loss of the roosts and to provide appropriate mitigation for this.

1.0 Introduction

1.1 Cold Comfort Farm is in open countryside on the outskirts of Hinckley at NGR SP4187696356.

1.2 It is the intention of Mr and Mrs McManus to convert the barn to living accommodation, subject to planning permission being approved, to renovate the barn.

1.3 Hillier Ecology were appointed by Mr and Mrs McManus to carry out bat emergence and activity surveys.

1.4 A Preliminary Roost Assessment was carried out in 2021, the ecological assessment recorded evidence of bats, roost features and Barn Swallow *Hirundo rustica* using the building.

1.5 The following documents have been provided to Hillier Ecology to assist in carrying out the contract.

- Site Location and Block Plan
- Proposed Site Plan

2.0 Relevant Policy and Legislation

Bats

2.1 The Conservation of Habitats and Species Regulations 2017 transpose into UK law Council Directive 92/43/EEC of 1992 (often referred to as the Habitats Directive). All bats are listed under Annex IV and some (horseshoe bats, Bechstein's and Barbastelle) are also listed under Annex II which relates to Special Areas of Conservation. These Regulations make it an offence to:

- Deliberately capture, injure, or kill a bat.
- Deliberately disturb bats in a way as to be likely significantly to affect the ability of any significant groups of bats to survive, breed or rear or nurture their young, or to affect the local distribution of abundance of that species.
- Damage or destroy a breeding site or resting place of a bat.

- Keep, transport, sell or exchange, or offer for sale or exchange a live or dead bat or any part of a bat.

2.2 In addition the Wildlife & Countryside Act 1981 (as amended) makes it an offence to:

Intentionally or recklessly

- Disturb any bat whilst it is occupying a structure or place which it uses for shelter or protection.
- Obstruct access to any structure or place which any bat uses for shelter or protection.

2.3 Penalties are fines of up to £5000 per bat and up to 6 months custodial sentence.

Birds

2.4 All common wild birds are protected under The Wildlife and Countryside Act 1981 (as amended). Under this legislation it is an offence to:

- Kill, injure or take 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.

2.5 Certain rare breeding birds are listed on Schedule 1 of The Wildlife and Countryside Act 1981 (and as amended). Under this legislation they are afforded the same protection as common wild birds and are also protected against disturbance whilst building a nest or on or near a nest containing eggs/unfledged young.

The Natural Environment and Rural Communities Act (2006)

2.6 Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006) sets out a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The list (including 56 habitats and 943 species) drawn up in consultation with Natural England, provides a guide to local and regional authorities when implementing their duty as defined in Section 40 of the NERC Act 2006.

- “Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.” - Section 40(1).

- “Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat”. - Section 40(3).

National Planning Policy Framework (2019)

2.7 National Planning Policy Framework (NPPF) (2019) sets out Government Policy on Biodiversity and Nature Conservation and places a duty on planners to give material consideration to the effect of a development on legally protected species when considering planning applications. NPPF also promotes sustainable development by ensuring that developments take account of the role and value of biodiversity and that it is conserved and enhanced within the development.

3.0 Site Details

3.1 The site is located at NGR SP4187696356 (Appendix 1).

3.2 The buildings are constructed as follows and shown in the photographs below.

Building Name/Number	1			
Building Grid Reference	SP4187196358			
Type of Building	Barn			
Age of Building	1700			
Condition of Building	Poor			
Wall Construction	Brick			
Roof Construction	Tile			
Roof Type	Gable			
Potential Access Points for Bats	Open access			
Roof Void	Yes		No	X
Insulation	Yes		No	X
Structure of Roof	Not Applicable			
Roof Lining	Part Felted			
Estimated Dimensions of Roof Void	Not applicable			
Suitable Roosting Features	Under tiles, under felt, gaps in beams			
Evidence of Bats	Feeding remains, old droppings			
Evidence of Birds	Barn Swallow			
Evidence of Barn Owl	None			
Potential to Support Roosting Bats	Low			

Suitable for Hibernating Bats	No
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Plate 1 Building 1-Front View



Plate 2 Building 1-Access to the Upper Level



Plate 3 Building 1-Upper Level



Plate 4 Building 1-Upper Level Roof

Building Name/Number	2			
Building Grid Reference	SP4187096344			
Type of Building	2 Storey Dwelling			
Age of Building	1700			
Condition of Building	Good			
Wall Construction	Brick/Rendered brick			
Roof Construction	Tile			
Roof Type	Gable			
Potential Access Points for Bats	Gaps in tiles			
Roof Void	Yes	X No Access	No	
Insulation	Yes		No	
Structure of Roof	Not applicable			
Roof Lining	Unknown			
Estimated Dimensions of Roof Void	Unknown			
Suitable Roosting Features	None			
Evidence of Bats	None			
Evidence of Birds	None			
Evidence of Barn Owl	None			
Suitability for Roosting Bats	Low			
Suitable for Hibernating Bats	No			



Plate 5 Building 2-Rear View

4.0 Survey Methodologies

4.1 The equipment used for the Emergence and Activity Survey Echo Meter Touch 2 Pro detectors to record calls; Infra-red torches and SonoBat computer software was used to carry out sound analysis.

4.2 The survey followed the recommendations in Bat Conservation Trust Bat Surveys for Professional Ecologists Good Practice Guidelines.

4.3 The emergence/activity survey started fifteen minutes before sunset and ended one hour and thirty minutes to two hours after sunset. This allowed for the variation in emergence times of bats to be covered.

5.0 Survey Results

5.1 The initial survey in 2021 recorded a single Natterer's flying and feeding in the upper level of the barn, the 2022 survey recorded two Natterer's bats and a single Brown Long-eared flying in the upper level of the barn, the 2023 survey recorded a three Natterer's flying and feeding in the upper level of the barn. Common Pipistrelle were recorded, in small numbers, foraging in the adjoining Dutch Barn on all surveys. The activity surveys recorded Common Pipistrelle, Myotis sp. Brown Long-eared and Noctule foraging in the yard and commuting over the site.

5.2 Full survey results are shown in (Appendix 1).

6.0 Discussion and Impact Assessment

Foraging and Commuting Bats

6.1 All bats in the UK require large amounts of insect food in order to survive, they also require linear features to orientate themselves in the dark and to act as commuting corridors between their roost and their foraging areas. These linear features can also provide a degree of protection from predators and adverse weather.

6.2 As such, interpretation of the importance of commuting and foraging areas should not be made in isolation and should always be made by an experienced ecologist based on the overall knowledge of bat activity in the area. The rationale for professional judgement which deviates from these guidelines should be explicitly stated.

6.3 Bats were recorded foraging around the buildings and trees, commuting along the tree lines, the commuting and foraging is regarded as of moderate importance.

Table 1: Importance of commuting and foraging habitats

Rarity category (species in each category are determined by region)	Results from survey data			
	No or very limited evidence of commuting or foraging	Low reliance on habitats as demonstrated by irregular use and generally by small numbers of bats	Moderate reliance on habitats as demonstrated by regular use by smaller numbers of bats, or less-regular use by larger numbers of bats	High reliance on habitats as demonstrated by regular use by larger numbers of bats
Abundant and widespread species	Local	Local	Local	District or above
Less abundant + selected data-deficient species	Local	Local	District	County/Regional
Rare/Annex II /Red List Vulnerable or higher, + selected data-deficient species	Local	Local	County/Regional	National [International if functionally linked to an SAC for species]

Assessing importance of roosts

6.3 Throughout the year, during periods of inactivity, all bats require safe and sheltered roosting sites. They will use different roosts at different times of the year.

6.4 Bats use many different types of roost, and not all roosts have the same level of importance in supporting a local population of bats. In addition, the mean size of breeding roosts varies between species. A variety of sources exist to inform an assessment of the importance of roosts.

6.5 During the activity surveys a maximum of three Natterer's and a single brown long-eared were recorded using the building as a summer day roost (not maternity).

6.6 Natterer's are regarded as less abundant and Brown Long-eared are regarded as widespread and abundant at a county level, the roost is thought to be of local importance.

6.7 No disturbance or destruction can be made to roosting areas and/or any potential areas of access for bats using the roosts without an EPS Licence and a Mitigation Plan.

Table 2 Assessing importance of roosts

	Feeding perches; night-roosts Individual or very small occasional/ transitional roosts	Non-breeding day roosts (small numbers of species)	Mating sites (excluding individual trees) Small numbers of hibernating bats	Swarming sites	Maternity sites	Hibernation sites
Abundant and widespread species	Local	Local	Local	District	Unlikely to exceed District importance unless colonies are atypically large	County/Regional importance dependent on size; importance increased for assemblages
Less abundant + selected data-deficient species	Local	Local	Local (may be of greater importance if more than one species)	District/County importance dependent on size ² ; importance increased for assemblages	County/Regional importance dependent on size ² ; importance increased for assemblages	County/Regional importance dependent on size ² ; importance increased for assemblages
Rare/Annex II /Red List Vulnerable or higher, + selected data-deficient species	Data deficient. Local (well-used night roosts may be of District or County importance for some species)	May occasionally reach County importance, dependent on species and numbers ²	County/Regional importance dependent on size; importance increased for assemblages	Regional/National importance dependent on size; importance increased for assemblages	Regional/National importance dependent on size; importance increased for assemblages	Regional/National importance dependent on size; importance increased for assemblages

7.0 Requirements and Recommendations

7.1 Table 3 Requirements and Recommendations

Action Point	Requirements and Recommendations	Target Date
AP1	An additional Nocturnal and activity surveys are required during the 2022 active bat season.	Prior to Licence Application
AP2	Licence application There is a summer roost in barn, a European Protected Species Licence must be applied for and granted by Natural England. The areas of known roosting within the building are protected at all times from disturbance, alterations and destruction.	Licence Application
AP3	No works are allowed until the European Protected Species Licence has been granted	Prior to Work Commencing
AP3	A Mitigation Plan will accompany the licence application, and mitigation or compensation described within that document must be complied with.	Prior to Work Commencing
AP4	A toolbox talk will be carried out by a licenced bat worker.	Prior to work commencing
AP5	Any work to the roof will be supervised by a licenced bat worker.	During refurbishment works

8.0 References

- Altringham John (2003). British Bats, Harper Collins New Naturalist, London.
- Collins J (ed.) (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition), The Bat Conservation Trust, London.
- Dietz C, von Helversen Otto, Nill Dietmar (2009). Bats of Britain, Europe and Africa, A & C Black, London.
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- HMSO (2006). Natural Environment and Rural Communities Act, HMSO, London.
- HMSO (1996). Wild Mammals (Protection) Act, HMSO, London.
- Ministry of Housing, Communities and Local Government (2019). National Planning Policy Framework. Ministry of Housing, Communities and Local Government, London.
- Mitchell-Jones AJ (2004). Bat Mitigation Guidelines, English Nature, Peterborough.
- Mitchell-Jones AJ and McLeish AP (1999). The Bat Workers Manual, JNCC, Peterborough.

9.0 Appendices

Appendix 1 Weather Data and Survey Results

Site Name	Date	Survey Type	Sunset	Start Time	End Time
Cold Comfort Farm	26/09/21	Activity	18.30	18.15	20.00
Start Temp °c	End Temp	Precipitation	Cloud Cover	Wind Start	Wind End
14	15	None	80%	3	2
Surveyor	Species °c	Time	Maximum Number	Behaviour	Additional Notes
Howard Hillier	Common Pipistrelle	18.57-18.58	2	Feeding in Dutch Barn	Social Calls
Internal Surveyor B	Noctule	19.03	1	Unseen	
	Common Pipistrelle	19.09 – 19.10		Feeding in Dutch Barn	Social Calls
	Natterer's	19.12 – 19.32	1	Flying/ Feeding in upper level of the barn	
	Common Pipistrelle	19.13 - 19.17	3	Feeding in Dutch Barn	Social Calls
	Common Pipistrelle	19.21 – 19.28	3	Feeding in Dutch Barn	Social Calls
	Noctule	19.25	1	Unseen	
	Common Pipistrelle	19.31 – 19.35	3	Feeding in Dutch Barn	Social Calls

Site Name	Date	Survey Type	Sunset	Start Time	End Time
Cold Comfort Farm	26/09/21	Activity	18.30	18.15	20.00
Start Temp °c	End Temp	Precipitation	Cloud Cover	Wind Start	Wind End
14	15	None	80%	3	2
Surveyor	Species °c	Time	Maximum Number	Behaviour	Additional Notes
Joe Hillier	Common Pipistrelle	18.40	1	Flying over	
External Surveyor A	Noctule	18.41	1	Flying over	
	Noctule	18.49		Flying over	
	Noctule	18.51	1	Flying over	
	Myotis ap.	19.01	1	Flying around buildings	
	Common Pipistrelle	19.10	1	Flying around buildings	
	Noctule	19.11	1	Unseen	
	Common Pipistrelle	19.12	1	Feeding round buildings	
	Brown Long-eared	19.15	1	Flying over	
	Common Pipistrelle	19.17	1	Unseen	
	Noctule	19.23	1	Unseen	
	Common Pipistrelle	19.25	1	Feeding around buildings	
	Common Pipistrelle	19.31- 19.32	1	Feeding around buildings	

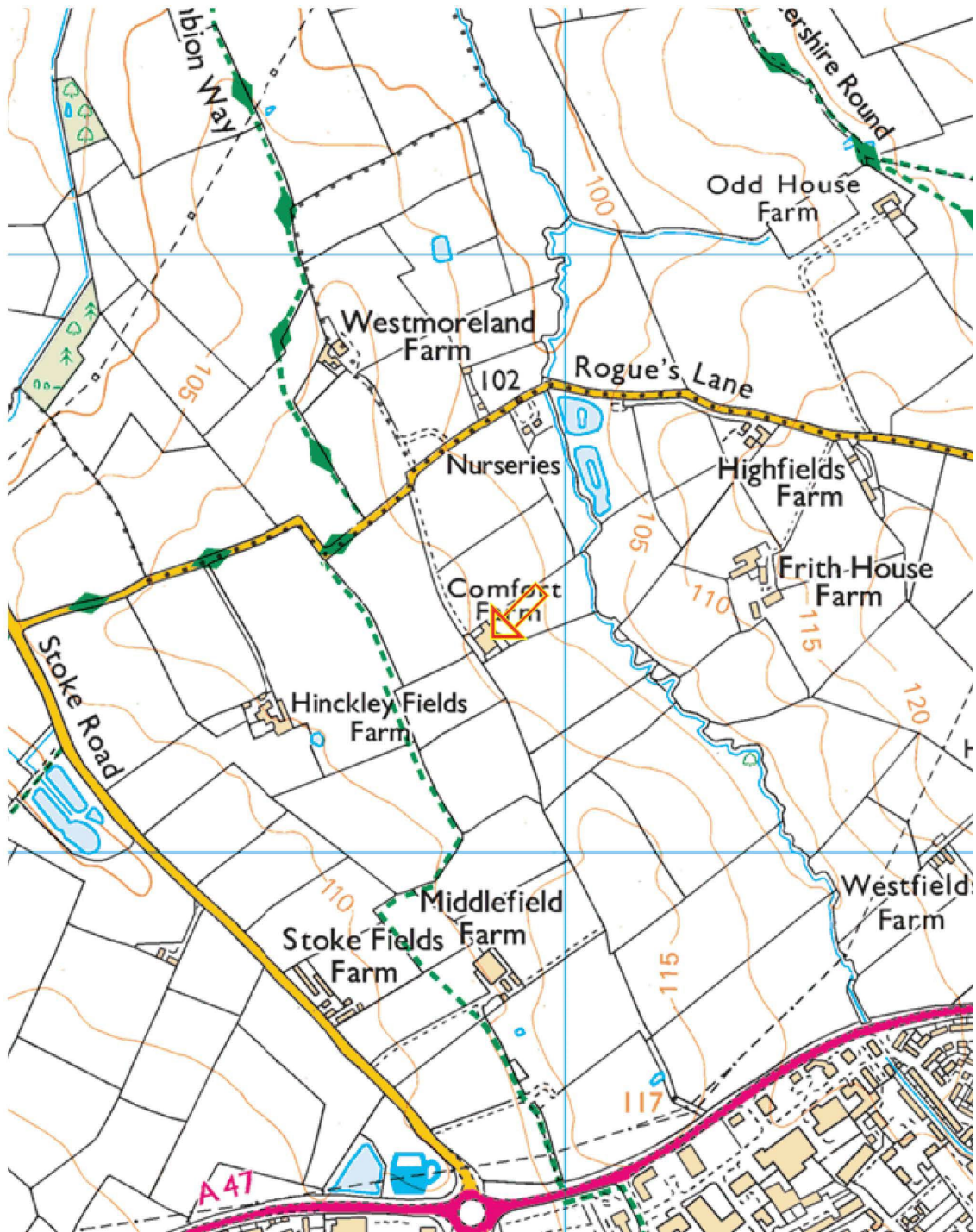
Site Name	Date	Survey Type	Sunset	Start Time	End Time
Cold Comfort Farm	25/08/22	Activity	20.30	20.15	21.45
Start Temp °c	End Temp	Precipitation	Cloud Cover	Wind Start	Wind End
17	15	None	10%	1	1
Surveyor	Species °c	Time	Maximum Number	Behaviour	Additional Notes
Howard Hillier	Noctule	20.33	1	Flying over	
External Surveyor A	Noctule	20.38	1	Flying over	
	Common Pipistrelle	21.10	1	Flying over	
	Natterer's	21.19	2	Exiting the barn	
	Common Pipistrelle	21.27	1	Flying over	
	Common Pipistrelle	21.33	1	Unseen	
	Noctule	21.35	1	Unseen	
	Myotis Sp.	21.41	1	Unseen	

Site Name	Date	Survey Type	Sunset	Start Time	End Time
Cold Comfort Farm	25/08/22	Activity	20.30	20.15	21.45
Start Temp °c	End Temp	Precipitation	Cloud Cover	Wind Start	Wind End
17	15	None	10%	1	1
Surveyor	Species	Time	Maximum Number	Behaviour	Additional Notes
Deborah Hillier	Common Pipistrelle	20.33-20.36	2	Feeding in Dutch barn	Social Calls
Internal Surveyor B	Common Pipistrelle	20.39-20.40	1	Flying in Dutch barn	
	Common Pipistrelle	20.41-20.44	2	Feeding in Dutch barn	Social Calls
	Natterer's	20.50-20.55	2	Flying/ Feeding in upper level of the barn	
	Natterer's	20.56	2	Exited the barn	
	Brown Long-eared	21.17-21.20	1	Flying and Feeding in the upper level of the barn	
	Brown Long-eared	21.23	1	Hanging from a beam	
	Common Pipistrelle	21.20-21.23	3	Feeding in Dutch barn	Social Calls
	Brown Long-eared	21.30-21.44	1	Hanging from a beam	
	Common Pipistrelle	21.31 – 21.35	3	Feeding in Dutch barn	Social Calls

Site Name	Date	Survey Type	Sunset	Start Time	End Time
Cold Comfort Farm	02/06/23	Activity	21.20	21.05	22.55
Start Temp °c	End Temp	Precipitation	Cloud Cover	Wind Start	Wind End
16	15	None	60%	2	1
Surveyor	Species °c	Time	Maximum Number	Behaviour	Additional Notes
Howard Hillier	Noctule	21.20	1	Flying over	
External Surveyor A	Common Pipistrelle	21.26	1	Flying in yard	
	Common Pipistrelle	21.30	1	Flying over	
	Natterer's	21.39	1	Exiting the barn	
	Common Pipistrelle	21.48	1	Flying in yard	
	Noctule	21.50	1	Unseen	

Site Name	Date	Survey Type	Sunset	Start Time	End Time
Cold Comfort Farm	02/06/23	Activity	21.20	21.05	22.55
Start Temp °c	End Temp	Precipitation	Cloud Cover	Wind Start	Wind End
16	15	None	60%	2	1
Surveyor	Species °c	Time	Maximum Number	Behaviour	Additional Notes
Deborah Hillier	Common Pipistrelle	21.22-21.38	2	Flying /Feeding in Dutch Barn	
Internal Surveyor B	Natterer's	21.31-21.37	3	Flying in Upper Level of Barn	
	Common Pipistrelle	21.33-21-21.43	2	Flying/ Feeding in Upper Level of Dutch Barn	
	Natterer's	21.39	1	Exiting the barn	
	Natterer's	21.41-21.53	2	Flying/ Feeding in Upper Level of Barn	
	Common Pipistrelle	21.43-21.46	4	Flying/ Feeding in Dutch Barn	Social Calls
	Common Pipistrelle	21.48- 21.54	2	Flying/ Feeding in Dutch Barn	

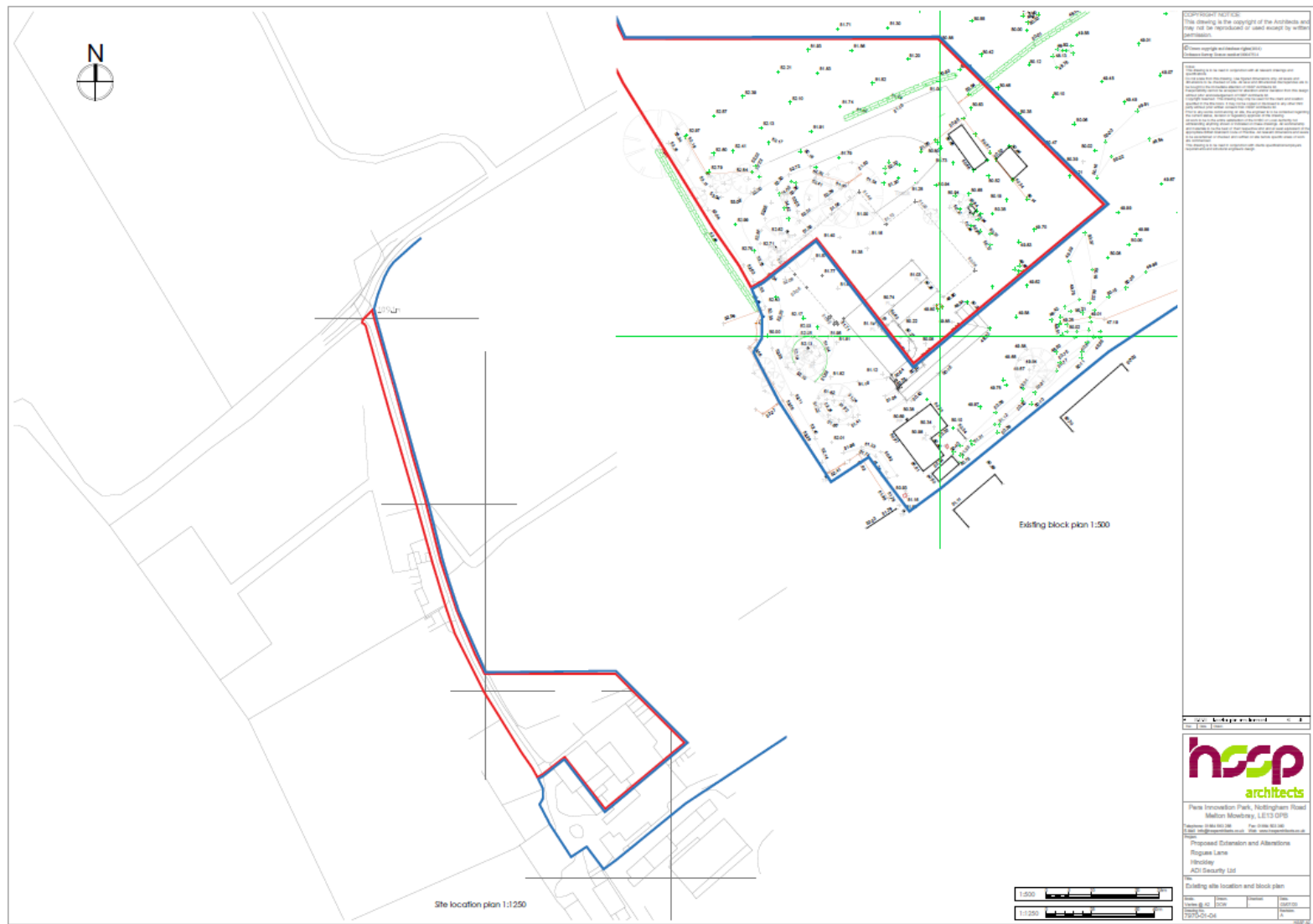
Appendix 2 Site Location



Appendix 3 Buildings Surveyed



Appendix 4 Block and Location Plan



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Appendix 6 Location of Surveyors

