ECOLOCATION

Protected Species Surveys for Development

The Old Dairy 25 Brookside Stretton-on-Dunsmore Rugby Warwickshire CV23 9NH 02476 541776 george.burton@sky.com

Bat Survey & Report

at

New House Farm, Stapleton Lane, Dadlington, CV13 6HZ

for

Mr. A. Neale

(Revision D - 2nd November 2011)

ECOLOCATION is a trading style of George Burton ARCHITECTURE & ECOLOGY Ltd. Incorporated in England, Registered No. 6458127.

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1. Instructions

1.1 ECOLOCATION were appointed by Mr. A. Neale to undertake a Bat Survey of a dwelling at New House Farm, Stapleton Lane, Dadlington after an initial enquiry from Messrs. Savage Hayward, Architects, 19 Station Road, Hinckley, Leicestershire LE10 1AW.

2. Purpose and Scope

2.1 The purpose of the assessment and report was to accompany a planning application for the demolition and replacement of New House Farm and to ensure compliance with protected species legislation.

2.2 The scope of the survey was to establish the likelihood of bat presence in the existing building, the site of the new dwelling and a reasonable amount of working space around the building.

3. Timing and Conditions

3.1 The site was visited on 8th June 2009 commencing at 19:30hrs.

Weather conditions during assessment 8th June 2009	
Parameter	Recorded Figure
Temperature	Commencement 11.5ºC - Completion 9.8ºC
Cloud cover	100%
Precipitation	None at stare, showers later
Wind speed (Beaufort Scale)	3 – Gentle breeze

4. The Site

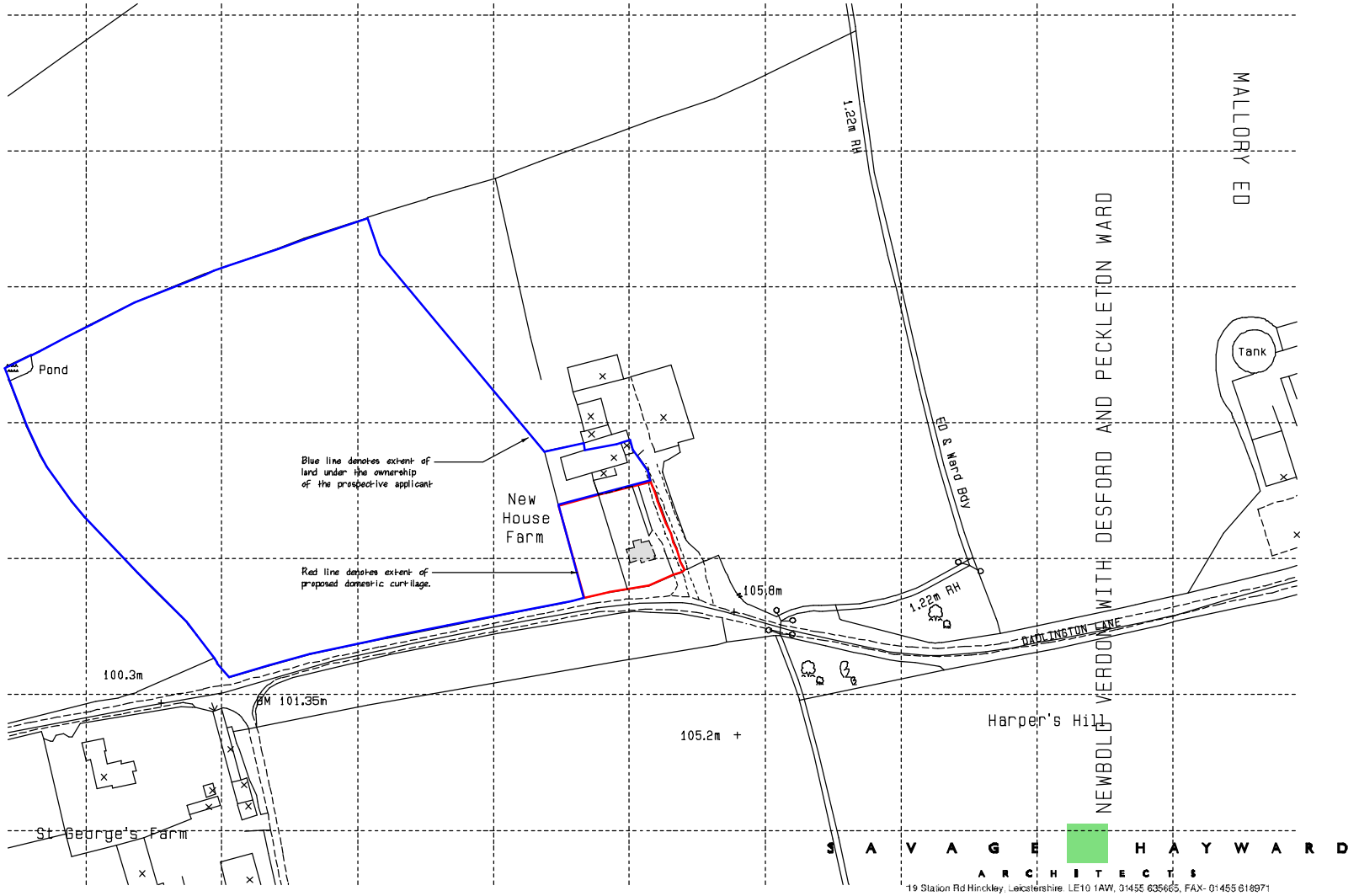
4.1 The dwelling, grid reference SP418984, was located to the immediate west of Stapleton Lane some 1.4km east of the village of Dadlington and 2.8km north of the outskirts of the town of Hinckley.

4.2 The dwelling formed the southernmost element of a group of buildings partly in equestrian and partly in agricultural use and was separated from the other buildings in the group by a grassed area and driveway.

The dwelling was 'L' shaped in footprint, two-storeys in height with a pitched machine-made, plain clay-tiled hipped roof and brickwork walls. Windows were steel in timber sub-frames and fascias were timber but dilapidated in parts.

The building was surrounded to the west and north by dog kennels and runs.

Boundaries were tree-lined to the south and west. The east boundary adjoined a driveway which was hedge-lined on both sides. The north boundary was more open with a low make-shift fence and some shrub planting.



S A V A G E H A Y W A R D
A R C H I T E C T S
19 Station Rd Hinckley, Leicestershire. LE10 1AW, 01455 635665, FAX- 01455 618971

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Client	Mr A. Neale			Drawing	Site Location Plan
Project	Proposed Farm House Stapleton Lane Dadlington	Auth	MEJA	Date	July 2007
		Scale	1 : 1250	Job No	07 / 77
				Drawing No	01

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Dwelling, rear, north elevation



Dwelling, south elevation



Dwelling, east elevation



Dwelling, west elevation



Frontage of site (south)



Drive to east of dwelling and green space to north



South-east corner of site including ash tree



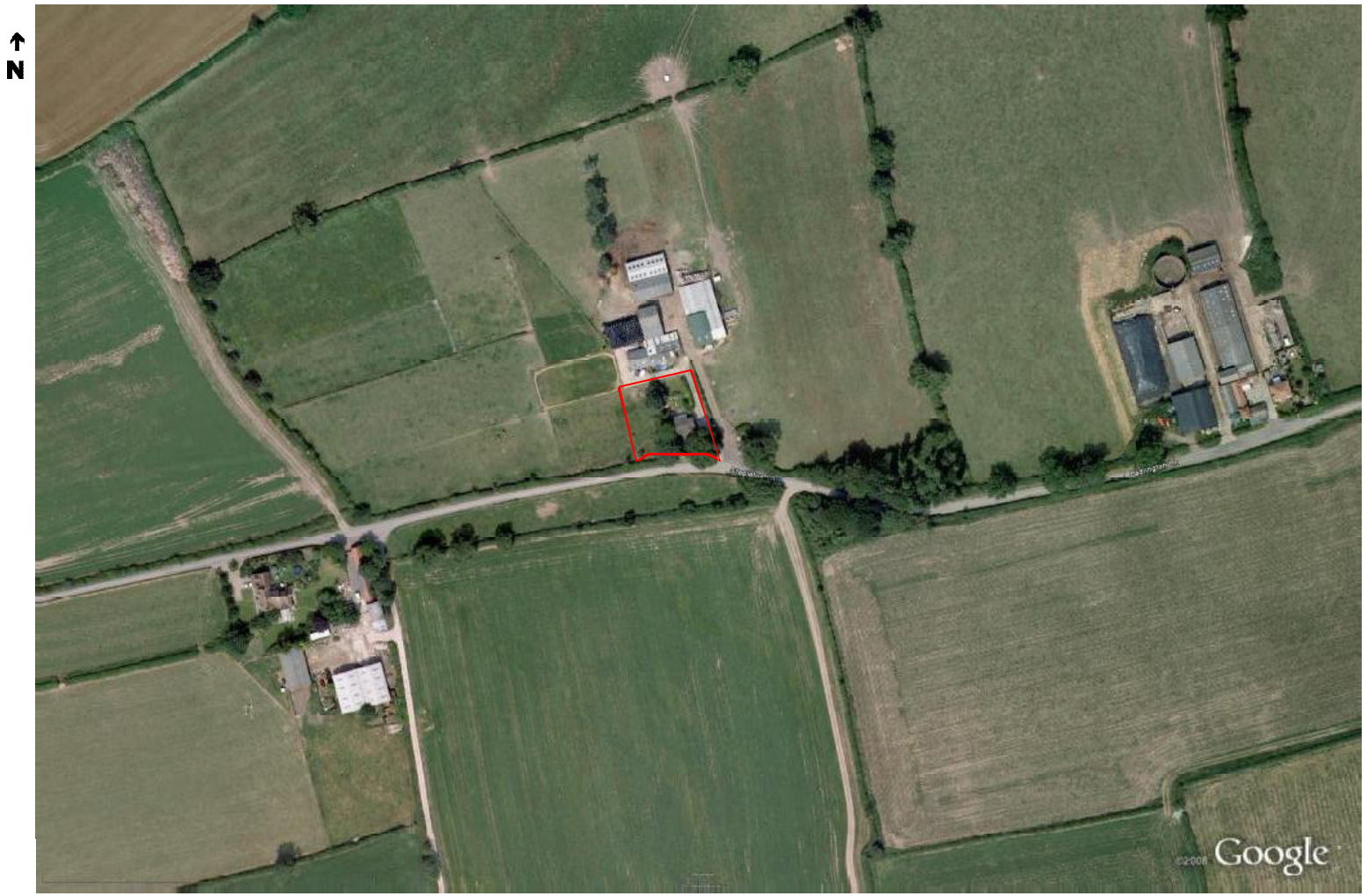
West boundary line viewed from west

5. Habitat Assessment

5.1 The subject building despite being located in open countryside offered little foraging habitat. In the immediate locality only hedge-lines at field boundaries and a small wooded area immediately south-east of the site.

5.2 A search to within a 2km radius of the site showed only 3 areas of woodland included in The National Inventory of Woodland and Trees (England) together with no areas of ancient woodland. The most significant areas of woodland being 1.6km to the north-west of the site at Ambion Wood. Some small watercourses ran through the area, including the Tweed River, and the Ashby Canal took a loosely north/south route west of the site which, at it's closest, was 620m distant. The mosaic of gardens in Dadlington and the surrounding villages of Stoke Golding and Stapleton would also have provided foraging opportunities for bats in the locality.

5.3 Bats are known to forage up to 10km from their roost sites overnight and a search to this radius showed 15 areas of Ancient Woodland comprising ancient and semi-natural or ancient replanted woodland. Furthermore approximately 220 areas of woodland included in The National Inventory of Woodland and Trees (England) were evident within this radius. A number of watercourses including the River Sence to the north-west ran through the area together with a number of smaller still-water bodies, the majority of which would have been man-made fishing or ornamental ponds in the locality together with farm ponds. Overall the foraging opportunities in the immediate locality were poor in respect of bats but somewhat better further afield.



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6. Data Search

6.1 A search of pre-existing protected species records via the National Biodiversities Network produced evidence of the following within the SK60 grid square: Long-eared bat species *(Plecotus sp.),* Brown long-eared bat *(Plecotus auritus)*, Daubenton's Bat *(Myotis daubentonii),* Natterer's Bat *(Myotis nattereri)* and Common Pipistrelle *(Pipistrellus pipistrellus).*

7. Walkover Survey and Analysis

7.1 An initial walkover of the site taking account of the locality, immediately surrounding habitat and building type, being two-storey but with a hipped roof, together with the possibility of access to the building for bats indicated that the likelihood of bat occupation was medium.

7.2 The walkover survey identified potential access beneath slipped or lifted tiles, gaps in soffits and fascias, cracks in brickwork, spalling brickwork etc.



Chimney coping/soffit detail, east elevation



Soffit, south internal angle



Spalling brickwork, south elevation



Eaves detail, south-west corner



Chimney/soffit detail, east elevation



Chimney at west elevation



Hipped roof, west slope



Ivy-clad ash, south-east corner (viewed from north-west)

8. Intrusive Survey and Results

8.1 An intrusive investigation of the site and building was undertaken by two surveyors lead by George Burton, Natural England Bat Licence No. 20092123, Great Crested Newt Licence No. 20090619 and Barn Owl Licence No. 20082576 using Ever-ready headtorch, Nightsearcher 0.5 and 1 million candle power lamp and 'SeeSnake' Micro Endoscope.

8.2 A search for individual bats, carcasses, droppings, urine staining, polished surfaces, build-up of insect remains etc was made externally of the building with no evidence identified. Internally approximately 50 droppings reminiscent of a long-eared bat species were found beneath ridges and hip tiles in the roof space. No individual bats were present. Trees proposed to be removed showed no features suitable for bat roosting.

8.3 A terrestrial search of all areas outside the dog kennels and runs was made searching for amphibians, badgers, etc and despite the presence of excellent artificial refugia in the form of stacked building materials, wood piles, tyre stacks, slabs etc. No amphibians were identified and no badger activity was present. Observation of potential nesting birds was also undertaken.

9. Emergence Survey and Survey Results

9.1 An emergence survey was undertaken with surveyors stationed as indicated on the following aerial image led by George Burton, Natural England Bat Licence No 20092123. Sunset was at 21:24hrs and surveying commenced at 21:10hrs.

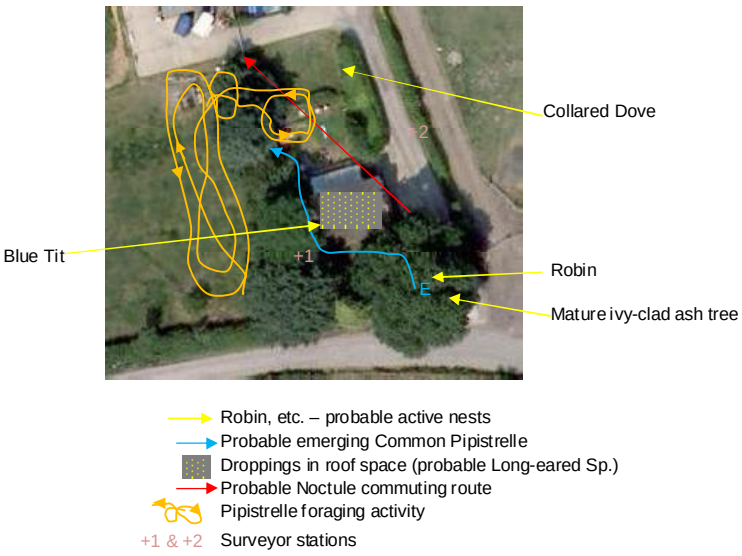
Surveyor 1. Using Pettersson D240X bat detector on heterodyne channel to headphones and time expansion recording to Roland Edirol R09 digital device in .wav format.

Time (24 hrs)	Species	.wav file no.	Activity	How Identified
21:36	Common Pipistrelle *(Pipistrellus pipistrellus)*	0001	Commuted south-east to north-west (from Ash?)	Bat detector/ recorder/visual obs.
21:39	Common Pipistrelle	-	"	Bat detector
21:40	Common Pipistrelle	0002	Foraging west of trees/hedge	Bat detector
21:43	Common Pipistrelle	-	Foraging in north garden briefly	Bat detector/visual observation
21:46	Common Pipistrelle	0003	Foraging in north garden briefly	"
21:48	Noctule *(Nyctalus noctula)*	0004	Commuting overhead	Bat detector/recorder
21:57	Noctule	0005	Commuting overhead	Bat detector/recorder
22:06	Common Pipistrelle	0006	Commuting through unseen & then two bats foraging west of site	Bat detector/recorder

Surveyor 2. Using Mini-3 detector in heterodyne setting by ultrasound device and headphones.

Time (24 hrs)	Species	Passes	Activity	How Identified
21:36	Pipistrelle Sp.		Possible emergence from south-west corner/soffit? Compare with Surveyor 1	Bat recorder/visual observation
21:39	Indet. bat		Unseen	Bat detector
21:46	Pipistrelle Sp.		Unseen	Bat detector
21:46	Pipistrelle Sp.		Emerging/commuting (flew over top of roof from east à west then feeding)	Bat detector/visual observation
21:47	Indet. bat		Very faint	Bat detector
21:49	Noctule		Over	Bat detector
21:53	Indet. Bat		Very faint – short clip	Bat detector
21:59	Noctule		Over	Bat detector
22:00	Pipistrelle Sp.		Very faint – short clip	Bat detector
22:05	Common Pipistrelle		Unseen	Bat detector
22:09	Common Pipistrelle		Passed overhead. Feeding, flew south	Bat detector/visual observation
22:11	Indet. Bat		Faint. Short clip	Bat detector
22:23	Common Pipistrelle		Unseen	Bat detector
22:26	Pipistrelle Sp.		Faint clips	Bat detector
22:48	Common Pipistrelle		Unseen	Bat detector

Bat Activity/Survey Results Plan



9.2 A Common Pipistrelle *(Pipistrellus pipistrellus)* was seen at 21:56hrs (probably) to emerge from an ivy-clad mature ash tree *(Fraxinus excelsior)* in the south-east corner of the site from whence the individual commenced foraging west of the site in the shelter of a tree line on this boundary.

A second Common Pipistrelle may have repeated this activity at 21:39 but this was unseen.

9.3 Foraging by one or two Common Pipistrelles to the west of the site was noted for much of the duration of the survey.

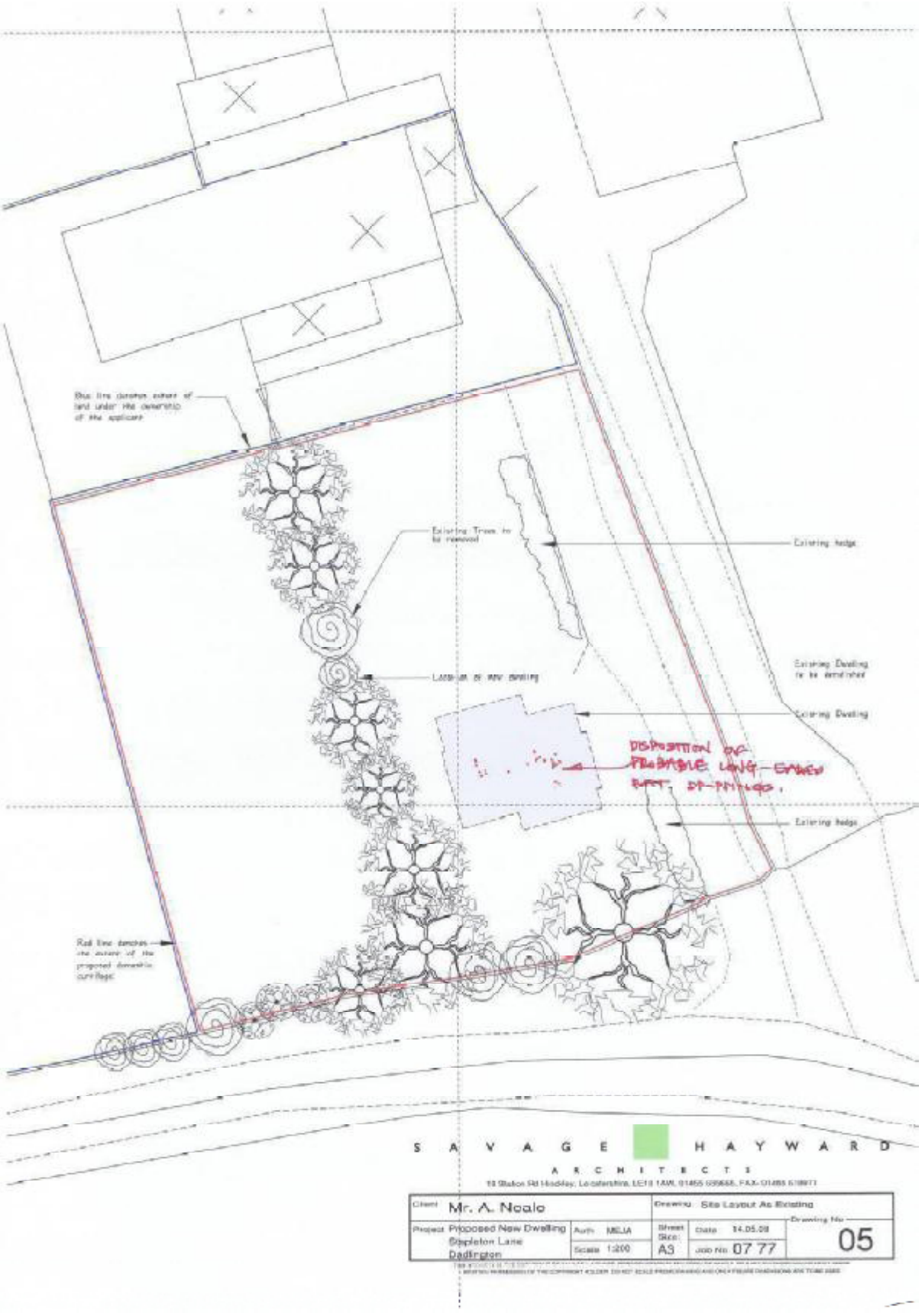
9.4 A commuting Noctule was detected overhead at 21:48 hrs.

9.5 A Pipistrelle Sp. echolocating with a peak frequency of 50khz was identified commuting through the site.

9.6 Probable nests of Collared Dove, Robin and Blue Tit were identified (see Bat Activity/Survey Results Plan).

9.7 Incidental Sightings

Blue Tit (Parus caeruleus)
Robin (Erithacus nibecula)
Blackbird (Turdus merula)
Collared Dove *(Streptopelia decaocto)*
Brown Rat (runs and burrows) *(Rattus norvegicus)*


Blue line denotes extent of land under the ownership of the applicant
Existing Trees to be removed
Existing hedge
Existing Dwelling to be demolished
Existing Dwelling
DISPOSITION OF PROBABLE LONG-EARED BAT. DP-PHILLIPS.
Existing hedge
Red line denotes the extent of the proposed domestic curtilage
S A V A G E H A Y W A R D
A R C H I T E C T S
Client Mr. A. Neale
Drawing Site Layout As Existing
Project Proposed New Dwelling Stapleton Lane Dadlington
Auth MEJA
Scale 1:200
Sheet Size: A3
Date 14.05.08
Job No 07 77
Drawing No 05

10. Survey Conclusions

10.1 The site, from the walkover survey, was considered to have medium possibilities of bat occupation. Bat occupation by (probable) brown long-eared bat *(Plecotus auritus)* was identified from a small number of droppings in the roof space indicative of a single male using the site intermittently.

10.2 Common Pipistrelles were observed foraging on, and to the west of, the site and may have emerged from an ivy-clad ash tree in the south-east corner.

10.3 Probable active birds' nests were identified during the course of the survey and therefore nesting birds may be present during construction works dependent upon timing. (See paragraph 8.6 and list of incidental sightings).

10.4 No evidence of any other protected species was identified on site.

11. Obligations and Recommendations

11.1 All species of British bat and their roosts (places of shelter or rest) are protected by law from intentional and reckless disturbance under The Wildlife and Countryside Act 1981 (amended by the Countryside and Rights of Way Acts 2000, and the Conservation (Natural Habitats etc) Regulations 1994 [the 'Habitats Regs'], as amended 2007 to incorporate the European Habitats directive.

11.2 Bats are highly mobile and when not in hibernation can occupy a building overnight. It is essential therefore that due vigilance be maintained before and during any works to ensure their protection. The lack of evidence of more significant roosting at this stage does not *guarantee* that this is not taking place intermittently or may not take place in the future.

11.3 It should be noted that bats can crawl into tiny crevices to hibernate or roost in brickwork or beneath roof tiles etc and due vigilance should therefore be maintained during the course of construction to ensure that hibernating and roosting bats, if found, are not disturbed. Should bats be discovered in such circumstances the work should cease and ECOLOCATION or the local office of Natural England be contacted for advice

11.4 The presence of a bat roost in the roof space of the dwelling could result in the need to obtain a License from Natural England post-grant of Planning Consent to disturb bats. However if the works could be timed such that the existing building could be demolished in the presence of a Licensed Bat Worker, with soft-stripping of roof finishes, and mitigation completed between October and May in any single 'winter' period this would not be necessary. It should be noted that it can take some time to obtain a license and, as such if it is questionable whether the works can be completed within this period, it is recommended that an application be made at least 10 weeks prior to demolition.

11.5 The ash tree at the south-east corner of the site should be fenced-off around the canopy line in accordance with B.S.5837: Trees in relation to Construction from prior to demolition for the duration of the Contract. The ivy must be retained.

11.6 The majority of species of nesting bird are protected under the Wildlife & Countryside Act 1981 and as amended by the Countryside & Rights of Way Act 2000. Works must be planned to avoid disturbance of nesting birds if present before commencement or if nesting commences during the works and the site should be inspected prior to commencement by a person competent to do so to ensure that no active nests are disturbed.

11.7 Should any protected species be discovered before or during the works ECOLOCATION or Natural England should be contacted for advice.

12. Mitigation

12.1 Mitigation for the loss of the existing roost is proposed as outlined on the following plans to create a roost area of minimum 5m x 5m x 2m high as identified in the Bat Mitigation Guidelines (English

Nature 2001). The top 1m of each roof slope should not contain breathable felt and any felt used should be black or dark-coloured.

12.2 Access to the roost should be provided at the proposed southern gable and via an access slate (see following details) on the west slope.

13. References

Bat Workers Manual, JNCC, 1999
Bat Survey Guidelines, Bat Conservation Trust, 2007
Which Bat Is It? Mammal Society 2007
A Guide to British Bats, FSC/AIDGAP
Herpetofauna Workers Manual, JNCC
Bat Mitigation Guidelines
Barn Owl Trust Bat Publications
Badgers and Development, English Nature 2002(2)
www.magic.gov.uk
OS Street Atlas
Google Earth Pro
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14. Addendum

14.1 Following discussions with Leicestershire County Council Environmental Resources Centre Ecology Department additional dawn surveying was undertaken on 2nd September 2009 with surveyors stationed as indicated on the following aerial image. Surveying commenced at 05:50hrs with sunrise at 06:20hrs.

14.2 The survey was lead by George Burton, Natural England Bat Licence No. 20092123 and completed by two surveyors.

Weather conditions during dawn re-entry survey 02-09-09	
Parameter	Recorded Figure
Temperature	Commencement 12ºC - Completion 11.2ºC
Cloud cover	Commencement 20% - Completion 90%
Precipitation	None
Wind speed (Beaufort Scale)	Commencement 3 – Gentle breeze Completion 1 – Light air

Surveyor 1

Using Pettersson D240x time expansion detection recording to Roland Edirol R-09 digital device in .wav format plus heterodyne channel to headphones.

Time (24 hrs)	Species	.wav file no.	Activity	How Identified
21:36	Common Pipistrelle		1 pass (west **à** east?)	Bat detector @ 48khz
05:04	Indet. Bat		Very brief muffled call	Bat detector
05:07	Common Pipistrelle		Briefly foraged nearby	Bat detector
05:14	Common Pipistrelle		2 passes	Bat detector
05:15	Common Pipistrelle		2 passes	Bat detector
05:16	Indet. Bat		As bat 2 above	Bat detector
05:16	Common Pipistrelle		1 pass	Bat detector
05:17	Common Pipistrelle		1 pass	Bat detector
05:18	Brown long-eared bat*	.0011 & .0012	At south eaves; swarming until 05:28 when entered at south-east corner, eaves of south projection	Bat detector/visual observation/recorder
05:28	"50khz pipistrelle" (call 50khz to 53khz)	.0015	Probable Common Pipistrelle flying and social calling over roof until 05:52 when appeared to enter loose tile on north roof slope.	Bat detector/visual observation/recorder
05:38	2nd Common Pipistrelle		North **à** south over roof	Bat detector/visual observation

Surveyor 2

Using mini-3 detector (heterodyne) by Ultrasound Advice and headphones.

Time (24 hrs)	Species	Passes	Activity	How Identified
04:55-05:04	Common Pipistrelle	5	Unseen	Bat detector
05:08	Brown long-eared bat		Recognisable call but 45khz	Bat detector
05:09	Common Pipistrelle	1	Unseen	Bat detector
05:10-05:11	Soprano Pipistrelle?	2	Unseen @ 53khz	Bat detector
05:13	Common Pipistrelle	1	Unseen	Bat detector
05:14-05:18	Soprano Pipistrelle?	5	Unseen	Bat detector
05:19	Brown long-eared bat	1	Unseen	Bat detector
05:20	Soprano Pipistrelle?	2	Unseen	Bat detector
05:21	Brown long-eared bat	2	(as bat 3 above)	Bat detector
05:22	Soprano Pipistrelle?	12	Unseen	Bat detector
05:31	Brown long-eared bat	2	(as bat 3 above)	Bat detector
05:33-05:52	50khz pipistrelle	c.35	Initially unseen then seen around oak to south and circling roof – probably entered on rear (N) roof slope	Bat detector/visual observation

*Notably all Brown long-eared bat calls (recognised from experience by both surveyors) were recorded at around and above 45khz by both surveyors.

14.3 The main areas of bat activity were:



Common Pipistrelle

Brown long-eared bat

+S1 Surveyor station

E Emerged

14.4 The survey was undertaken in order to attempt to determine the level of activity and the access points used by Brown long-eared bats. The probable droppings of which species had previously been identified (see original survey) in the roof space. A brown long-eared bat was seen to enter the property and also a single "50khz" (probable Common) pipistrelle entered beneath a roof tile on the north slope.

Brown long-eared bat entry point



Probable 50khz pipistrelle entry point



15. Survey Conclusions

Further confirmation was obtained that the site is actively used as a roost by a single probable male Brown long-eared bat, as previously concluded, and a Common pipistrelle was seen to enter beneath roof tiles on the north slope of the main roof. Generally previous survey conclusion paragraphs in Section 10.1 remain applicable except pipistrelle activity at the ash tree previously suspected was not replicated and could not be confirmed.

Note: The small quantity of droppings previously identified would be deposited, in comparison, by a captive Brown long-eared bat in circa two weeks. This, combined with the lack of evidence of Brown long-eared bat activity during dusk surveying on 8th June 2009 which we would have anticipated if a maternity colony were present, and the (expected) return of a single Brown long-eared bat at dawn on 2nd September 2009 lead us to conclude with some confidence that the building did not and had not contained such a colony and that this, as previously concluded, represents a single probable male Brown long-eared bat using the building in a transitory manner. The extent of deposited evidence was insubstantial and not commensurate with levels associated with even the smallest maternity roosts of Brown long-eared bats. Roofs of this construction type are often used in a transitory manner whereas more spacious, often gable ended, roofs are often associated with maternity roosts, probably due to their greater available 'headroom' for social flight and collective light-sampling activities.(Author's pers. obs.).

16. Combined Obligations and Recommendations

16.1 Section 11 of the original report still applies, however revised and more detailed mitigation is proposed as follows and the following section should be read in conjunction with section 12 above.

17. Mitigation

17.1 Should it be the case that disturbing works, in respect of bats, cannot be ***commenced and completed*** in a single 1st October to April 30th period when bats will likely have vacated the existing building a derogation license from Natural England will be necessary to make the works legally compliant. However it should be noted that of all bat species likely to be present at this location Brown long-eared bats are those most likely to remain insitu all year.

17.2 Whether timing results in a requirement for of a license or not certain mitigation, as set out below, will be required in respect of bats.

17.3 The principle of the mitigation proposal is to replace existing bat roosts being demolished as part of the proposed works. It is essential that the existing dwelling is retained until such time as the new roosts are complete and thenceforth undisturbed. Details of the proposed roosts for Brown long-eared bats are as set-out in the original report. Pipistrelle roosting facilities are to be as described by the following sketches.

Note: The mitigation proposed for long-eared bats would accommodate a small maternity colony despite the lack of evidence of such a colony being present.

17.4 Immediately prior to commencement of any disturbing works (e.g. roof-stripping, demolition, etc), on the same day, a dawn survey and intrusive inspection should be undertaken to determine bat presence by a Licensed Bat Worker.

17.4.1 If no bats are identified as being present, works may commence by soft-stripping any roofing elements under the supervision and instruction of a Licensed Bat Worker to a plan pre-agreed with the bat worker. Once the bat worker is satisfied that no bats are present the existing dwelling may be demolished by more immediately destructive means.

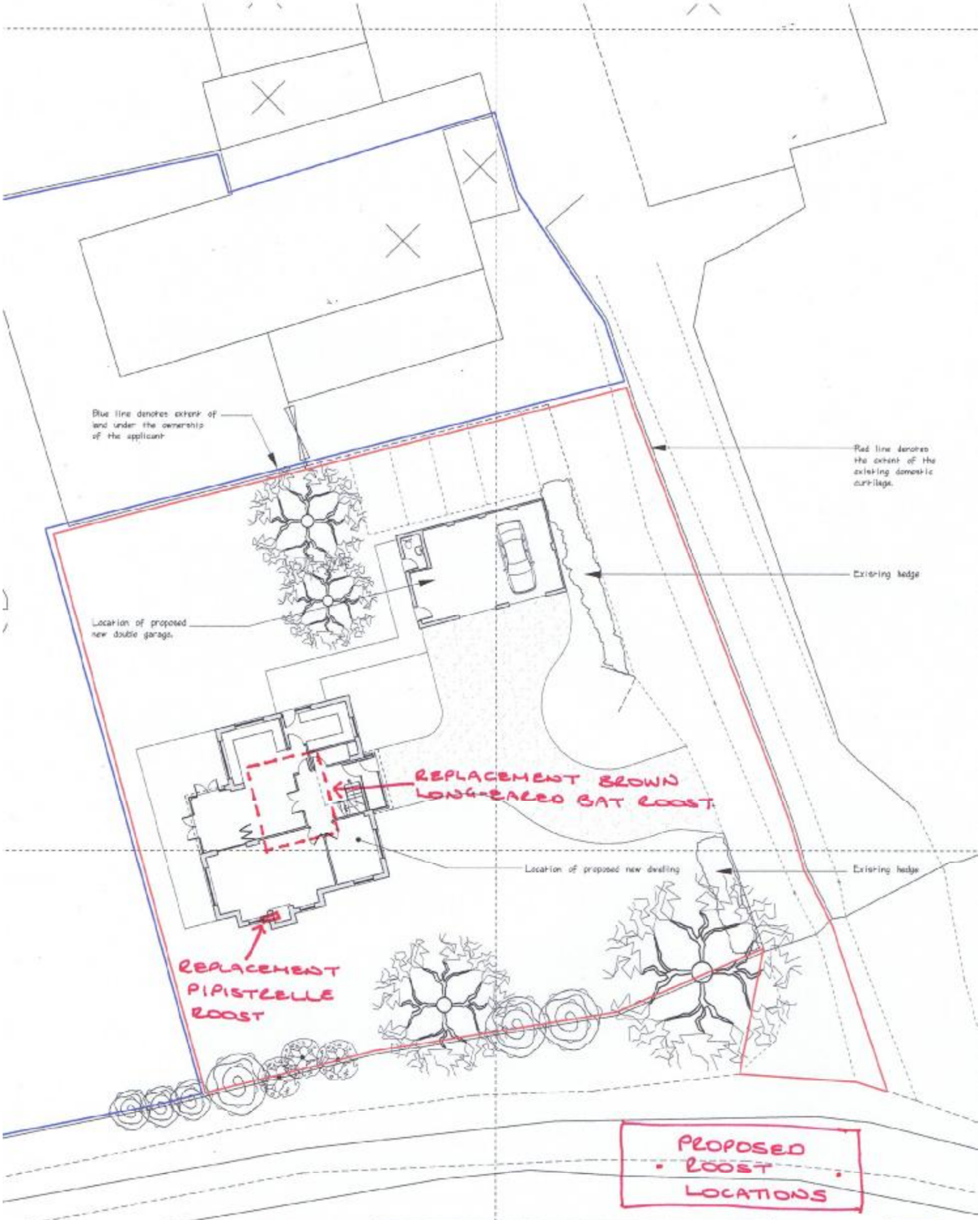
17.4.2 If bats are seen to return to the building, that area should be targeted with a view to the bat(s) being taken into care in a suitable vivarium with mealworms, water and suitable roosting media for release when weather conditions are appropriate. As above, any works necessary to achieve this aim should be undertaken with care and minimum disturbance under the supervision and instruction of the bat worker.

Note: this particular work should not be undertaken in rain or at temperatures below 5ºC.

17.5 As a part of the construction process the roofs will require under-felting and, if a breathable membrane is to be used, it must be dark in colour and underlain with traditional bituminous sarking felt for the first 1m measured from the ridge board down each roof slope in each bat-accessible roof void.

17.6 The works should include loft access to humans for monitoring and cleaning purposed, each externally labelled “BAT ROOST – ACCESSIBLE ONLY IN THE PRESENCE OF A LICENSED BAT WORKER”.

17.7 The works should be monitored for *up to* three years post completion to determine the success, or otherwise, of the mitigation or as in accordance with conditions of any Natural England License issued.



client	Ms G. Johnson			
project	Proposed New Dwelling Stapleton Lane Dadlington	scale 1:200 NTS	job No	07/77
		date 14.05.09	drawing No	03 Q
drawing	Block Plan	author MEJA	sheet A3	

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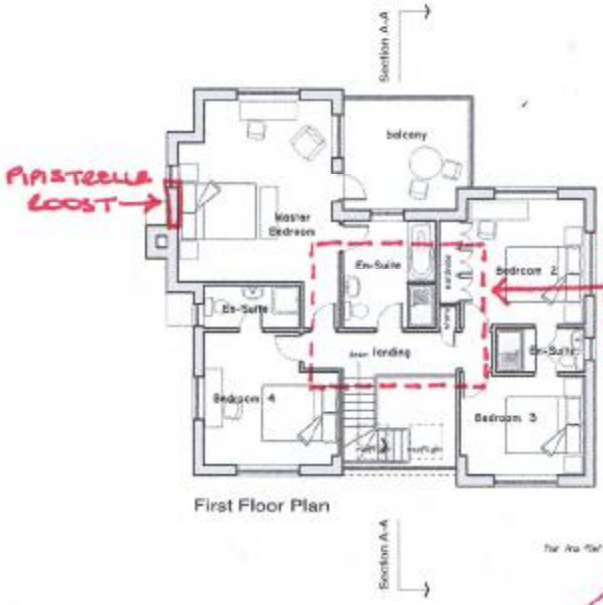
Ground Floor Plan



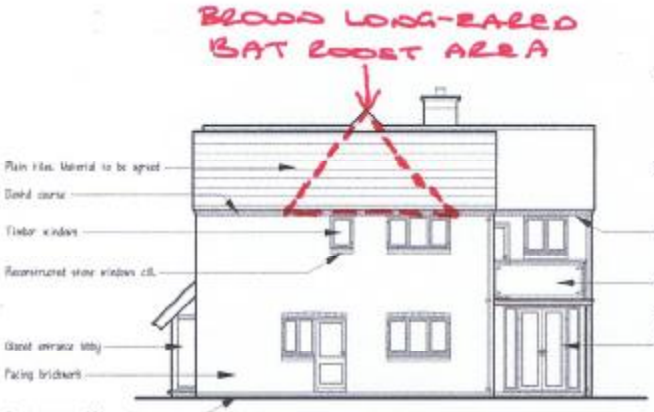
First Floor Plan



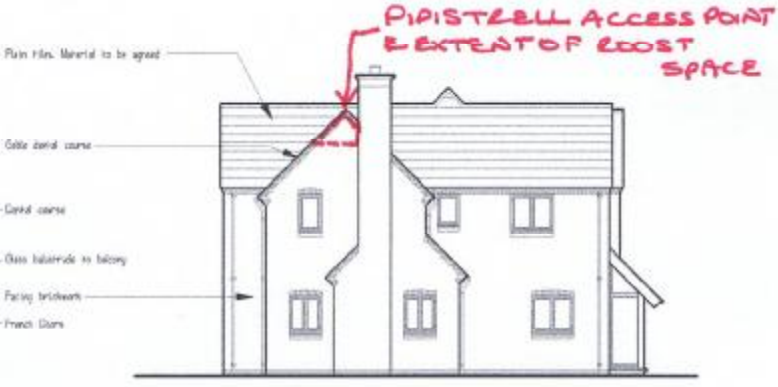
Entrance Elevation



Rear Elevation

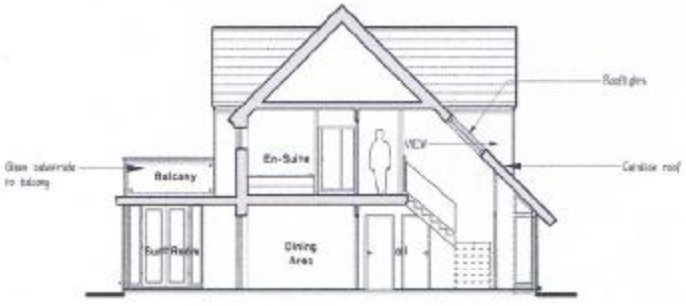


Side Elevation



Stapleton Lane Elevation

REPLACEMENT ROOST DETAILS



Section A-A

5 4 3 2 1 0 5

client	Ms G. Johnson	hayward ARCHITECTS LTD	
project	Proposed New Dwelling Stapleton Lane Dadlington		
drawing	Plans & Elevations as Proposed		
scale	N.T.S.	sheet A2	job no 07/77
author	MEJA	date Feb 2011	drawing no 05 S

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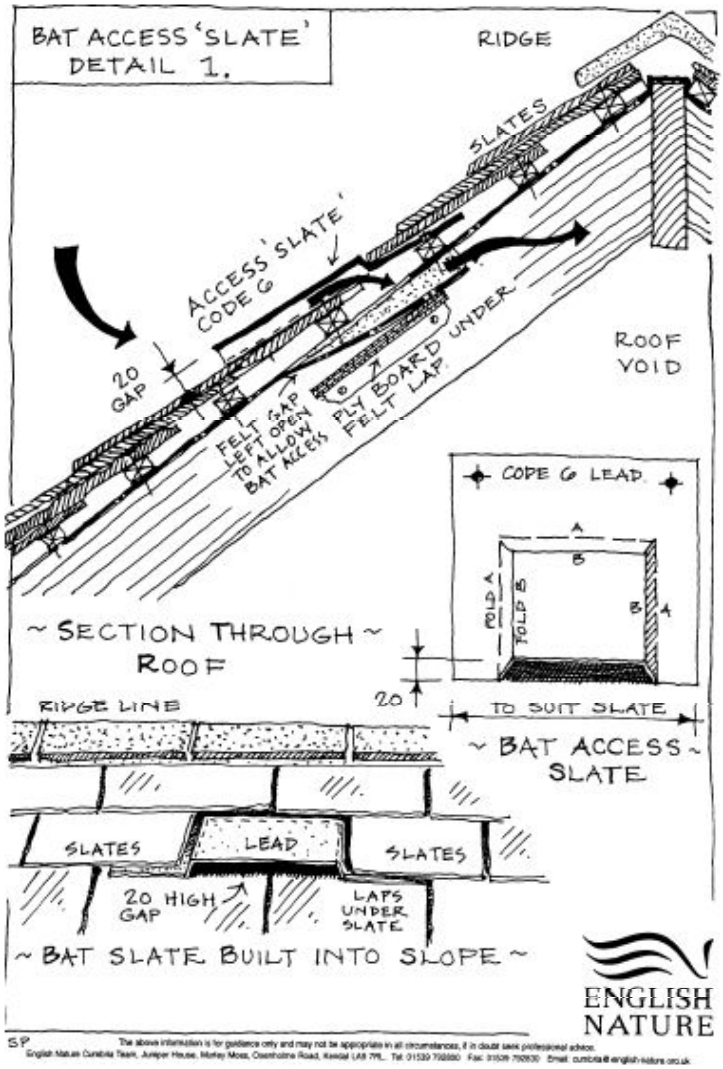

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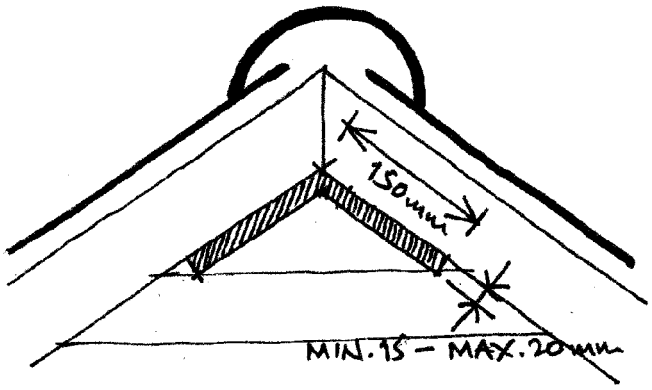
The above information is for guidance only and may not be appropriate in all circumstances, if in doubt seek professional advice.

English Nature Cumbria Team, Juniper House, Morley Moss, Oxenholme Road, Kendal LA9 7RL. Tel: 01539 792800 Fax: 01539 792830 Email: cumbria@english-nature.org.uk



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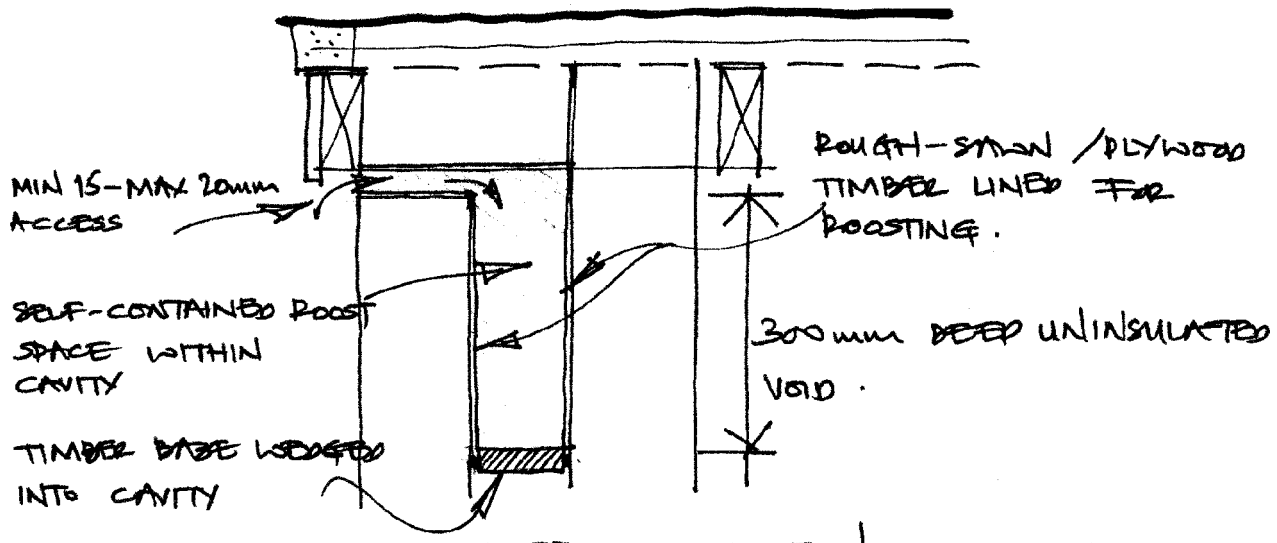

DETAIL SECTION N.T.S.