ECOLOCATION

Protected Species Surveys for Development

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

BatA ssessment& Report

at

The Gables, Twycross Road, Bilstone, Warwickshire

for

Mr. & Mrs. Wright

Revision A - 8th June 2009

ECOLOCATION is a trading style of George Burton ARCHITECTURE & ECOLOGY Ltd. Incorporated in England, Registered No. 6456127.

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1. Instructions

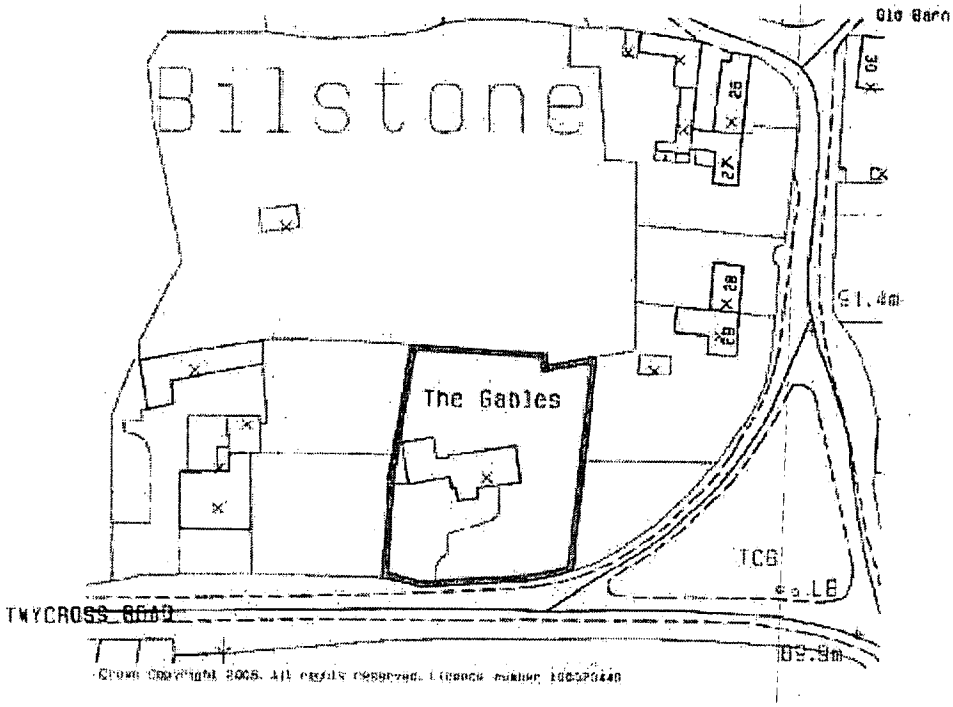
1.1 ECOLOCATION were appointed by Mr & Mrs Wright to undertake a Bat Assessment of a detached dwelling at The Gables, Twycross Road, Bilstone, Warwickshire CV13 6ND following an initial enquiry by Messrs Savage Hayward Architects of 19 Station Road,H inckley, Leicestershire.

2. Purpose and Scope

2.1 The purpose of the assessment and report was to accompany a planning application for proposed extensions to The Gables including re-roofing.

2.2 The scope of the survey was to establish the likelihood of bat presence in the existing dwelling in areas likely to be affected by the works and within a reasonable amount of working space around the building.

O.S. Licence No.L IG0013



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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

Client	Mr & Mrs Wright		Drawing O/S Plan	
Project	Proposed Exts & Alts The Gables Bilstone	Auth LJW	Date Oct 2008	Drawing No -
		Scale 1:1250	Job No 08/13	

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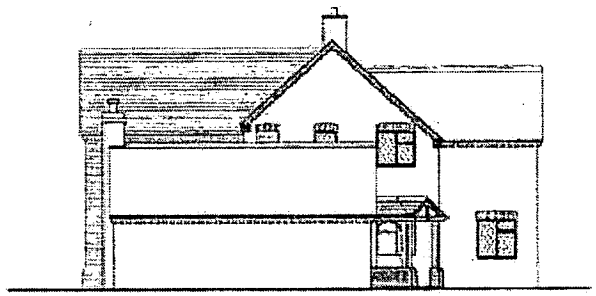
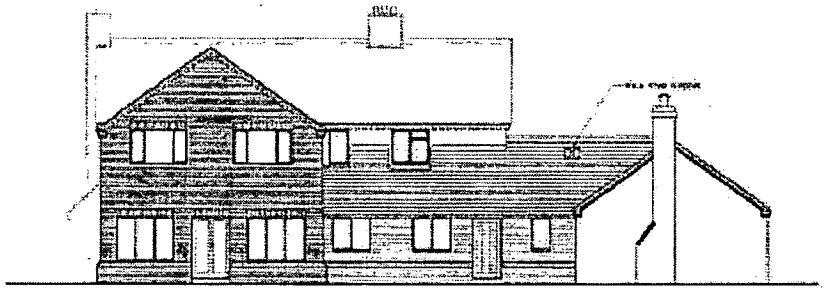
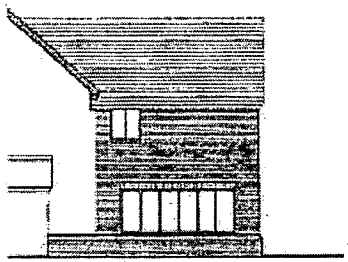
Part Front Elevation.



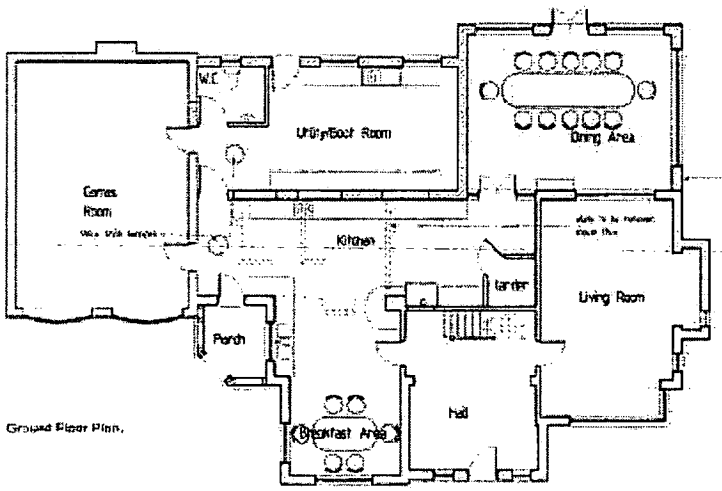
Games Room Side Elevation.



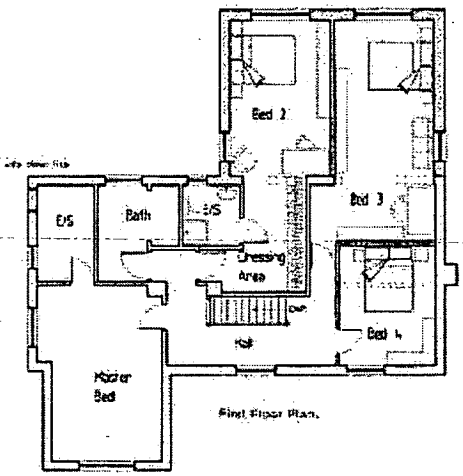
Rear Elevation



Part Side Elevation.



Ground Floor Plan.



First Floor Plan.

N.B. Drawings based upon drawing supplied by client. All dimensions, angles, levels and drainage to be checked on site before works commence. Notify architect should any discrepancies arise.

L A V A G E M A Y W A R D
A R C H I T E C T S

Client	Mr & Mrs Wright
Project	Proposed Extensions and Alterations, The Gables, Twycross Lane, Blaisdon
Drawing	Revised Scheme.
Drawn L/W	Date Jan 2008
Scale 1:100	Job No. 08/13
Drawing No.	15 B

3. Timing and Conditions

3.1 The site was visited on Monday 2nd March 2009 commencing at2 :30pm.

Parameter	Value
Temperature	10°C
Cloud cover	100%
Precipitation	Nil
Wind speed (Beaufort scale)	0 Calm

Weather conditions during assessment02 .03.09

4. The Site

4.1 The site (Grid Ref SK361052) was located central to the village of Bilstone fronting onto Twycross Road which ran east-west approximately 20m to the south. The village did not benefit from a main centre and was a dispersed settlement, located approximately 4.75km from central Market Bosworth to the south/east.

4.2 The building comprised a detached two-storey dwelling in load-bearing masonry construction with a concrete pan-tiled roof which was orientated east/west with a projecting gable to the south together with a single-storey gable-ended porch, a lean-to over a bay window and two dormers, also facing south. At the western end of the building was a single-storey former garage structure again with gables facing south and north which had been converted into habitable space. The former garage and main dwelling were linked by a single-storey connection.

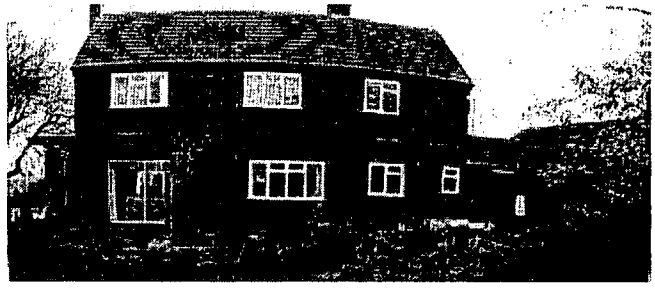
4.3 Although being central to the village the dwelling was surrounded by open space on all sides with the closesto ther building being some 28m to the west. To the north was a paddock leading to open countryside and to the south beyond Twycross Road further open countryside.



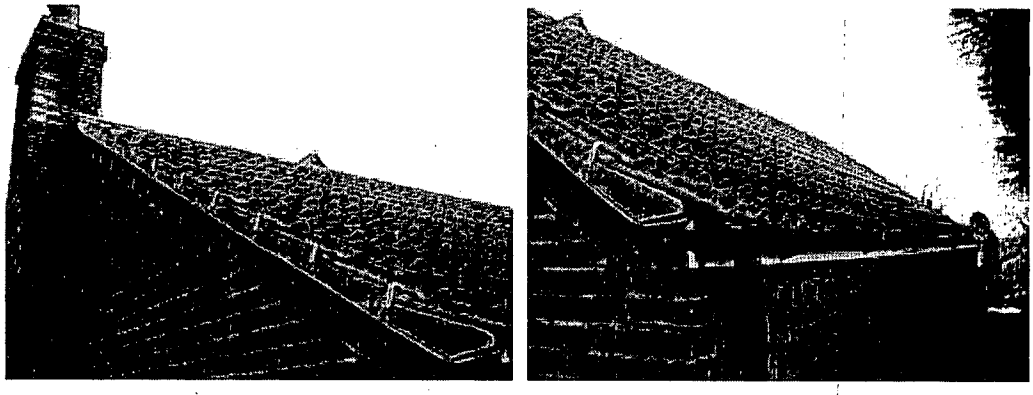
South elevation viewed from south-west



South elevation viewed from south-east



North elevation



North-westc orner of former garage

5. Habitat Assessment

5.1 The site, being part of a loose-knit community, had allowed the opportunity for its immediate surroundings to provide a good deal of tree cover for potential foraging bats and indeed in the wider village this was the "greenest part". Within a 2km radius of the site the immediately striking features were a mill-pool to the north-east edge of the village off Mill Lane, mature trees in the fields between Bilstone and Congerstone and the mosaic of private gardens and allotments in Bilstone and surrounding villages. To the west was a large area of woodland between Gopsall House Farm and Gopsall Hall Farm which extended east/west to beyond the 2km radius from the site and combined with two woodlands to the north which lay to the west of Shackerstone, one known as Sibson Wolds to the south and a narrow strip of woodland 2km east of the site; would have offered good foraging opportunities for bats within easy reach of the site. Furthermore the Ashby de la Zouch Canal ran through within a 2km distance of the site to the east on its loose north/south route and the River Sence ran close to the village on a north-east to south-west direction through the mill-pool in Bilstone. Overall these features would have provided excellent foraging opportunities for bats in the locality.

Numerous ponds were also evident together with the aforementioned canal and river plus smaller streams and tributaries.

5.2 Bats are known to forage up to and beyond 10km from theirr oost sites overnight and a search to this radius showed evidence of eighteen areas of woodland included in the List of Ancient Woodland (England) comprising either ancient and semi-natural woodland or ancient re-planted woodland and together with this was a further approximately two hundred areas of woodland included in The National Inventory of Woodland and Trees (England) and six areas of Lowland Grazing Marsh (England). Much of the woodland was nearby in the areab etween Bilstone, Shackerstone, Norton Juxta Twycross and Twycross however further areas of significant woodland were evident to the south-east ofl bstock due north-east of the site and around Shenton and Market Bosworth to the south-east.

5.3 Overall the foraging opportunities for bats potentially using the site were very good in the immediate locality and further afield.



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6. Data Search

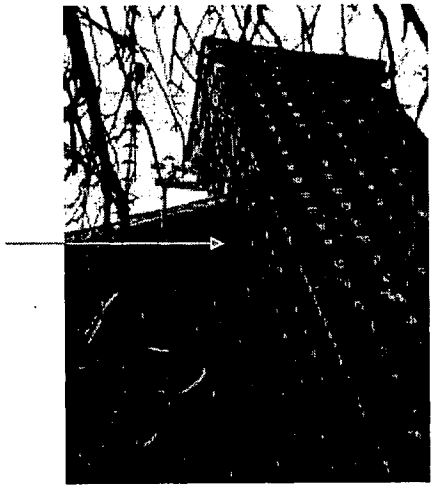
6.1 A data search of The National Biodiversity Network through the "NBN Gateway" show evidence of Daubenton's bat *(Myotis daubentonii)*, Brown Long-eared Bat *(Plecotus auritus)*, Whiskered Bat *(Myotis mystacinus)* and indeterminate Pipistrelle Species within the associated 10km grid square.

7. Walkover Survey and Analysis

7.1 An initial walkover of the site confirmed that the site may have been suitable for bat occupation as the structure was of a suitable type and offereda ccess at various points through incomplete brickwork adjacent to the chimney on the eastern gable, around the eaves and verges, at flashings and possibly alsot he top of the gable brickwork. The eaves detail which included exposed perforations in the bricks may also have offered opportunities for individual roosting bats from time to time.

7.2 Internally the main roof structure of the dwelling appeared suitable particularly for species of bat which are likely to occupy buildings with large, open roof spaces such as brown long-eared bats *(Plecotus auritus)* however the garage, being of more modern trussed construction rather than traditional purlin and rafter construction, was less likely to be of interest to bats of thisn ature however Pipistrelle Species etc could still have occupied eaves and cavity wall locations.

7.3 Overall, at this stage,t he likelihood of batp resence or use of the building was considered high.



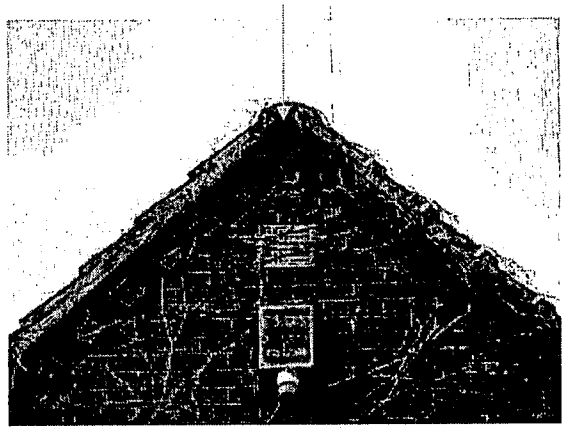
Opening atr oof/chimney junction



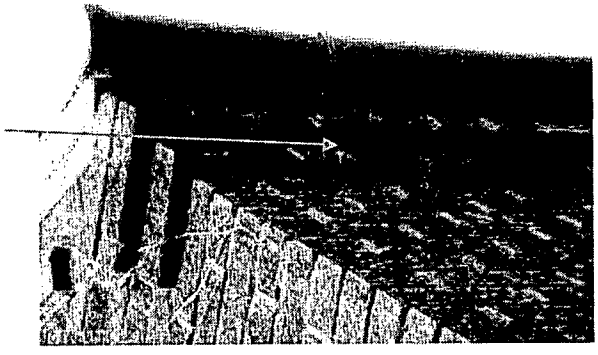
Lifted tile/valley detail



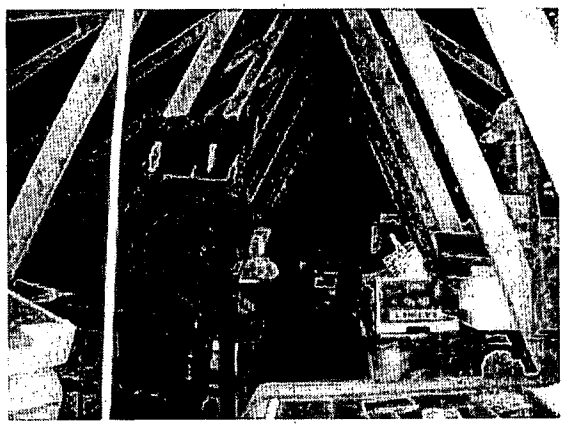
Flashing



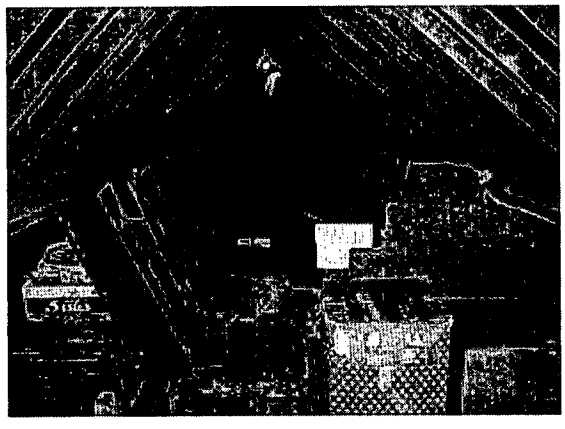
Possible access below cloaking bead at apex of verge



Brick perforations at eaves



Garage roof



Main roof

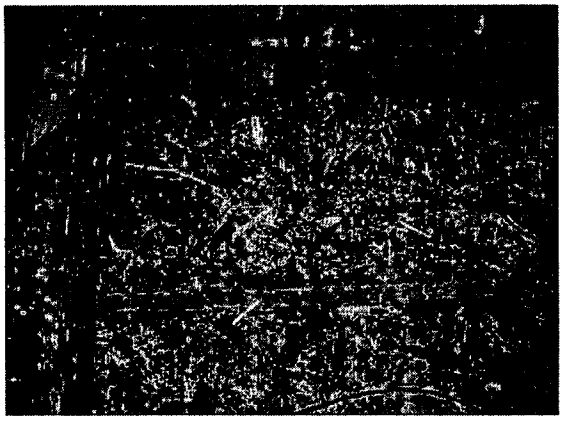
8. Intrusive Survey and Results

8.1 An intrusive investigation of the building was undertaken by George Burton, Natural England Bat Licence No. 20083547 using Ever-ready headtorch, Nightsearcher 0.5 and 1 million candle power lamp and 'SeeSnake' Micro Endoscope. Following advice in the "Bat SurveyG uidelines", BCT 2007, no emergence survey was undertaken,t he timing being during the hibernation period.

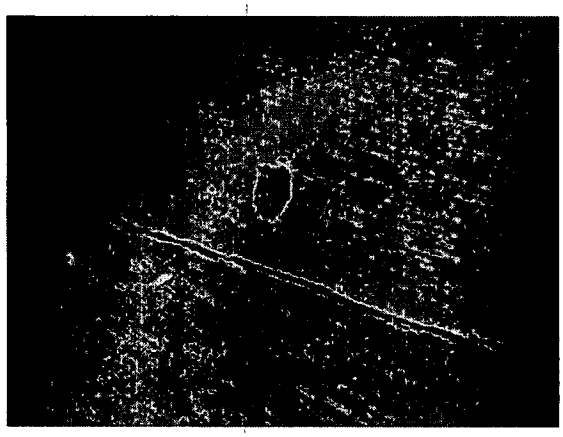
8.2 A search for individual bats, carcasses, droppings, urine staining, polished surfaces, build-up of insectr emains etc was made internally and externally of the building.

8.3 No evidence of bats was found externally nor was any evidence discovered in the roof to the garage or in the single-storey link to the main dwelling, although significant evidence of rodent activity in this location was discovered. The roof to the main dwelling however showed a small number of bat droppings reminiscent possibly ofb rown long-eared bat adjacent to the eastern gable at ceiling level and on the purlin where it rested on the gable wall and further droppings were evident adjacent to water tanks at the western end of the main dwelling however the main area of activity was in the forward (south) projecting gable where further droppings were found centrally beneath the ridge and on the blockwork at high level together with a sheet which had been used to block an airbrick immediately below the gable/ridge junction att his point.

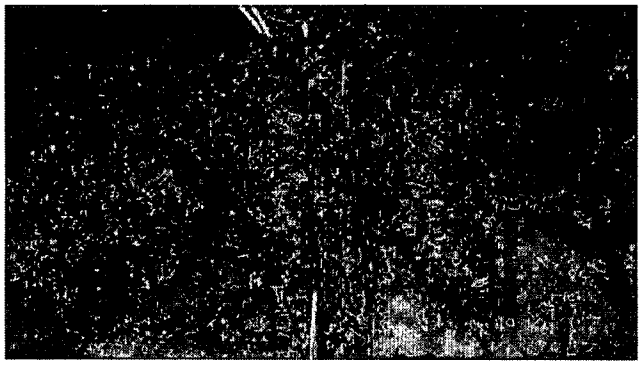
8.4 Evidence of bird nesting was also found at the eastern gable where the brickwork at the top (where it joined the chimney) was particularly poorly finished allowing ease of access to species such as starling *(Sturnus vulgaris)*.



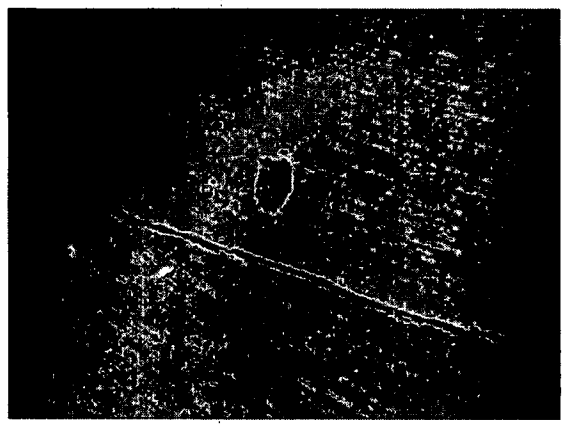
Nest debris adjacente astga ble



Bat dropping on purlin adjacente ast gable



Bat droppings and possible feeding remains adjacents outh gable



Bat droppings adhered to blockwork above airbrick south gable



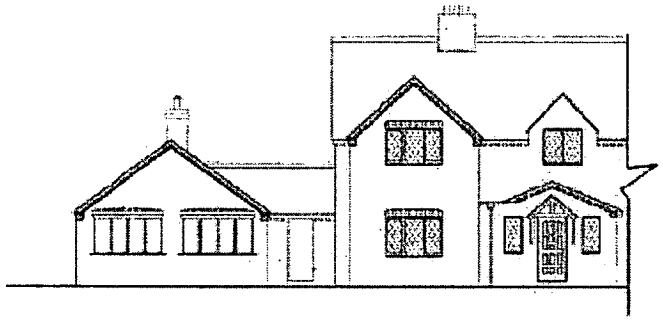
Bat droppings on sheet blocking airbrick south gable

9. Survey Conclusions

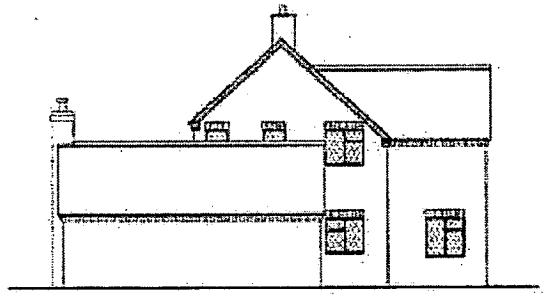
9.1 The site, from the walkover survey, was initially considered to have high possibilities of bat occupation based on the type of building, access and foraging opportunities. This was borne out by the results discovered in the building and the likelihood is that the site is used by a, probably single, brown long-eared or perhaps natterer's bat *(Myotis nattereri)* at certain times. However the site does not appear, from the evidence available, to be in constant use and is probably an occasional roost site which appears not to accommodate a maternity colony.

9.2 In respect of bats such as Pipistrelles which are difficult to detect when emergence survey is not possible iti s conceivable thats uch species could occupy the building however due to the constraints on the survey due to timing and accessibility this was notpo ssible to confirm.

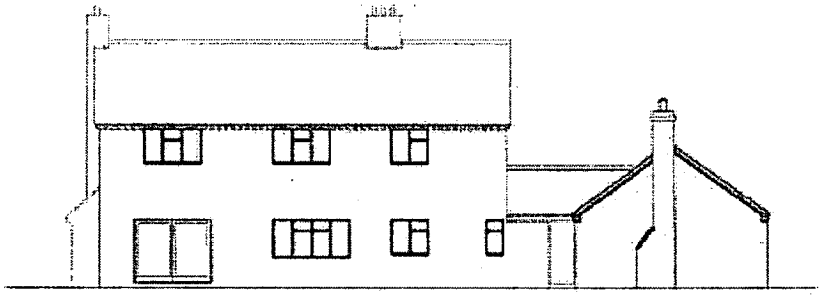
9.3 Nesting birds may also be using the building during the breading season.



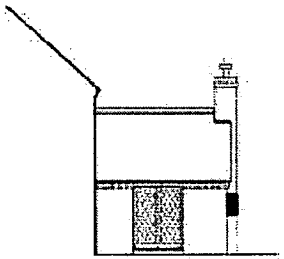
Part Front Elevation.



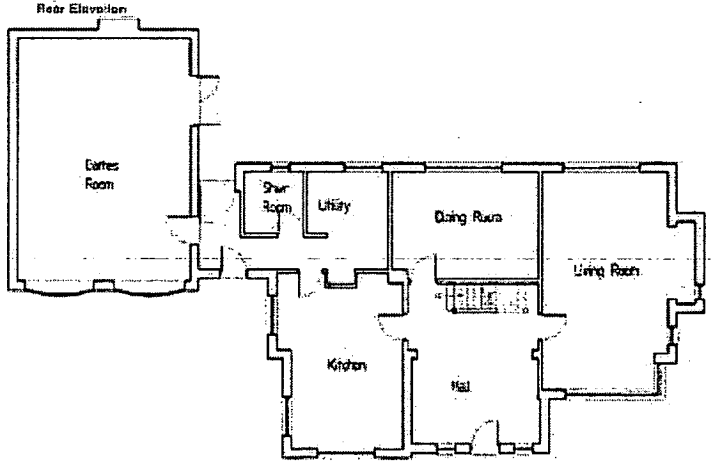
Games Room Side Elevation.



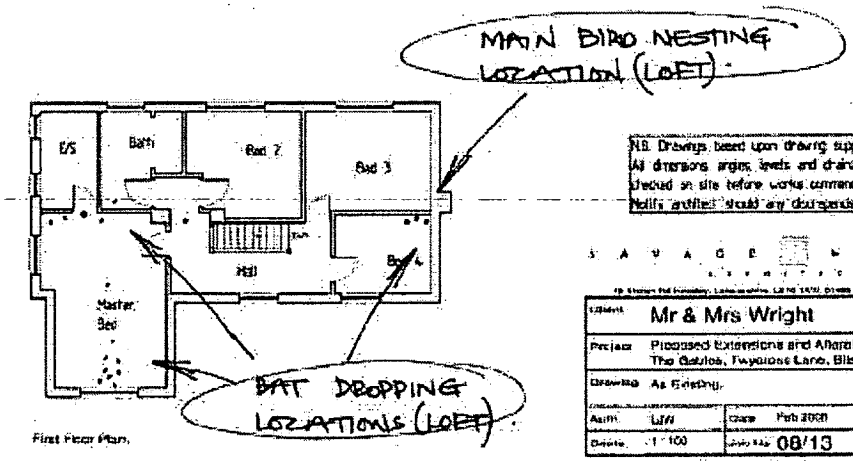
Rear Elevation.



Part Side Elevation.



Ground Floor Plan.



First Floor Plan.

N.B. Drawings based upon drawing supplied by client. All dimensions, angles, levels and drainage to be checked on site before works commence. Notify architect should any discrepancies arise.

SAVAGE HAYWARD

Client	Mr & Mrs Wright
Project	Proposed Extensions and Alterations, The Gables, Twycross Lane, Bilstone
Drawing	As Existing.
Auth.	LJW
Date	Feb 2008
Scale	1 : 100
Job No.	08/13
Drawing No.	01

10. Obligations and Recommendations

10.1 All specieso f British bat and their roosts (placeso f shelter or rest) are protected byl aw 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'],a s amended 2007 to incorporate the European Habitats directive.

10.2 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.

10.3 Following completion of the survey, based on its results and despite the constraints due to timing it is clear that the building is used by a bat, or bats, from time to time however due to the constraints on timing, and the inability to carry out an emergence survey as a consequence, it is recommended that emergence surveying be completed between May and October in ordert hat the full method of use and species population assessment can be carried out and a decision made as to whether a licence from Natural England will be necessary to complete the works prior to commencement. Subject to this simple mitigation would be possible in the form of suitable timing of the works or exclusion of bats from certain areas oft he roof space at certain times however it should be possible to organise the works,i ncluding re-roofing, in such a manner as to avoid a. destruction of the roost, and b. uncontrolled disturbance.

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

10.5 The majority of species ofn esting bird are protected under the Wildlife & Countryside Act 1981 and as amended by the Countryside & Rights of WayA ct 2000. Works must be planned to avoid disturbance of nesting birds if present before commencement or if nesting commences during the works.

10.6 Should any other protected species be discovered before ordu ring the works ECOLOCATION or the local office of Natural England should be contacted for advice.

11. References

Bat Workers Manual,J NCC,19 99
Bat Survey Guidelines, Bat Conservation Trust,20 07
www.magic.gov.uk
OS Street Atlas,L eicestershire & Rutland and Warwickshire, Phillips
Google Earth Pro
Plans supplied by kind permission of Messrs Savage Hayward and Mr & Mrs Wright

12. Addendum

12.1 Emergence Survey

12.1.1 An emergence survey was undertaken on 26th May 2009 with surveyors stationed as indicated on the following aerial image. Sunset was at 21:10hrs and surveying commenced at 20:50hrs.

12.1.2 The survey was led by George Burton, Natural England Bat Licence No. 20092123 and completed by 2no. surveyors.

Weather conditions during emergence survey 26.05.09	
Parameter	**Recorded Figure**
Temperature	Commencement 11.8°C – Completion 9.6°C
Cloud cover	25% decreasing to 0% by 22:30hrs
Precipitation	None
Wind speed (Beaufort Scale)	5 - Fresh breeze

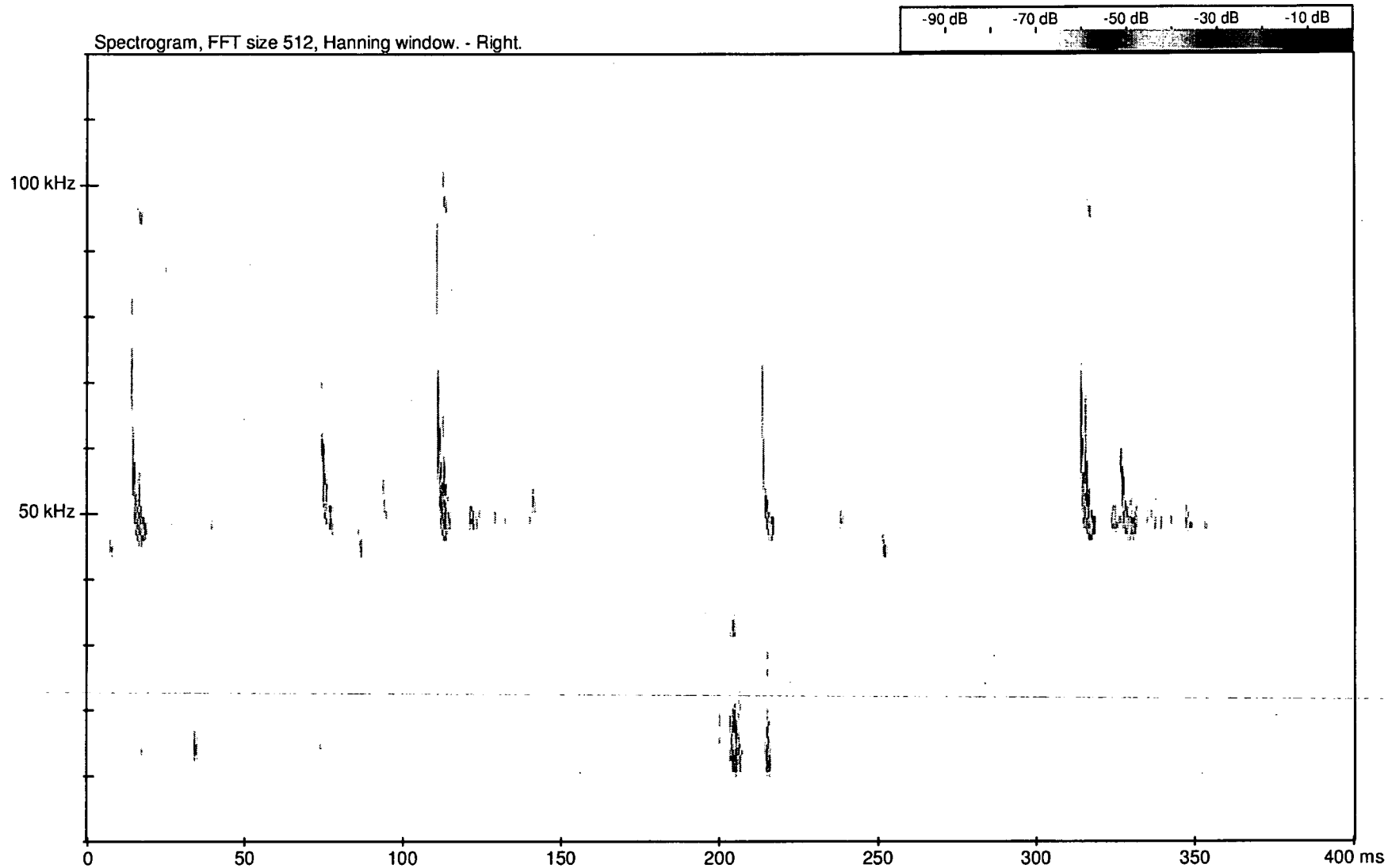
Surveyor 1

Using Pettersson D240x time expansion detection recording toR oland Edirol R-09 digital device in .wav formatp lus heterodyne channel to headphones.

Time (24 hrs)	Species	.wav File No.	Activity	How Identified
21:38	Common Pipistrelle (Pipistrellus pipistrellus)	*001	Commenced foraging to east of building (Bat entered from east)	Bat detector & Recording
21:39	2nd Common Pipistrelle joined	*002	Commenced foraging to east of building (Bat entered from east)	Bat detector & Recording
21:41	Common Pipistrelle		Commuted through site, W → E	Bat detector
21:43	Common Pipistrelle		Commuted through site, W → E	Bat detector
21:43	2 Common Pipistrelles	*003	Foraging to south ofb uilding	Bat detector & Recording
21:48		*004	General recording of activity. Bats often in pairs,c ontinuous until 22:20 butl ess bats after 21:50 followed by regular but less intensive commuting and foraging. Probable peak of 4 bats present.	
22:48		*006	Generally increased activity	Bat detector & Recording

*see sonogram interval readout

c pip activity 22.40hrs.wav[Wave]

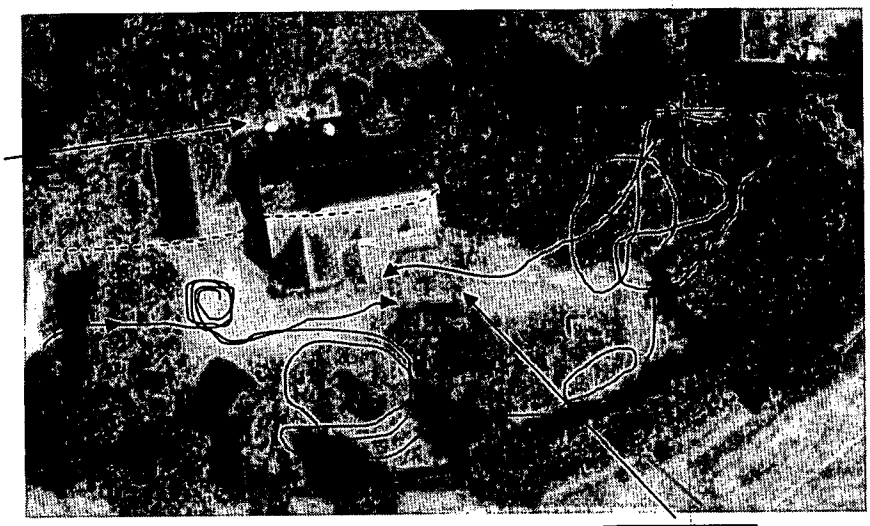


Surveyor 2

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

Time (24 hrs)	Species	No. of passes	Activity	How Identified
21:40 – 22:42	Up to 4 x Common Pipistrelle	>60	Continuous foraging to east	Bat detector
21:58	Brown Long-eared bat *(Plecotus auritus)*	3	Foraging close to bushes north ofh ouse	Bat detector and visual observation
22:02	"	2	"	"

12.1.3 The main areas of bata ctivity were:



---------- Little Owl

Pipistrelle flight lines

12.1.4 No bats were seen to emerge from the property. Foraging bats generally entered the site from eastan d west.

12.1.5 The brown long-eared bat(s) were not seen to emerge from the building and comprised a single bat at both 21:59 and 22:02hrs.

12.2 Combined Survey Conclusions

12.2.1 No bats were seen to emerge from the building.

12.2.2 The first Common Pipistrelle entered the site at 21:38hrs, 28 minutes after sunset. This bat approached from the west but other bats entered from the east later-on implying thatp ipistrelle roosts exist elsewhere in the village outside the site.

12.2.3 At least one brown long-eared bat was observed to the north of the house but was not seen to emerge from the building.

12.2.4 Despite the absence of evidence of bats emerging from the structure, previous intrusive surveying confirmed that at least one bat, probably brown long-eared (from droppings evidence), had used the roof space, and particularly the south facing gable projection, within the previous 12 month period.

12.2.5 Anecdotally starlings nested earlier in the year adjacent to the chimney at the verge of the easternmost gable and a little owl was observed perching on the roof of the building during the survey.

12.3 Combined Obligations and Recommendations

12.3.1 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 and all of these (amended by The Countryside and Rights ofW ay Act 2000, and the Conservation (Natural Habitats etc.) Regulations 1994 [The 'Habitats Regs.'], as amended 2007 to incorporate the European Habitats Directive.

12.3.2 Paragraphs 10.1, 10.2, 10.4, 10.5 and 10.6 are reiterated at this stage as they remain relevant.

12.3.3 From the findings of surveying it is clear that a significant bat roost did not exist in the building at the time and that the evidence present was probably indicative of a single male bat using the site in a transitory manner. As such we consider the proposed development, which affectst he roof space at the north-west corner of the existing building, to be of "insignificant impact" as it would not adversely affect the conservation status of the breeding populations of bats across their natural range, and, as such, is not a licensable activity. Certain mitigation will however be necessary, see below.

12.4 Mitigation

12.4.1 The principle of the mitigation proposal is to discourage bat use of the area of roof to be affected by the proposed works from immediately before works commence until impacting works are complete withoutc ausing disturbance.

12.4.2 The existing airb rick in the south-facing gable roof space must be perforated to create a (permanent) access achieving a slot with a maximum dimension in **one** direction of 12-20mm and this should be cleared of obstructions internally to allow direct access to the south gable roof. This should be completed when no bats are present i.e.l ater than 75 minutes after sunset.

12.4.3 The area of roof adjacent to the works should be artificially illuminated to discourage bats from roosting in that area for a 24hr period.

12.4.4 The area of roof to be worked-on should be screened after 24hrs with a completely sealed diaphragm to prevent bat access and potential access points blocked within this area only provided this will not affect nesting birds.

12.4.5 A licensed bat worker must be on site with a watching brief while the existing tiles are soft-stripped by hand under the bat worker's instruction and any remnant bats taken into care and released after sunset following consultation with Natural England. Such works mustn otb e completed in rain or temperatures below 5°C.

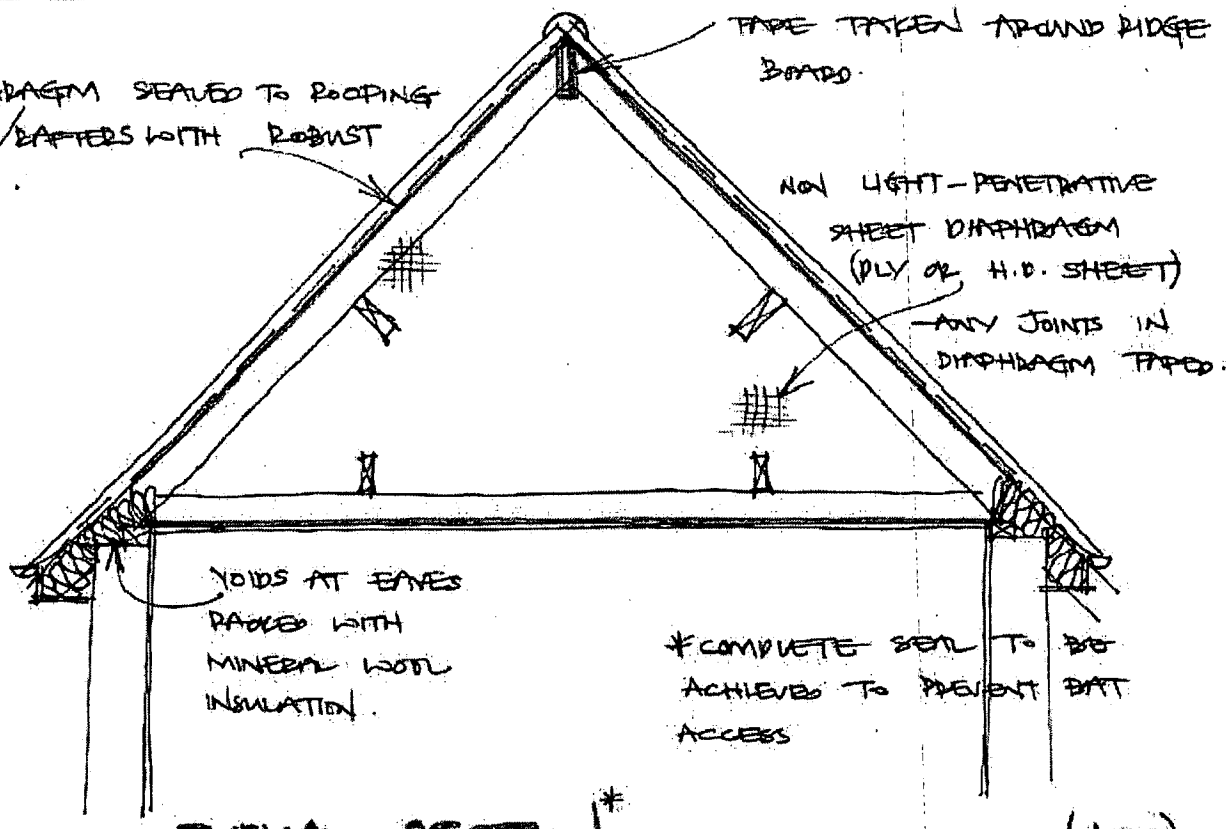
12.4.6 The void of the area of existing roof being worked-on should again be illuminated once it is resealed from the weather/daylight with no light leakage until the works are complete and the diaphragm removed.

12.4.7 Once associated works are completed, artificial illumination may cease and any potential access points shall be re-instated prior to removal of the diaphragm screen.

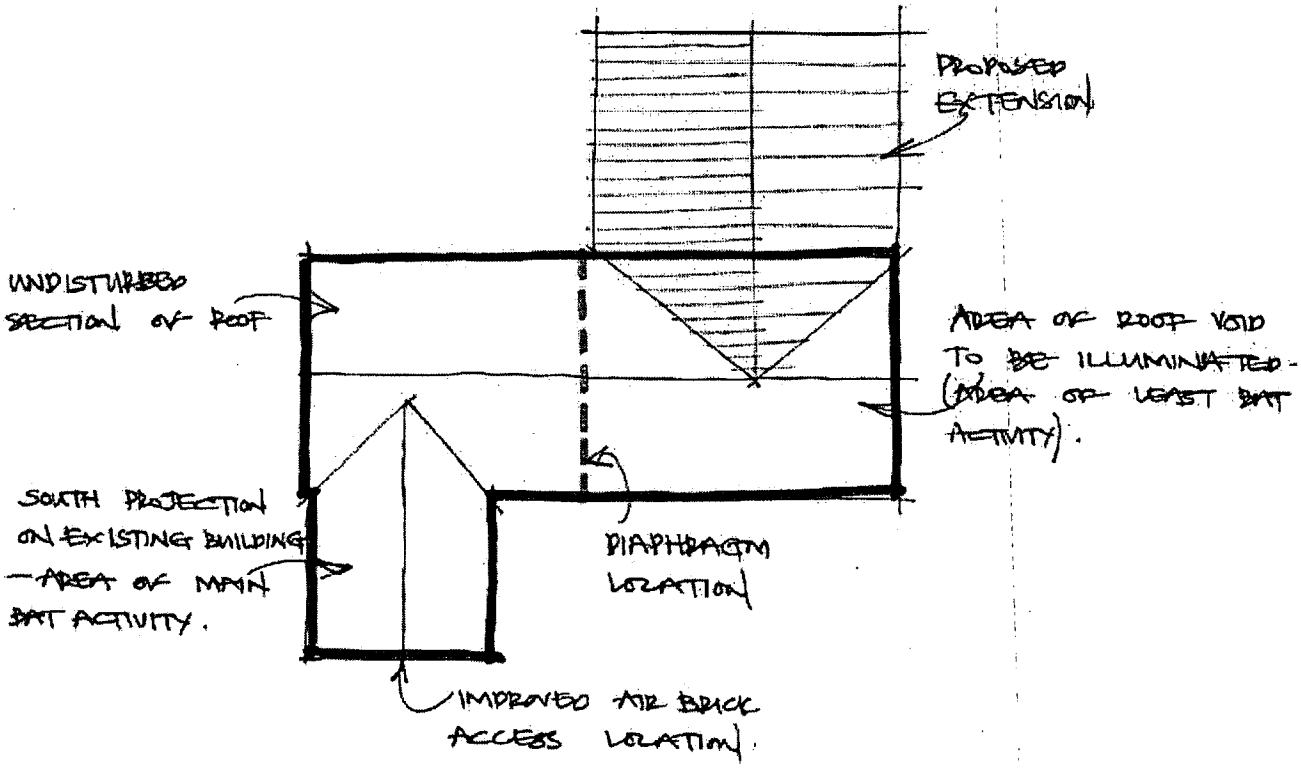
12.4.8 The works themselves should include certain design features suitable for bats. Breathable felt must not be used for the top 1m of each new roof pitch measured from the ridge down each slope and all felt used should be black or dark-coloured rather than white.

12.4.9 The building should be monitored during the period after completion to determine the success or otherwise of this mitigation for one visit per annum until evidence of continuing use is established (up to a maximum of three years) by a licensed bat worker. To thise nd sheetss hould be laid through the building beneath the ridge boards to highlight evidence as soon as the works are complete.

SKETCH DETAILS:



TYPICAL SECTION*. (N.T.S.)



SIMPLE ROOF PLAN (N.T.S)