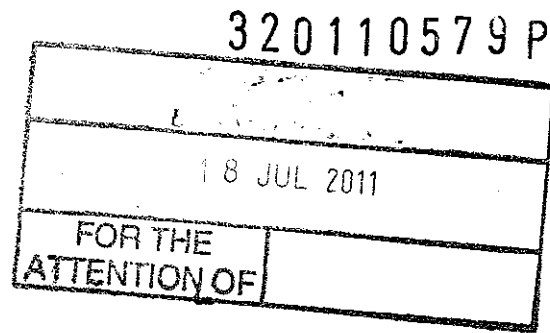




Application for a new planning permission to replace an extant planning permission,
In order to extend the time limit for implementation
Application for replacement of associated listed building and/or conservation area consents in
order to extend the time limit for implementation

Town and Country Planning Act 1990

Planning (Listed Buildings and Conservation Areas) Act 1990

Publication of applications on planning authority websites

Please note that the information provided on this application form and in supporting documents may be published on the Authority's website. If you require any further clarification, please contact the Authority's planning department.

Please complete using block capitals and black ink.

It is important that you read the accompanying guidance notes as incorrect completion will delay the processing of your application.

1 Applicant Name and Address	2. Agent Name and Address
Title: MR First name: DARRIN	Title: First name:
Last name: ROBINSON	Last name:
Company (optional):	Company (optional): HARRISON PITT ARCHITECTS
Unit: House number: House suffix:	Unit: House number: 29 House suffix:
House name: SQUIRE HOUSE	House name:
Address 1: CLITHEROE ROAD	Address 1: CASTLE HILL
Address 2: KNOWLE GREEN	Address 2:
Address 3:	Address 3:
Town: PRESTON	Town: LANCASTER
County: LANCS	County: LANCS
Country: UK	Country: UK
Postcode: PR3 2YS	Postcode: LA1 1YN

3 Site Address Details

Please provide the full postal address of the application site

Unit: House number: House suffix:

House name:

Address 1:

Address 2:

Address 3:

Town:

County:

Postcode (optional):

Description of location or a grid reference (must be completed if postcode is not known):

Easting: Northing:

Description:

4 Pre-application Advice

Has assistance or prior advice been sought from the local authority about this application? ☐ Yes ☐ No

If Yes, please complete the following information about the advice you were given (This will help the authority to deal with this application more efficiently)

Please tick if the full contact details are not known and then complete as much as possible: ☐

Officer name:

Reference:

Date of advice (DD/MM/YYYY):

Details of pre-application advice received:

5 Eligibility

Was the existing planning permission extant on 1 October 2009? ☒ Yes ☐ No

If you have answered No to this question, you cannot apply to replace this planning permission.

If you are applying to replace an existing listed building or conservation area consent, is it associated with a planning permission which you are also applying to replace? ☐ Yes ☐ No ☒ Not Applicable

If you have answered No to this question you cannot apply to replace this listed building consent or conservation area consent.

If you are applying to replace a listed building or conservation area consent, was it extant on 1 October 2009? ☐ Yes ☐ No ☒ Not Applicable

If you have answered No to this question you cannot apply to replace this listed building consent or conservation area consent.

6 Description Of Your Proposal

Please provide a description of the approved development as shown on the decision letter, including application reference number and date of decision in the sections below. Please also provide the original application type:

TO DEMOLISH THE EXISTING BUILDING & REPLACE IT WITH AN ENERGY EFFICIENT DWELLING

Reference number:

Date of decision (DD/MM/YYYY):

What was the original application type?: (e.g. Full, Householder and Listed Building, Outline)

FULL

3 Site Address Details

Please provide the full postal address of the application site

Unit: House number: House suffix:

House name:

Address 1:

Address 2:

Address 3:

Town:

County:

Postcode (optional):

Description of location or a grid reference (must be completed if postcode is not known):

Easting: Northing:

Description:

4 Pre-application AdviceHas assistance or prior advice been sought from the local authority about this application? ☐ Yes ☒ No

If Yes, please complete the following information about the advice you were given (This will help the authority to deal with this application more efficiently)

Please tick if the full contact details are not known and then complete as much as possible: ☐Officer name: Reference: Date of advice (DD/MM/YYYY):

Details of pre-application advice received:

- 1 AUG 2011

**FOR THE
ATTENTION OF****5 Eligibility**Was the existing planning permission extant on 1 October 2009? ☒ Yes ☐ No

If you have answered No to this question, you cannot apply to replace this planning permission.

If you are applying to replace an existing listed building or conservation area consent is it associated with a planning permission which you are also applying to replace? ☐ Yes ☐ No ☒ Not Applicable

If you have answered No to this question you cannot apply to replace this listed building consent or conservation area consent

If you are applying to replace a listed building or conservation area consent was it extant on 1 October 2009? ☐ Yes ☐ No ☒ Not Applicable

If you have answered No to this question you cannot apply to replace this listed building consent or conservation area consent

6 Description Of Your Proposal

Please provide a description of the approved development as shown on the decision letter, including application reference number and date of decision in the sections below. Please also provide the original application type:

TO DEMOLISH THE EXISTING BUILDING & REPLACE IT
WITH AN ENERGY EFFICIENT DWELLING

Reference number:

3/2008/0660

Date of decision (DD/MM/YYYY):

19/09/2008

What was the original application type?
(e.g. Full, Householder and Listed Building Outline)

FULL

6. Description Of Your Proposal (continued)

For the purpose of calculating fees, which of the following best describes your application for planning permission?

Major development: typically consists of developments for waste, or more than 10 dwellings or a site larger than 0.5 ha or building(s) with a floor space of 1,000 sq m or more ☐

Householder development: development to an existing dwellinghouse or development within its curtilage ☐

Other: anything not covered by either of the above categories ☒

If you are also seeking to replace an associated a) listed building consent and/or a b) conservation area consent in order to extend the time limit for their implementation, please also provide a description of the consented schemes including the application reference numbers and dates of decision:

a) Listed building consent (if applicable):

Reference number:

Date of decision (DD/MM/YYYY):

b) Conservation area consent (if applicable):

N/A

Reference number:

Date of decision (DD/MM/YYYY):

7 Authority Employee / Member

With respect to the Authority I am:

- (a) a member of staff
- (b) an elected member
- (c) related to a member of staff
- (d) related to an elected member

Do any of these statements apply to you?

☐ Yes ☒ No

If yes please provide details of the name, relationship and role

8 Ownership Certificates

One Certificate A, B, C, or D, must be completed with this application form

CERTIFICATE OF OWNERSHIP - CERTIFICATE A

Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12 & Regulation 6 of the Planning (Listed Buildings and Conservation Areas) Regulations 1990

I certify/The applicant certifies that on the day 21 days before the date of this application nobody except myself/ the applicant was the owner (owner is a person with a freehold interest or leasehold interest with at least 7 years left to run) of any part of the land or building to which the application relates

Signed - Applicant:

Or signed - Agent:

Date DD/MM/YYYY:

HARRISON ATT ARCHITECTS

15/07/2011

CERTIFICATE OF OWNERSHIP - CERTIFICATE B

Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12 & Regulation 6 of the Planning (Listed Buildings and Conservation Areas) Regulations 1990

I certify/ The applicant certifies that I have/the applicant has given the requisite notice to everyone else (as listed below) who on the day 21 days before the date of this application, was the owner (owner is a person with a freehold interest or leasehold interest with at least 7 years left to run) of any part of the land or building to which this application relates.

Name of Owner	Address	Date Notice Served

Signed - Applicant:

Or signed - Agent:

Date DD/MM/YYYY:

CERTIFICATE OF OWNERSHIP - CERTIFICATE C

Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12 & Regulation 6 of the Planning (Listed Buildings and Conservation Areas) Regulations 1990

I certify/ The applicant certifies that:

- Neither Certificate A or B can be issued for this application
- All reasonable steps have been taken to find out the names and addresses of the other owners (owner is a person with a freehold interest or leasehold interest with at least 7 years left to run) of the land or building or of a part of it but I have/ the applicant has been unable to do so

The steps taken were:

Name of Owner	Address	Date Notice Served

Notice of the application has been published in the following newspaper (circulating in the area where the land is situated):

On the following date (which must not be earlier than 21 days before the date of the application):

Signed - Applicant:

Or signed - Agent:

Date DD/MM/YYYY:

8. Ownership Certificates (continued)**CERTIFICATE OF OWNERSHIP - CERTIFICATE D**

Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12 & Regulation 6 of the Planning (Listed Buildings and Conservation Areas) Regulations 1990

I certify/ The applicant certifies that:

- Certificate A cannot be issued for this application
- All reasonable steps have been taken to find out the names and addresses of everyone else who on the day 21 days before the date of this application was the owner (owner is a person with a freehold interest or leasehold interest with at least 7 years left to run) of any part of the land to which this application relates but I have/ the applicant has been unable to do so

The steps taken were:

--

Notice of the application has been published in the following newspaper (circulating in the area where the land is situated):

On the following date (which must not be earlier than 21 days before the date of the application):

--

--

Signed - Applicant:

Or signed - Agent:

Date DD/MM/YYYY:

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9 Agricultural Land Declaration**AGRICULTURAL LAND DECLARATION**

Town and Country Planning (Development Management Procedure) (England) Order 2010 Certificate under Article 12

Agricultural Land Declaration - You Must Complete Either A or B

(A) None of the land to which the application relates is, or is part of, an agricultural holding

Signed - Applicant:

Or signed - Agent:

Date (DD/MM/YYYY):

--

HARRISON - PITT ARCHITECTS

15/07/2011

(B) I have/ The applicant has given the requisite notice to every person other than myself/ the applicant who, on the day 21 days before the date of this application was a tenant of an agricultural holding on all or part of the land to which this application relates, as listed below:

Name of Tenant	Address	Date Notice Served

Signed - Applicant:

Or signed - Agent:

Date (DD/MM/YYYY):

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10. Planning Application Requirements - Checklist

Please read the following checklist to make sure you have sent all the information in support of your proposal. Failure to submit all information required will result in your application being deemed invalid. It will not be considered valid until all information required by the Local Planning Authority has been submitted.

The original and 3 copies of a completed and dated application form:



The original and 3 copies of the completed dated Article 12 Certificate (Agricultural Land Declaration):



The original and 3 copies of the completed dated Ownership Certificate (A B C or D - as applicable):



The correct fee:



For applications to replace listed building or conservation area consents only:

The original and 3 copies of a plan which identifies the land to which the application relates and drawn to an identified scale and showing the direction of North



The original and 3 copies of other plans and drawings or information necessary to describe the subject of the application



11 Declaration

I/we hereby apply for planning permission/consent as described in this form and additional information

Signed - Applicant:

Or signed - Agent:

Date (DD/MM/YYYY):

HARRISON PITT ARCHITECTS

15/07/2011

12 Applicant Contact Details

Telephone numbers

Country code: National number: Extension number:

Country code: Mobile number (optional):

Country code: Fax number (optional):

Email address (optional):

13 Agent Contact Details

Telephone numbers

Country code: National number: Extension number:

Country code: Mobile number (optional):

Country code: Fax number (optional):

Email address (optional):

hpa@hparch.co.uk

14 Site Visit

Can the site be seen from a public road, public footpath, bridleway or other public land?

☒ Yes

☐ No

If the planning authority needs to make an appointment to carry out a site visit, whom should they contact? (Please select only one)

☒ Agent

☐ Applicant

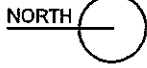
☐ Other (If different from the agent/applicant's details)

If Other has been selected, please provide:

Contact name:

Telephone number:

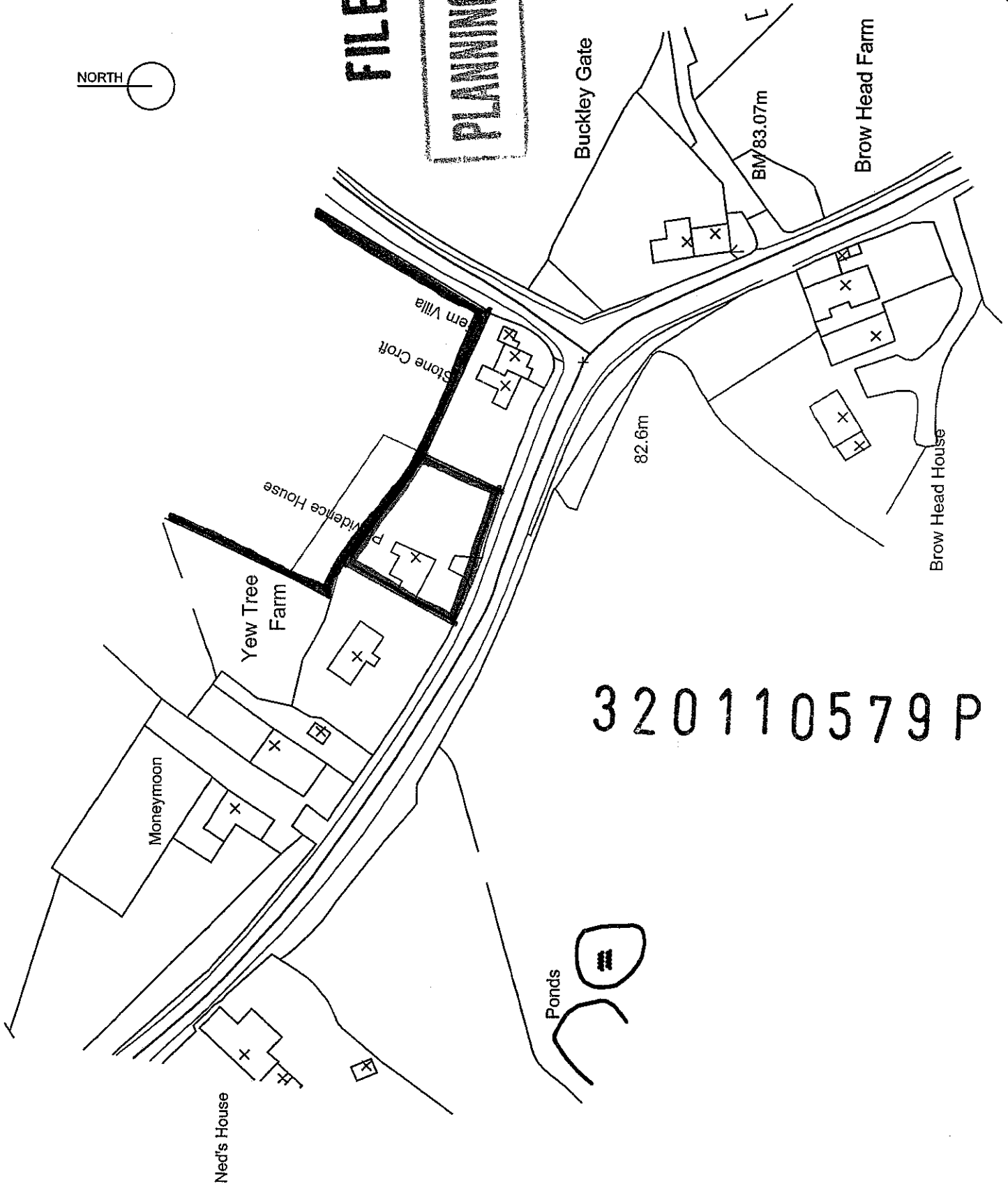
Email address:



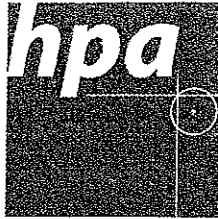
- 1 AUG 2008

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PLANNING SUBMISSION



Drawings	
Not to be used	
Project	Providence House
	Providence Road
	Eltham
	Coastal Highway
No	SITE LOCATION PLAN
Drawing number	1442-90
	1:1250
	079



Design & Access Statement

**For: Demolition of Existing and Construction of a Replacement Dwelling
Providence House, Preston Road, Ribchester, PR3 3YD**

Location:

The site is located on the NE side of Preston Road (B6245), 2km North West of the town of Ribchester.

Previous Use:

The site is currently occupied by a traditional stone dwelling. The building appears to date from the early 20th century.

The Site as Existing :

The existing house is not of any Architectural Merit and is of a fairly average appearance. There is no stone detailing or features of any note, and the facade is poorly proportioned (it appears to be quite tall compared to its width). It is not a building which would be held as an exemplar of a rural traditional building.

The internal layout is quite simple with two formal rooms at the front of the house and a kitchen at the rear. There are two bedrooms upstairs, and a bathroom has been crudely inserted upstairs into the bedroom at the rear, obviously as a retrospective measure (the bathroom was probably originally downstairs off the kitchen).

The building has had some poor interventions such as the UPVC windows to the front and the 1950's Picture Window to the rear.

There is unequivocal evidence to show that the building has a particularly poor thermal performance. There is a fair amount of damp in the building which has lain dormant for the last 12 months. If the building were to be reoccupied in its current form, it would be highly inefficient to heat and would have a high carbon footprint.

The building would be incredibly expensive to replumb, insulate and reorder. Schemes were prepared to show how the building could be extended, but these proved that this would be costly and would still create a less energy efficient building than a new dwelling.

The dwelling sits awkwardly on a large plot of land. The current position of the house is tight against the NW boundary of the site.

The site entrance is in a poor position on a bend in Preston Road which has limited visibility. There are records of a collision in the past 5 years on this stretch of road (mario.lancashire.gov.uk)

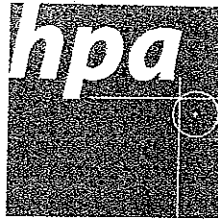
Proposal:

The proposal is to demolish the existing building and replace it with an energy efficient dwelling which is a minimum of Code 5 on the Code for Sustainable Homes, and is also 'Zero Carbon'.

Design:

The proposed design reflects the mass and proportions of a Lancashire Barn, whilst using modern energy efficient building techniques and sustainable materials.

The proposed house is timber framed and timber clad. It is 2 full storeys high, with another storey built into the roof (this makes good use of otherwise unused space).



A substantial amount of material from the existing house is to be reused. The stone will be used to clad the garage, and the remainder will be used for landscaping. The slate will be re-used on the roof of the garage and the house

The house layout has been designed to have the major views at the rear of the property facing North East. This takes advantage of the amazing views over towards the Bowland Fells, and also controls Solar Gain – which can be problem in a 'super insulated' house

The main glazing area of the front façade is in a similar position and is of a similar proportion to a traditional barn door opening.

The proposed house is centred on the plot, as opposed to the existing building which was pushed to one side. The re-aligned entrance will mean that you will never see the house 'straight on' from the road (as opposed to the existing situation where you do).

Access:

The existing house does not have level access at any entrance, or a Ground Floor WC. The proposed dwelling will contain these essential requirements.

Energy Efficiency:

The existing house is a damp, drafty, solid masonry building with poor thermal performance. The proposed new dwelling couldn't be more different:

The house is to be constructed using a timber framed system / structural insulated panel system which can provide u-values which significantly exceed those currently used in the Building Regulations. For example, the current minimum U Value for Walls is 0.35 w /m2 k, and one of the systems we're looking at has a U Value of 0.12 w /m2 k. This is a massive improvement on existing levels, and in broad terms means that the house is 3 times more efficient than current standards. Triple glazing will be used on the house.

Energy Rating:

An energy rating assessment has been carried out by Gilmore + Stones Consultants, and is included as an appendix to this document. This proves that the building is highly efficient and can be zero carbon rated (ie it creates more energy than it uses).

There are not very many buildings in the UK at the moment which are zero rated, despite the fact that the government have called for all new buildings to be zero carbon by 2016.

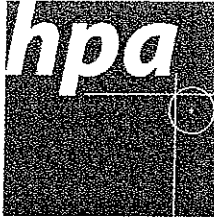
Gordon Brown himself stated in a speech on 26th June 2008: *"And within this overall framework we are also establishing long term low carbon policies across our economy. ...in housing we have agreed a timetable for all new homes in Britain to be zero carbon from 2016"*

Code for Sustainable Homes:

Our aim is for the building to achieve a minimum of Level 5 Status (out of 6 Levels).

The initial Energy Assessment by Gilmore + Stones concludes that the building will achieve a Code 5 Status, and may even achieve a Code 6 status.

The uplift from Code 5 to Code 6 will depend on a number of issues, but the main factor in this case will be the choice of white goods by the eventual occupant. These details are obviously not known at this stage. We therefore conclude that the house has achieved the highest Code Rating that is possible at the design phase of the project.



Renewables:

Between 3 & 4 Solar Collectors measuring 2 x 1m (each) will be placed on the front façade. Previous projects that we've undertaken have proven that these can provide hot water at 60 deg C for 6 months of the year. For the rest of the year these panels will pre-heat the hot water feed to the boiler, thereby reducing the amount of energy required to heat the water to a usable temperature

The main space heating will be provided by one of the following methods:

- 1: Wood Pellet Burner: This is a highly efficient way of heating, and also uses slow burning pellets from sustainable forests. It is this heating type which will make the building zero carbon rated.
- 2: Ground Source Heat Pump: This extracts and amplifies the consistent ambient temperature in the ground. There is plenty of space for the ducting required for this in the paddock behind the house. The Heat Pump heats water, which is then circulated around the floor of the building using underfloor heating.

There will also be need for approximately 4no 2x1m Photo-Voltaic Panels which turn solar energy into electricity.

The building will be ventilated naturally in height of the summer, but a mechanical heat recovery system will be used at other times of the year. This again reduces heat loss, which in turn reduces the amount of energy which has to be inserted to raise the temperature of the building.

Planning Policy:

Ribble Valley Borough Council are in the process of creating a new Local Development Framework to replace the adopted Local Plan which dates from 1998. This 1998 document is being used as the working document by which Planning Applications are being considered.

Since 1998 there has been a dramatic change in Planning Policies caused by a political shift towards implementing action on climate change following the Kyoto Treaty in 1997. A number of recent National Policies, such as PPS 1 (and the Supplementary Guidance therein), have now been adopted, and carry weight. Local Authorities are expected to take note of such Policies when considering Planning Applications.

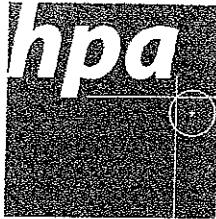
Therefore at this point in time, RVBC's Local Plan is some 9 years behind National Policy on climate change. The RVBC Local Plan therefore carries no guidance on zero carbon dwellings. We therefore request that the following National Policy over-rides Local Policy when assessing this application.

National Policy is now encouraging LPA's to encourage Energy Efficient Buildings. PPS Supplement 1, issued in December 2007 states in clause 30:

'Planning authorities, developers and other partners in the provision of new development should engage constructively and imaginatively to encourage the delivery of sustainable buildings. Accordingly, planning policies should support innovation and investment in sustainable buildings and should not, unless there are exceptional reasons, deter novel or cutting-edge developments.'

This clearly calls for this type of application to be encouraged by LPAs. Clause 32 of the same document suggests ways in which LPAs can judge energy efficiency:

'When proposing any local requirement for sustainable buildings planning authorities should.....specify the requirement in terms of achievement of nationally described sustainable



buildings standards, for example in the case of housing by expecting identified housing proposals to be delivered at a specific level of the Code for Sustainable Homes'

An Energy Assessment has been prepared on this scheme which concludes that the building will achieve a Code 5 (or even Code 6) rating. This is extremely high, and there are currently very few buildings in the UK which meet this stringent target (for further details see section on 'Code for Sustainable Homes').

PPS 7 (Sustainable Development in Rural Areas) suggests that *"Planning authorities should take a positive approach to innovative, high-quality contemporary designs that are sensitive to their immediate setting and help to make country towns and villages better places for people to live and work"*

We propose that this design is an innovative, high-quality contemporary design, which is sensitive to its rural setting.

The timetable for conversion of the above National Policies into Local Policies does vary from Council to Council. However, the National Policy is now in place and is clearly asking Councils to encourage this type of development.

The Ribble Valley Council Website currently states:

'The Council is committed to sustainable development through its Local Agenda 21 process in which the Council continuously improves its services, policies and practices to contribute to a better quality of life for everyone now, and for future generations'

(In Planning Policies Section – Environmental Issues: Agenda 21)

This demonstrates that RBVC are an authority who is prepared to take the issue of climate change very seriously.

The Ribble Valley Local Plan contains adopted policies on Housing Size, and Replacement Dwellings. The most relevant RBVC Policy is H14, which reads as follows:

POLICY H14

Rebuilding or replacement of dwellings will be permitted in the open countryside, subject to the following criteria:

(i) the residential use of the property should not have been abandoned. (If this is the case Policy H2 will apply);

(ii) the impact on the landscape will be assessed in relation to that of a new dwelling. As such very careful consideration to design and use of materials must be made. In addition, excessive increase in the size of property will not be permitted;

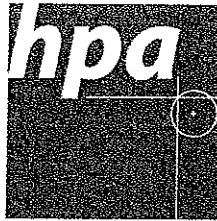
(iii) the creation of any extra curtilage will be assessed in relation to Policy H12; (iv) the terms of Policy G1 will apply.

In response to this:

(i) The property has not been abandoned. Not applicable.

(ii) This is the relevant clause. Our comments are as follows:

- The scale and massing of the building is similar to a Lancashire Barn, which is commonplace in the surrounding landscape.
- The materials are highly sustainable (unlike newly quarried stone).
- The property's increase in size is proportionate to the size of the existing plot. It is not overwhelming, and is visually broken up by the careful siting of the garage on the road side of the site.



- At the moment 'green building' items and components are generally specialist items which are not readily available from normal Builder's Merchants. This will change in the coming years as sustainable technology becomes more mainstream and commonplace, due to consumer trends and political pressure. As a result, 'green building' items are currently very expensive and houses such as this will cost a huge amount to build. The developer needs to create a house of such a size to recoup the cost of buying the land and building this house to such a high environmental specification. As more and more people 'build green', costs of 'green products' will come down. Developments such as this are needed to kick start this process.
 - In relation to size; the existing property is a large 2 bedroom house which is extremely small on the site. It could be extended under current RBVC Policy SPG 'Extension and Alteration to Dwellings: Sept 2000' by some 75%, which increases the internal floor area to approx 225 m sq. This is greater than the combined internal floor area of the Ground and First Floor of the proposed house (220 sq m). The Second Storey of the proposed new dwelling is in the roofspace, which is an effective use of space which would have been unused otherwise (it could have been simply used as an attic space – which would not have affected the floor area calculation)
 - National Policy PPS Supplement 1 clearly states: *"Planning authorities, developers and other partners in the provision of new development should engage constructively and imaginatively to encourage the delivery of sustainable buildings. Accordingly, planning policies should support innovation and investment in sustainable buildings and should not, unless there are exceptional reasons, deter novel or cutting-edge developments"*. We suggest that this application should be considered as an exception to existing Local Policy on the basis of the above National Policy
- (iii) Not applicable.

In conclusion, here is a ground breaking, innovative application for a zero carbon dwelling. We believe that it is in line with relatively new National Policies such as PPS1 (and PPS Supplement 1), and PPS 7. These current policies have significant weight, and are helping to form new LPA LDFs.

The application generally complies with a number of criteria in the 1998 RBVC Local Plan, such as replacement dwelling policy. There are conflicting issues with the Local Plan Policy about materials and size. However, it must be borne in mind as to when the Local Plan was written. We believe that the current National Policies provide plausible reasoning to overcome these issues.

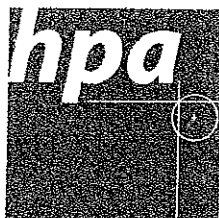
We therefore believe that over-riding more modern National Policies provide an overwhelming argument as to why this application can be deemed to be acceptable. Furthermore, the granting of this application will give Ribbles Valley Borough Council a regional lead in addressing climate change.

Further information on relevant Policies is provided in Appendix

Materials:

House:

- Roof: Slate
- Walls: Cedar or Larch Cladding (from a sustainable source)
- Windows and Doors: Powder Coated Aluminium (colour grey)
- Rainwater goods: Powder Coated Aluminium (colour grey)



Garage:

- Roof: Slate
- Walls: Recycled Stone from previous dwelling
- Doors: Timber – clear stained
- Rainwater goods: Powder Coated Aluminium (colour grey)

The timber cladding is to be sourced from an accredited forest. The Aluminium Frames and Rainwater Goods are from partly recycled material, and are themselves easily recycled. The slate is to be reused. The stone from the existing dwelling will be used to clad the garage, and will be used for walling on site.

Highways Issues:

The site at the moment has an established access for one dwelling. The proposal is for one residential dwelling.

The existing access has substandard visibility to the North West (Longridge Direction) along Preston Road. The proposal is to relocate the site access to the SE corner of the site, where a few valuable extra metres of visibility can be gained.

Neighbour Consultations:

Our client presented the scheme to both sets of neighbours on 16th June 2008. The feedback was positive and there were no objections.

Shadow Analysis:

This was carried out to show to the neighbours. It shows that the proposed house has little impact upon the light to neighbouring properties.

This is included as an Appendix to this document.

Bins & Refuse:

There is ample space for Bin Storage and recycling boxes to the house side of the garage.

Access:

Level access is achievable from the parking court and into the entry storey of the house. There is a WC on the ground floor which exceeds the movement zone in Part M of the Building Regulations.

Trees:

There are no Trees affected by this proposal.

Utilities:

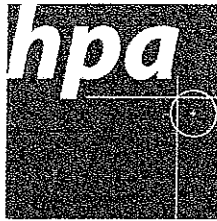
The site is already connected to major services. Storm water will be stored and reused on site. Excess storm water will be disposed of sustainably via existing soakways.

Bats:

A bat survey has been carried out by Messrs Envirotech and the document is included as part of this application. Bats have been found on site and the enclosed report identifies a way in which the bats can be accommodated into the design via a special loft area in the detached garage.

Summary:

We are therefore proposing to demolish a non-energy efficient dwelling which is of no or little Architectural Value. We are planning to replace it with a modern 'super insulated' building.



HARRISONPITTARCHITECTS

Victoria Court
Penny Street
Lancaster
LA1 1XN
T: 01524 32479
www.hparch.co.uk

which is extremely energy efficient and sustainable, which takes on the form and massing of a traditional rural barn. National Planning Policy encourages buildings such as this. Pressure is increasing on LPA's to encourage innovation and energy efficient design such as this.

Photographs:

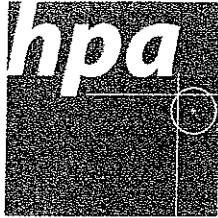
A selection of photographs are included below:



1: The existing house from the road

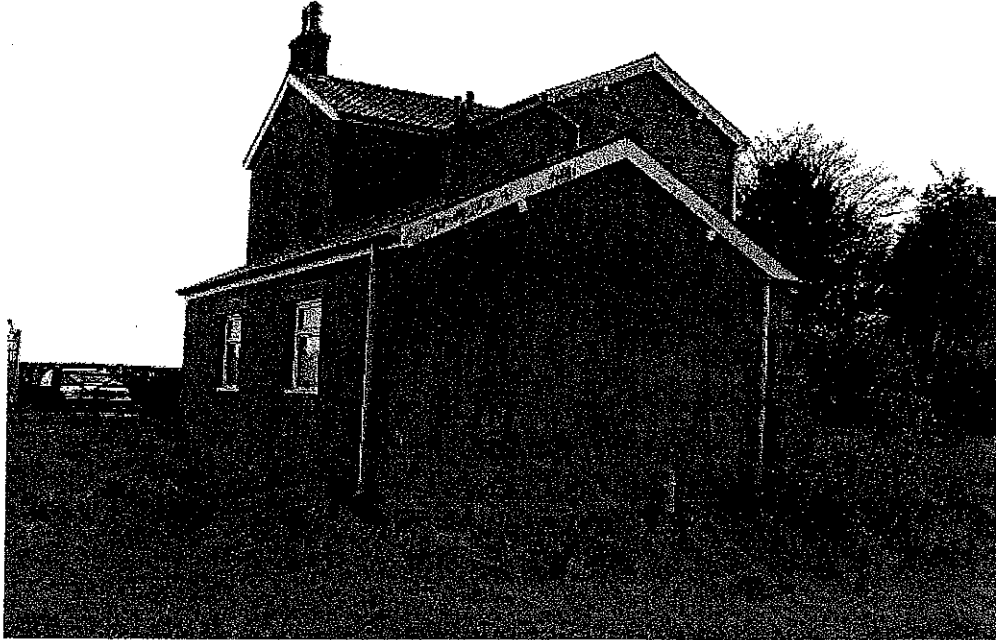


2: The existing house: Detail



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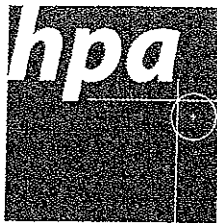
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3. The rear of the property and the house



4. View from the South

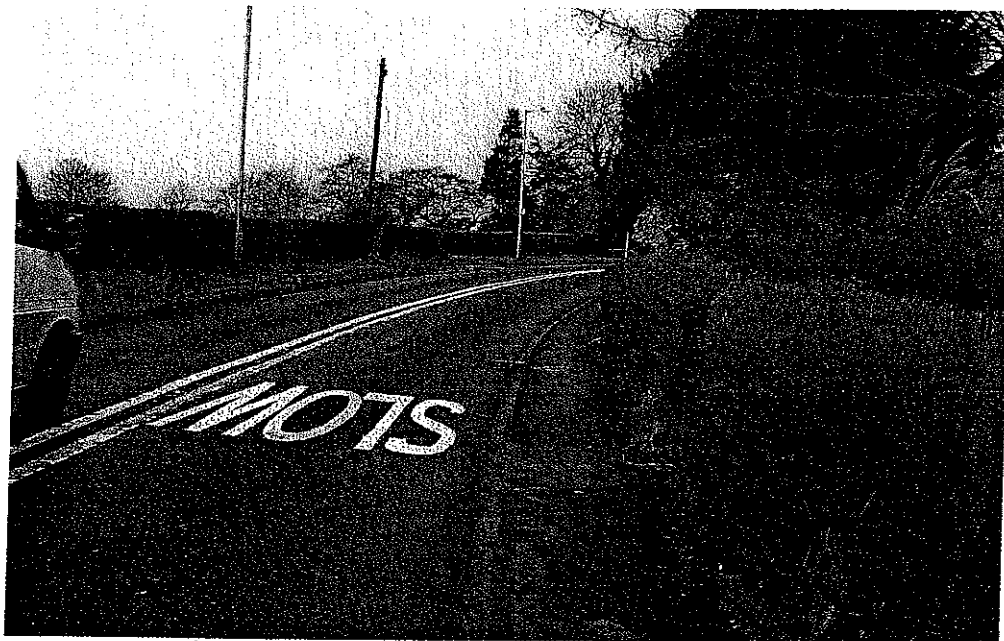


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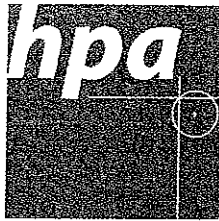
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5. Rear Elevation



6. Visibility from the entrance area looking to the North



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Images of the Proposed Development:



1: Front Elevation by night

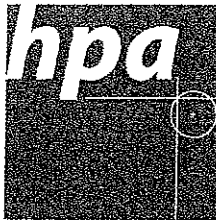


2: Rear Elevation by Night

APPENDICIES:

Supporting Documentation attached as Appendices to this Document:

- (i) Additional Information on Relevant Planning Policies
- (ii) Gilmore + Stones Energy Assessment
- (iii) Shadow Assessment



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APPENDIX 1: SUPPORTING PLANNING POLICY

Current National Planning Policies:

PPS 1: 22

22. Development plan policies should seek to minimise the need to consume new resources over the lifetime of the development by making more efficient use or reuse of existing resources, rather than making new demands on the environment; and should seek to promote and encourage, rather than restrict, the use of renewable resources (for example, by the development of renewable energy). Regional planning authorities and local authorities should promote resource and energy efficient buildings; community heating schemes, the use of combined heat and power, small scale renewable and low carbon energy schemes in developments; the sustainable use of water resources; and the use of sustainable drainage systems in the management of run-off.

PPS 1: 38

38. Design policies should avoid unnecessary prescription or detail and should concentrate on guiding the overall scale, density, massing, height, landscape, layout and access of new development in relation to neighbouring buildings and the local area more generally. Local planning authorities should not attempt to impose architectural styles or particular tastes and they should not stifle innovation, originality or initiative through unsubstantiated requirements to conform to certain development forms or styles. It is, however, proper to seek to promote or reinforce local distinctiveness particularly where this is supported by clear plan policies or supplementary planning documents on design.

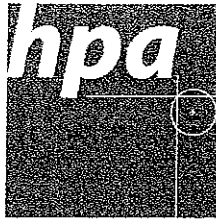
PPS 1 SUPPLEMENT 1: PLANNING & CLIMATE CHANGE (Dec 2007)

8. The planning system needs to support the delivery of the timetable for reducing carbon emissions from domestic and non-domestic buildings. *Building a Greener Future* sets out a progressive tightening of Building Regulations to require major reductions in carbon emissions from new homes to get to zero carbon by 2016. There are similar ambitions to cut carbon emissions from new non-domestic buildings. This PPS sets out how regional and local planning can best support achievement of the zero-carbon targets alongside meeting community needs for economic and housing development.

PPS 1 SUPPLEMENT 1: PLANNING & CLIMATE CHANGE (Dec 2007)

9. To deliver sustainable development, and in doing so a full and appropriate response on climate change, regional planning bodies and all planning authorities should prepare, and manage the delivery of, spatial strategies that:

- make a full contribution to delivering the Government's Climate Change Programme and energy policies, and in doing so contribute to global sustainability;
- in providing for the homes, jobs, services and infrastructure needed by communities, and in renewing and shaping the places where they live and work, secure the highest viable resource and energy efficiency and reduction in emissions;
- deliver patterns of urban growth and sustainable rural developments that help secure the fullest possible use of sustainable transport for moving freight, public transport, cycling and walking; and, which overall, reduce the need to travel, especially by car;
- secure new development and shape places that minimise vulnerability, and provide resilience, to climate change; and in ways that are consistent with social cohesion and inclusion;
- conserve and enhance biodiversity, recognising that the distribution of habitats and species will be affected by climate change;
- reflect the development needs and interests of communities and enable them to contribute effectively to tackling climate change; and



– respond to the concerns of business and encourage competitiveness and technological innovation in mitigating and adapting to climate change

PPS 1 SUPPLEMENT 1: PLANNING & CLIMATE CHANGE (Dec 2007)

10. Regional planning bodies and all planning authorities should apply the following principles in making decisions about their spatial strategies:

- the proposed provision for new development, its spatial distribution, location and design should be planned to limit carbon dioxide emissions;
- new development should be planned to make good use of opportunities for decentralised and renewable or low carbon energy;
- new development should be planned to minimise future vulnerability in a changing climate;
- climate change considerations should be integrated into all spatial planning concerns;

PPS 1 SUPPLEMENT 1: PLANNING & CLIMATE CHANGE (Dec 2007)

Local requirements for sustainable buildings

30 Planning authorities, developers and other partners in the provision of new development should engage constructively and imaginatively to encourage the delivery of sustainable buildings. Accordingly, planning policies should support innovation and investment in sustainable buildings and should not, unless there are exceptional reasons, deter novel or cutting-edge developments. Planning authorities should help to achieve the national timetable for reducing carbon emissions from domestic and non-domestic buildings.

PPS 1 SUPPLEMENT 1: PLANNING & CLIMATE CHANGE (Dec 2007)

31. There will be situations where it could be appropriate for planning authorities to anticipate levels of building sustainability in advance of those set out nationally. When proposing any local requirements for sustainable buildings planning authorities must be able to demonstrate clearly the local circumstances that warrant and allow this. These could include, for example, where:

- there are clear opportunities for significant use of decentralised and renewable or low carbon energy; or
- without the requirement, for example on water efficiency, the envisaged development would be unacceptable for its proposed location.

PPS 1 SUPPLEMENT 1: PLANNING & CLIMATE CHANGE (Dec 2007)

32. When proposing any local requirement for sustainable buildings planning authorities should:

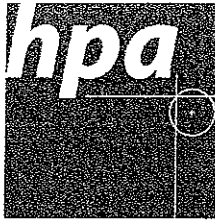
- focus on development area or site-specific opportunities;
- specify the requirement in terms of achievement of nationally described sustainable buildings standards, for example in the case of housing by expecting identified housing proposals to be delivered at a specific level of the Code for Sustainable Homes;
- ensure the requirement is consistent with their policies on decentralised energy; and
- not require local approaches for a building's environmental performance on matters relating to construction techniques, building fabrics, products, fittings or finishes, or for measuring a building's performance unless for reasons of landscape or townscape.

PPS 1 SUPPLEMENT 1: PLANNING & CLIMATE CHANGE (Dec 2007)

40. An applicant for planning permission to develop a proposal that will contribute to the delivery of the Key Planning Objectives set out in this PPS should expect expeditious and sympathetic handling of the planning application.

PPS 1 SUPPLEMENT 1: PLANNING & CLIMATE CHANGE (Dec 2007)

42. In their consideration of the environmental performance of proposed development, taking particular account of the climate the development is likely to experience over its expected



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lifetime, planning authorities should expect new development to:

- comply with adopted DPD policies on local requirements for decentralised energy supply and for sustainable buildings, unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable;
- take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption, including maximising cooling and avoiding solar gain in the summer; and, overall, be planned so as to minimise carbon dioxide emissions through giving careful consideration to how all aspects of development form, together with the proposed density and mix of development, support opportunities for decentralised and renewable or low-carbon energy supply;
- deliver a high quality local environment;
- provide public and private open space as appropriate so that it offers accessible choice of shade and shelter, recognising the opportunities for flood storage, wildlife and people provided by multifunctional greenspaces;
- give priority to the use of sustainable drainage systems, paying attention to the potential contribution to be gained to water harvesting from impermeable surfaces and encourage layouts that accommodate waste water recycling;
- provide for sustainable waste management; and
- create and secure opportunities for sustainable transport in line with PPG1330 including through:
 - the preparation and submission of travel plans;
 - providing for safe and attractive walking and cycling opportunities including, where appropriate, secure cycle parking and changing facilities; and
 - an appropriate approach to the provision and management of car parking.

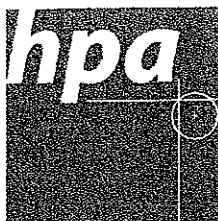
PPS 7: SUSTAINABLE DEVELOPMENT IN RURAL AREAS

PPS7: 12. Many country towns and villages are of considerable historic and architectural value, or make an important contribution to local countryside character. Planning authorities should ensure that development respects and, where possible, enhances these particular qualities. It should also contribute to a sense of local identity and regional diversity and be of an appropriate design and scale for its location, having regard to the policies on design contained in PPS1 and supported in *By Design*2. Planning authorities should take a positive approach to innovative, high-quality contemporary designs that are sensitive to their immediate setting and help to make country towns and villages better places for people to live and work.

Although not strictly relevant in this context, there is the recent adopted policy 11 in PPS7 which relates to new isolated buildings in the countryside. We propose that a few issues do apply to this situation:

PPS7 : 11 Very occasionally the exceptional quality and innovative nature of the design of a proposed, isolated new house may provide this special justification for granting planning permission. Such a design should be truly outstanding and ground-breaking, for example, in its use of materials, methods of construction or its contribution to protecting and enhancing the environment, so helping to raise standards of design more generally in rural areas. The value of such a building will be found in its reflection of the highest standards in contemporary architecture, the significant enhancement of its immediate setting and its sensitivity to the defining characteristics of the local area.

This building is innovative, groundbreaking and sensitive to the area as it replicates the form and mass of a traditional building type which is commonplace in the area (which is incredibly 'ungreen' to replicate as a stone clad masonry construction).



**RIBBLE VALLEY LOCAL POLICIES:
ADOPTED LOCAL PLAN 1998:**

SECTION 4: ENVIRONMENT:

4.11.3 The Borough Council acknowledge that new and renewable energy sources can potentially contribute to energy needs in a significant and sustainable way. Renewable energy sources offer the hope of increasing diversity and security of supply, and of reducing harmful emissions to the environment.

SECTION 5: HOUSING

5.9 RESIDENTIAL EXTENSIONS

5.9.1 POLICY H10

Proposals to extend or alter existing residential properties within the plan area will be considered on the basis of the scale, design and massing of the proposal in relation to the surrounding area. Proposals which conform to the criteria set out in Policy G1 will be considered acceptable.

5.9.2 Although residential extensions and major alterations will mostly be acceptable in principle problems relating to scale, design, massing may still occur. In particular over large extensions can have a similar effect to wholly new development in terms of landscape and street scene. In addition extensions can cause problems of loss of light or privacy for neighbouring residents. Careful design and siting can however overcome this.

5.12.4 POLICY H14

Rebuilding or replacement of dwellings will be permitted in the open countryside, subject to the following criteria:

(i) the residential use of the property should not have been abandoned. (If this is the case Policy H2 will apply);

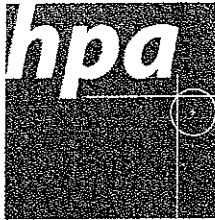
(ii) the impact on the landscape will be assessed in relation to that of a new dwelling. As such very careful consideration to design and use of materials must be made. In addition, excessive increase in the size of property will not be permitted;

(iii) the creation of any extra curtilage will be assessed in relation to Policy H12; (iv) the terms of Policy G1 will apply.

5.12.5 Substandard properties and those in need of extensive repairs are not only found in towns and villages. This policy still places an emphasis on allowing such development to take place, but because the work will take place in the attractive open countryside special care must be taken over the appearance.

5.12.6 As a general guide increases in property size will be restricted to 50 cubic metres (or 10% of the property size whichever is greater) in the Area of Outstanding Natural Beauty. Elsewhere the original volume of the dwelling should not be increased by more than 70 cubic metres or 15% (whichever is greater). These general restrictions are imposed for two main reasons. Firstly the stock of properties in rural areas in need of such works are generally older properties. These have been built from traditional materials in a style common to the area. Because of their history they have generally been used as local workers cottages, as such their normal size is relatively small. The development of much larger properties would be out of keeping with the character of the area.

5.12.7 The second reason for the size restriction is an attempt to safeguard existing buildings which can potentially be repaired or renovated. If large size increases were to be allowed the potential to demolish and rebuild a totally different large new house would provide a loophole to the general settlement strategy of this plan and threaten existing traditional properties.



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5.12.8 In most cases the planning permission will have a condition attached which removes permitted development rights for further extensions. This does not mean that extensions will necessarily be refused, just that planning permission will be needed.

5.12.9 This policy will be implemented through the development control process

RIBBLE VALLEY SPG: EXTENSION AND ALTERATIONS TO DWELLINGS:

Version 1: Adopted Sept' 2000

The size of an extension is an important consideration. Over large extensions can dominate the original dwelling, they are also more likely likely to harm the amenities of neighbours. The development should be appropriate to the plot size and not result in a cramped appearance. This does not mean that large extensions will be automatically refused. They do however need to be carefully considered. As a rule of thumb avoid schemes which increase the size of the original dwelling by in excess of a 75% increase in floor area.

OTHER RELEVANT INFORMATION:

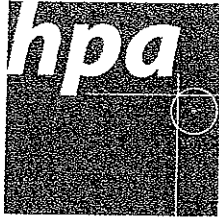
GORDON BROWN'S SPEECH ON CREATING A LOW-CARBON ECONOMY 26th June 2008

Source: www.number10.gov.uk

"No-one should therefore under-estimate the scale of this endeavour and the importance of what we are talking about today. Meeting our climate change goals requires Britain to become a clean economy, that is to replace many traditional fossil fuels with low carbon sources of energy right across this country, and to do so at much lower levels of energy demand than currently projected.

And we must start now. To have a chance of stabilising the global climate at 2 degrees Celsius above pre-industrial times, that is to avoid what everybody recognises would cause dangerous climate change, the international climate panel - the panel on climate change - has shown that global emissions need to be at least halved by 2050 and to achieve that emissions would have to peak in the next 10 - 15 years. And this is an enormous challenge. It is a challenge that will require courage and leadership, but it is a challenge which does not daunt our government - on the contrary it inspires us."

"And within this overall framework we are also establishing long term low carbon policies across our economy. in housing we have agreed a timetable for all new homes in Britain to be zero carbon from 2016 with new commercial buildings to meet this target in 2019. And it is by setting and holding on to these long term policies that we will drive investment and innovation in energy efficiency and in alternatives to fossil fuels."



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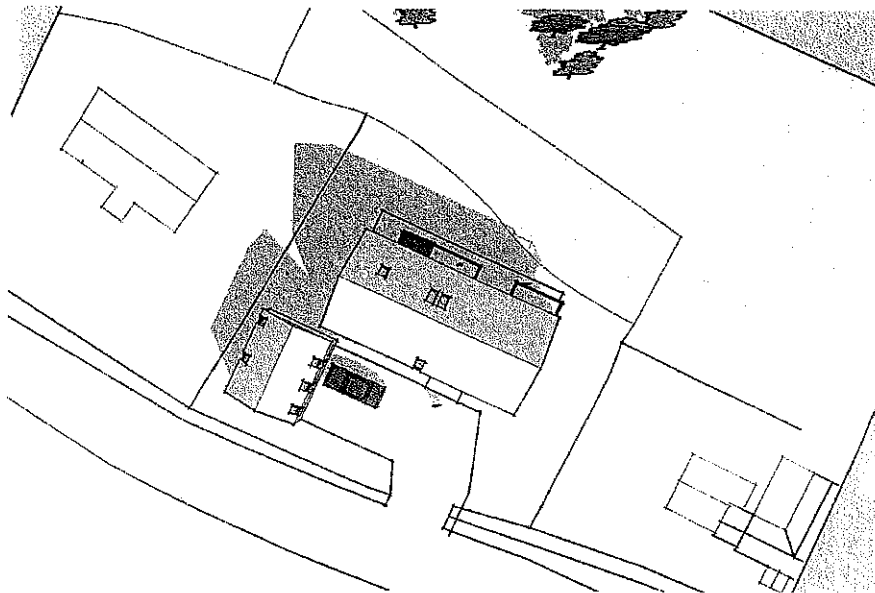
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APPENDIX 2:

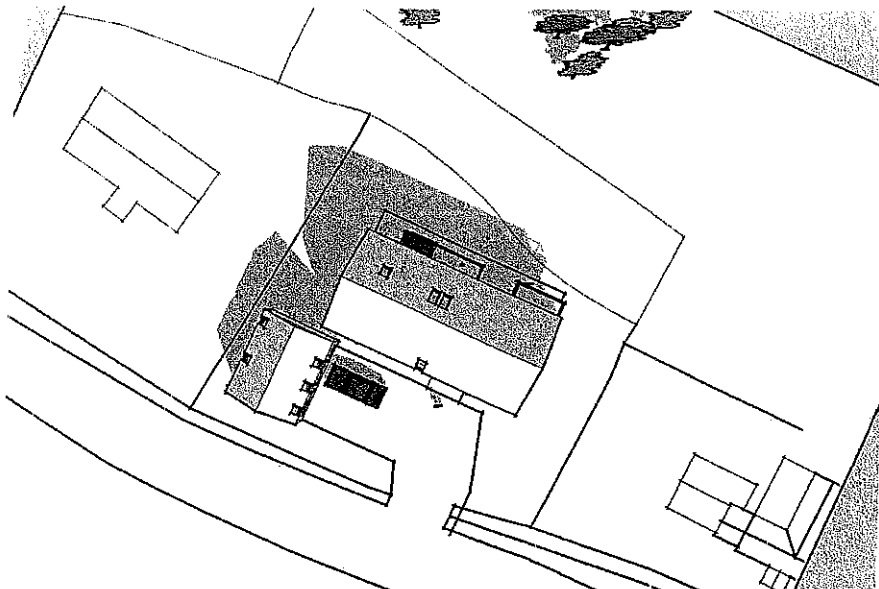
Shadow Assessment

Please note that the whiter the background; the stronger the natural daylight

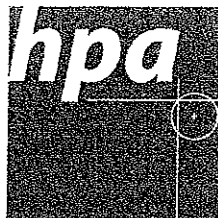
1.0: Shadows at Midday



1.1 Spring equinox (21.03)

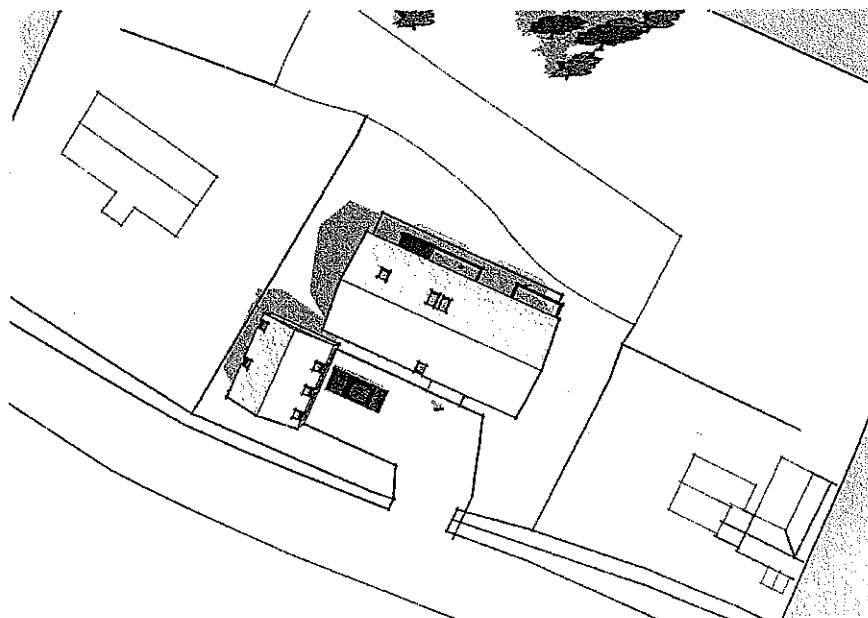


1.2 Autumn equinox (21.09)

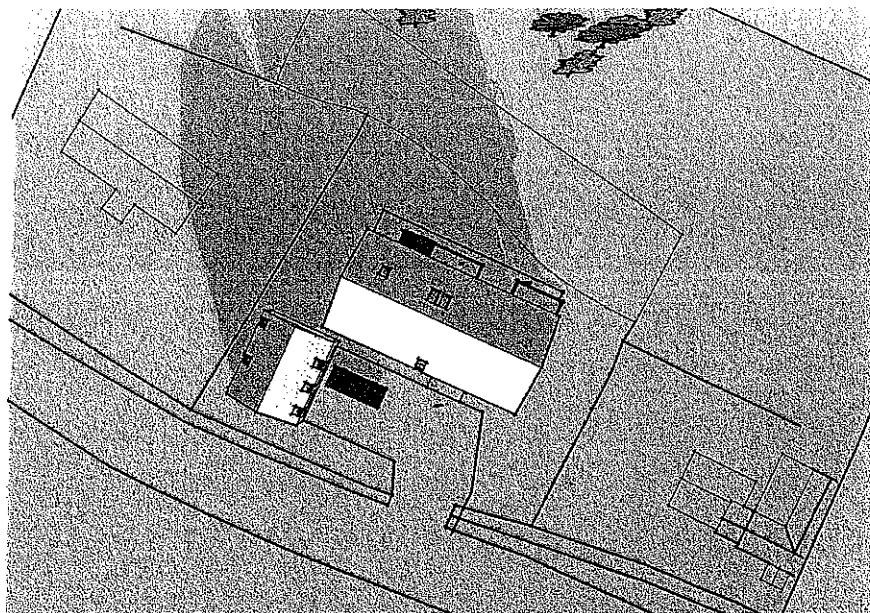


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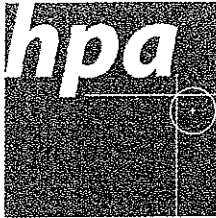
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1.3 Summer solstice (21.06)



1.4 Winter solstice (21.12)

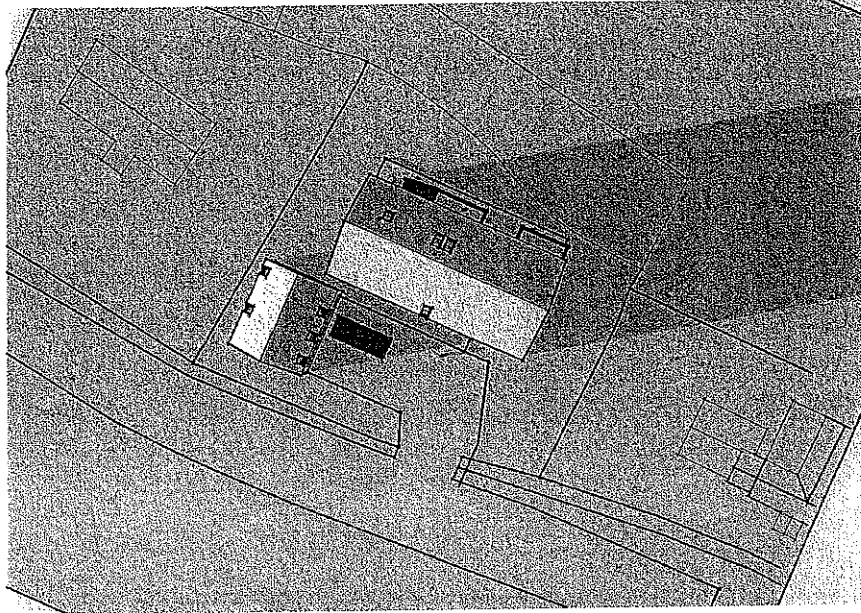


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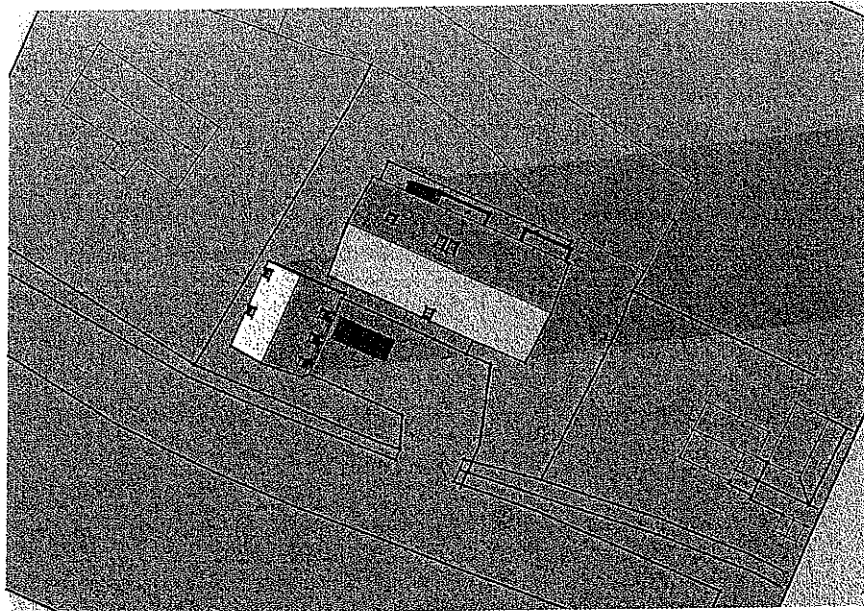
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2.0: Shadows in Late Afternoon / Evening

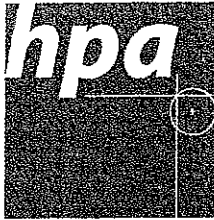
Please note that the times vary due to the difference in daylight hours at various times during the year
The natural daylight levels are very low during images 2.1 – 2.4 inclusive.



2.1 Spring equinox (21.03) – 6.30pm

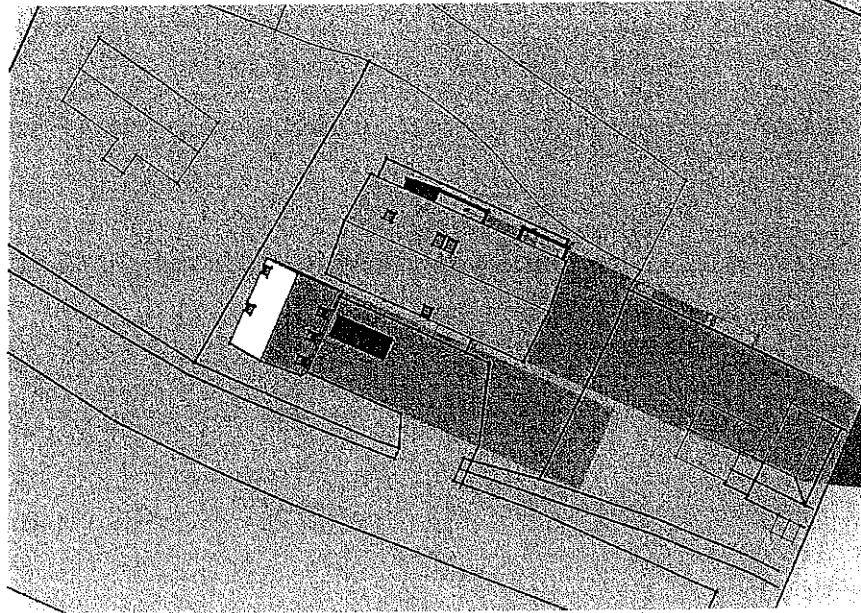


2.2 Autumn equinox (21.09) – 6.30pm

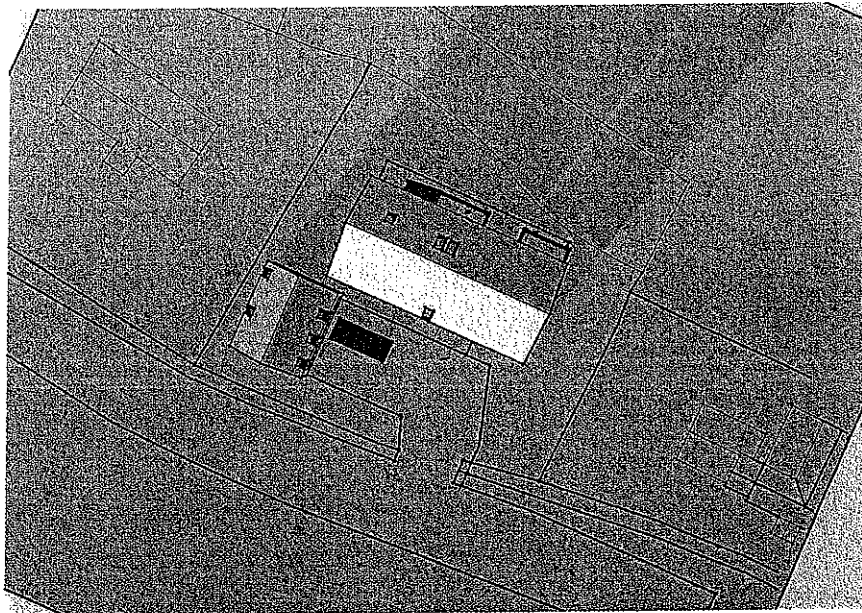


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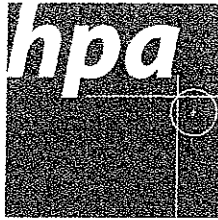
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2.3 Summer solstice (21.06) – 8pm



2.4 Winter solstice (21.12) – 4pm



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APPENDIX 3:

GILMORE + STONES ENERGY ASSESSMENT

This is bound to hard copies of this document, or available as a separate PDF when the application is viewed electronically

This report is formed by 2 Documents:

- 8056 Energy Options Report

The report concludes on page 9 that the 'Wood Fired Boiler' would achieve an Eco Homes Level 6 Target.

- 8056 bio + pv + solar

These are the calculations to prove the above rating.

320110579P

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REPORT ON

Alternative Energy Solutions

for

Providence House

Client: Cactus Homes

Architect: HPA Architects - Lancaster

Author: Eur Ing **Tim Gilmore** B.Eng(Hons), MSc, C.Eng, MCIBSE, MASHRAE

Gilmore Stones Associates Limited
Managing Director: Eur Ing Tim Gilmore B.Eng(Hons), MSc, C.Eng, MCIBSE, MASHRAE
Consultant: Eur Ing J.R. Stones FI Mech E, FCIBSE, FIHFEM, C.Eng
Consultant: G Whalley BSc Eng, C.Eng
VAT No. 823 9685 90 | Registered in England 04813737

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INTRODUCTION

Providence House is currently being designed as a low carbon building. Significant improvements to the building thermal performance in comparison to the Building Regulation requirements have been proposed out and this in itself will have a big impact in terms of reducing carbon emissions, however, the developers are interested in providing the building with a low energy/low carbon heat source in order to reduce the energy costs and carbon footprint further still, achieving an Ecohomes Level 4.

The heating elements for the various rooms has been agreed and the systems chosen generally comprise underfloor heating systems to all floor areas.

The client has been interested in use of a ground source heat pump due to the very high coefficient of performance (generally referred to as efficiency) and the reasonable area of land available for installation of coils.

There is no perfect solution to the provision of a heat source and this report attempts to provide the client with "broadbrush" information on the various options available for heating along with their advantages and disadvantages. Once the most favourable solution is agreed then further in-depth research and detailing will need to take place, which could be direct with the suppliers/installers, or with Gilmore Stones Associates in order to achieve an holistic approach.

HEATING REQUIREMENTS

The proposed dwelling is a considerable size and as such the proposed heat source will be well in excess of "normal" house size plant.

From the thermal model it is shown that the heat loss of the building is approximately 17kW.

Adding a percentage for hot water production (although solar collectors may be provided) and provision of a reasonable heat up time the boiler plant requirement is approximately 25kW.

This size of heat source brings the options available into the small commercial size of unit, which gives a much wider range of options than the "usual" domestic range.

HEATING SOLUTIONS

The property is situated on Preston Road, Ribchester and it is considered that natural gas is not available in the area. It is understood that the site is not currently provided with a 3-phase electrical supply. A three phase electrical supply could be provided, but the cost of this is excluded from this report.

The proposed heating solutions reliant upon electricity as the main source of energy therefore assume a three phase supply is available and all costs for the provision of the supply are not included in the comparisons. Upgrading of transformers/incoming supplies on recent projects have ranged from around £6,000.00 to £25,000.00. There appears to be no rule of thumb which can be applied to advise approximate cost for upgrade of the incoming supply.

The cost of the internal heating installation is not included as it is considered to be included within the budget elsewhere.

Electric Heating

The options for heating with electricity include direct electricity, storage heaters, ground source heat pumps, air source heat pumps and all the foregoing with a thermal store.

Non-electric Heating

The options for heating which does not use electricity as the main source of energy include oil (diesel and biodiesel) fired boiler, LPG fired boiler, solid fuel (coal, woodchip, wood pellet etc) fired boiler, LPG fired heat pump and Combined Heat and Power.

The following table indicates some advantages and disadvantages of the various solutions. Items which are considered "good" are coloured in green, those which are considered "poor" are coloured red, all others are left unshaded.

Obviously the selection of "good" and "poor" is somewhat personal, but the information is for discussion/agreement on a way forward and allows initial selection to take place.

Project Title: Providence House
 Project Ref: 8056
 Client: Cactus Homes

HEAT SOURCE COMPARISON

Heat Source	Capital Cost	Running Cost	Primary Energy Source	Energy Source Economically Available at Site	Is primary energy source subject to failure at site? Is storage possible?	Is primary energy source likely to be subject to increase in cost?*	Carbon Emissions per kgCO ₂ /kWh of fuel on site (from Building Regs)	Efficiency at optimum conditions	Carbon Emissions delivered heat (optimum) kgCO ₂ /kWh (heat)	Efficiency at low demand	Carbon Emissions delivered heat (outside optimum range) kgCO ₂ /kWh (heat)	Ability to provide Hot Water without reduction in efficiency	Controllability	Suitable for Radiator Systems	Ease of Servicing	Expected Lifetime	Local installer/supplier	Is efficiency of system effected by weather
Gas Fired Boiler	Low	Low	Natural Gas	No	No/No	Yes	0.194	0.91	0.21	0.91	0.21	Yes	High	Yes	Simple	15 years	Yes/Yes	No
Oil Fired Boiler	Low	Medium	Sec 35 (or 42) oil	Yes	No/Yes	Yes	0.265	0.91	0.29	0.91	0.29	Yes	High	Yes	Simple	15 years	Yes/Yes	No
LPG Fired Boiler/Heat Pump	High	Low/Medium	LPG	Yes	No/Yes	Yes	0.234	0.91	0.26	0.91	0.26	Yes	High	Yes	Simple	15 years	Yes/Yes	No
Rapeseed Oil Fired Boiler	Medium	Medium	Rapeseed Oil	Yes	No/Yes	No	0.025	0.91	0.09	0.91	0.09	Yes	High	Yes	Simple	15 years	Yes/No	No
Ground Source Heat Pump	Very High	Medium	Electricity	Yes	Yes/No	Yes	0.472	4.50	0.09	1.20	0.35	No	Low	No	Complex	8 years	Yes/No	No
Air Source Heat Pump	Medium	Medium	Electricity	Yes	Yes/No	Yes	0.427	2.50	0.17	1.80	0.23	No	Low	No	Complex	5 years	Yes/No	Yes
Water Source Heat Pump	High	Medium	Electricity	No	Yes/No	Yes	0.427	3.50	0.12	2.00	0.21	No	Low	No	Complex	5 years	Yes/No	Yes
Wood Fired Boiler	Very High	Low	Chip or pellet	Yes**	Yes/No	No	0.025	0.50	0.05	0.45	0.06	Yes	Low	Yes	Simple	15 years	Yes/Yes	No
Direct Electricity	Very Low	Very High	Electricity	Yes	Yes/No	Yes	0.422	1.00	0.42	1.00	0.42	Yes	High	Yes	Simple	10 years	Yes/Yes	No
Storage Heaters	Low	High	Electricity	Yes	Yes/No	Yes	0.422	1.00	0.42	1.00	0.42	Yes	Low	Yes	Simple	15 years	Yes/Yes	No
Combined Heat and Power * subject to saving/number of starts/hour.	Very High	Low	LPG/Diesel	Yes	No/Yes	Yes	-0.568	4.50	-0.13	1.00	-0.57	Yes	High	Yes	Complex	10 years	No/No	No

** Assumed delivery can be made

From the foregoing spreadsheet it can be seen that direct electric and storage heaters are not acceptable and no further consideration to this option is considered necessary.

A new high efficiency oil fired boiler is relatively low cost (approximately £5-8,000.00). It is easily maintained by local contractors and parts would be readily available. Short delivery period would mean that the system could be installed quickly and efficiently. A storage tank would be required to be located externally and in a location where the filling would be possible.

However, the carbon emissions of an oil fired boiler are considerable as it is a fossil fuel which is being burned. Equally the future cost of fuel is expected to keep increasing either through supply and demand processes or via government tax initiatives.

LPG fired boiler has many of the same advantages and disadvantages of the oil fired boiler, however the cost of fuel is even higher than oil.

A rapeseed oil fired boiler is simply an amended oil fired boiler with a new burner installation. This system has all the advantages of the oil fired boiler but the carbon emissions can be considered to be very low due to the use of renewable fuel source. A disadvantage is that the supply chain for the fuel delivery is not currently developed therefore a premium cost in the short term may be expected. Production of fuel on site is possible via reclaimed cooking oil if there were suitable source of supply (chip shop, restaurants etc) in the area. Preliminary discussions with boiler manufacturers indicate that 90-100kW boiler is the smallest they would be able to supply, however burner manufacturers suggest that any pressure jet boiler can be fitted with an appropriate burner for little additional cost. Further research could be carried out if this option is of interest. There are political concerns relating to use of food producing land for growing fuel and it is not known how this situation will develop.

Ground source heat pumps are highly efficient, however they do utilise electricity which has a high carbon emission per unit of delivered energy. It could be argued that the electricity could be on a "green tariff" however this is using green energy for heating which may be better used for other equipment which cannot be provided by non-electric means (lighting, pumps, power etc). They have a considerable capital and maintenance cost and current prices are being sought from suppliers specifically for this project, however historical data indicates that £26,000.00 would be an appropriate order of cost for a unit to provide heat for the whole house.

An additional consideration is the very high start current associated with heat pump compressors, in excess of 100Amps which could cause flicker of lights/electrical equipment, not just in this property but at adjacent properties if an inappropriate supply is provided.

Air source heat pumps are less efficient than ground source heat pumps but do not require large underground pipework installations. They are also more expensive, but installed costs are lower than GSHP's due to the reduced labour and materials elements. Air source heat pumps have similar disadvantages as GSHP's but also there could be a significant noise issue due to the assumed lack of noise sources in the vicinity to mask the fan and compressor noise.

Wood fired boilers are less efficient than their gas/liquid fuelled counterparts, however, the carbon emissions of the fuel per kWhr are much lower as well as lower fuel costs. The boilers are expensive and require large fuel storage and feed facilities. Woodchip or wood pellets are readily available in the area, however, the wood needs to be sourced from a renewable resource to ensure the carbon emissions remain low. Specific costs for this project are being sought, but the cost for the boiler would be approximately £16,000.00 and the fuel feed system an additional £7,000.00.

Oil fired Combined Heat and Power plant is available with a capacity of 15.5kW heat output, however these also have the benefit of production of 5.5kW of electricity when the "boiler" is providing heat whilst only consuming 22.8kW of fuel.

Excess electricity could be exported to the grid which could provide income. However, the units are typically around £16,000.00 installed, plus electrical connection costs (if applicable). It is expected that the unit would not operate for a sufficient length of time per annum for this option to be acceptable, and no further investigation has taken place.

RUNNING COSTS

Although the thermal model has been created to provide an initial estimate of the boiler capacity required, the software is able to provide an estimate of running costs, based on historical weather data, location, use of building etc.

Unfortunately, the system is unable to accept data outside "normal" heating system efficiencies over 100% are not able to be incorporated (i.e. GSHP's) therefore a simple mathematical calculation needs to be carried out on the result. Divide the running cost at 100% by the co-efficient of performance.

The annual running cost for the GSHP serving the whole house is calculated to be £878.00.

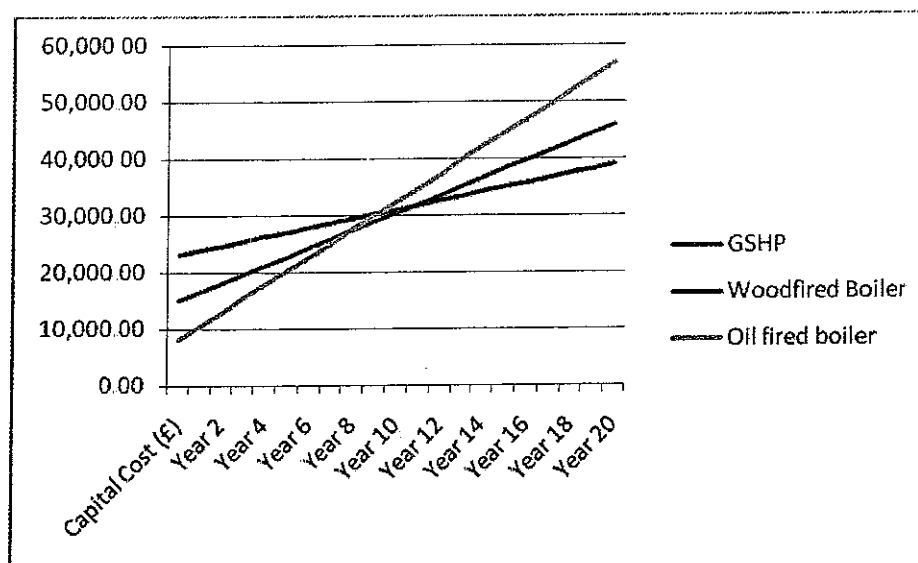
The annual running cost of the woodfired boiler is £705.00.

The annual running cost of the oil fired boiler is £1,538.00

For comparison, the annual running cost of a gas fired boiler is £930.00

It should be noted that these are notional calculations for comparison purposes and actual running costs are dependent on a wide range of criteria outside the ability of the software to take them into account

From the foregoing a very simple comparison of capital cost and running cost for the three options shows that after 9-10 years the woodchip boiler becomes more economical than the other two options. This, of course, assumes constant fuel costs which as previously indicated would further benefit the wood fired boiler option



ECOHOMES LEVEL 4

Calculations have been carried out to determine how the energy element of the Ecohomes energy/carbon emissions target can be achieved.

Three scenarios have been compared. These are the most likely to achieve compliance based on efficiency/carbon emissions of fuel.

- Option 1 – Biomass/wood pellet boiler + 4.9kW PV array + 10m² Solar Collector
- Option 2 – Biomass/wood pellet boiler + 10m² Solar Collector
- Option 3 – GSHP + 4.9kW PV Array + 10 m² Solar Collector
- Option 4 – GSHP + Solar Collector

The target energy rating (TER) for the building to achieve compliance with the building regulations has been calculated as 19.33 kgCO₂/m² a.

In order to achieve Ecohomes Level 4 this needs to be reduced by 44%, i.e. 10.85kgCO₂/m² a.

The various options achieved the following emissions rates.

- Option 1 - -0.16 kgCO₂/m² a. i.e. this would achieve level 6 Ecohomes target
- Option 2 – 6.34 kgCO₂/m² a i.e. this would achieve level 4 Ecohomes target.
- Option 3 – 8.32 kgCO₂/m² a. This achieves the Level 4 Ecohomes target
- Option 4 – 16.14 kgCO₂/m² a. This does not achieve Level 4 Ecohomes target.

AREAS FOR CONSIDERATION

Biomass boilers require fuel delivery and storage. The choice of fuel is subject to availability but it is suggested that wood pellet provides the best balance between energy, cleanliness and ease of use.

Ground source heat pumps require a considerable array of buried pipework, usually 3 times the area of the building. The type of soil would determine the exact spacing of the coils, but the area of land available to the site would appear to be insufficient for the typical solution. Boreholes could be considered as an option, however a geothermal study would need to be carried out and the cost of boreholes is considerable.

BIOMASS/WOOD PELLET BOILER WITH PV ARRAY (4.5 kW) and 10m² Solar Collector

CHECKLIST FOR DWELLING AS DESIGNED

CHECKLIST DOCUMENT L1A (2006)

Site reference	Plot reference	
Builder	Contact	盒
Building Control body	Contact	盒
SAP assessment by	Contact	盒
Evidence of competency (e.g. Part L Competent Person, Authorised SAP Assessor)		

No.	Check	Evidence	Produced by	Design OK?	As built same?															
1	Criterion 1 - Predicted carbon dioxide emission from proposed dwelling does not exceed the target																			
1.1	TER (kg CO2/m².a)	19.33 kg/m² Fuel for main heating system : Wood pellets (bulk) (fuel factor = 1.00)	SAP	N/A	N/A															
1.2	DER for dwelling as designed (kg CO2/m².a)	0.16 kg/m²	SAP	N/A	N/A															
1.3	Are emissions from dwelling as designed/as built less than or equal to the target?	19.33 >= 0.16	SAP	OK	N/A															
2	Criterion 2 - the performance of the building fabric and the heating, hot water and fixed lighting systems should be no worse than the design limits																			
	Fabric U-values																			
2.1	Are all U-values better than the design limits in Table 2?	<table><thead><tr><th>Element</th><th>Average</th><th>Highest</th></tr></thead><tbody><tr><td>Wall</td><td>0.12 (max 0.35)</td><td>0.12 (max 0.70)</td></tr><tr><td>Floor</td><td>0.14 (max 0.25)</td><td>0.14 (max 0.70)</td></tr><tr><td>Roof</td><td>0.12 (max 0.25)</td><td>0.12 (max 0.35)</td></tr><tr><td>Openings</td><td>1.18 (max 2.20)</td><td>1.20 (max 3.30)</td></tr></tbody></table>	Element	Average	Highest	Wall	0.12 (max 0.35)	0.12 (max 0.70)	Floor	0.14 (max 0.25)	0.14 (max 0.70)	Roof	0.12 (max 0.25)	0.12 (max 0.35)	Openings	1.18 (max 2.20)	1.20 (max 3.30)	Builders submission	OK OK OK OK	
Element	Average	Highest																		
Wall	0.12 (max 0.35)	0.12 (max 0.70)																		
Floor	0.14 (max 0.25)	0.14 (max 0.70)																		
Roof	0.12 (max 0.25)	0.12 (max 0.35)																		
Openings	1.18 (max 2.20)	1.20 (max 3.30)																		
	Common areas in buildings with multiple dwellings (where relevant)																			
2.2	If the common areas are un-heated are all the U-values better than then limits in Table 2? (If heated use L-2A)	Schedule of U-values	Builders submission	N/A	N/A															
	Heating and hot water systems																			
3	Does the efficiency of the heating system meet the minimum value set out in the Domestic Heating Compliance Guide?	Central heating systems From manufacturer Efficiency: 86% (min 65%) Secondary heating system: Gas room heaters (Mains gas) Gas fire, closed fronted, fan assisted Efficiency: 72% Minimum: 72%	SAP	OK OK																
4	Does the insulation of the hot water cylinder meet the standards set out in the Domestic Heating Compliance Guide?	Nominal cylinder loss: 1.61 kWh/day Permitted by DHCG: 2.62 Primary pipework insulated	SAP	OK																
5	Do the controls meet the minimum controls provision set out in the Domestic Heating Compliance Guide?	Space heating controls: Programmer + TRVs + boiler energy manager Water heating controls: Separate timer: yes Cylinderstat: yes	SAP	Fail OK OK																
	Does the heating and hot water systems meet the other minimum provisions in the Domestic Heating Compliance Guide?	Schedule of compliance provisions	Builders submission																	

Fixed internal and external lighting

2.7	Does fixed internal lighting comply with paragraphs 42 to 44?	Schedule of installed fixed internal lighting	Builders submission (see schedule below)	
2.8	Does the external lighting comply with paragraph 45?	Schedule of installed fixed external lighting	Builders submission (see schedule below)	
3	Criterion 3 - the dwelling has appropriate passive control measures to limit solar gains.			
3.1	Does the dwelling have a strong tendency to high summertime temperatures?	Overheating risk: Medium Region: North West England Based on: Ventilation rate: 0.07 Thermal mass parameter: 12 Glazing facing North East: 46.40 m² No blinds or curtains, 0% daylight usage No overhang, Overheating: Average or unknown Glazing facing South East: 2.24 m² No blinds or curtains, 0% daylight usage No overhang, Overheating: Average or unknown Glazing facing South West: 28.18 m² No blinds or curtains, 0% daylight usage No overhang, Overheating: Average or unknown Glazing facing North West: 2.50 m² No blinds or curtains, 0% daylight usage No overhang, Overheating: Average or unknown Rooflights: 1.28 m² No blinds or curtains, 0% daylight usage No overhang	SAP	OK
4	Criterion 4 - the performance of the dwelling, as built, is consistent with the DER			
4.1	Have the key features of the design been included (or bettered) in practice	A wall U-value 0.12 W/m²K A floor U-value 0.14 W/m²K A roof U-value 0.12 W/m²K An opening U-value 1.13 W/m²K Thermal bridging 54.18 Boiler efficiency 85.0% Solar panel used Photovoltaic array used	SAP	N/A
	Fabric construction			
4.2	Have accredited details been adopted?	Schedule of details used and their reference codes	Builders submission	
4.3	Have non-accredited details been used?	Evidence that details conform to standards set out in IP 1/06	Builders submission	
4.4	Has satisfactory documentary evidence of site inspection checks been produced?	Completed pro-formas showing checklists have been completed	Builders submission	N/A
4.5	Design air permeability (m³/h.m² at 50pa)	N/A	SAP	N/A
4.6	Has evidence been provided that demonstrates that the design air permeability has been achieved satisfactorily (see paragraph 56)	Sample pressure test results in comparison to design value	Builders submission (see schedule below)	N/A
	Commissioning heating and hot water systems			
4.7	Evidence that the heating and hot water systems have been commissioned satisfactorily	Commissioning completion certificate	Builders submission (see schedule below)	N/A
5	Criterion 5 - the necessary provisions for energy efficient operation of the dwelling are put in place			
5.1	Has all the relevant information been provided?	O&M Instructions SAP 93	Builders submission	N/A

Schedule of supporting competencies

Check no.	Organisation providing evidence	☑	Evidence of competency
2.6			
2.7			
4.6			
4.7			

The Old Cottage
Hale
Milnthorpe
Cumbria
LA7 7BL



envirotech

320110579P
Tel/Fax 015395 62054
Mobile: 07812 081320
Email: info@envvtech.co.uk
Web: www.envvtech.co.uk

BAT SURVEY

Providence House, Ribchester

BACKGROUND AND SUPPORTING INFORMATION

BY

ANDREW GARDNER BSc (Hons), MSc, MIEEM, MRICS, CEnv

On the Instructions of

Mr D Robinson

RCVD	5 AUG 2008		
	SEEK	FILE	ACTION
RAP			
RARW	5/8/08	1442	File

BAT/08/383

BACKGROUND AND SUPPORTING INFORMATION

Instructions

Investigate for the presence or absence of bat species in reference to a planning application for the demolition of a stone built house followed by the construction of an eco-home on a similar footprint

Professional responsibility

This report has been commissioned and the actions of the surveyor have been made in accordance with the Code of Professional Conduct for the Institute of Ecology and Environmental Management. (www.ieem.org.uk) and the Royal Institution of Chartered Surveyors (www.rics.org.uk)

Accuracy of report

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, bats are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and/or in their interaction with bats. If bats are found during a work programme, and continuing the work programme could result in their disturbance, injury or death, either directly or indirectly, an offence may be committed.

Bats may only be disturbed, injured or killed under license for which this report has been prepared.

If in doubt, stop work and seek further professional advice.

Quality and Environmental Assurance

This report has been printed on recycled paper as part of our commitment to achieving both the ISO 9001 Quality Assurance and ISO 14001 Environmental Assurance standards. Envirotech have been awarded the Gold standard by the Cumbria Business Environmental Network for its Environmental management systems.

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A. Executive Summary

It is proposed that the existing stone building known as Providence House, Ribchester will be demolished and a new environmentally friendly building erected on a similar footprint.

A bat survey was requested by the local Authority following guidance under regulation 39 of the Conservation (Natural Habitats, &c.) Regulations 1994 and PPS9.

A survey was undertaken by a licensed surveyor following a methodology which would be likely to identify past or current use of the site by bat species.

A desktop survey found no records of bats within 2km the site on the NBN or Envirotech datasets. The habitat within 2km of the site would be suitable for a total of eight species of bat.

The site survey found a very low number of Common Pipistrelle (*Pipistrellus pipistrellus*) and Brown Long-eared (*Plecotus auritus*) bats have been using the site as a roost. These species are also using adjacent gardens in which to forage.

A replacement bat loft/ roost will be created in a new garage adjacent to the site and this foraging area. In addition, roosting opportunities will be retained and created in the new garage roof coverings. We judge that this will be a net gain in roosting potential at the site.

B. Introduction

B1 Background to activity/ developments

Planning permission is being sought to demolish an existing house and erect a new dwelling at Providence House, Ribchester.

A bat survey has been requested following guidance under Regulation 39 of the Conservation (Natural Habitats, &c.) Regulations 1994, the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000.

B2 Full details of proposed works on site

A stone built dwelling is to be demolished. A timber framed eco-home is to be erected on a similar footprint with as much material from the existing house as possible being re-used in the development.

C. Survey and Site Assessment

C1 Pre- existing information of species at survey site

A records search has been undertaken via the National Biodiversity Network (NBN). This is a National database containing over 18 million records of the location of individual species and utilises the datasets from 46 contributing organisations.

A search for records from the year 1900 to 2008 found no records of bats within 2km of the site.

A search was also undertaken of the Envirotech dataset which has been compiled from our own field surveys. There are no records for bats within 2km of the site. The site owners are unaware of bats having been recorded in the building subject to demolition prior to the requirement for a bat survey. The building has been empty for approximately 2 years.

C2 Status of species in the local/ regional area

Having visited the area we are of the opinion that bat species are likely to be under recorded on the datasets searched.

From a review of aerial photography, a field assessment of the area adjacent to the site and the experience of the surveyor, bat species which may occur within 2km of the site and their local status are:-

- * Common Pipistrelle (*Pipistrellus pipistrellus*) - Common
- * Soprano Pipistrelle (*Pipistrellus pygmaeus*) - Common
- * Brown long-eared (*Plecotus auritus*) - Common
- * Daubenton's (*Myotis daubentonii*)- Common
- * Natterer's (*Myotis nattereri*)- Rare
- * Whiskered (*Myotis mystacinus*)- Frequent
- * Brandt's (*Myotis brandtii*)- Frequent
- * Noctule (*Nyctalus noctula*) - Frequent

C3 Objective(s) of survey

To ensure that the proposed development does not affect any bat species which is listed under the Conservation (Natural Habitats, &c) Regulations 1994 which implements the EC Directive 92/43/EEC in the United Kingdom the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000 as it is an offence, with certain exceptions, to:

1. Deliberately capture or kill any wild animal of a European protected species;
2. Deliberately disturb any such animal;
3. In respect of bat species, damage or destroy a breeding site or resting place of such a wild animal;

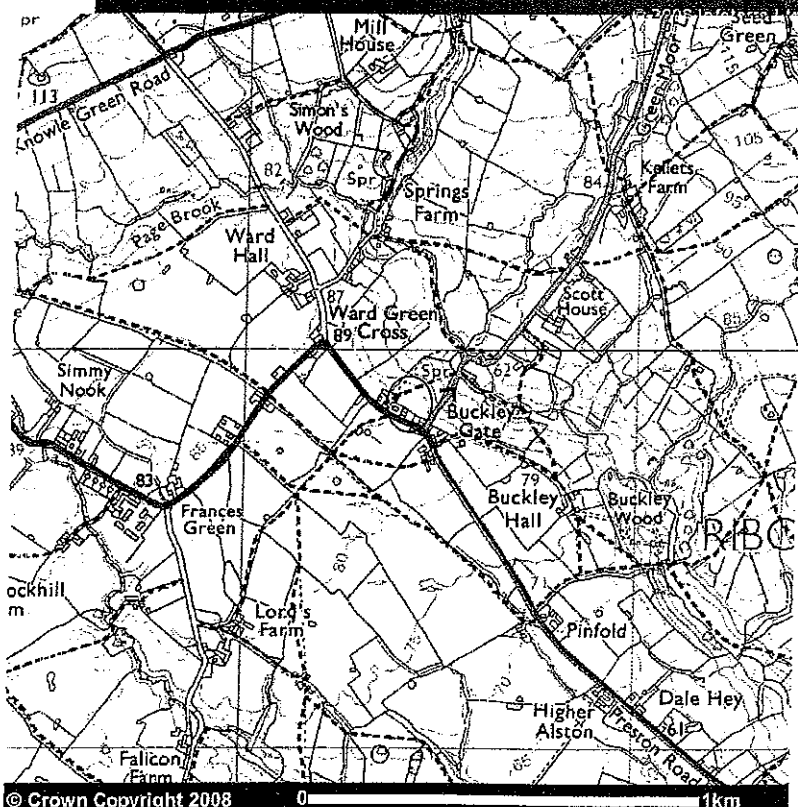
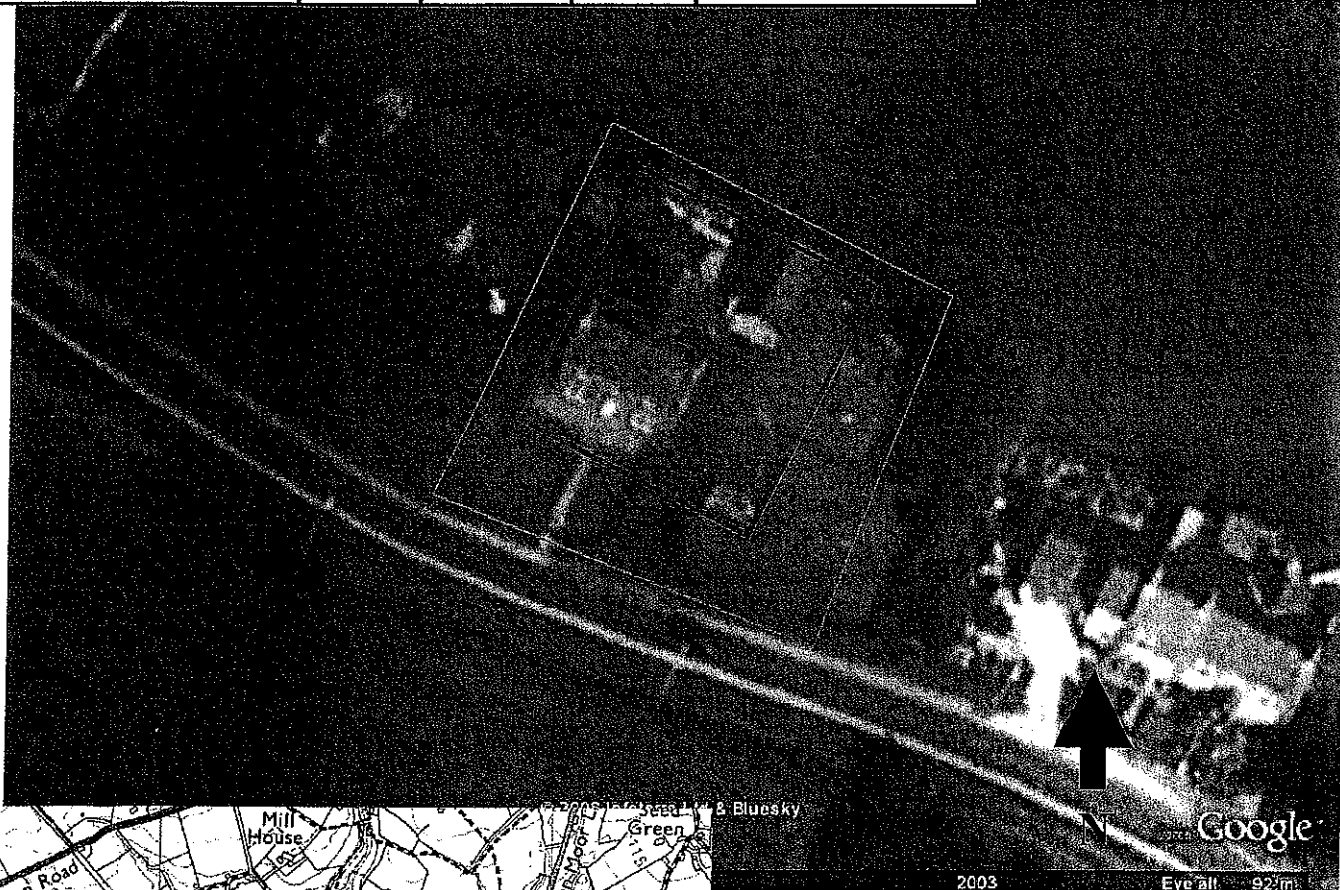
The survey will identify the likely past and or current use of the site by bat species.

Assess the likely impact of the proposed development on these species.

Provide a basis upon which to propose mitigation (if required) for bat species affected by the development.

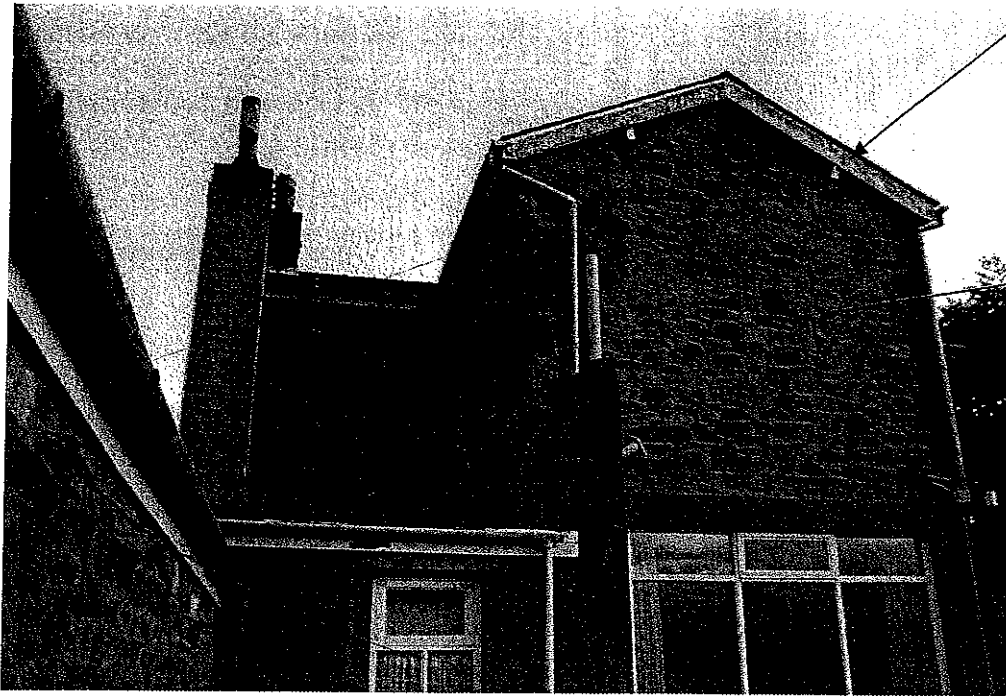
C4 Survey area

Drawing Title	Do Not Scale			
Survey site Providence House 29th July 2008	Drm	Appd	Revised	The Old Cottage Hale Milnthorpe Cumbria
	AG	AG		
	Chk	Date	Date	
Based on Ordnance Survey mapping with permission of the controller of Her Majesty's Stationary offices © Crown Copyright License 100046225		30/07/07		www.envtech.co.uk info@envtech.co.uk 07812 081 320



Key:	
Development Site	=====
Survey area	=====
Known bat roost	=====

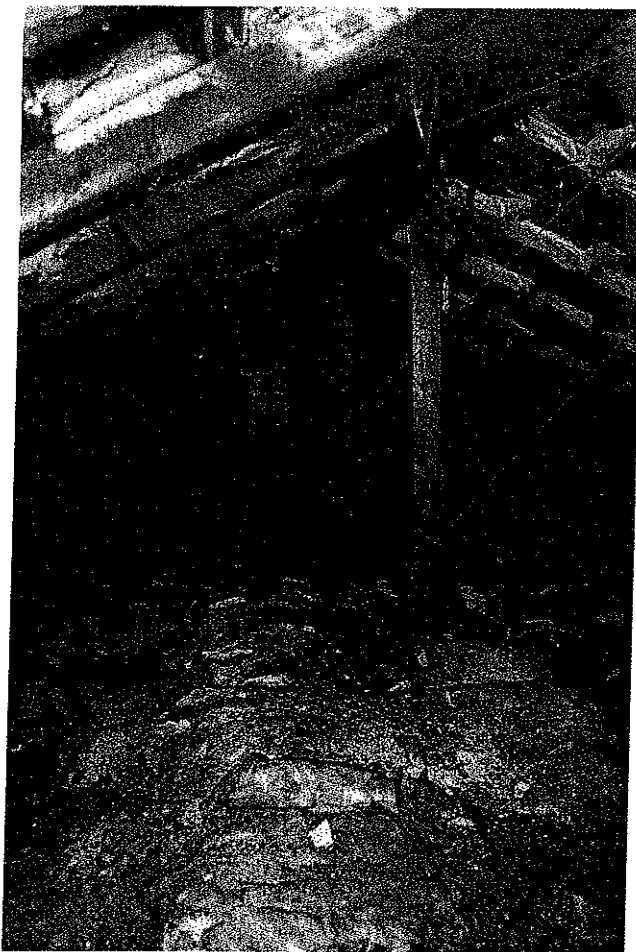
Grid reference at centre - SD 634 368



Common Pipistrelle
(*Pipistrellus*
pipistrellus) bat
roosting in gap next
to purlin here

Very well sealed
walls

C10.1 North Elevation



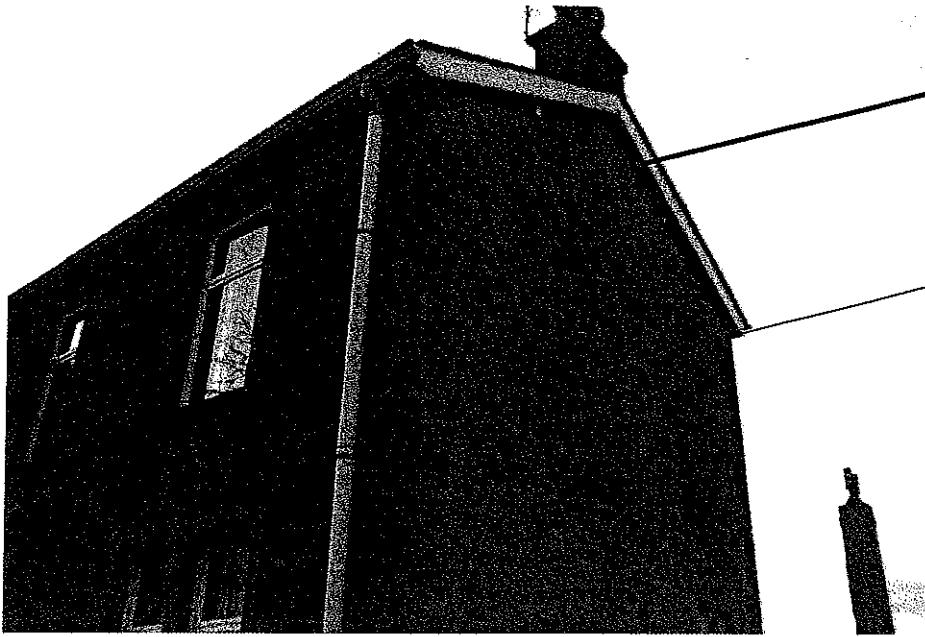
Lots of cobwebs on the beams.

1.2m high to the apex, 4m wide and 5m long

Two Brown Long-eared (*Plecotus auritus*) bats
flying inside

Small pile of fresh droppings under ridge beam

C10.2 Roof Void



Two Brown Long-eared
(*Plecotus auritus*) bats seen
in the roof void behind this
wall

Very well sealed walls

C10 3 East elevation

320110579P

C5 Habitat description, including roost and surrounding area

The site lies at an altitude of 60m, in the small village of Ribchester.

The house is situated amongst a complex of houses and farm buildings off the B6254. The surrounding land is open pasture and meadow. There are areas of well connected woodland close by approximately 300m to the North and East.

The house is constructed from natural stone walls under an unlined slate roof on a timber frame. There are small stone "lean-to" buildings attached to the North and East elevations.

A small stream runs to the North

The site lies in a rural location, to the North-west of Ribchester



The surrounding habitat is mainly permanent pasture and meadow

Scrub woodland to the East is ideal for Brown Long-eared (*Plecotus auritus*) bats

C6 Field survey

C6.1 Methods

- Site records search via National Biodiversity Network (NBN) and Envirotech data sets.
- Identification of adjacent bat roosting and feeding sites from aerial photography at 1:5000 scale:- This allows us to determine likely commuting routes into and off the site.
- Field assessment of adjacent bat feeding and roosting sites made following a review of aerial photography: - This allows us to cross check our interpretation of aerial photography with actual habitat on the ground.
- Thorough inspection of the walls and eaves using a torch and 10x42 Swarovski binoculars to locate potential bat roosts: - Gaps and cracks in the walls or under the eaves and soffits may provide access to the building by bats. Where possible all gaps and cracks judged to be of a suitable size for bats to take entry to the building were inspected either from the ground or the top of a ladder. Where appropriate, an endoscope was used to fully inspect these gaps internally.
- Thorough inspection of the roof using a torch and 10x42 Swarovski to locate potential bat roosts:- Gaps under the tiles, ridge lines and flashing may provide suitable roosts for bats. All gaps and cracks judged to be of a suitable size for bats to take entry to the building were inspected either from the ground or the top of a ladder. Using binoculars and a torch to illuminate the gaps underneath the tiles and ridge lines it is often possible to see residual evidence of bats such as droppings, scratch marks or bats themselves.
- Thorough search for detritus associated with bat feeding perches and roosts: - These roosts are usually associated with Brown Long-eared (*Plecotus auritus*) bats in roof voids and under eaves.
- Dusk emergence survey carried out 21:15-22:15 on 29th July 2008.
- Passive scan of building made with Bat Box Duet, heterodyne and frequency division detector set at 17 KHz below potential roost sites. This would detect social chatter from bats.
- Active scan with Bat Box Duet, heterodyne and frequency division detector set at 40KHz made post emergence. The surveyor then moves around the site adjusting the frequency of the detector in response to bat sightings.

C6.2 Timing

Date of Visit	Habitat/ Site Assessment	Emergence survey	Surveyors
29 th July 2008	20:30 to 21:15	21:15 to 22:15	Mr A Gardner Mr D Robinson

C6.3 Weather conditions

The following reflects conditions at the site during the time of survey; site conditions can have a large impact upon the results of any survey. Conditions for a bat survey at the time of year were regarded as excellent.

- 50% cloud cover
- Warm and humid
- No wind
- Temperature at head height start of survey: 18 Degrees Centigrade.

C6.4 Personnel

The survey was carried out by

1. Andrew Gardner BSc (Hons), MSc MRICS, MIEEM CEnv
Natural England Bat Licence (all species, all counties- science and education)
2. Mr D Robinson
Unlicensed observer

C7 Results

There are no records of bats on the NBN or Envirotech datasets within 2km of the site. The site owners are unaware of bats having been recorded in the building in the past.

Landscapes can be divided into four categories for use by bats; open, closed, edge and water. Each type of landscape category is suitable for use by a different combination of bat species. We would classify the landscape immediately adjacent to the site as "edge" with "open" and "closed" landscapes close by.

It is our opinion that bat species may have been under recorded in the area as a review of aerial photography and classification of landscape types within 2km of the site would indicate that it is suitable for Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Whiskered (*Myotis mystacinus*), Brandt's (*Myotis brandtii*), Daubenton's (*Myotis daubentonii*), Brown Long-eared (*Plecotus auritus*), Natterer's (*Myotis nattereri*) and Noctule (*Nyctalus noctula*) bats.

The tree lines, fences and small woodland to the North and East of the site are judged to be the primary commuting routes for bats to and from the site.

Around the buildings, hedgerows and trees in neighbouring gardens are all suitable foraging sites for Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Whiskered (*Myotis mystacinus*) and Brandt's (*Myotis brandtii*) bats.

Both Natterer's (*Myotis nattereri*) and Brown Long-eared (*Plecotus auritus*) prefer a closed habitat for feeding and also look to fly inside their roosts before emerging. We judge that the surrounding woodland is marginally suitable habitat for Brown Long-eared (*Plecotus auritus*) but insufficiently well connected and closed for use by Natterer's (*Myotis nattereri*).

In addition, Soprano Pipistrelle (*Pipistrellus pygmaeus*) may feed over the stream to the North but this is insufficiently large to be used by Daubenton's (*Myotis daubentonii*)

Noctule (*Nyctalus noctula*) bats are rarely found roosting in buildings but have been known to do so. This species of bat disperses widely from its roosts, which are normally in trees, to feed. We would judge it unlikely they would roost in a building such as that surveyed. They may forage in the local area.

Providence House

The house is constructed of natural stone under an unlined slate roof on a timber frame.

The exterior walls of the house were inspected for gaps, cracks, areas of rotten wood and/or signs of bats such as grease marks, bat droppings and feeding detritus. A 1,000,000 candle power torch was used to illuminate the walls and eaves whilst they were simultaneously inspected from the ground with a pair of 10x42 Swarovski binoculars.

There are no gaps in the walls of the house, they are exceptionally well pointed. No bats or other evidence such as bat droppings were found on the walls which would suggest they are used for roosting.

There are no soffits on the building but the roof does overhang the external walls on the exposed purlins. There are small gaps around the purlins on the North and West elevations which would provide access to the wall tops by bats. A single droppings indicative of a Brown Long-eared (*Plecotus auritus*) bat was found under the eaves on the West elevation below the purlin. This was not associated with any urine staining or grease/ scratch marks which would be indicative of intensive roosting activity.

The slate roof was inspected from the ground with a 1,000,000 candle power torch and 10x42 Swarovski binoculars. The roof is in very good condition, it is tight fitting and secure. No slates have slipped or are missing. The ridge tiles also appear secure. The roof is unlikely to provide any stable and secure roost sites for bats.

The roof void of the house was inspected via an access hatch in the bathroom. The house has been successively extended and the roof void now comprises three compartments, linked by small access holes. Glass fibre insulation is present throughout the roof void. Each of the three roof voids are approximately 1.2m high and 4m long as well as 2.5 wide.

Two of the roof voids showed no signs of past or current use by bats. In the third roof void, on the East elevation, two Brown Long-eared (*Plecotus auritus*) bats were disturbed and were flying within it. There were two small piles of fresh droppings, containing approximately 15 droppings each, and indicative of this species, below the central ridge line. These were in the only two cobweb free areas of the ridge line. The rest of the ridge lines, throughout the roof voids, were heavily covered by undisturbed cobwebs and dust.

Emergence survey

Conditions for an emergence survey were excellent; it was warm and humid which resulted in the surveyor noticing a significant amount of insect activity, particularly those which bite. With regard to cloud conditions and the sunset time for the day of the survey we would expect emergence for Pipistrelle Sp. to commence at 21:10.

21:15 The first bat was recorded flying along the Northern side of the site from the West towards the East and was identified as a Common Pipistrelle (*Pipistrellus pipistrellus*).

21:20 A second bat was recorded flying along the Northern side of the site from the West towards the East and was also identified as a Common Pipistrelle (*Pipistrellus pipistrellus*).

21:35 a Common Pipistrelle (*Pipistrellus pipistrellus*) emerged from below the apex of the roof on the North elevation around a purlin.

21:40 A Brown Long-eared (*Plecotus auritus*) emerged from the apex of the West elevation and flew into the gardens and trees to the West.

21:42 Brown Long-eared (*Plecotus auritus*) and Common Pipistrelle (*Pipistrellus pipistrellus*) feeding in the adjacent garden to West. Occasional passes over the roof of the building subject to survey. This activity continues until 21:52

21:44 Brown Long-eared (*Plecotus auritus*) emerges from the apex of the roof on the North elevation and flies into trees to the West.

21:50 Brown Long-eared (*Plecotus auritus*) emerges from the apex of the roof on the North elevation and flies into trees to the West.

21:52 Bat activity begins to subside.

22:01 Common Pipistrelle (*Pipistrellus pipistrellus*) lands on North elevation of the house and crawls into gap around purlin.

22:02 Occasional transient contacts with Common Pipistrelle (*Pipistrellus pipistrellus*) on the bat detector from adjacent garden to the West.

22:15 Survey terminated; at this time light conditions had fallen to the extent bats could no longer be seen.

C8 Interpretation and evaluation

C8.1 Presence/ absence

There are no records on the NBN or the Envirotech dataset for the site.

We consider that the habitat within 2km of the site would be suitable for Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Whiskered (*Myotis mystacinus*), Brandt's (*Myotis brandtii*), Daubenton's (*Myotis daubentonii*), Brown Long-eared (*Plecotus auritus*), Natterer's (*Myotis nattereri*) and Noctule (*Nyctalus noctula*) bats.

We consider that the bat droppings found within the roof void are consistent with use by a low number of Brown Long-eared (*Plecotus auritus*) bats (1-3) for a short period of time +/- 3 weeks prior to the survey. There is no indication of this species having roosted in the roof void prior to this time or in greater numbers. We consider use of this roost is likely to be transitory. The size of the roof voids are below that which is documented by (Mitchell-Jones, 2004) as ideal for the species.

A single Common Pipistrelle (*Pipistrellus pipistrellus*) was seen to crawl into a gap around a purlin on the North elevation. There were no droppings, urine staining, grease or scratch marks in or around this roost site indicative of intensive or prolonged use. We consider that this roost site is also likely to be used by this species transiently and in low numbers.

C8.2 Population size class assessment

Taking into account the presence and number of bats seen during the survey in the local area with a review of adjacent habitat, the maximum number of bats that are likely to use the local area is of the magnitude 10-100 (Medium).

C8.3 Site status assessment

The site is used as a day roost by up to three Brown long eared (*Plecotus auritus*) bats and one Common Pipistrelle (*Pipistrellus pipistrellus*) bat. These species of bat are likely to rely on a number of such roost sites in buildings in the local area. Roosting at this site is likely to be opportunistic and transitory. Natural England guidelines (Mitchell-Jones, 2004) would classify these roosts as being low significance.

C8.4 Constraints

The survey was conducted at a time of year when bat activity is very high. The number of potential roost sites in the building is very low. We consider that the survey is sufficiently robust to address the risk to bats at the site.

Full co-operation was received from the property owner and all areas of the site were inspected.

D Impact Assessment Without Mitigation

D1 Short term Impacts: Disturbance

We will consider a worse case scenario in addressing potential impacts at the site without mitigation.

No maternity or gathering roosts were found at the site during the survey. A disturbance to these type of roost is therefore unlikely.

Bats may be disrupted if high powered artificial illumination were used at the site at night and directed upwards or towards trees to the West. Brown Long-eared (*Plecotus auritus*) bats prefer a closed habitat for feeding and commuting and are likely to be disturbed by artificial lighting to the West. It is unlikely such lighting will be required due to health and safety issues of night working.

When the roof is stripped, there may be a slight disturbance to low numbers of bats which are in the roof voids or gaps around the purlins. There may also some disturbance to bats which may opportunistically use the building during demolition as new gaps and cracks are opened up. Pipistrelle Sp. bats are particularly opportunistic and will readily seek out new roosting opportunities. Disturbance to bats in these roosts is unlikely to be significant as only individual bats would be affected and they are likely to be deterred from longer term (+1 day) occupation of these roosts by ongoing site operations. Mitigation should be provided to account for this type of occasional use.

In summary we do not consider there will be any significant short term disturbance impacts.

D2 Long term Impacts: Roost Modification

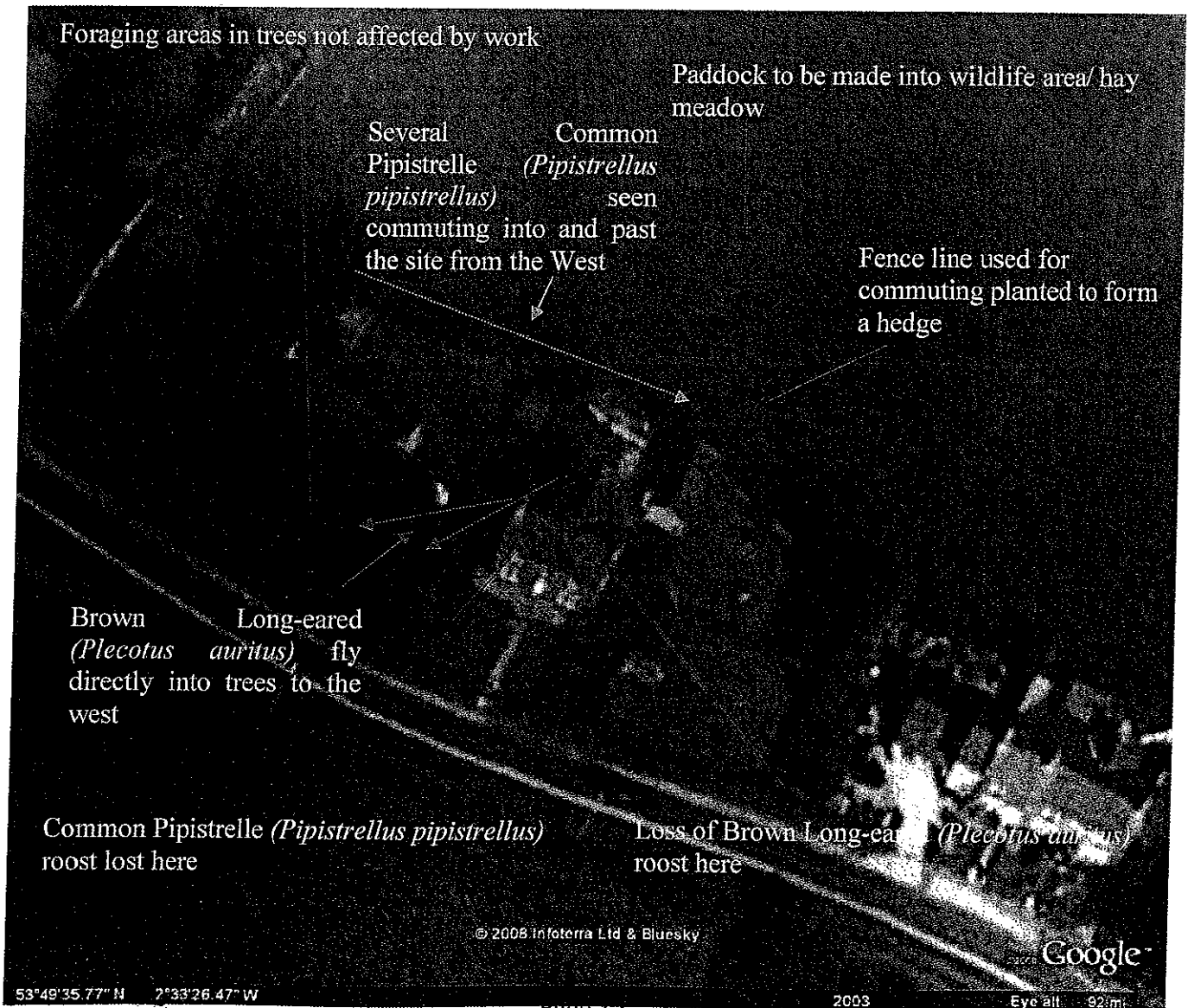
The roosts identified at the site will be lost by development as the building will be demolished. This will result in a net negative impact on bats at the site although the significance of the roosts affected is regarded as low to medium.

D3 Long term Impacts: Roost Loss

A proven day roost for three Brown long eared (*Plecotus auritus*) bats and one Common Pipistrelle (*Pipistrellus pipistrellus*) will be lost through demolition the building. Use of these roosts is likely to be transitory. There is unlikely to be a long term impact through their loss. There are highly likely to be numerous other more suitable roosts with larger numbers of bats in the local area, particularly to the west from which direction several bats were seen to commute into the site.

No evidence of maternity or gathering roosts was found at the site during the survey. The potential for a maternity or gathering roost in the building is judged to be low due to the poor quality of potential roost sites in walls and roof. This judgement is based on our surveys of many similar buildings in Cumbria, Lancashire and Yorkshire. There is therefore unlikely to be loss of a maternity or gathering roost at the site.

There is a low possibility of loss of hibernation and lek roost sites through demolition of the building as no suitable roosts types of these types were found.



D4 Long Term Impacts: Fragmentation and isolation

There is unlikely to be a disruption to commuting routes at the site. The primary commuting route next to the site was judged to be the line of trees to the West and fence line to the North. These will not be negatively affected by the development.

D5 Post activity interference impacts

An increase in artificial illumination at the site caused by habitation of the building is unlikely to result in post activity interference impacts at the site.

Feeding activity is likely to be concentrated over the fields and trees adjacent to the site. There will be additional foraging areas in the local area as the surrounding land will continue to be farmed. The paddock to the North of the site is proposed to be turned into wildlife habitat/ hay meadow.

D6 Predicted Scale of impacts

There will be loss of a day roost for a low number (1-3) Brown Long-eared (*Plecotus auritus*) and a single Common Pipistrelle (*Pipistrellus pipistrellus*) bat.

It is possible there will be loss of other unproven or potential transitional roosts for crevice dwelling bat species under the eaves but this is on balance unlikely.

There is unlikely to be a disruption to commuting routes or feeding areas at the site.

We would regard the disturbance and loss of roosts for Brown Long-eared (*Plecotus auritus*) and Common Pipistrelle (*Pipistrellus pipistrellus*) bats at the site to be low in respect of the national and regional significance and distribution of these species.

Overall at the local level we would regard the proposed development as being low impact in respect of its effect on bats. Low impact is however not no impact and an EPS license will be required to destroy a roost site.

E Land Ownership

E1 Mitigation site ownership

The site will be entirely within the management control and ownership of the client.

F References

Information from the following sources has been used in preparing the survey report.

Altringham J, (2003). *British bats*. London: HarperCollins

Altringham J, (1996). *Bats and Behaviour*. Oxford University Press

English Nature (2004). *Supplementary guidance note: surveying for bats following the publication of English Nature's national bat mitigation guidelines (January 2004)*. English Nature, Northumbria Team

Entwistle, A. C. *et al.* (2001). *Habitat Management for Bats*. JNCC

Greenaway, F. and A.M. Hutson (1990) *A Field Guide to British Bats*. London: Bruce Coleman Books.

Loller, A and Schmiot-French, B (2002). *Captive care and medical reference for rehabilitation of insectivorous bats*. Bat World

Mitchell-Jones, A (2004) *Bat mitigation guidelines*. English Nature

Mitchell-Jones, A. J. & McLeish, A. P. (1999) *The Bat Workers' Manual*. JNCC

Neuweiller, G (2000). *The Biology of Bats*. Oxford University Press

R. E. Stebbings (1998). *The conservation of European Bats*. Christopher Helm

Russ, J. (1999). *The Bats of Britain and Ireland, Echolocation, Sound Analysis and Species Identification*. Alana Books

Swift, S. (1998). *Long-eared bats*. Cambridge University Press

G Annexes

None

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BAT SURVEY

Providence House, Ribchester

DELIVERY INFORMATION

BY

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On the Instructions of

Mr D Robinson

BAT/08/383

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A. Mitigation and Compensation

A1 Summary and Compensation

The site surveys have identified a roost for three Brown Long-eared (*Plecotus auritus*) and one Common Pipistrelle (*Pipistrellus pipistrellus*) in the roof structure of the building.

There may be temporary disturbance to feeding bats from artificial illumination at the site at night.

The building may be suitable for other crevice dwelling bats such as Whiskered (*Myotis mystacinus*) and Brandt's (*Myotis brandtii*) but use of the site as a roost by these species is not suspected.

Previous Natural England license applications have been rejected following comments by the Natural England Cumbria team for not accounting for the very low potential use of sites by some species of bat. We feel the mitigation to be proposed specifically for the summer roosts of Pipistrelle Sp. and Brown Long-eared (*Plecotus auritus*) bats, which were found at the site, is also adequate to address the low potential risk to Whiskered (*Myotis mystacinus*) and Brandt's (*Myotis brandtii*) bats.

We do not consider a "do nothing" option at the site is acceptable. The existing building has been empty for a considerable period of time and would require substantial internal modification to return to an acceptable living standard. The proposed new building on the site is being built using sustainable building techniques and materials. Together with management of the adjacent paddock for wildlife, post development there are likely to be more and better roosting opportunities than before development. We feel that purpose built bat roosts should be incorporated into the new garage adjacent to the main foraging area at the site. These will maximise the range and type of roosts available at the site post construction.

The population of Common Pipistrelle (*Pipistrellus pipistrellus*) and Brown Long-eared (*Plecotus auritus*) bats identified at the site are likely to be from colonies in the local area. As replacement roosts and bat boxes are either at or within 20m of the roosts to be destroyed, the local bat population will not be forced to move into the feeding areas of other colonies.

No Whiskered (*Myotis mystacinus*) or Brandt's (*Myotis brandtii*) bats were found roosting at the site but potential roost sites which are destroyed for these species in the building will be re-created within 20m of the site as per the mitigation for Common Pipistrelle (*Pipistrellus pipistrellus*).

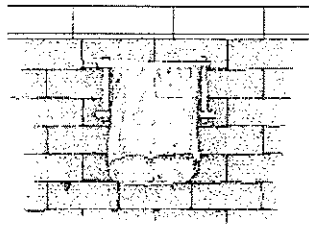
B Works to be undertaken by the Ecologist or suitably qualified individual

B1 Capture and exclusion

1. We do not consider it possible to exclude bats entirely from the working area. Work will therefore be undertaken with care on the areas bats have not been found roosting and outside the bat active season.

An emergence survey will be undertaken on the buildings no more than 3 days before demolition commences if this is between the period August- October 2008. If bats are found not to be in breeding condition, exclusion will be used to close those roost entrances which are found.

This will comprise a standard plastic bag type exclusion device pinned over the roost entrance as detailed in the Bat Workers Manual Page 89 reproduced overleaf.



These will be in place for a period of at least 7 days. An endoscope or close inspection will then be used to ensure the wall cavities/ roof are empty before work commences. If no bats are found roosting immediately prior to work commencing work will commence with care. Once work starts bats will be dissuaded from using the site and their roost will be destroyed by hand over a period of approximately least two weeks as the roof and walls are carefully stripped and materials reclaimed for reuse.

Demolition should ideally commence November 2008 and be complete by February 2009. Bats are on balance unlikely to be using the structure during this period. There is no requirement for an emergence survey in this period as bats will be inactive and are highly unlikely to be using the site.

2. If bats during work bats are found, all work will stop and the ecological consultant for this project Andrew Gardner Tel: 0781 2081320 will be informed prior to work re-commencing. Bats may be removed from high risk areas by hand and released at the site at night. If bats are in low risk areas, work will cease until the following day when it is likely bats will have left of their own accord overnight. The site will be rechecked and found to be clear before work continues.

C Works to be undertaken by the Developer/ Land Owner.

C.1 Bat Roosts

1. Be aware that bats may be present around the site, advise contractors accordingly.
2. Be observant during demolition for bats and or droppings in wall cavities. Bat droppings are black or brown and the size of grains of rice. Unlike mouse droppings which are hard, bat droppings will crumble between the fingers if squeezed.
3. Be observant during demolition work for bats which may use the building if the new areas of the roof are exposed and left open over night. Bats are opportunistic and may make use of gaps opened up during work overnight.
4. If it is necessary to remove a bat to avoid it being harmed, gloves should be worn. It should be carefully caught in a cardboard box and kept in the dark in a quiet place until it can be released at dusk near to where it was found, or moved to an undisturbed part of the building, with outside access, and placed in a location safe from predators.
5. If bats are found, all work will stop and the ecological consultant for this project Andrew Gardner Tel: 0781 2081320 will be informed prior to work re-commencing.
6. As a precaution remove slates and roof coverings by hand only outside the period June to August which is the time juvenile dependant bats may be in the buildings. We do not judge there has been use of the buildings in the summer of 2008 for breeding bats but future use can not be discounted. Ideally work to demolish the building should occur in the period November 2008 to February 2009.

C1.1 In-situ retention of roosts

No roosts will be retained in-situ at this site as all existing roosts are within buildings to be demolished and will be lost.

C1.2 Modification of existing roosts

No roosts will be modified at this site as all existing roost are within buildings to be demolished and will be lost.

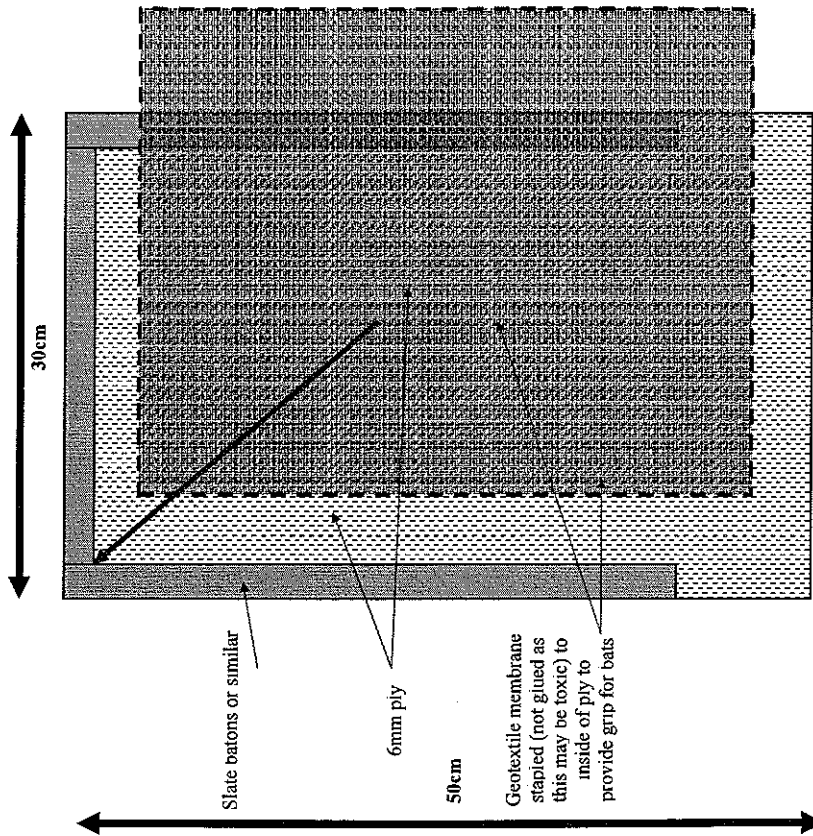
C1.3 New Roost creation

7. At least 6 crevices will be retained at the eaves of the garage that are 14-25mm in width at the narrowest point and provide access to the top of the wall. A roll of newspaper or similar material will be used to allow retention of a narrow downward pointing access gap whilst allowing the majority to be pointed up. These will provide lek sites as well as being suitable for small numbers of crevice dwelling bats who may wish to use them as transitional roosts. These will compensate for the loss of the small Common Pipistrelle (*Pipistrellus pipistrellus*) roosts around the purlins of the building.

We judge this will be a net improvement on the current roosting potential of the buildings.

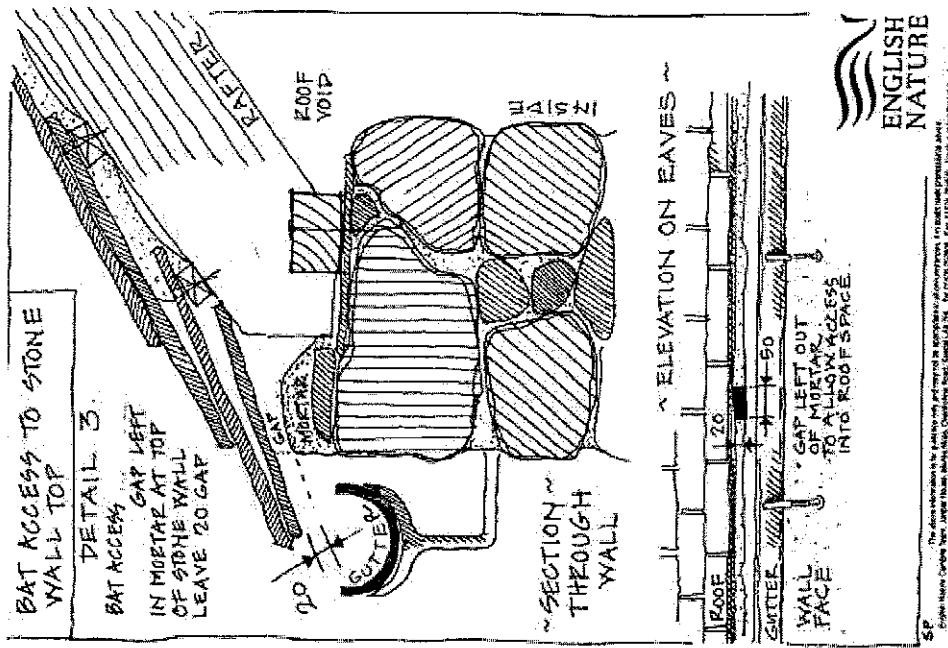
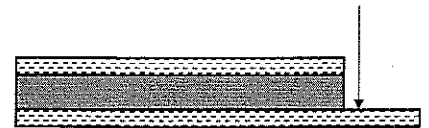
8. A purpose built bat loft will be created in the roof void of the garage. Plans for the bat loft are included here. The bat loft will be suitable for use by both Common Pipistrelle (*Pipistrellus pipistrellus*) and Brown Long-eared (*Plecotus auritus*) bats. Not only will the bat loft replace those bachelor male, non-breeding female and transitional roosts which are lost on a like for like basis but it will also be suitable for use by maternity colonies of *all of the Myotis and Pipistrelle Sp bats found in the local area* such as Whiskered (*Myotis mystacinus*) and Brandt's (*Myotis brandtii*) bats which are believed to occur in the local area. The loss of a roost site for one season for 3 Brown Long-eared (*Plecotus auritus*) and one Common Pipistrelle (*Pipistrellus pipistrellus*) is highly unlikely to significantly affect the local bat population. The provision of temporary roosts at the site is not possible due to the lack of suitable structures on which to place them and the high level of daytime disturbance likely to occur around the site during construction.

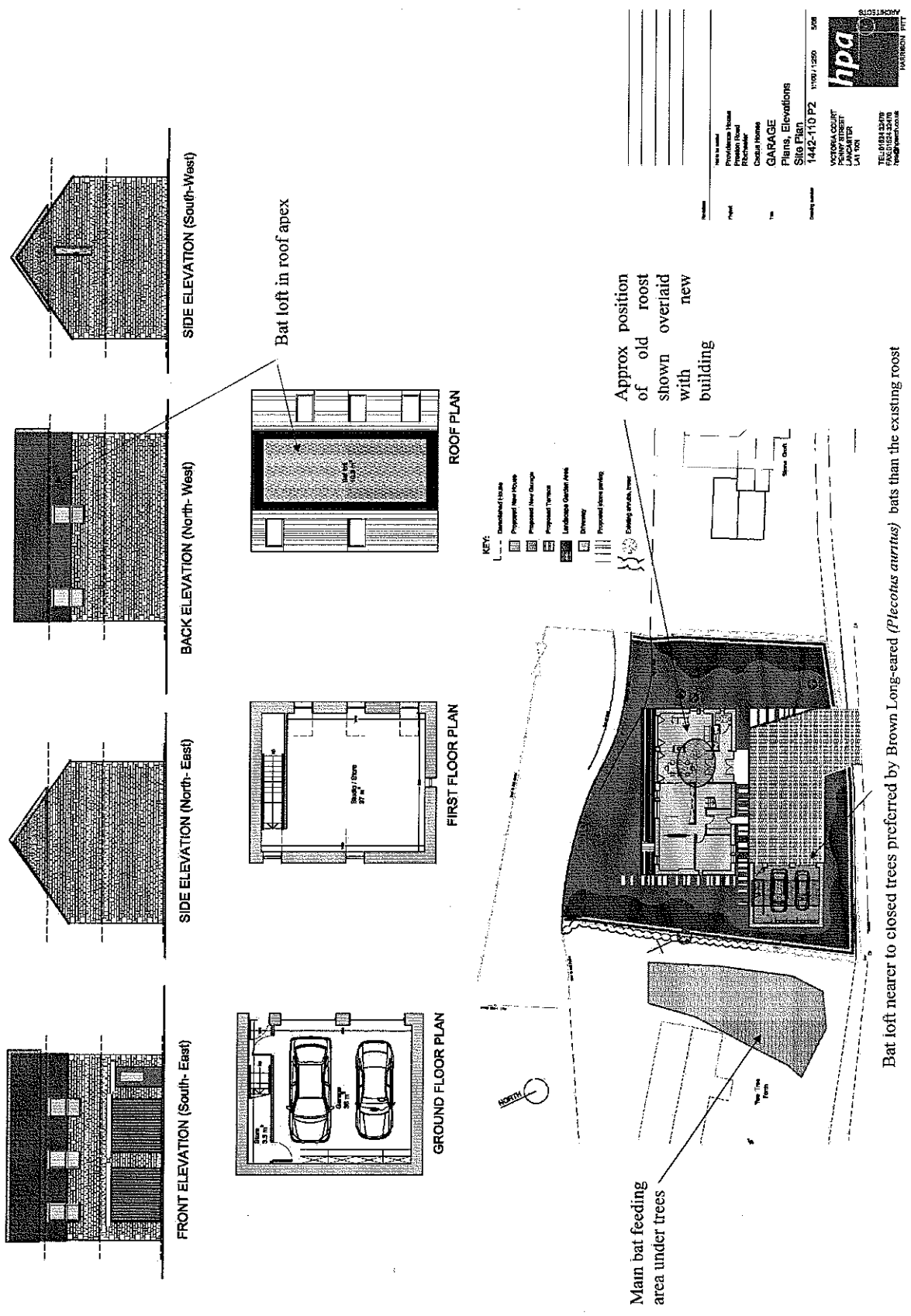
The bat loft is closer to the closed habitat preferred by Brown Long-eared (*Plecotus auritus*) bats than the existing roost. This will be a net improvement on the existing location of the roost in the house.



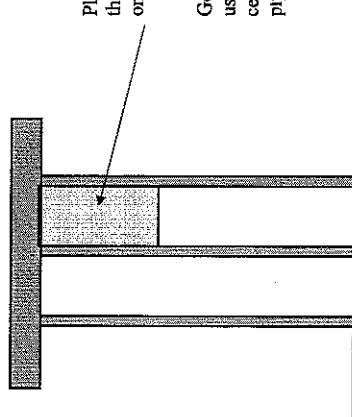
Bat boxes to be placed on vertical walls. These are constructed of 6mm ply with slate batons secured along three sides. A 50mm approx cavity is created between the two sheets of ply.

The base of the bat box should extend for at least 150mm below the lip of the box in order that bats may land on it and crawl up into the box

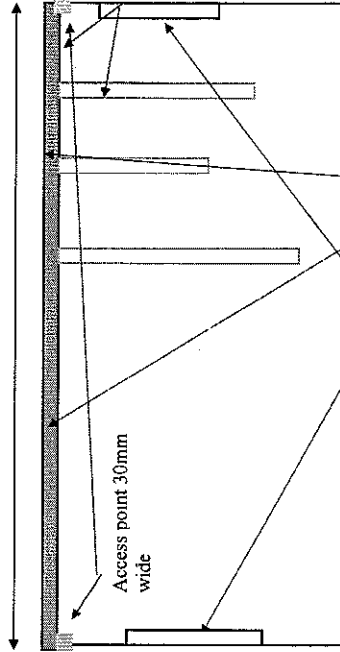




Bat loft nearer to closed trees preferred by Brown Long-eared (*Plecotus auritus*) bats than the existing roost

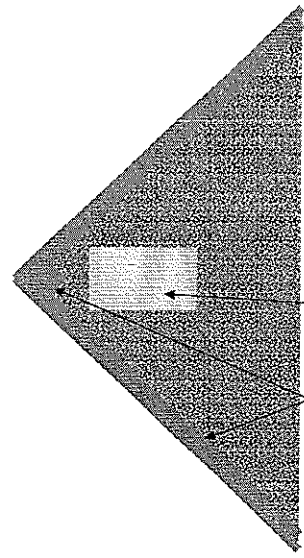


6.5m minimum

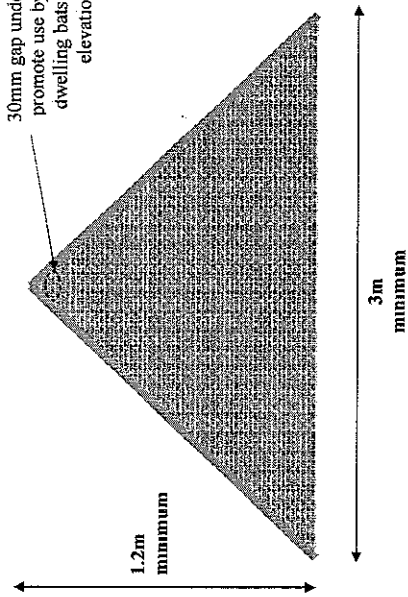


Exposed wooden beams in roof apex and down roof line.

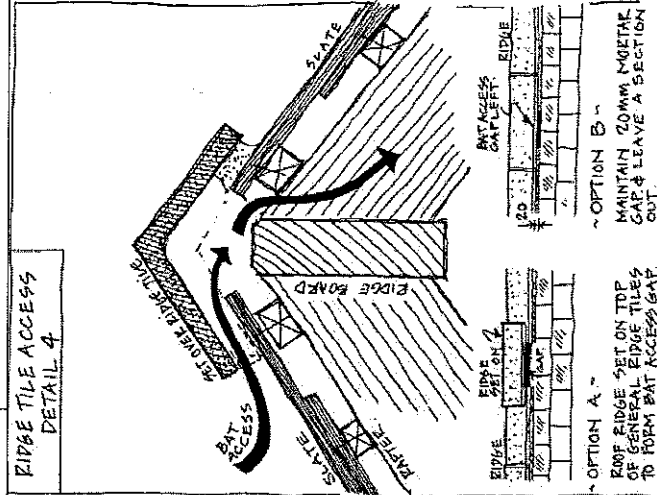
View of end walls internal.



View of entrance/ external wall



RIDGE TILE ACCESS DETAIL 4



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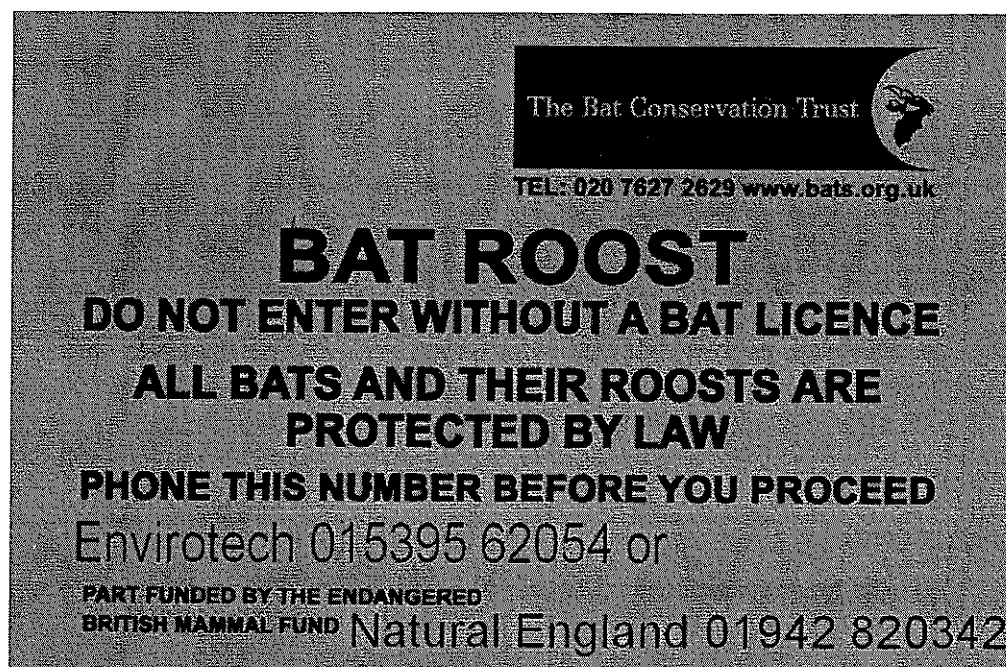
D Post Development Safeguard

D1 Habitat/ Site Management and Maintenance

The new roosts shall not be altered or destroyed without the appropriate statutory mechanisms being followed. The location of purpose built bat roosts will be provided to the site owners. Maintenance on the areas around these roosts will not take place without consultation with an appropriately qualified individual.

The site will remain in the management control of the current owners who will be responsible for site management.

A sign indicating the roof void of the garage is a bat roost and entry should not be undertaken without consulting Natural England will be placed on the access hatch.



D2 Population monitoring

Passive monitoring of the permanent roosts shall be undertaken to ensure they remain in a suitable condition.

We do not consider it necessary to monitor these roosts which are likely only to be used transiently.

D3 Mechanism for ensuring delivery

On the basis of survey information, specialist knowledge of the species concerned and understanding of the planning and legal system, we consider that there is no requirement for the use of a mechanism to ensure delivery of the recommendations of this report other than that which is already required by statute under a Natural England license.

E Timetable of works

Date	Work
September 2008- October 2008	Preconstruction site operations. Work to start to demolish building only following emergence survey and exclusion if required.
November 2008 - February 2009	Soft strip building. Remove roof coverings by hand.
March 2009- September 2009	Construction of all new roosts complete within 12 months.