PROPOSED DEVELOPMENT AT SAWLEY LODGE, SAWLEY, LANCASHIRE BB7 4LF

MITIGATION PLAN (COMPLIES WITH METHOD STATEMENT FOR EPS (BAT) LICENCE APPLICATION)

on behalf of

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October 2013

This method statement complies with Natural England guidance document WML-A13.2 (09/12)

METHOD STATEMENT FOR EPS LICENCE APPLICATION

A Mitigation and compensation

A.1 Summary of mitigation strategy

The mitigation strategy consists of the following main elements:

1) Overseeing of the project by a small team consisting of the Project Architect, the building contractors, and the Project Ecologist.

2) Programming of works to avoid the maternity and hibernation roosting periods.

3) Putting safeguards in place before the start of proposed works

- Ensuring that all persons working on the scheme are made fully aware about issues associated with working with bats and bat roosts
- Provision of a dedicated bat building prior to any disturbing works to existing roost buildings

4) Management of issues during the proposed works

- Hand stripping of roost features and potential roost features

6) Monitoring of bat use of the site during and after the period of development

By adopting the strategy as outlined above:

- Incidental capture and killing of bats and disturbance to bats have been given full consideration
- It is predicted that there will be no reduction in the range or population of bats at the site
- There will be no reduction in habitats used by bats
- There will be no adverse changes to connectivity at the site or between the site and the wider landscape
- The long term security of bats at this site has been safeguarded

This will ensure that **the contribution made by the site to the favourable conservation status of bats will be maintained.**

B Works to be undertaken by the Ecologist or suitably experienced person

B.1 Capture and exclusion

Prior to any works undertaken by contractors, all contractors will attend a toolbox talk by the Project Ecologist. In addition, the Ecologist will prepare a summary method statement specifically for contractors. Contractors will be required to read the method statement and sign to this effect. The contractor method statement will be displayed on the proposed development site at all times, along with the EPS licence. This work will take place in early April 2014.

Prior to any disturbance of the current bat roost buildings, parts of the buildings known and likely to provide roosting opportunities will be searched and where possible dismantled by/under the close supervision of the Project Ecologist. This work will take place in early April 2014.

Following the initial building search, the roof structures of the buildings will be subject to a staged strip by hand. This work will take place in April 2014.

The timing for this phase is appropriate as it will avoid disturbance to bats and loss of roosts when bats are most dependent on these resources. The timing for this phase is appropriate as:

- It will avoid disturbance to bats and loss of roosts when bats are most dependent on these resources. The evidence and assessment show that April is one of two annual periods with lowest risk to bats.

- Bats are expected to be active in April and therefore able to disperse from their roosts to alternative roosting sites.

All bats found during searches will be captured by the Project Ecologist with gloved hands. All captured bats will be held temporarily in cotton tie-string bags or other suitable containers and will be immediately transferred to the dedicated bat building. If any bats are injured or judged to require remedial care during the course of the works, the bats will be immediately taken into care and handed over to local experienced bat carers who are members of East Lancashire Bat Group.

Demolition will be started immediately after the staged strip, using techniques which will allow the Project Ecologist to inspect any further roosting features that become evident for the presence of bats before demolition takes place.

If a bat is found when the Project Ecologist is not on site, work will stop immediately and will not recommence until the Project Ecologist has given advice.

If evidence of protected species not listed on this licence is found, all work will cease and will not recommence until the ecologist named on the licence application (or Natural England if the ecologist is not available) has advised that the work may continue under the existing licence, or if an amended licence is required, until the licensee applies for and receives an amended licence.

B.2 Other precautionary measures

The Project Ecologist will oversee and closely supervise all aspects of the mitigation and compensation.

A compliance audit will be undertaken throughout the mitigation and compensation process by the Project Ecologist. The audit will extend to all works associated with the mitigation licence and will be used to advise the developer about compliance with the mitigation licence. Monitoring visits will form part of the later stages of the compliance audit.

The Project Ecologist will provide letters or emails to the site owner confirming satisfactory completion of mitigation activities and features at appropriate times in the project calendar.

C Works to be undertaken by the Developer/Landowner

C.1 Bat roosts

C.1.1 In-situ retention of roosts

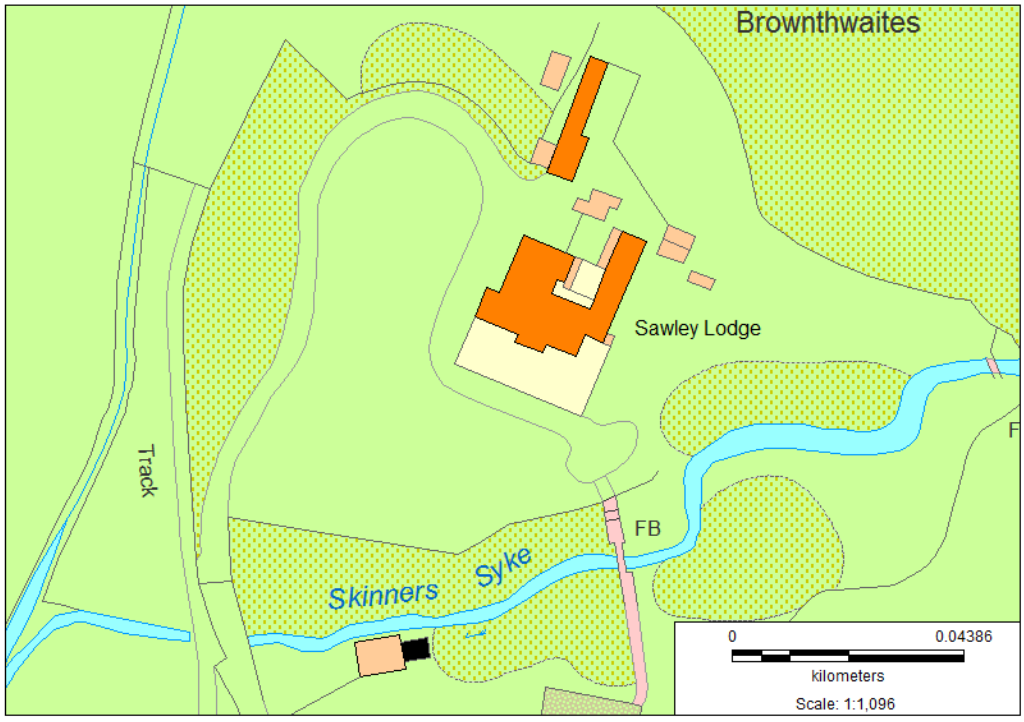
There will be no in-situ retention of roosts at Sawley Lodge. All existing roosts will be permanently lost as a result of the proposed refurbishment.

C.1.2 Modification of existing roosts

There will be no modification of roosts at Sawley Lodge. All existing roosts will be permanently lost as a result of the proposed refurbishment.

C.1.3 New roost creation (including bat houses, cotes and bat boxes)

An existing building will be refurbished to provide a dedicated bat building prior to April 2014, on the edge of a stream 60 metres to the south west of the existing bat roost buildings. The new structure will include a single ground floor space and a single roof void.



Map 1 - 1:1096 Ordnance Survey base plan of Sawley Lodge. Roost buildings are coloured orange and the proposed bat building is coloured black.

Rationale

- The timing for this is appropriate as it will ensure that bat roosting features are available on site at all times. The timing will also ensure that any bats found during the strip and demolition of the existing roost buildings can be placed in a secure, permanent feature without delay.

- The location of the dedicated bat building is appropriate as it is within a short distance of the current roost buildings, and is adjacent to suitable foraging and commuting features, with no artificial light spillage. The location of the dedicated bat building is critical, as a sheltered site with trees and other features will increase the chances of bats finding the building. Bats, particularly brown long eared species, tend to favour buildings that give them quick access to shelter and foraging opportunities.

- The restriction on building usage is appropriate as it will provide a guarantee of bat roost provision without any form of disturbance or limit on space available to bats. An undisturbed, dedicated building will increase the chances of uptake and continued use by bat species.

Building to be refurbished and adopted as the dedicated bat building, showing its context

Building to be refurbished and adopted as the dedicated bat building, showing its context

Building to be refurbished and adopted as the dedicated bat building, showing its structure and condition

Construction details

The dedicated bat building will be developed by adapting and refurbishing an existing structure. The existing rendered brick walls will be retained. The roof coverings will be removed and re-used after support timbers have been replaced. The stone tiles will be laid on 20mm softwood tanalised battens, laid on a single layer of traditional bitumastic roofing felt (1F felt – BS 8747:2007). The proposed construction will provide a building with a longer life and higher thermal mass than the existing roost buildings.

The felt will be laid on timber rafters and the internal roof construction will be of a traditional cut and pitch design to maximise the void space for bat flight and roosting. A roof void will also be created, with a weight-bearing floor, to enable safe inspections after completion and during future monitoring. The proposed construction will provide a less cluttered roof void space than the existing roost buildings, and in which observations of bat usage and roost condition can therefore be made much more safely.

The bat building has been designed to last for more than 50 years.

Rationale

- The building materials are appropriate as they will ensure that the structure has a predictably long lifespan

- A weight-bearing floor is necessary to enable safe access for monitoring by the Project Ecologist and other licensed persons

Dimensions

Length	= 5000mm
Width	= 3800mm
Height	= minimum 3800mm (minimum unobstructed flight space inside roof void of 1800mm)

The bat building will comprise a ground floor space and a roof void. The internal ground floor space will be baffled to reduce air flow and light incursion, and the ground floor and roof void will be linked by a single access hatch.

Rationale

- The dimensions and arrangement of spaces will reproduce conditions in the existing roost buildings, where bats have access to a range of discrete rooms and roof voids.

- The size of the roof void will be suitable for use by species including brown long eared bats, to fly and adopt a void roosting habit inside the building.

- Large internal flight areas are appropriate compensation measures as they will enable bats, including pre-volant and newly-volant individuals, to practice wing stretching and flight in an area free from predators and other disturbing influences. In addition, the flight spaces have been arranged to allow for light sampling by multiple individuals; this is a behaviour frequently adopted by brown long eared bats.

Access for bats

There will be a number of bat access points to the bat building:

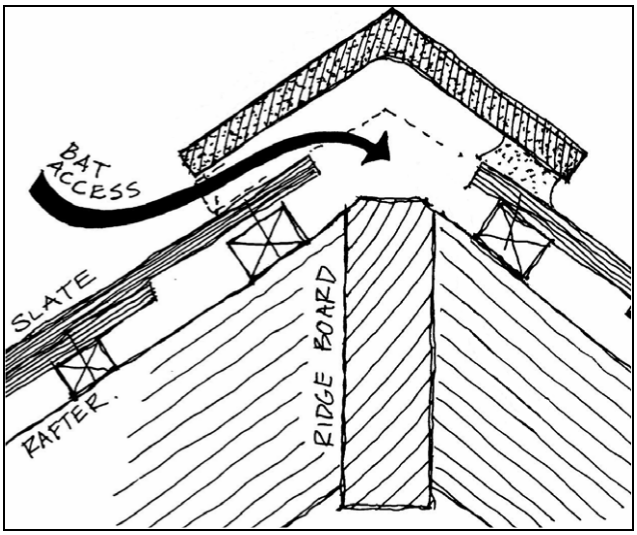
- A single fly-in access point on top of the human access door on the south elevation. The dimensions of the gap will be door width x 150mm depth. There will be a baffle inside the doorway to reduce light incursion into the roost area. The access feature will be unobstructed, enabling free-flight into and out of the roost area.

- Two bat access points will be created along the ridge of the roof, accessible by crawling inside a code 6 lead saddle. The access points will be created by providing a narrow gap at the base of two tiles (max dimensions 20mm x 100mm). The narrow gaps will lead into an enclosed, discrete section of space below the ridge tiles and between battens. Battens will be cut beneath the ridge to enable bats to access both sides of the roof. The ridge roost will be carefully sealed, to ensure that there will be no gaps or connection between the ridge roost area and the roof void; this will avoid venting of warm air out of the roof void.

- A 20mm gap will be created by attaching new fascia boards on the north and south elevations to 20mm battens on the building walls. The narrow gap will lead into an enclosed, discrete section of space behind the fascia boards and then to the roof void.

- A 20mm gap will be created by attaching new barge boards on the east gable to 20mm battens on the building walls. The narrow gap will lead into an enclosed, discrete section of space behind the barge board and then to the roof void

Indicative example of access point (rhs) and baffle to reduce light and air movement (lhs)



Indicative example of roost feature beneath ridge tile (avoiding venting of warm air)

Indicative example of lead saddle associated with ridge access

Indicative example of lead saddle associated with ridge access

Ridge access feature in-situ

Battens be cut beneath the ridge to enable bats to access to both sides of the roof, but without access to roof void

Indicative example of fascia board with bat access gap beneath

Rationale

- The access points to the new bat building will reproduce and improve on conditions in the existing roost buildings, where bats have access to the building interiors through gaps in walls or roof coverings. As the new bat building will have fewer bat access points, this will enable greater control of air movements, light incursion and temperature inside the building than is possible in the existing buildings.

- A fly-in access point is appropriate as this will reproduce opportunities for bats and ecological functionality of the stable building, where brown long eared bats have a series of night roosts and feeding perches. The availability of fly-in and crawl-in access points significantly increases the likelihood of use by bats.

- Ridge access points are appropriate enhancement measures as they will provide permanent, maintenance-free access features which avoid venting warm air from the roof void. These types of features are suitable for crevice-dwelling bats such as pipistrelles, as well as for brown long eared bats and myotis species; these species have been observed using gaps in roof coverings as access points in North West England.

Roost features for bats

The bat building will incorporate a diverse range of bat sheltering features associated with the interior and exterior of the structure.

Internal to ground floor

- Exposed joists (ceiling supports) formed of rough cut tantalised timber will act as roosting surfaces.

- Behind 15mm wall cladding set on 20mm softwood tanalised battens to create a series of cavities with access at the base. Two of the walls will be clad in plywood or Oriented String Board, 600mm down from the ceiling to provide deep, thermally stable cavities (roost features) between ceiling joists.

Indicative example of wall cladding and exposed joists

Internal to roof void

- Between triangular baffles attached to rafters to create areas of still, warm air. NB - care will be taken to ensure that the ridge remains fully exposed and available for roosting inside each enclosed section

Example of baffles in a roof void

Ridge exposed between baffles

- Exposed tile battens, ridge beam, purlins and roof lining will be available throughout the roof underside of the roost area.

External to roof

- The two bat access points along the ridge of the new bat building will give bat access to discrete sections of space beneath the ridge tiles and between battens. These new roost features will be enclosed at either end by a mortar plug, and will have the following approximate dimensions:

  Width = 150mm
  Height = 100mm
  Length = 300mm

External to walls

The north and south elevation walls external to the building will both have a feature with the following specification:

- The feature will be formed from a single piece of external wooden board, comprising rough cut, tanalised softwood

- Each wooden piece will be 30cm depth top to bottom

- The feature will be positioned at the wall top
- The boards will be fixed to vertical 20mm battens
- Bats will have unobstructed access to a vertical crawl space beneath each wooden board
- The crawl space beneath each length of board will lead into the bat building via the wall plate (i.e. over the wall top).

Rationale

- The proposed replacement roost coverings, battens and membrane are expected to have a long life. In particular, the proposed roost coverings will have improved thermal properties compared to existing roof coverings in roost buildings, and provide permanent, maintenance-free features for bats. These types of features are suitable for crevice-dwelling bats such as brown long eared and pipistrelles.
- Ridge roost features are appropriate enhancement measures as they will provide permanent, maintenance-free features for bats. These types of features are suitable for crevice-dwelling bats such as brown long eared and pipistrelles; these species have been observed using roof coverings as roosts in North West England.
- The provision of external wooden boards will improve on the existing roosting and access features.

Internal and external environmental conditions

The internal parts of the dedicated bat building will provide a structure with higher humidity and a significantly better thermal regime than the existing roost buildings.

There will be no artificial light spillage inside the dedicated bat building. Natural light incursion will be limited to the bat access points. Artificial light spillage onto the bat access points to the dedicated bat building will be strictly limited and is expected to be less than 0.5 lux.

The access points to the dedicated bat building will be orientated so that they are facing directly towards sheltering vegetation and unlit open space.

Rationale

- Bats will be able to emerge from and re-enter the dedicated bat building via dark flying spaces close to sheltered flyways and likely foraging areas for bats. This will reproduce conditions in the existing roost buildings, where bats can presently emerge from and re-enter the buildings via dark areas with sheltering vegetation nearby

- The dedicated bat building will provide suitable environmental conditions for use by roosting bats throughout the year, as demonstrated by similar successful examples of mitigation in North West England.

Other details

Architect's drawings of the proposed bat building design (2392.12) are included in annex G.1 to this document. The Architect's drawings are supplemented by the specification in this method statement.

The dedicated bat building will be signed to clearly show its status as a bat roost and as a protected feature.

Human access to the new bat building will be via a locked door in the south elevation gable and via a 600mm x 600mm loft hatch in the roof void floor.

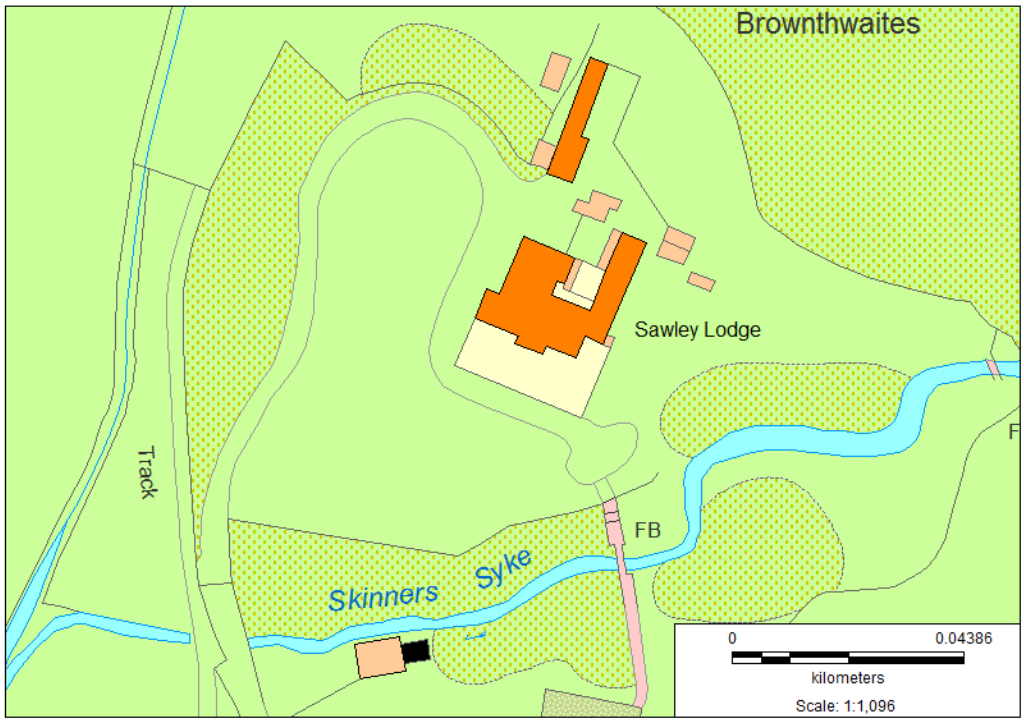
All wood materials used in the specification will be untreated or tanalised softwood. If wood is to be stained, chemicals used will comply with those recommended by Natural England as being suitable for use in bat roosts (these are specified in TIN092 - Bat roosts and timber treatment products, as per annex G.2).

The bat building will be kept locked at all times except for inspections by the Project Ecologist or other licensed persons with access permission. Keys will be held by the landowner and by the Project Ecologist.

Rationale

- The restriction on usage of the dedicated bat building is appropriate as it will provide a guarantee of bat roost provision without any form of disturbance or limit on space available to bats. Undisturbed, dedicated features for bats will increase the chances of bats occupying and continuing to use the roost features.

C.1.4 Scaled maps/plans



Map 2 - 1:1096 Ordnance Survey base plan of Sawley Lodge. Roost buildings are coloured orange and the proposed bat building is coloured black.

D Post-development site safeguard

D.1 Habitat/site management and maintenance

Habitat management

No specific habitat management is proposed or required.

Management of the mitigation feature

The dedicated bat building will be subject to annual maintenance checks by the Project Ecologist for three years following its completion. All features will be assessed on each visit, to ensure that all structures are safe and without hazards for bats or people. In particular, attention will be paid to the following:

- Temperature (using infra-red thermometer or thermal imaging camera)
- Condition of bat access points (whether obstructed/unobstructed)
- Levels of artificial lighting on roosting features, access features and bat flight lines around the building
- Maintenance of structures e.g. condition of construction materials
- Internal conditions (lack of water ingress, toxic substances and inappropriate ventilation)

In relation to bats and use by bats, attention will be paid to the following:

- Whether the mitigation feature supports bats
- The bat species, their numbers and evidence of bat usage (e.g. droppings and feeding remains)
- Whether the mitigation feature supports the same type of bat usage as the original roost buildings (i.e. number of bats, type of bat behaviour and extent of use)
- Whether there are any limits to bat usage of the mitigation feature

Site ownership

The mitigation feature will be in the ownership of Mr. R. Bannister.

Responsibility for undertaking the work

Mr. R. Bannister will be responsible for management and maintenance of all mitigation feature both throughout refurbishment and after completion of the refurbishment. All monitoring inspections will be undertaken by the Project Ecologist on instruction from Mr. R. Bannister.

The dedicated bat building will be covenanted so that a requirement for its maintenance and protection is included in the title deeds of the site.

Responsibility for funding

Mr. R. Bannister will be responsible for funding of all mitigation works throughout the development and for three years after completion of the development.

D.2 Population monitoring and roost usage

It is intended to monitor bats annually for years 1, 2 and 3 after the completion of the proposed works, in order to:

- Establish the condition of the bat population at the post works site
- Monitor the use of the mitigation features
- Ensure that the mitigation features are in a favourable condition.

The emphasis will be on use of consistent methods to enable comparison of trends over time. Each round of information gathering will have two elements:

- A daytime inspection of the mitigation features
- An emergence survey or sunrise survey of the mitigation features, incorporating a lighting assessment

A range of bat detectors, including time expansion (e.g. Petersson D240x or Griffin) will be used with headphones. A broadband detector with inbuilt recording capability (e.g. Anabat, Griffin or EM3) will also be used. This will enable heterodyne, frequency division and time expansion techniques to be employed, to survey for all bat species within detectable limits.

Bat echolocation will be recorded using time expansion (e.g. Petersson D240x with external recording device, Griffin or EM3).

D.3 Mechanism for ensuring delivery of post-development works

Mr. R. Bannister will ensure that the mitigation feature is monitored for years 1, 2 and 3 after the completion of refurbishment.

The monitoring of the mitigation feature will be carried out by the Project Ecologist.

Monitoring visits will form part of the later stages of the compliance audit, which will be undertaken by the Project Ecologist and used to advise the developer about compliance with the mitigation licence.

The dedicated bat building will be covenanted so that a requirement for its maintenance and protection is included in the title deeds of the site.

E Land ownership – Mitigation site(s) (areas(s) where any works will be done to offset development impacts, including development plot if applicable)

Declaration statements

E.1 Mitigation site ownership

Mr. R. Bannister owns the land where the mitigation is proposed.

E.1.1 I confirm that the relevant landowner consent has been granted to accept bats into roosts onto land outside the applicant's ownership – **not applicable**

E.1.2 I confirm that landownership consent has been granted to allow the creation of the proposed habitat compensation on land outside the applicant's ownership – **not applicable**

E.1.3 I confirm that consent has been granted by the relevant landowner for monitoring and maintenance purposes on land outside the applicant's ownership – **not applicable**

F Timetable of works

A: Development activities and timing		
Activity	**Timing**	**Notes**
Submission of EPS licence application	November 2013	Submit licence with all supporting information to Natural England.
Refurbishment of proposed bat building	October- November 2013	Supervised by Project Ecologist
Toolbox talk	Immediately prior to commencement of works Early April 2014	Project Ecologist to give toolbox talk to contractors who will undertake proposed works
Careful staged strip of potential roost features	April 2014	Supervised by Project Ecologist
Demolition of existing roost buildings	May 2014	Following final checks by the Project Ecologist

Year	May-August 2014	May-August 2015	May-August 2016
Details	Daytime survey of mitigation features Emergence/sunrise survey. Activity survey.	Daytime survey of mitigation features Emergence/sunrise survey. Activity survey.	Daytime survey of mitigation features Emergence/sunrise survey. Activity survey.

G Annexes

G.1 Architect's drawings of the proposed bat building design (2392.12)

G.2 TIN092 – Bat roosts and timber treatment products

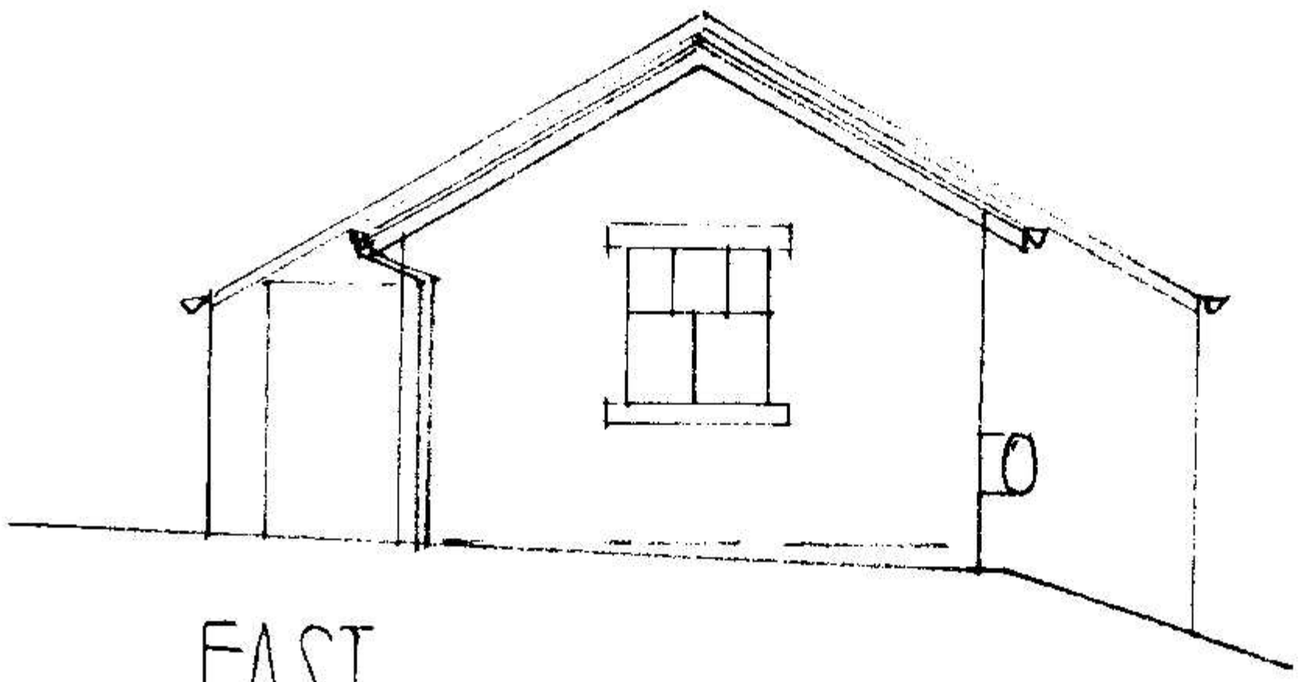
BAT HOUSE
SAWLEY HALL
SAWLEY CLITHEROE

scales 1:100 1:50 october 2013

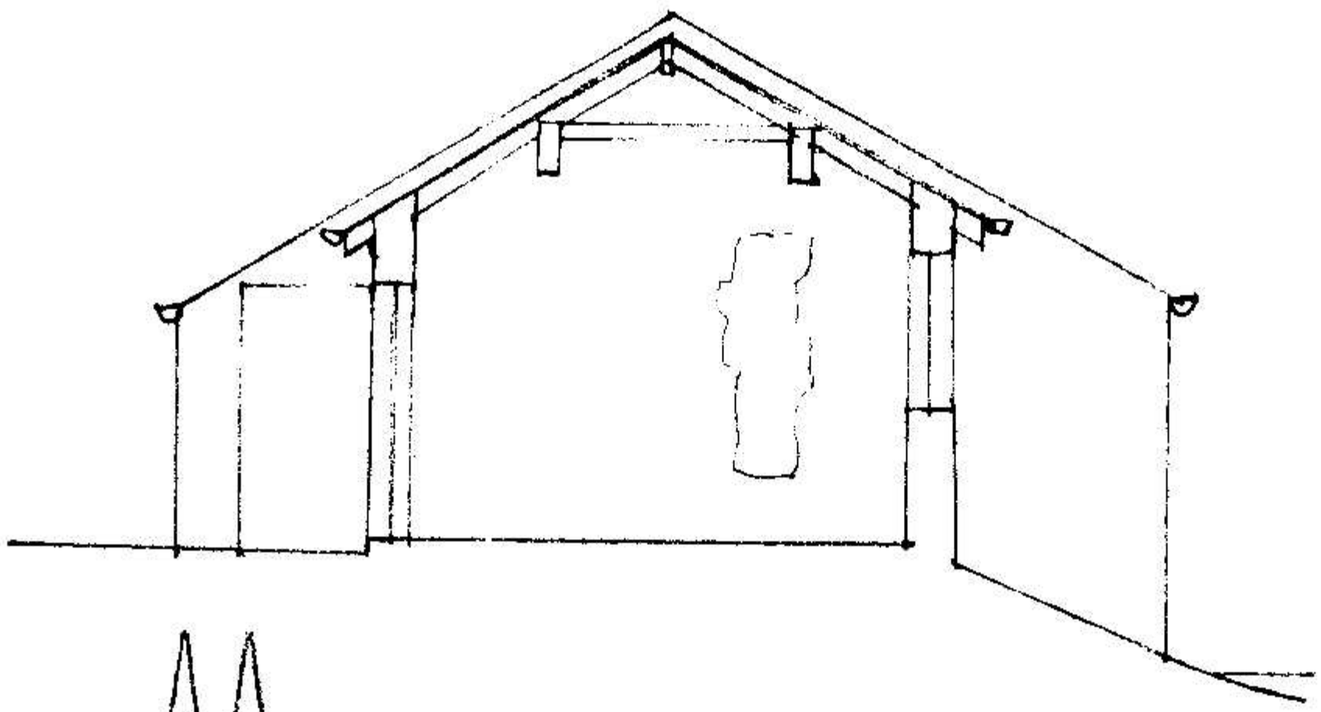
JOHN & JENNIFER WHARTON ARCHITECT DESIGNERS

Craven House
Brook View
Carleton
SKIPTON
North Yorkshire BD23 3EX tel 01756 792708

2392-12



EAST

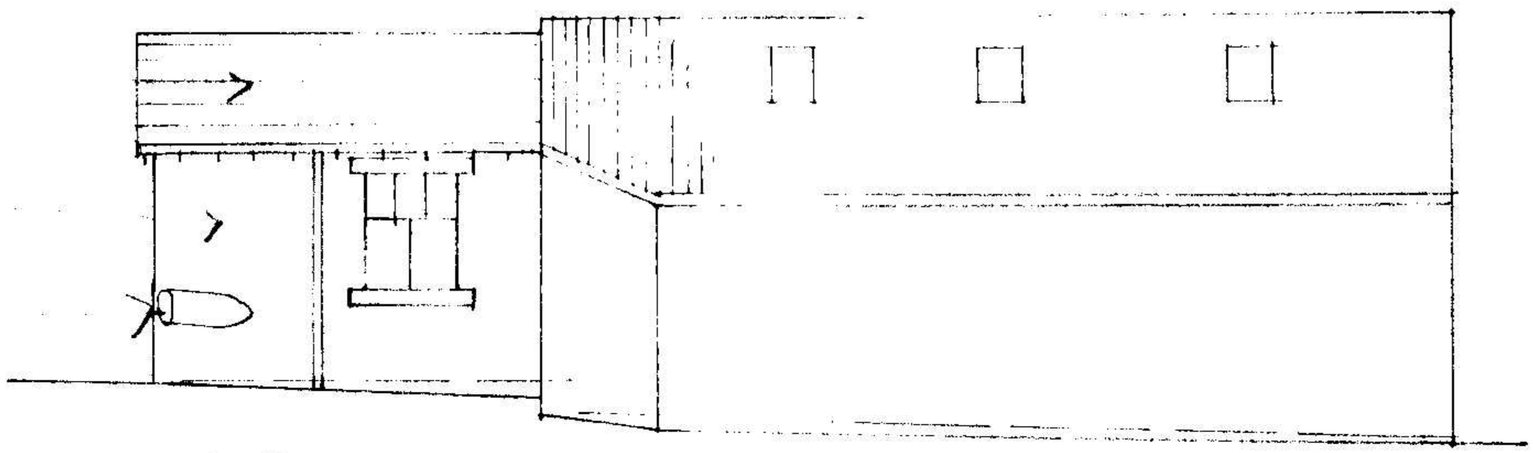


AA

blive slate
sing rafter

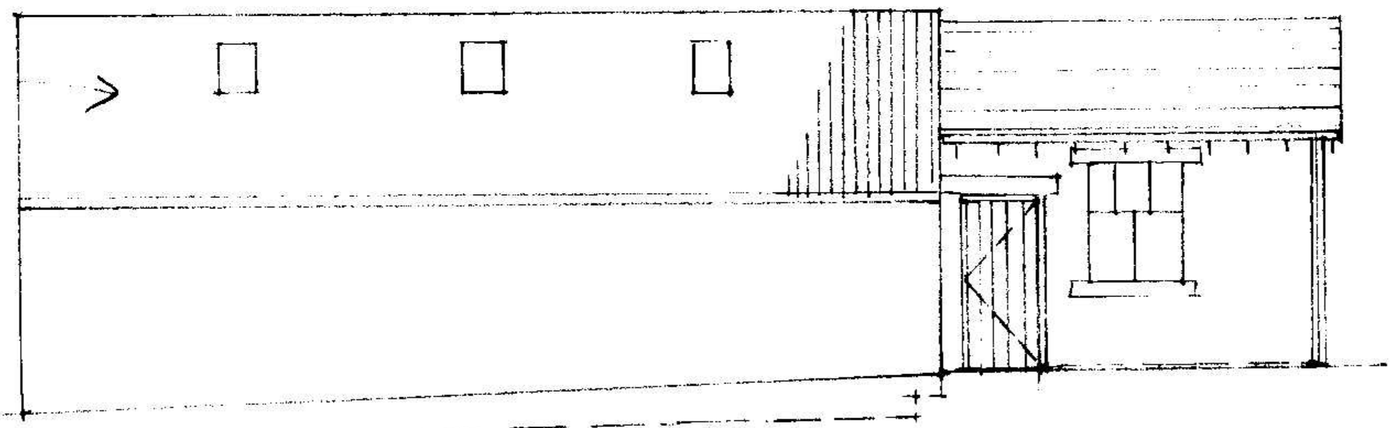
st render

intake pipe



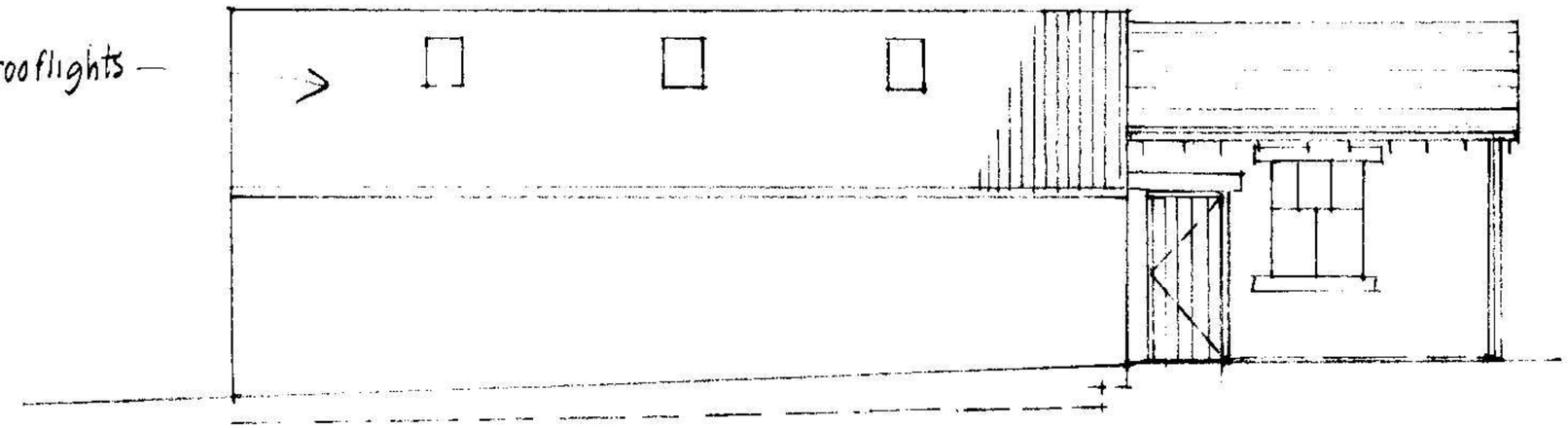
NORTH

asbestos sheet + rooflights

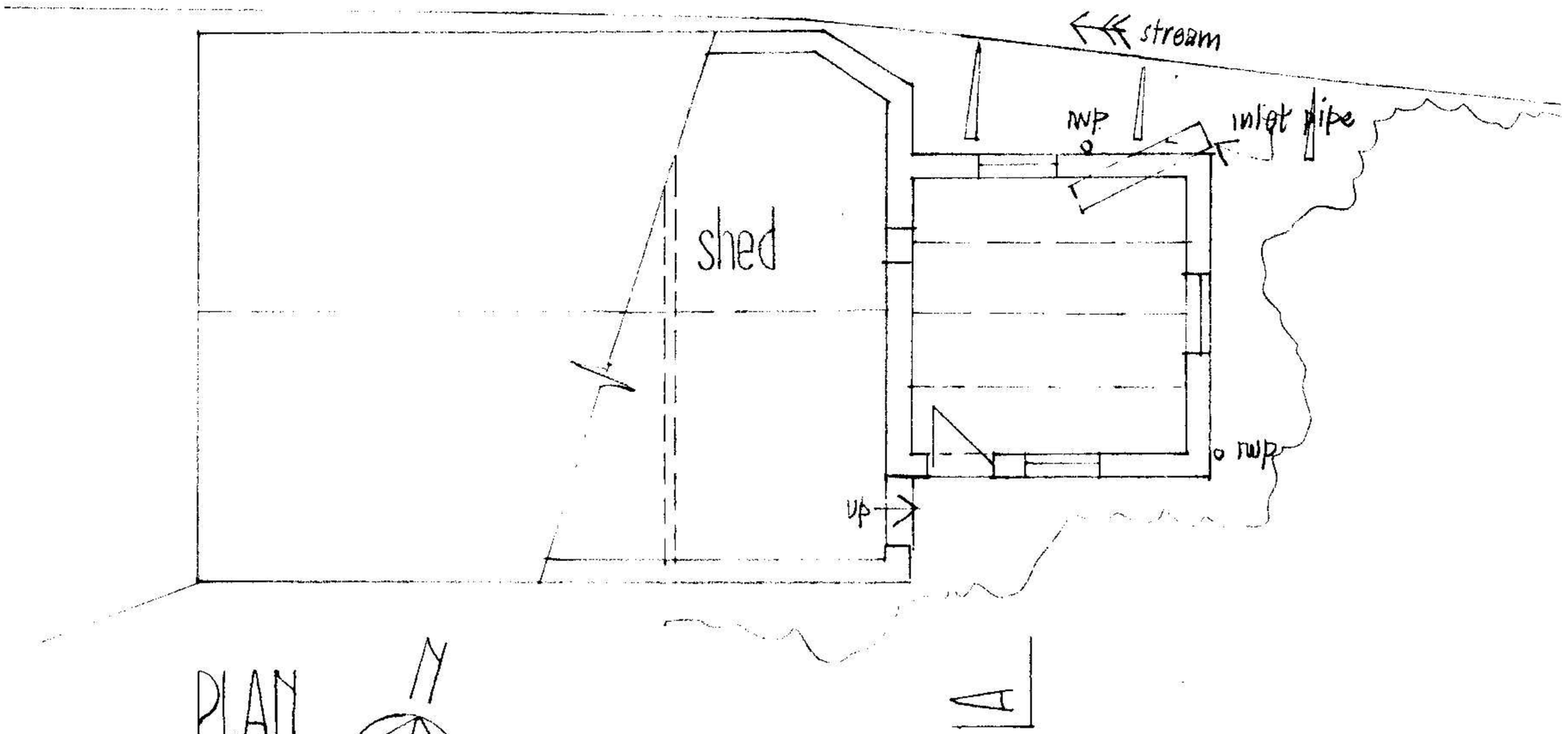


SOUTH

profiled asbestos sheet + rooflights —

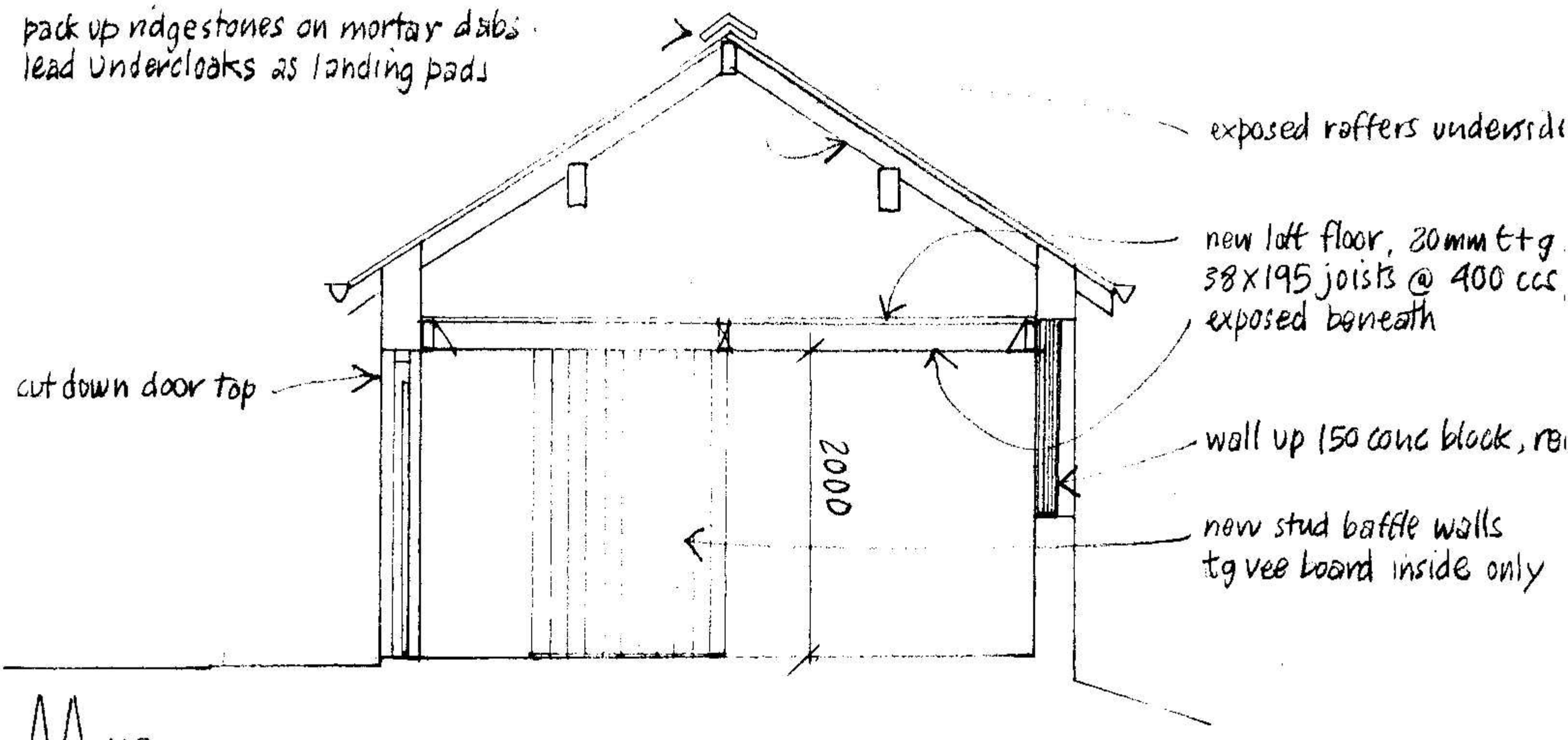


SOUTH

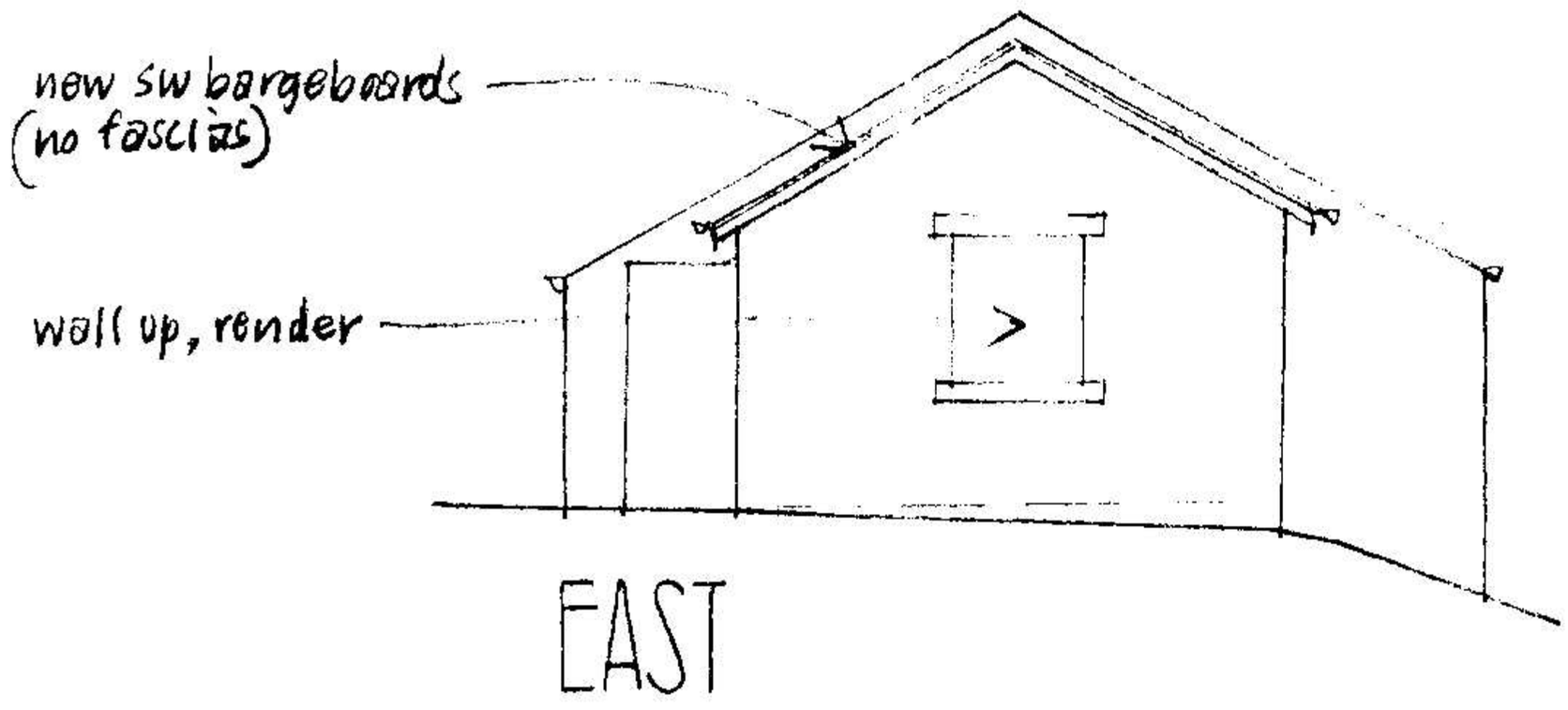


PLAN

PROPOSED



AA 1:50



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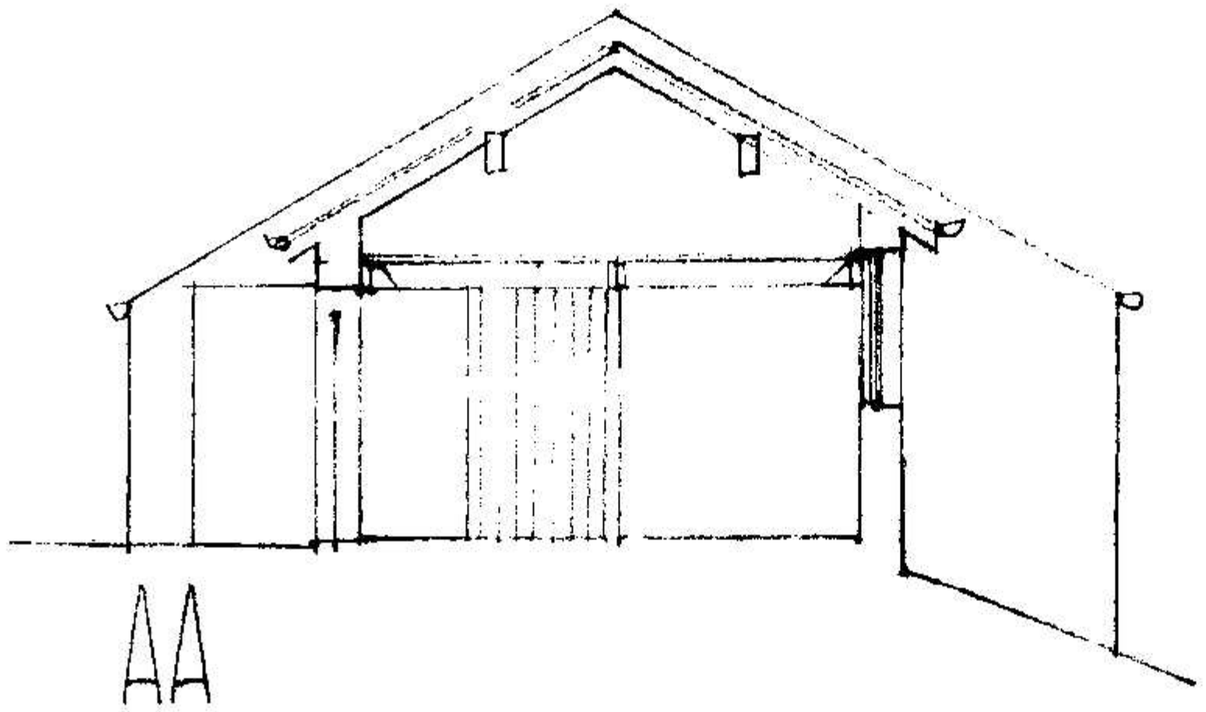

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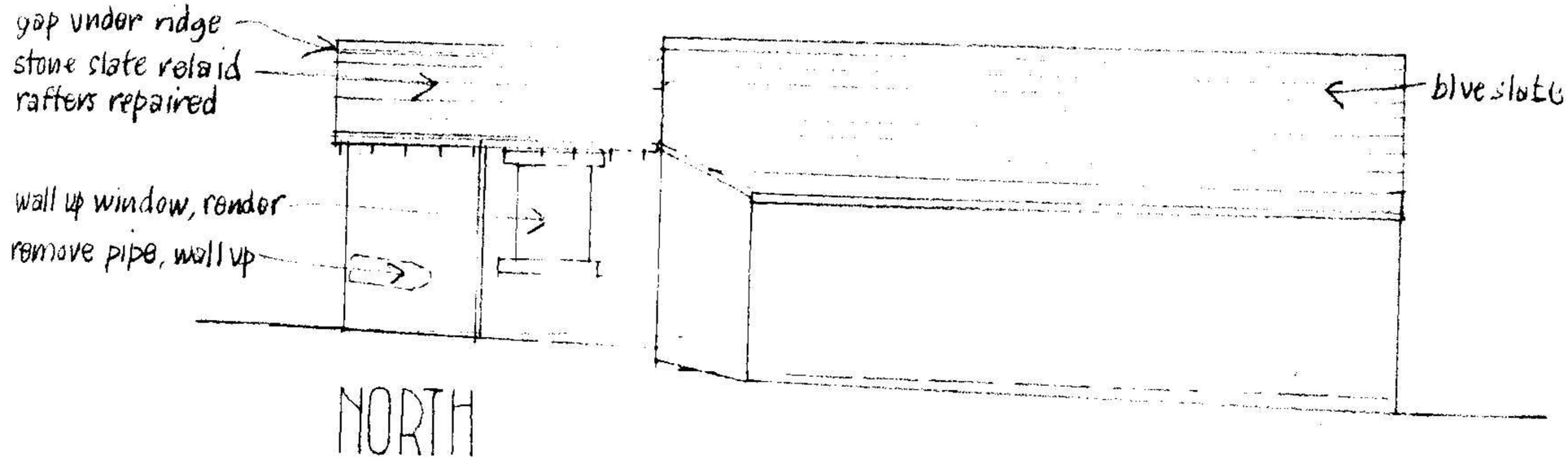
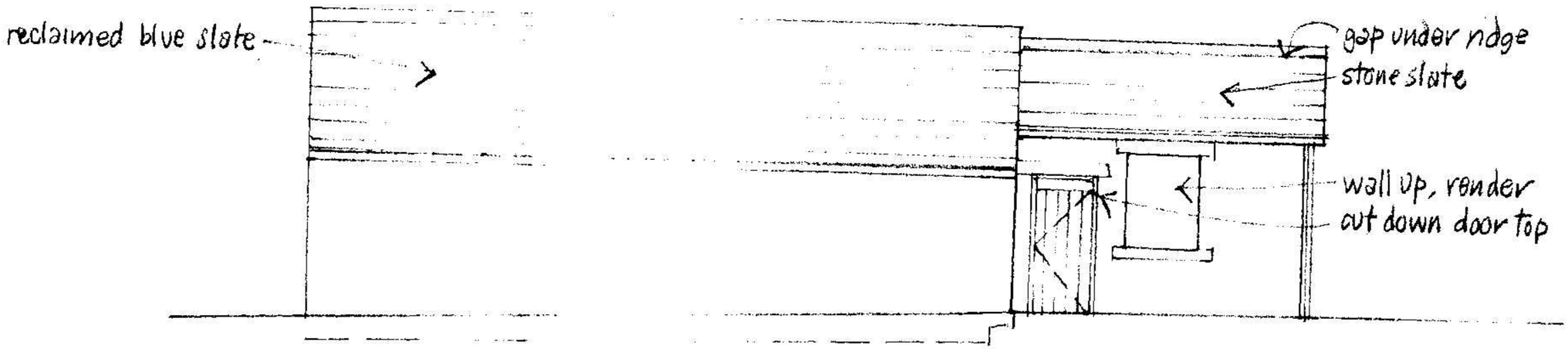

gap under ridge
stone slate relaid
rafters repaired
wall up window, render
remove pipe, wall up
blue slate

NORTH


reclaimed blue slate
gap under ridge
stone slate
wall up, render
cut down door top

SOUTH

reclaimed blue slate

gap under ridge
stone slate

wall up, render
out down door top

SOUTH

shed roof :
remove asbestos sheet + purlins
reinforce ex trusses, new purlins + rafters
reclaimed blue slates on hessian felt
blue grey conc ridge tiles

wall up ex holes

shed

bats 1

up

stream

remove pipe
wall up
new loft overall

loft hatch 600 x 600

new stud baffle walls
board one side

PLAN

N

works to bat house :

strip extg slates for re-use
repair rafters
remove extg loft + boarded ceiling

wall up extg holes in walls, brick
wall up extg windows 150 conc block, render outside, recessed

sandblast interior brick walls

re fix stone slates on battens on hessian backed felt
pack up stone ridge on mortar dabs over lead landing pads

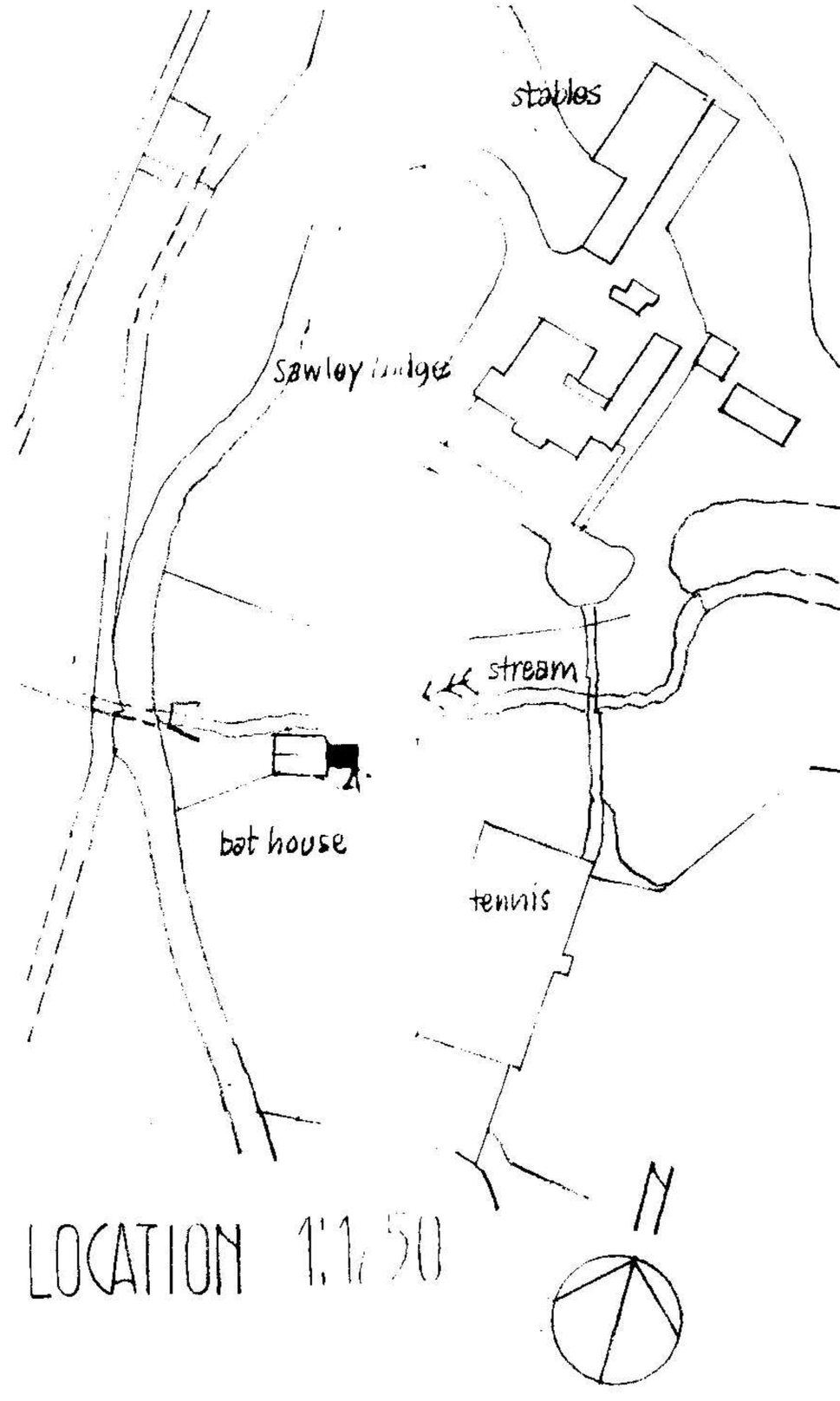
construct 50x75 timber stud baffle walls
board inside only 15mm t g vee softwood

construct new loft floor 20mm t+g sw boards
38X195 joists @ 400 ccs, open under, on hangers on 38x195
bolted to walls @ 800 ccs.

new sw bargeboards on gable

extg rw goods remain

cut down existing door top for flight access



LOCATION 1:1250

Bat roosts and timber treatment products

This note has been written to help those involved with timber treatment and pest control. It provides a list of currently approved remedial timber treatment chemicals and products that can be used where there are bat roosts. It updates the information in the 3rd edition of the *Bat Workers Manual* and in our previous guidance note dated February 2009. Chemical products change regularly and this note will be updated as information becomes available, therefore please always refer to the latest edition of the note.

Introduction

Where bat roosts are present timber treatments should only be applied at the recommended time of year and Natural England's bat advice helpline should be consulted before any known bat roost is treated with any product. The helpline numbers are listed in *Further information* below.

Detailed guidance relating to pest control and treating timbers where there are bat roosts can be found in Chapter 10 of the *Bat Workers Manual* (3rd edition, 2004). This includes information on:

- the types of problems encountered;
- chemical treatments; and
- the appropriate timing of works.

See *Further information* below for a link to this guidance.

The information in the tables is correct at the time of publication, but may be subject to change as new information becomes available.

Chemical timber treatment products

Chemical-based products coming in and out of the timber treatment market change regularly and information regarding products for which an individual company currently holds an approval under the Control of Pesticide Regulations (COPR) may not be completely available at any given time.

The tables at the end of this note list suitable products by active ingredients (Tables 1 and 2) and by company and product name (Table 3).

Products that are not currently considered suitable for use around bat roosts are listed in Tables 4, 5 and 6. Note, some of these may previously have been considered suitable.

Products that contain the active ingredients listed in Tables 1 and 2 (either alone or in combination with each other), but that do not appear on the lists of specified products below in Table 3 can be considered suitable to use around bat roosts, when used as directed and in the concentrations specified.

The lists do not cover the use of pre-treatment products. A wider range of active ingredients is used for the pre-treatment of structural timbers and some of these are

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www.naturalengland.org.uk

considered harmful to bats when used as remedial products.

There is no evidence that any pre-treatment of timbers is harmful to bats, probably because the method of application results in much lower concentrations of pesticides on the wood surface compared with remedial applications.

The lists do not include decorative wood finishes, such as stains or wood preservatives, which may be used to treat external timbers, weatherboarding, shingles etc. Provided these are used only on external timbers they present no significant hazard to bats. Most of these products contain one or more of the fungicides listed in Table 2 below.

Further information

Natural England's bat advice helpline should be consulted before any known bat roost is treated with any product. The helpline numbers are:

- Cumbria (Sally Phillips) 01768 776911
- East Midlands region covering Northamptonshire, Nottinghamshire, Derbyshire, Lincolnshire, Leicestershire and Rutland (FPCR) 01509 672772
- London (Natural England) 0300 060 2130
- Rest of England (Bat Conservation Trust) 0845 130 0228

Chapter 10 of the *Bat Workers Manual*, 3rd edition, 2004. Provides further information on the types of problems encountered, chemical treatments and the appropriate timing of works. **www.jncc.gov.uk/pdf/batwork_manualpt4.pdf**

Other leaflets and guidance on bats: **www.naturalengland.org.uk/ourwork/regulation/wildlife/advice/advisoryleaflets.aspx**

Natural England Technical Information Notes are available to download from the Natural England website: **www.naturalengland.org.uk**.

For further information contact the Natural England Enquiry Service on 0845 600 3078 or e-mail **enquiries@naturalengland.org.uk**.

Contact details

Biokil Crown Ltd, 7 Stadium Industrial Park, Springfield Avenue, Long Eaton, Nottingham, NG10 2DD. Tel: 0115 946 0060. Fax: 0115 946 9767. **www.biokilcrown.co.uk**

Cuprinol Limited, Adderwell House, Frome, Somerset, BA11 1NL. Tel: 01373 475000. Fax: 01373 475050. **www.cuprinol.co.uk**

Kingfisher Chemicals Limited, Bardsea Business Park, Bardsea, Ulverston, Cumbria, LA12 9RA. Tel: 01229 869100. Fax: 01229 869101. **www.kingfisheruk.com/**

Laybond Products Ltd, Riverside, Saltney, Chester, Cheshire, CH4 8RS. Tel: 01244 674774. Fax: 01244 682218.

Palace Chemicals Limited, Speke Hall Industrial Estate, Speke, Liverpool, L24 1YA. Tel: 0151 486 6101. Fax: 0151 448 9608. **www.palacechemicals.co.uk**

Permagard Products Ltd, Chittening Industrial Estate, Avonmouth, Bristol, BS11 0YB. Tel: 0117 938 1596. Fax: 0117 938 1584. **www.permaguard.co.uk**

Peter Cox Limited, Aniseed Park, Broadway Business Park, Chadderton, Manchester, OL9 9XA. Tel: 0800 030 4701. Fax: 0161 684 6305. **www.petercox.com**

Protim Solignum Limited, Fieldhouse Lane, Marlow, Bucks, SL7 1LS. Tel: 01628 486644. Fax: 01628 476757. **www.protimsolignum.com**

Rentokil Initial UK Limited, 2 City Place, Beehive Ring Road, Gatwick Airport, West Sussex, RH6 0HA. Tel: various 0800 numbers depending on type of problem, see website for details. **www.rentokil.co.uk/index.html**

Safeguard Europe Limited, Redkiln Close, Horsham, West Sussex RH13 5QL. Tel: 01403 210204. **www.safeguardchem.com/**

Sovereign Chemicals Limited, Park Road, Barrow in Furness, Cumbria, LA14 4QU. Tel: 01229 870800. Fax: 01229 870850. **www.sovchem.co.uk**

Triton Chemical Manufacturing Co. Limited, Triton House, Lyndean Industrial Estate, 129 Felixstowe Road, Abbey Wood, London, SE2 9SG. Tel: 020 8310 3929. Fax: 0208 312 0349. **www.triton-chemicals.co.uk/**

Wykamol Group incorporating Stanhope Chemical Products & Lectros International Limited, Unit 3 Boran Court, Network 65 Business Park, Burnley, Lancashire, BB11 5TH. Tel : 0845 400 6666. Fax: 0845 400 3333. **www.wykamol.com www.lectros.com**

Table 1 Active ingredients (insecticides) suitable for use in bat roosts

Active ingredient	Concentration	Acceptable uses
Permethrin	0.2%	Any remedial use
Cypermethrin	0.1%	Any remedial use
Deltamethrin		
Boric acid, Disodium octoborate, Tri(hexylene glycol) biborate	5-20%	Any remedial use
Flufenoxuron (Flurox®)	0.025%	Any remedial use

Table 2 Active ingredients (fungicides) suitable for use in bat roosts

Active ingredient	Concentration	Acceptable uses
Boric Acid, Disodium tetraborate, Disodium octoborate, Tri(hexylene glycol) biborate	3.5%	Any suitable application
Benzalkonium chloride		Any suitable application
Dichlofluanid		Decorative stains and finishes
3-iodo-2-propynyl-N-butyl carbamate (Polyphase/IPBC)	0.5%	Any suitable application
Propiconazole		Any suitable application

Table 3 Remedial timber treatment products suitable for use in bat roosts[1]

Company and product name	Type[2]	User[3]	Active ingredients	HSE No.[4]
BIOKIL CROWN LTD				
Ultra-Tech 2000I Insecticide	M	P	Permethrin	7273
Brokil Boracol 10RH	S	P	Disodium octoborate, Benzalconium chloride	7271
Brokil Boracol 20	S	P	Disodium octoborate	7264
Brushable Boron Gel	Pa	P	Disodium octoborate	7255
Brand (CUPRINOL) LIMITED				
5 star complete wood treatment (FP)	S	A	Propiconazole 0.6%, Flufenoxuron 0.02%	7878
Woodworm killer	S	A	Flufenoxuron 0.02%	7877
Trade low odour 5 star complete wood treatment	S	A	Propiconazole 0.6%, Flufenoxuron 0.02%	7879
Trade low odour woodworm killer (T)	S	A	Flufenoxuron 0.02%	7876
IMPERIAL CHEM IND LTD				
Low Odour Woodworm Killer	S	A	Permethrin	5435
KINGFISHER CHEMICALS LIMITED				
Insecticide/Fungicide	S	P	Permethrin, Tri (hexylene glycol) biborate	5933
KF8 Insecticide Microemulsion Conc.	M	P	Permethrin	6827
Timberpaste	Pa	P	Permethrin, Tri hexylalene biborate	6686
N-VIROL LTD				
Woodworm Killer	M	P	Permethrin	8570
Dual FI	M	P	Permethrin, IPBC, Propiconazole	8569
Timber Treatment Paste	Pa	P	Permethrin, IPBC	8488
Masonry Biocide	M	P	IPBC	8476
N-VIROBOR 10	A	P+A	Disodium Octoborate + Benzalkonium Chloride	8473
N-VIROBOR 20 Gel	Pa	P	Disodium Octoborate	8475
Algae & Moss Killer	E	P+A	Didecyldimethyl Ammonium Chloride	8669

Table continued...

Company and product name	Type[2]	User[3]	Active ingredients	HSE No.[4]
PERMAGARD PRODUCTS LTD				
Microguard Permethrin Conc.	M	P	Permethrin	5741
Microguard Mouldicidal Wood Preserver	W	A	Benzalkonium chloride, Boric acid	5100
PETER COX LIMITED				
Insecticide WSS	M	P	Permethrin	7528
Masonry Biocide WSS	M	P	IPBC	7509
Timber Gel Ready to Use	Pa	P	IPBC, Permethrin, Propiconazole	6840
PROTIM SOLIGNUM LIMITED				
Protim B10	A	A	Disodium octoborate	4971
Protim Universal AQ250	M	P	Permethrin, IPBC	5844
Preservative Gel	Pa	P	Disodium octoborate + benzalkonium choride	6528
RENTOKIL INITIAL LIMITED				
Rentokil Woodworm Treatment	S	A	Permethrin	3911
Woodworm Treatment Spray	S	A	Permethrin	5619
Control Fluid SB	A	P	Boric acid, disodium tetraborate	6018
Rentokil Control Paste SB	Pa	P	Boric acid, disodium tetraborate	6501
SAFEGUARD CHEMICALS LIMITED				
ProBor 50 Paste	Pa	P	Disodium octoborate + Dialkyldimethyl ammonium chloride	5596
Safeguard Antiflame 4050 WD	A	P	Disodium octoborate	5656
ProBor 10	A	P	Disodium octoborate + benzalkonium chloride	6595
ProBor DB	A	P	Disodium octoborate	6673

Table continued...

Company and product name	Type[2]	User[3]	Active ingredients	HSE No.[4]
Probor 20 brushable gel	Pa	P	Disodium octoborate, (DDAC) Dialkyldimethyl ammonium chloride	6422
BASF PLC				
Devatern 0.5 L	S	A	Cypermethrin	3874
Devatern 1.0 L	S	P	Cypermethrin	3876
SOVEREIGN CHEMICALS LIMITED				
Sovereign Fungicide/Insecticide	S	P	Flufenoxuron, IPBC, Propiconazole	6828
Sovaq FLX I	M	P	Flufenoxuron	6510
Sovereign Sovaq FLX F/I	M	P	IPBC, Propiconazole + Flufenoxuron	6509
Sovereign Timbor Rod	R	P	Sodium octoborate	4627
Sovereign Deepkill Timber Paste	Pa	P	Permethrin, IPBC	6084
Sovac F/I	S	P	IPBC, Propiconazole	6262
Remtox MF8 Microemulsion	M	P	Flufenoxuron	6507
Remtox Micro Dual purpose F/1	K7(M)	P	IPBC, Propiconazole, Flufenoxuron	6871
Remtox Borocol 20 Wood Preservative	E	P	Disodium octoborate	4094
Remtox-Silexine B40 Paste Wood Preservative	Pa	P	Disodium octoborate	4161
TRITON CHEMICAL MANUFACTURING COMPANY				
Tritec 120	M	P	Permethrin	6539
Tritec 120 Plus	M	P	Permethrin, Propiconazole	6537
Tritec 121	M	P	Permethrin	6541
Tritec 121 Plus	M	P	Permethrin, Propiconazole	6538
Tribor 20	S	P	Disodium octoborate	6242
Tribor Gel	S	P	Disodium octoborate	6099
Tribor Plus	Pa	P	Disodium octoborate, Permethrin	7549

Table continued...

Company and product name	Type[2]	User[3]	Active ingredients	HSE No.[4]
Trimethrin 20S	S	P	Permethrin	4621
WYKAMOL GROUP incorporating STANHOPE CHEMICAL PRODUCTS & LECTROS INTERNATIONAL LIMITED				
Aquatech Woodworm	M	P	Permethrin	7990
Aquatech Dual	M	P	Permethrin, IPBC, Propiconazole	7991
Brunosol Concentrate 6X	E	P	Sodium 2 phenyl phenoxide	7325
Lectros 8WW	M	P	Permethrin	6398
Lectros Micro 8FI	M	P	Permethrin, Propiconazole, IPBC	6584
Microtech Dual Purpose	M	P	Permethrin, Propiconazole	7338
Microtech WWK25	M	P	Permethrin	7326
Microtreat Insecticide II	M	P	Permethrin	7534
Microtreat Dual II	M	P	Permethrin, Propiconazole, IPBC	7533
Woodtreat Paste	Pa	P	Permethrin, IPBC	7362
Wykabor 10	A	P	Disodium Octaborate + Benzalkolium chloride	7324
Wykabor 20	S	P	Disodium Octaborate	7518
Wykabor 20 Gel	Pa	P	Disodium Octaborate	7517
Wykabor 40	Pa	P	Disodium Octaborate	7307
Wykamol Plus	S	P	Permethrin, IPBC	7303
Wykamol Boron Rods	R	A	Boric oxide	7405

Table 4 Remedial timber treatment products that are **NOT SUITABLE** for use in bat roosts - withdrawn products[5]

Company and product name	Type[2]	User[3]	Active ingredients	HSE No.[4]
ANTEL (UK) LTD				
Woodworm Killer P	E	P	Permethrin	4044
BIOKIL CROWN LTD				
Ultra-Tech 2000D	M	P	Permethrin, Propiconazole	6304
Crown Micro Woodworm	M	P	Permethrin	6894
KINGFISHER CHEMICALS LIMITED				
KF-8 Insecticide Micro Emulsion Conc.	M	P	Permethrin	5786
PROTIM SOLIGNUM LIMITED				
Solignum Woodworm Killer	S	A	Permethrin	5002
RENTOKIL INITIAL LIMITED				
Rentokil Woodworm Killer	A	A	Permethrin	4208
RESTORATION UK LIMITED				
Omega Biocide	E	P	IPBC	6381
WYKAMOL GROUP incorporating STANHOPE CHEMICAL PRODUCTS & LECTROS INTERNATIONAL LIMITED				
Microtreat Insecticide 25X	M	P	Permethrin	6913
Microtreat Dual 12.5X	M	P	Permethrin, Propiconazole, IPBC	6917

Table 5 Remedial timber treatment products that are **NOT SUITABLE** for use in bat roosts - revoked products[6]

Company and product name	Type[2]	User[3]	Active ingredients	HSE No.[4]
Brand (CUPRINOL) LIMITED				
Wood preserver clear (IP)	S	A	Propiconazole 0.4%, Iodo propynyl butylcarbamate 0.4%	7897
Wood preserver green (P)	S	A	Propiconazole 0.6%	8175
Wood preserver (P)	S	A	Propiconazole 0.6%	7946
Trade low odour wood preserver clear (T)	S	A	Propiconazole 0.4%, Iodo propynyl butylcarbamate 0.4%	7899
Trade low odour wood preserver green (TG)	S	A	Propiconazole 0.6%	8121
DEAL DIRECT LIMITED				
Dual 8	M	P	Permethrin, Tri (hexylene glycol) biborate	6255
Woodworm Treatment Concentrate	M	P	Permethrin	6249
KINGFISHER CHEMICALS LIMITED				
KF-8 Dual Purpose Microemulsion Conc.	M	P	Permethrin, Tri (hexylene glycol) biborate	6075
Wood Preservative (clear/brown)	S	P	Tri (hexylene glycol) biborate	4012
PALACE CHEMICALS LIMITED				
Microfine 8 Insecticide Concentrate	M	P	Permethrin	5809
PERMAGARD PRODUCTS LTD				
Microguard FI conc.	M	P	Permethrin, Boric acid	5854
Microguard Woodworm	W	A	Permethrin	5103
PETER COX LIMITED				
Fungicide WSS [7]	M	P	Propiconazole, IPBC	7516
Timber Water Repellent	S	P	IPBC	6621
PROTIM SOLIGNUM LIMITED				
Protim Insecticidal AQ8	M	P	Permethrin	6526
Solignum Insecticidal AQ8	M	P	Permethrin	6527
RESTORATION UK LIMITED				
Restor-8 Insecticide Conc.	E	P	Permethrin	5962
Restor-8 Dual Purpose Conc.	E	P	Permethrin, Tri hexylene glycol biborate	5963

Table continued...

Company and product name	Type[2]	User[3]	Active ingredients	HSE No.[4]
Omega Plus	M	P	Permethrin, Trihexylene glycol biborate	6382
Omega	M	P	Permethrin	6379
SAFEGUARD CHEMICALS LIMITED				
Deepwood 8 Micro Emulsifiable bechzide Conc.	M	P	Permethrin	5664
Micron 8 dual purpose emulsion Conc.	M	P	Permethrin, Trihexylene glycol biborate	5851
BASF PLC				
Devatern EC	E	P	Cypermethrin	3875
TRITON CHEMICAL MANUFACTURING COMPANY				
Trisol 120	M	P	Propiconazole	6540

Table 6 Remedial timber treatment products that are **NOT SUITABLE** for use in bat roosts – void products[8]

Company and product name	Type[2]	User[3]	Active ingredients	HSE No.[4]
BIOKIL CROWN LTD				
Crown Micro Dual Purpose	M	P	Permethrin, Tri (hexylene glycol) biborate	6895
Crown Timberpaste	Pa	P	Permethrin	5869
Brand (CUPRINOL) LIMITED				
Wood Preserver (light/dark oak)	S	A	Acypetacs-zinc	4698
Low Odour Wood Preserver Green	S	A	Acypetacs-copper	5448
Decorative Preserver (5 colours)	S	A	Acypetacs-zinc, Dichlofluanid	6277
Decorative Preserver Red Cedar	S	A	Acypetacs-zinc, Dichlofluanid	6280
Low Odour 5 Star Wood Treatment	S	A	Acypetacs-zinc, Permethrin	5445
Low Odour Wet and Dry Rot Killer	S	A	Acypetacs-zinc	5446
KINGFISHER CHEMICALS LIMITED				
Ecology Fungicide/Insecticide Concentrate	E	P	Permethrin, Tri (hexylene glycol) biborate	5930
LAYBOND PRODUCTS LTD				
Timber Protector	S	A	Cypermethrin, 2-Phenylphenol	5369
Wood Preserver (3 colours)	S	A	2-Phenylphenol	5382
PALACE CHEMICALS LIMITED				
Ecology Fungicide/Insecticide Concentrate	E	P	Cypermethrin, Tri (hexylene glycol) biborate	3792
Fungicide/Insecticide	S	A	Cypermethrin, Tri (hexylene glycol) biborate	3795
PERMAGARD PRODUCTS LTD				
Permatreat Paste	Pa	P	Permethrin, Tri hexylene glycol/biborate	4075
PROTIM SOLIGNUM LIMITED				
Solignum Green Preservative	S	A	Permethrin, Tri hexylene glycol biborate	7146
Osmose Endcoat	S	A	Tri hexylene glycol biborate	7049
SAFEGUARD CHEMICALS LIMITED				
Deepwood III timber treatment	S	P	Permethrin, Trihexylene glycol biborate	3937
BASF PLC				
Devatern Wood Preserver	S	P	Cypermethrin + Trihexylene glycol biborate	4073
SOVEREIGN CHEMICALS LIMITED				

Table continued...

Company and product name	Type[2]	User[3]	Active ingredients	HSE No.[4]
Sovereign Timber Preservative (Clear)	S	P	Boron ester	3807
TRITON CHEMICAL MANUFACTURING COMPANY				
Tripaste PB	Pa	P	Permethrin, Tri (hexylene glycol) biborate	6080
Trimethrin OS plus	S	P	Permethrin, Tri hexylene glycol biborate	3521

[1] Products on the list are those that have come to the attention of Natural England; other suitable products may also be available. Pre-treatment and decorative products are not included. The efficacy of particular products in particular situations is the responsibility of the manufacturer and no endorsement is given or implied. At the time of writing (27 August 2010), these products have approval under the Control of Pesticides Regulations (COPR).

[2] S Solvent-based product
E Emulsifiable concentrate (solvent); to be diluted with water
Pa Bodied paste
A Aqueous solution
M Microemulsion concentrate; to be diluted with water to form a microemulsion
R Solid rod, for insertion into pre-drilled hole
W Ready-for-use microemulsion

[3] P Cleared for professional use only
A Cleared for professional and amateur use (a DIY product)

[4] Health and Safety Executive (HSE), to search the pesticides databases, go to **webcommunities.hse.gov.uk/connect.ti/pesticides/view?objectId=2308**

[5] These products have been withdrawn from the market by the company and no longer have approval under the Control of Pesticides Regulations (COPR).

[6] These products have had their previous Control of Pesticides Regulations (COPR) approval revoked, usually because of the presence of nonylphenol ethoxylate.

[7] This product (HSE 7516) has had its COPR approval revoked. This is because the active ingredients are now on Annex 1 of the Biocidal Products Directive (BPD) and the product requires authorisation under the Biocidal Products Regulations (BPR). The company has been issued with a BPR Certificate of Exemption which allows them to place the product on the UK market until the assessment is complete, which is currently pending.

[8] The previous Control of Pesticides Regulations approval is now void. One or more of the active ingredients is no longer being reviewed under the Biocidal Products Directive (BPD) and therefore can't be used in biocidal products placed on the EU market.