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MAYDENCROFT
Land Advisory

BAT SURVEY & MITIGATION RECOMMENDATIONS FOR PROPOSED DEMOLITION & REDEVELOPMENT

17 – 23 Church Lane, Old Hatfield, Hertfordshire

OCTOBER 2011

Surveyors: Peter Oakenfull AIEEM,
Reg Chapman, Bat Worker, Licence No. 20111212

Date of Surveys: 1st and 7th September 2011

Report compiled by Matt Perry BSc. and Verity Roberts BA

Registered in England and Wales 6344187 Registered office as above VAT registration 914 6695 00

Contents

1.0 Executive Summary

Maydencroft Land Advisory was commissioned by Brooks / Murray Architects on behalf of The Hatfield Park Estate to conduct an emergence survey and compile a Mitigation Report for 17-23 Church Lane, Old Hatfield, Hertfordshire. This follows the Presence or Absence Survey for Bats undertaken in August 2011. The emergence surveys were conducted on the 1st and 7th September 2011.

It is proposed that the flats at 17-23 Church Lane are to be demolished along with the block of garages to make way for the redevelopment of the site. It is part of a programme of re-development works being carried out by Gascoyne Holdings Ltd within Hatfield Old Town, which includes St Audrey's car park just around the corner. As no bats were found to be using the site, no further surveys were required and the car park has subsequently not been included in this report.

To facilitate the planning application, an initial building survey was undertaken for the presence of bats which found evidence of Brown Long-Eared bat using the roof void above Flat 23. No bats were seen within the roof void at that time and further surveys were recommended to determine the type of roost, number of bats and the species present.

The two dusk emergence surveys confirmed that the roof void above No 23 Church Lane is being used as a resting place by two Brown Long-eared bats *Plecotus auritus*. One bat was recorded leaving the roost during the first survey and two bats were recorded leaving the same roost entrance during the second survey. It is considered that without mitigation and avoidance strategies the roost would be destroyed during re-development.

The roost is categorised by Natural England as being of low conservation status and that the scale of impact on the population would be very low at site level. Despite this, it remains necessary to apply for a European Protected Species (EPS) Mitigation Licence to enable to works to proceed legally. For an EPS licence to be granted it must be demonstrated that any proposals will not be detrimental to the existing population of bats and maintain the favourable conservation status of the species locally.

The survey data has been used to predict impacts on the roost and to propose suitable mitigation and compensatory measures to enable the development to proceed whilst being compliant with European legislation. These recommendations will allow the Local Planning Authority to make an informed decision on any planning application with respect to protected species present on the application site. This report details the results of the survey work and identifies the necessary action required.

Caveat:

The observations and evidence of bats using the landscape and structures surveyed are valid and accurate for the time the surveys were undertaken. Certain species of bat are highly unsettled, regularly changing their roost site and flight patterns.

2.0 Introduction

Maydencroft Land Advisory was commissioned by Brooks / Murray Architects on behalf of The Hatfield Park Estate to conduct an emergence survey and compile a Mitigation Report for 17-23 Church Lane, Old Hatfield, Hertfordshire. This follows the Presence or Absence Survey for Bats undertaken in August 2011. The emergence surveys were conducted on the 1st and 7th September 2011.

2.1 Purpose of the study

This report has been produced to accompany a planning application for the demolition of 17-23 Church Lane and re-development of the site. The new structures will be used for accommodation. Evidence of Brown Long-eared bats using the roof void above number 23 was found during the survey in September but no bats were present. Further surveys were carried out to determine the status of the roost and enable mitigation plans to be proposed. This report and the survey work which it entailed aims to assess the impact the re-development is likely to have upon any bats present. It proposes mitigation plans which, if followed and implemented, will reduce any impact to negligible levels and provide enhancements to the site that will allow any bats present to expand and persist in the future.

2.2 Description and existing information about Church Lane

The building is situated at the junction of Church Street and Church Lane on the southern fringes of Old Hatfield, Hertfordshire, at grid reference TL 233 084.

The property lies just outside the boundary of the Hatfield House Estate in an area of buildings of a variety of ages ranging from modern to several hundred years old. The property sits in close proximity to farmland and wooded areas of the Hatfield Park Estate to the south.

The building has brick cavity walls with pebble dash rendering. The roof voids are of timber construction with sarking and tiles.

Left – right: Eastern and northern elevations of the building; loft interior of number 23 Church Lane.

2.3 Proposed works

Drawings for the proposed development along with detailed structural information can be found with the planning application. The client proposes to demolish the existing property and replace it with several terraced houses for residential use.

3.0 Bats and development

3.1 Bats and the Planning Process

Bats are frequently found roosting in man-made structures and are a protected species. The presence of a protected species is a material consideration when a local planning authority is considering a development proposal which, if carried out, would be likely to result in harm to the species or its habitat.

The LPA will consider whether an offence is likely to be committed during the development. If the answer to this is yes, then they must consider the three derogation tests, as set out in the Conservation of Habitats and Species Regulations 2010.

The three tests are:

1. The NEED test: Is the development needed for public health or public safety, or other imperative reasons of overriding public interest?
2. The SATISFACTORY ALTERNATIVE test: Is there a satisfactory alternative for the development?
3. The ECOLOGICAL test: Will the population of the European Protected Species be maintained at a favourable status in its natural range?

If an EPS is found to be present the applicant must address these questions and submit a written statement to the LPA giving comprehensive answers to the three tests. Unless this is done, the LPA will not be able to determine the planning application and are unlikely to approve it.

3.2 Bat roosting patterns

Bats use roosts for various purposes at different times of the year. In winter they need cool, but frost free, humid places to hibernate, which must also afford protection against predation. In summer, females require maternity roosts to bear and nurture their single offspring. In late summer and autumn the females will move to mating roosts which males will have established during late summer, before moving on to hibernation places. Both the adults and young bats will use intermediate (dispersal) roosts before moving into hibernation places. Bats also use buildings and trees to rest in while consuming prey (known as a feeding perch) and as areas to roost during the night in-between the main feeding periods of dusk and dawn. Even if a bats are not present in a structure known to be used as a resting place the roost still benefits from legal protection.

3.3 Bat Legislation

The following text provides a brief summary of the laws in the United Kingdom which are relevant to bats. Although we believe our interpretation to be accurate we recommend that an interpretation by a legal professional is sought in the case of a dispute. Amongst other legislation, all bats are protected species by virtue of their listing in:

- Schedule 5, Section 9, of the Wildlife and Countryside Act 1981 (as amended) and;
- The Conservation of Habitats and Species Regulations 2010 (the 'Regulations').

These pieces of legislation give protection to the bats themselves, to their breeding places and resting places (i.e. roosts), whether or not the bats are present. Specifically, under Section 41 of the Regulations, it is an offence amongst other things to:

- deliberately to kill or capture any bat;
- deliberately to disturb any bat;
- damage or destroy a breeding site or resting place of any bat.

Under Section 53 of the Regulations, however, the Government may grant a derogation licence (usually called an EPS licence), which gives exemption from Section 41 in specified circumstances and for certain purposes. Development is one of those purposes.

Before a licence can be issued, Regulation 53 of the directive must be fulfilled by answering the three derogation tests set out in section 3.1 above. This condition is considered by Natural England. This condition states that 'the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range'. Furthermore, 'that the development is in the overriding public interest and that there is no other satisfactory alternative.'

In practical terms this means that the applicant must demonstrate that all reasonable steps have been taken to minimise the impact of the development on the local bat population and that any remaining damage will be adequately compensated for by appropriate mitigation measures.

4.0 Survey Methodology

4.1 Aim of the survey

Following the recommendations of the Presence or Absence Survey, two evening emergence surveys were undertaken. These aimed to ascertain the size and type of roost and species of bat using the building. The data from the surveys has been used to make an informed decision on mitigation and compensatory measures for the proposed works.

4.2 Dusk surveys

All survey methodology followed the best practice guidelines published by the Bat Conservation Trust (BCT) in 2007. All surveys were undertaken by multiple surveyors which were strategically positioned around the site to ensure that no possible exit areas from the building were missed. In addition, unmanned night vision cameras were deployed at two locations allowing footage to be replayed and ensuring no emerging bats were missed.

All surveys were undertaken before the 30th September 2011. Weather conditions for each survey were suitable for undertaking bat surveys with wind under level two of the Beaufort scale, no precipitation and temperatures above 10°C.

The two surveys were undertaken by suitably qualified, experienced and licensed surveyors. Three surveyors carried out two evening emergence surveys on 1st September 2011 and 7th September 2011. The timing of these surveys would ensure that the presence of either a summer roost or a dispersing maternity roost could be detected.

Each of the surveyors was strategically positioned around the building to observe and record any bat activity using Bat Box Duet frequency division bat detectors. Other areas were covered by two night vision cameras with additional infra-red lighting and digital sound recording equipment.

5.0 Results

5.1 Survey One: Dusk

The first survey was undertaken on the 1st September 2011. Recording equipment was started at 19:35; sunset was at 19:47. Cloud cover was approximately 65% with a temperature at the start of the survey of 18.0°C and end temperature of 16.9°C with no wind. Surveyor one was positioned on the corner of Church Street and Church Lane to cover the south and east facing roof areas. Surveyor 2 was at the west gable end and surveyor 3 was positioned in the centre of the north facing roof where there is a recess for the stairway to the top flats. Two cameras with sound recording equipment were used during the survey. Cameras 1 and 2 were positioned to cover the soffit and roof areas above the stairway.

The first contact of Common Pipistrelle was at 19:50 by surveyor 1 over the road junction followed by 4 contacts at this position between 20:13 and 20:26. Surveyor 2 had one contact of a Common Pipistrelle at 20:19 in the garden area which was also recorded by surveyor 1 as it flew east from the garden. At 20:07 a Brown Long-Eared bat was seen by surveyor 3 in the recessed staircase area. It appeared to be light sampling and flew back into the roost. It re-emerged at 20:10 and stayed within the area of the staircase for around 2 minutes before leaving the site. Later inspection of the recording equipment confirmed that it was a Brown Long Eared bat and the only one to leave the roost. Two contacts of Common Pipistrelle were recorded by surveyors 2 and 3 from the garden adjacent to the survey site to the north during the survey period.

The survey ended at 21:00 when it was too dark to see any further bat activity.

5.2 Survey Two: Dusk

The second survey was undertaken on the 7th September 2011. Recording equipment was started at 19:38; sunset was at 19:38. Cloud cover was 25% and high with a temperature at the start of the survey of 14°C and end temperature of 12°C, with a light wind. The weather during the day had been dry and bright. Three surveyors were positioned around the building as described in the first survey. Two digital cameras with sound recording equipment were positioned to cover the area of the roof where the Brown Long-eared bat emerged during the first survey, above the landing of exterior staircase.

The first contact was a Common Pipistrelle recorded by surveyor 3 at 19:40 in the adjacent garden to the north. It was recorded a further five times over a period of 10 minutes. Surveyor 2 recorded a Common Pipistrelle that flew over the roof from east to west at 19:57 and was most likely the same bat recorded by surveyor 3. Two other contacts were recorded by surveyor 2 in the adjacent garden during the survey period. At 20:09 surveyor 2 recorded one Brown Long-Eared bat leaving the same roost entrance area as the previous survey. A second bat was recorded 4 minutes later from the same roost. The recording equipment confirmed that two brown Long-Eared bats left the same roost area as the previous survey. Surveyor 1 positioned at the road junction recorded two Common Pipistrelle during the survey.

The survey ended at 21:00 when it was too dark to see any bat emergence.

5.3 Survey constraints

There were no constraints that would significantly affect the data collected on the two surveys. It should be noted that the data collected is current for this season until spring 2012. Any delays in starting the development may require further surveys to be carried out as conditions within the roost may change.

6.0 Interpretation and Mitigation Recommendations

6.1 Interpretation of results

During the first survey a single Brown Long-Eared bat was recorded light sampling and leaving the roost. On the second survey two Brown Long-Eared bats were recorded leaving the same roost site. This indicates that the roof space in this part of the building contains a very small summer Brown Long-Eared bat roost. The Pipistrelle activity recorded in the immediate area was low. This is most likely due to the lack of suitable habitat for foraging bats within the surrounding landscape. It can be concluded that the site is of relatively low importance for feeding bats and any habitat lost will not have a significant impact on this species.

The data search included in the Presence or Absence Survey of September 2011 has shown that there are several known Brown Long-Eared bat roost sites within the surrounding area. Movement between these sites is expected and is likely to occur as conditions found within a particular roost change. The amount and condition of droppings found within the loft during the first survey would support the numbers of this species recorded during the emergence surveys.

Following Natural England's Bat Mitigation Guidelines, a summer roost of this size containing one or two Brown Long-Eared bats, is of 'low conservation significance'. Despite this, it is still legally protected as a bat's resting place.

6.2 Impact of the proposed works

Without mitigation or avoidance measures the proposal to re-develop 17 - 23 Church Lane will result in the destruction and loss of a Brown Long-Eared roost, and should the work be carried out whilst bats are present, it is likely that they will be killed or injured. The loss of 'low conservation status' roosts such as a summer roost of a common species of bat such as Brown Long-Eared is classified by Natural England as a 'low scale of impact on the population at site level'.

As there are several properties in the vicinity of 17 -23 Church Lane that have been used by Brown Long-Eared bats it is considered that any impact on this species locally would be low. The mitigation and compensatory measures will maintain a favourable conservation status. Without mitigation, the development will disturb the known resting place of a bat. For this reason it will be necessary to gain an EPS licence prior to any works. This will avoid committing any offence under the regulations discussed in section *3.3 Bat Legislation*.

The impact has been assessed by referring to the guidelines issued by Natural England in their Bat Mitigation Guidelines (2004). The potential impacts **before** the implementation of mitigation are outlined and discussed under the headings below. It should be remembered that all these impacts can be mitigated for and the development has great potential to improve the status of this species in their natural range.

6.2.1 *Destruction*

The proposal has the potential to unintentionally destroy the roost and possibly injure any bat that may be using the structure.

6.2.2 *Disturbance*

The proposal has the potential to disturb roosting bats if works are undertaken at an inappropriate time of year. This could impact upon their continued survival at this site.

6.2.3 *Isolation caused by fragmentation*

The proposal is considered unlikely to cause any impact through fragmentation as no major habitat clearance will be undertaken.

6.2.4 *Post development interference*

The use of the building is unlikely to have any negative impact. The building was in use as a residential property when bats were known to inhabit the loft void.

6.3 Proposed mitigation and avoidance measures

The potential impact to the roost has been assessed and the scale of impact will be low (Natural England, 2004) with no overall effect on the conservation status of this bat species locally. We recommend that the following mitigation and reasonable avoidance measures are implemented under licence to ensure the development proceeds lawfully.

Detailed mitigation plans will form part of the EPS licence application. The following points should be considered by the ecological consultant employed to draft the licence application and are provided to aid the planning process. By implementing all the recommended mitigation it is anticipated that the construction and use of the building will have negligible impact upon the colony of bats in question. By undertaking the development in a sensitive way and by implementing enhancement features as discussed it will be possible not only to maintain the colony in a favourable local status but to enhance the potential for bats to colonise the site.

Natural England (English Nature 2001) state that with roosts or 'feeding perches of common/rarer species, individual bats of common species, not a maternity roost, and small numbers of common species', there is 'flexibility over the provision of bat boxes, access to new buildings and no conditions about timing or monitoring'. The roost in question meets these criteria as it was found to be used by two Brown Long-Eared bats. These are one of the most common species of bat present in this region. There is a possibility that bats will be injured or killed during any redevelopment of 17-23 Church Lane and to avoid this it will be necessary to take reasonable precaution to prevent this happening. With this in mind the following reasonable avoidance measures are recommended.

Due to the conditions found within the loft area above the residential part of the building it is highly unlikely that bats would roost during the winter months within the structure. Although it is unlikely that Brown Long-Eared bats will be present during the winter, occasionally individuals are known to over-winter in their summer roost sites.

The demolition will involve the removal of ridge and roof tiles. The optimum time for removing the roof is between November and March to avoid disturbing the summer roost site. To ensure bats are not killed or injured, a licensed bat ecologist should be present and the work undertaken under their direct supervision. Any mortised timber joints or recesses suitable for

roosting or hibernating that are found during the tile removal will have a detailed inspection carried out by the bat ecologist using an endoscope.

Particular care should be taken during the removal of cavity walls and voids covered by timber within the buildings structure. In the event of a bat being discovered, the suitably licensed bat ecologist will carefully remove it allowing the demolition to continue. The bat should be relocated to a suitable location such as a nearby bat box or another nearby known roost.

6.4 Compensatory measures

In order to maintain the favourable conservation status of a common bat species, it is not always essential to provide alternative roosting sites. However, Natural England expects to see a net gain in any mitigation and compensation strategy when disturbing a European Protected Species. Therefore, in this instance it is recommended that alternative roost sites are provided. Any EPS licence application is determined more favourably when it can be shown that not only is the population maintained, but enhanced.

It is recommended that to enhance the conservation status of the site for bats the following measures are implemented:

- Suitable bat access points are to be created in the new roof of the property closest to the position of the existing building to be demolished. These could take the form of artificial raised tiles or "bat slates" created from lead. Four tiles should be installed in different locations, with one located in a position to replicate the position of the roost in the demolished building as marked on the site plan in *Appendix B*. An example Bat Slate can be seen in *Appendix C*.
- Four integral bat boxes should be incorporated in the new buildings. The boxes should be installed within the cavity between the external and internal walls or between weather boarding and stud-work as appropriate for the building. An example can be seen in *Appendix C*.
- At least 1 ventilation ridge tile should be modified to allow bat access into the ridge.
- Bitumastic roofing membrane should be used in preference to the modern roofing materials such as Tyvek™, as these are known to cause injury to bats as their feet can become tangled in the fibres.
- Security lighting should be as low-powered as practical. It should only be illuminated by passive infra-red sensors that are angled away from any bat entrance points or potential foraging / commuting habitat, and shielded so that light falls only where needed.

Natural England aim to process a licence application within 30 working days, and in addition, at least 15 workings days should be allowed for the consultation of the Local Planning Authority and approval of the Method Statement.

7.0 Conclusion

It has been concluded that if the aforementioned mitigation and compensatory measures are implemented through an EPS licence the demolition of the building can proceed lawfully. The disturbance of the roost has been assessed and the scale of impact will be low (Natural England, 2004) with no overall effect on the conservation status of Brown Long-Eared bat locally.

Maydencroft Land Advisory recommends that the planning application need not be refused with respect to the temporary loss of the roost at Church Lane, Old Hatfield, Hertfordshire.

Ecological survey data

Please note that all ecological data collected during the surveys will be supplied to Hertfordshire Biological Records Centre for entry into the county database.

Disclaimer

Every effort has been made to ensure that the content of this report accurately identifies the potential ecological constraints to development, its overall ecological value, and considered the possibility of the presence or absence of all Protected Species and the need for further surveys or ecological works. External factors such as weather conditions, time of day, seasons, disturbance by others, can all affect the use of the site by such species, and this report should therefore not be viewed as definitive.

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4th October 2011

Appendix A. Proposed Development Site | Church Lane

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Aerial photograph reproduced under licence from Google Earth Pro – DIAGRAM NOT TO SCALE

Appendix B. Proposed Development with Bat Mitigation Locations | Church Lane

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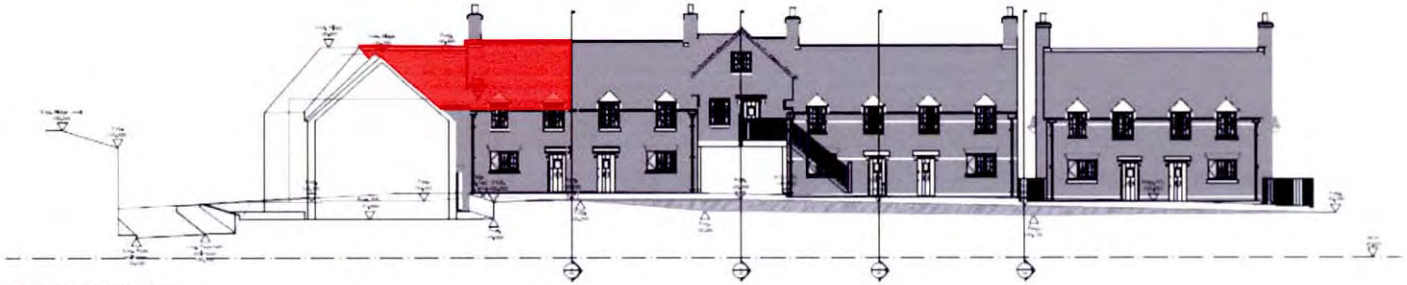
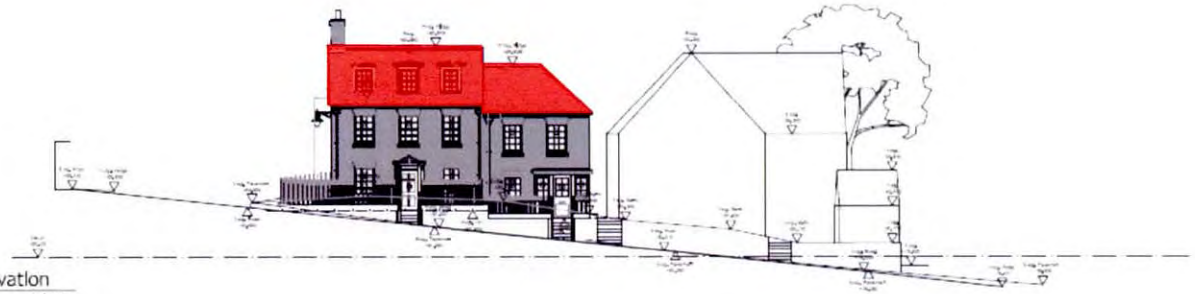
Areas for bat mitigation measures

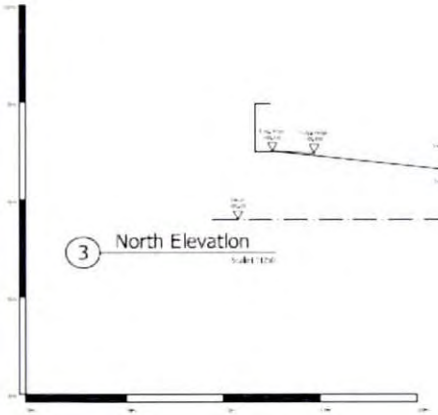
1 South-East Elevation



2 North-West Elevation



3 North Elevation



Rev.	Amendment	Date
H	Issued for comment	
I	Issued for comment	
J	Issued for comment	
K		

Drawing Status
PRELIMINARY

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architects@brooksmurray.com

CLIENT:
GASCOYNE CECIL ESTATES

JOB:
Church Lane
Old Hatfield

DATE: 17/06/11
SCALE: 1:250 @ A3

DRAWING TITLE:
Zone 1
Elevations

DRAWING NUMBER:
837 - 150 J

Appendix C. The 'Morris' Bat Slate

The Morris Bat Slate is a specially designed 'slate' that will allow bats access to a roof void.

All bats and their roosts are protected by law under the 1981 WILDLIFE AND COUNTRYSIDE ACT (as amended). A roost can be defined as 'any place a bat uses for shelter, protection or rest'. A roost is still defined as a roost even if the bat(s) is temporarily absent. Natural England or your own Statutory Nature Conservation Organisation (SNCO) must be consulted for advice ***before*** any work is carried out on a place known to be used by bats.

Due to the relatively low cost of materials and labour involved in the construction of a Bat slate (against the cost of making one and sending it through the post), it is easier to follow these instructions.

Some species of bat, such as Pipistrelles, are quite happy living between the roofing felt and the tiles/slates, and never actually enter the roof void. Other species, such as the Brown Long-Eared Bat prefer the openness of the attic or loft. The species of bat identified (by an expert) dictates a very important factor in fitting a Bat slate. All modern and 'refurbished' properties will have roofing felt. For species of bats that use the inside of the attic, a hole will need to be established in the felt to allow bats free access into and out of the loft. The hole need not be large - 75mm x 30mm is more than ample, but it is very important to establish it immediately adjacent to a rafter or wall to allow bats to climb back out. A hole in the middle of the felt will be difficult to find, difficult to land near and unlikely to be used. Some species of bat use the cavity wall, and access to here from the loft will be required.

Schwegler Bat Roost Range
Schwegler GmbH

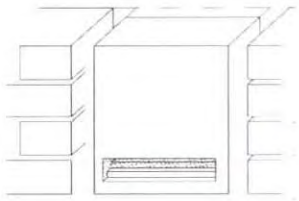
TYPE OF PRODUCT: Bat roost

WEBSITE: www.schwegler-nature.com

WHERE USED: In outer-wall construction

PRODUCT INFORMATION: Durable, weather-resistant and air-permeable Schwegler wood-concrete

(see Drawing Nos 7, 8, 9, 10, 11, 15, 16, 17, 18 and 19, pp. 62, 63, 65, 67, 69, 75, 77, 79, 81 and 83, respectively)

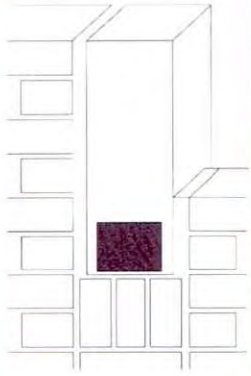


Bat Access Panel 1FE

Can be used to create access or as a roost space by the use of the optional back plate

Access 300 mm (h) x 300 mm (w) x 80 mm (d)

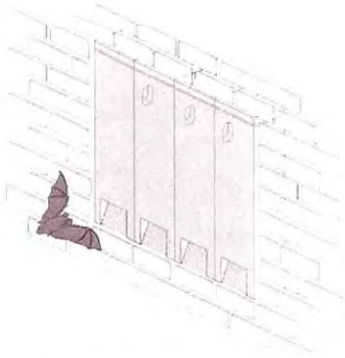
Roost (with back panel) 300 mm (h) x 300 mm (w) x 100 mm (d)



Bat Tube 1FR

Roosting space with wooden roosting panel at rear

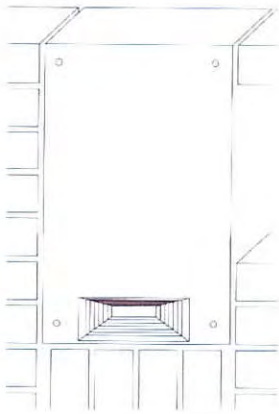
475 mm (h) x 200 mm (w) x 125 mm (d)



Bat Tube 2FR

For creation of spaces for larger bat colonies, with optional access to other roosting areas from the rear of the product

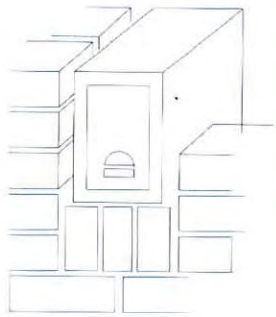
Dimensions as 1FR, but possible to link as multiple units, as shown above, due to transverse connecting holes



Summer and Winter Batbox 1WI

For installation into the walls of buildings and structures. This design is for hibernation in winter as well as summer use. The interior is designed with different surface textures and areas with changing hanging depths. Uses Schwegler light-concrete

550 mm (h) x 350 mm (w) x 95 mm (d)



Brick Box for Bats Type 27

For installation into the walls of buildings and structures

265 mm (h) x 180 mm (w) x 240 mm (d)

Advantages		Considerations	
Familiar material	N/A	Unfamiliar material; unsure how to protect	✓
Easy to install	Depends on context and surrounding materials	Thermal bridges	Where cavity bridged would need Damp Proof Course (DPC) cavity tray
Durable	✓	Exposed wood particles on cut or damaged edges may absorb moisture	✓
Low or no maintenance	Some access hatches permit internal cleaning	Must be maintained with 'special' unfamiliar paint	Some
Frost resistant	✓	Embodied energy	High
Thermal mass	Medium or high	Embodied carbon	High to medium
Fits UK construction sizes	No	Degree of fit to UK construction sizes	Do not coordinate with UK brick construction in two or three dimensions (see Table 3.2 on dimensions)
		Product uptake	Unknown

Other

- 2FR allows a larger roost area to be provided
- The designs 1FE, 1FR, 2FR and type 27 can either be set flush or can be set into masonry and rendered so that only the entrance is visible
- 1FE and 2FR have the capacity to lead to other roosting areas from the rear of the product
- 1FE is the most versatile of the range and can be incorporated into a number of construction types

Other

- Avoid using aluminium nails
- Non-loadbearing wall will need lintel if used in multiples, side by side

Appendix D. References

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Joint Nature Conservation Committee (2007), *Handbook for Phase 1 Habitat Survey*.

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Planning Policy Statement 9 (PPS9) 2005.

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