Preliminary Bat Roost Assessment and Bird Survey for,
Mr. A.G.Jones and Mr. D.W. Jones.
Building adjacent to,
Swiss Cottage,
Sunny Side,
KINGSLEY,
Staffordshire,
ST102AL.

Map Ref SK 0078 4702
9th July 2018.

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Summary.

- **There is no evidence of bats using the buildings as a place of shelter.**
- **There was no evidence of birds nesting in the building.**
- **There is a roosting opportunity between the rear of the fibre cement roof sheets and the top of the brickwork on the front elevation of the property. There was no evidence of bats using this area as a place of shelter. This roosting opportunity is a very poor for crevice dwelling because it is open to weather penetration.**
- **There is a very poor roosting opportunity against the ridge board in the two storey section of the property. The roosting opportunity is very poor because it is open to weather penetration in a light roof space and would only be used as a Night roost at best.**
- **The bat consultant believes that emergence surveys are not necessary to prove whether bats are using these features as a place of shelter because they are very poor and open to weather penetration and are highly unlikely to be used. The very small potential for use can be best managed by following the method of work set out below.**
- **The demolition of the building, if approved by the Local Authority must not occur if birds are nesting in the building until the young have fledged.**
- **A brick built bat box can be installed in the gable apex of the new buildings to be built on the site to provide new bat roosting opportunities as required by the National Planning Policy framework (2012).**
- **A method of working should be put in place with contractors to ensure that in the event of bats being found they will not be injured.**

Introduction.

An inspection and building survey for bats was requested by Rob Duncan on behalf of his clients, Mr. A.G. and D.W. Jones. The survey was to be undertaken in relation to the submission of a planning application to demolish the existing building and replace it with a development of new dwellings. The property was visited on the 3rd July 2018 and the surveyor spent 0.75 hour on site.

Temperature; 16°C Wind;1 Beaufort Scale Cloud Cover; 0/8th.



Legislation concerning bats.

The Wildlife and Countryside Act 1981 (WCA) protects bats and their roosts in England, Scotland and Wales. Some parts have been amended by the Countryside and Rights of Way Act 2000 (CRoW) which applies only in England and Wales, and by the Nature Conservation (Scotland) Act 2004 which applies in Scotland.

The Conservation and Habitats Regulations 2010 (better known as the Habitats Regulations) implements the Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora. All bats are listed as 'European protected species of animals'

Under Regulation 41 of the Conservation of Habitats and Species Regulations 2010 it is illegal to:

- Deliberately capture, injure or kill any wild animal of a European Protected Species (EPS),

- Deliberately disturb wild animals of an EPS (affecting ability to survive, breed or rear young) – disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young,
- Deliberately disturb wild animals of an EPS (impairing ability to migrate or hibernate) – disturbance of animals includes in particular any disturbance which is likely to impair their ability in the case of hibernating or migratory species to hibernate or migrate,
- Deliberately disturb wild animals of an EPS (affecting local distribution and abundance) – disturbance of animals includes in particular any disturbance which is likely to affect significantly the local distribution or abundance of the species to which they belong,
- Deliberately disturb wild animals of an EPS (whilst occupying a structure of place used for shelter or protection) – intentionally or recklessly disturb any wild animal while it is occupying a structure or place which it uses for shelter or protection,
- Damage or destroy a breeding site or resting place of a wild animal an EPS.

Under the Wildlife and Countryside Act 1981 (as amended) it is illegal to:

- Recklessly or intentionally kill, injures or take any wild animals included in Schedule 5.
- Recklessly or intentionally damage or destroy, or obstruct access to any structure or place which any wild animal included in Schedule 5 uses for shelter or protection,
- Recklessly or intentionally disturb any such animal while it is occupying a structure or place which it uses for shelter or protection.

Legislation concerning birds.

All common wild birds are protected under The Wildlife and Countryside Act 1981 (and as amended). Under this legislation it is an offence to:

- kill, injure or take any wild bird
- take, damage or destroy the nest of any wild bird while it is in use or being built
- take or destroy the egg of any wild bird

Certain rare breeding birds are listed on Schedule 1 of The Wildlife and Countryside Act 1981 (and as amended). Under this legislation they are afforded the same protection as common wild birds and are also protected against disturbance whilst building a nest or on or near a nest containing eggs/unfledged young.

Methodology for bats.

The building surveys have been undertaken in accordance with Bat Surveys for Professional Ecologists- Good Practice Guidelines, 2016, the Bat Conservation Trust. Surveys of the buildings were undertaken during the daytime to look for evidence of bats using the buildings, or likely roosting sites. The evidence of bats using a building as a place of shelter can include bat droppings, grease marks, urine stains or actual bats. This evidence is then considered when planning evening emergence counts and activity surveys, using bat detectors. These surveys provide evidence of where bats are roosting and activity across the site by foraging or commuting bats.

The Bat Surveys for Professional Ecologists- Good Practice Guidelines, 2016, specify that emergence surveys are undertaken dependent upon the roost potential of the buildings on the survey site, as set out below;

Roost potential.	**Number of surveys.**
High.	3
Low to moderate.	2
Low.	1

The surveys are started at sunset, with bats emerging from roosts at different times, dependent upon the species, and continued for two hours. Emergence surveys can only be undertaken from the beginning of April to the end of September when bats are active. The optimum period of undertaking surveys is the beginning of May to the end of August. Their emergence is dependent upon the weather, the bats only leaving their roost on warm nights when there will be sufficient insect prey around to make flight worthwhile. While bats will emerge in light rain and moderate winds, the surveys would not be undertaken when there is heavy rain and/or strong winds as this would not provide reliable data upon which to base the conclusions of the surveys. Mild weather in April and September will produce bat activity, particularly providing information on forage areas, commuting routes and pre-maternity group roosting.

Any trees on site are surveyed following the methodology set out in the Bat Tree Habitat Key, Henry L Andrews et al 2013, which produces a key for identifying Potential Roost Features in trees and their likleyhood of being used by bats. Trees on any site being surveyed will have Potential Roost Features identified from ground level surveys and highlighted in the report.

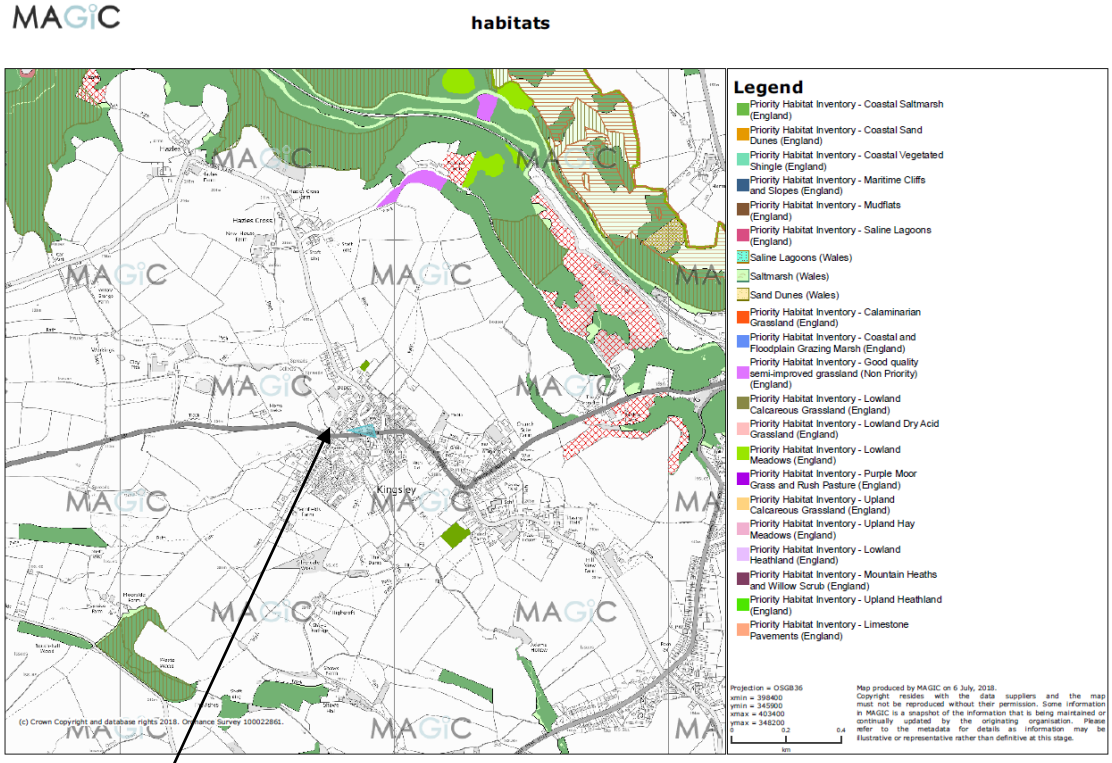
Bat records and habitats.

A search of public records has revealed the presence of;

Myotis Brandtii.
Myotis daubentonii.
Myotis mystacinus/Brandtii.
Myotis Nattereri.
Nyctalus noctula.
Nyctalus leisleri.
Pipistrellus pipistrellus.
Pipistyrellus pygmeaus.
Plecotus auritus.

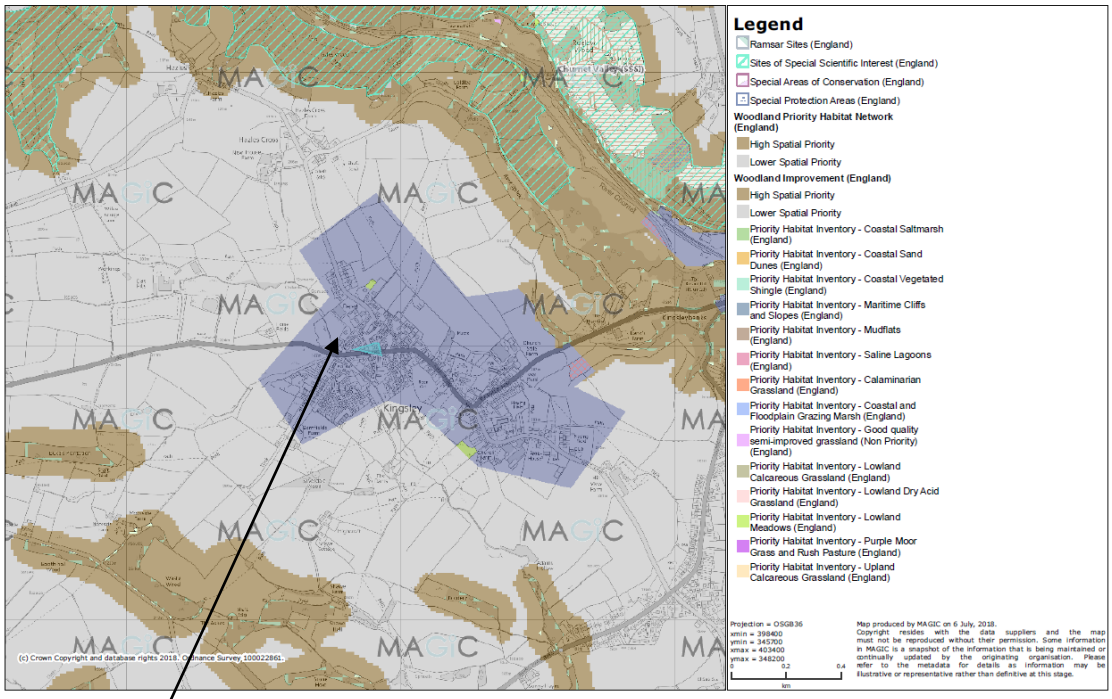
A search of the DEFRA MAGIC Dataset shows that there are no habitats adjacent to the site which of a special nature conservation status or significance. There is an area of Deciduous Woodland on the Priority Habitat Inventory to the north of the site with areas of Ancient Woodland with in it. This area forms a part of the Froghall Meadows and Pastures Site of Special Scientific Interest to the east of the site. This area includes Lowland Meadows, Purple Moor Grass and Marsh Pastures, and Good Quality Semi-Improved Grassland. There are small areas of deciduous woodland on the Priority Habitat Inventory in the landscape to the south of the site.

There are areas of Traditional Orchard in the village of Kingsley which are on the Priority Habitat Inventory.



Swiss Cottage.

A search of the DEFRA MAGIC Dataset shows that the site falls inside of a Farm Wildlife Package area where there is support for Willow Tits through woodland buffer zones. There is Countryside Stewardship targeting for Lapwings. There are buffer zones designated on Deciduous Woodlands for priority woodland bird species; Lesser Spotted Woodpecker, Tree Pipit, Redstart, Wood Warbler, Spotted Flycatcher, Pied Flycatcher, Marsh Tit, Hawfinch and Lesser Redpole. The Site of Special Scientific Interest to the east is the Froghall Pastures and Meadows SSSI. There are no other biodiveristy enhancement areas adjacent to the site.



A search of the DEFRA MAGIC Dataset shows that there have been a number of European Protected Species licenses granted locally. None of the sites is adjacent to the property being surveyed.

Species.	**Destruction of or damage to a breeding site for bats.**	**Destruction of or damage to a resting place for bats.**
Common pipistrelle, Brown long eared bats.	No	Yes
Brown long eared bats.	No	Yes
Common pipistrelle bats.	No	Yes

MAGIC

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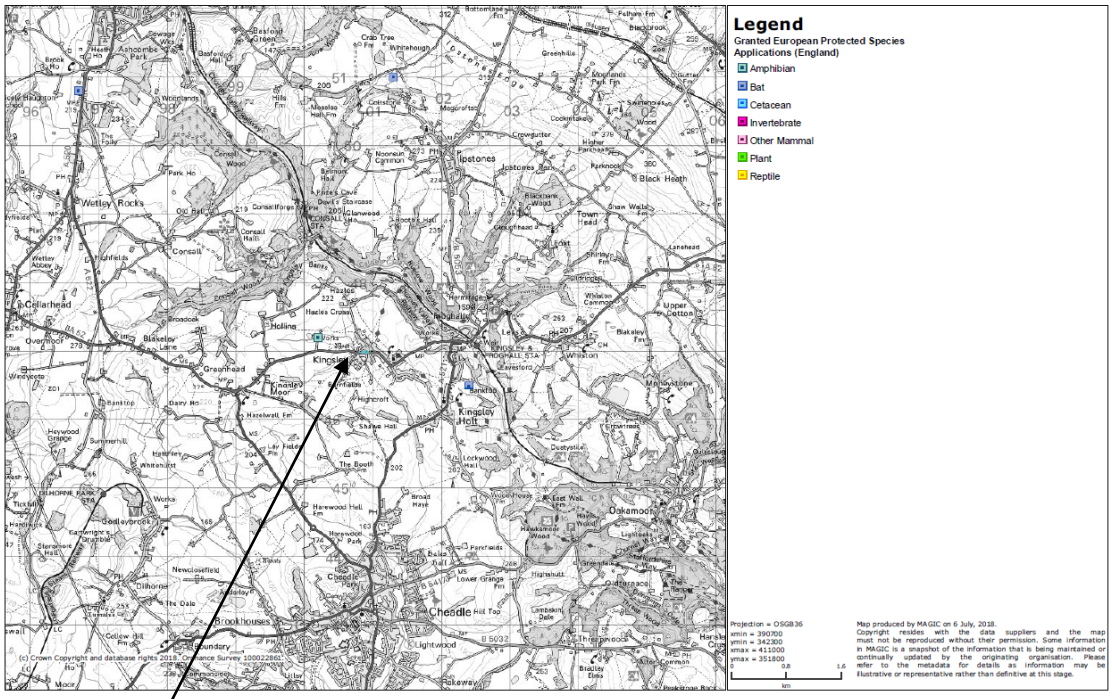


Swiss Cottage.

Constraints.

The building survey was undertaken in the summer when evidence of bats internally can still be seen but external evidence may be unavailable after heavy rain. The surveyor does not believe that the weather masked any evidence or access points for bats. There were no constraints to the surveyor for access in the building survey for bats.

Building Survey.

The buildings to be surveyed consisted of a single storey solid brick barn with a pitched roof. The roof is covered with plain tiles.





There is a single storey barn built around the two storey section. This has solid brick walls and the fibre cement roof is supported on timber sheeting rails.

There is a lean to structure on the northern elevation.



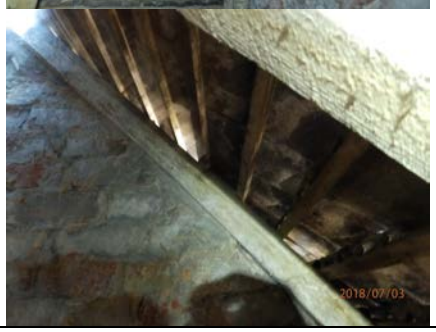
The property is situated on the western edge of Kingsley with urban areas to the east. There is agricultural land surrounding the urban area. There are large gardens with mature trees and areas of public open space to the east and west of the site that link the urban roosting opportunities to the surrounding countryside. There are mature trees in the hedgerows and trees between the fields which provide commuting routes for bats. There are areas of woodland in the countryside around the site and this woodland would provide foraging habitat for bats.



The results of the building survey are presented as the likelihood of bats using an area/feature;

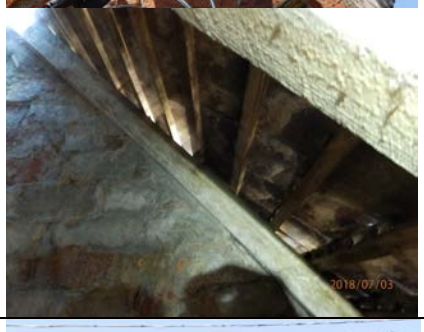
None. Bats are unlikely to use the feature/area in any way.
Poor. Bats may use the feature/area but it is not thought to be likely.
Possible. The feature/area provides an area that may be used by bats but no direct evidence of occupation was found.
Definite. Clear evidence of the use of a feature/area as a place of shelter, such as droppings.

Feature.	**Evidence of bats.**	**Likelyhood of bats roosting.**	**Photograph.**
Behind ridge board of two storey section.	None.	None. There is access to the roof space for bats but the roof space is open to weather penetration and is very bright, there being no crevices for bats to use as a place of shelter.	

			   
Feature.	**Evidence of bats.**	**Likelyhood of bats roosting.**	**Photograph.**
In splits in timber rafters of two storey section.	None.	None. Machine cut timbers.	

			
Feature.	**Evidence of bats.**	**Likelyhood of bats roosting.**	**Photograph.**
Under ridge tiles of two storey section.	None.	None. There is access to the underside of the ridge tiles for bats but this is lined with polythene which is not a surface bats can cross.	   

			
Under loose or missing roof tiles of two storey section.	None.	None. The plain tiles have access points for bats but there is no underfelt and there are no crevices for bats to roost in.	  
Feature.	**Evidence of bats.**	**Likelyhood of bats roosting.**	**Photograph.**
In verge of two storey building.	None.	None. There is access for bats but the gap is open to weather penetration and would only provide an exceptionally poor place of	

		shelter even in warm and dry weather.	 
In eaves of single storey building.	None.	None. Open eaves on all parts of building with access for bats but no crevices to roost in.	  
Feature.	**Evidence of bats.**	**Likelyhood of bats roosting.**	**Photograph.**

Under ridge flashing of single storey building.	None.	None. There is access for bats to the building but there are no roosting opportunities.	 
Feature.	**Evidence of bats.**	**Likelyhood of bats roosting.**	**Photograph.**
In verge of single storey building.	None.	Very poor. There is an access for bats at the verge where the mortar has come loose but this roosting opportunities is open to weather penetration and the gap is very open making it very poor for bat roosting.	 

			
Between the rear of the fibre cement roof sheets and the timber sheeting rails of single storey building.	None.	None. There is access for bats but the roosting is only for individual bats during periods of warm weather and is highly unlikely to be used.	
Feature.	**Evidence of bats.**	**Likelyhood of bats roosting.**	**Photograph.**

Lean to.

This is a solid brick rear walled building with a mono pitch roof covered with fibre cement roof sheets. The walls are fibre cement sheets supported on timber sheeting rails






There is access to the space between the rear of the fibre cement roof sheets and the timber sheeting rails but this would only provide a temporary place of shelter for individual bats during periods of warm weather. The likelyhood of this being used is extremely small.

The building offers no places of shelter for bats.

Bat roosting opportunities; None.

Birds.

There was no evidence of birds nesting in the buildining but there are opportunities for birds to nest in the building on the timber roof structure and on top of brick walls.

There are nesting opportunities in the lean to on top of the timber roof supports but there was no evidence of birds nesting.

If demolition is undertaken between the beginning of March and the end of August in any year a check must first be made for nesting birds. If birds are nesting then no demolition can proceed until the young have fledged.

Conclusion.

There was no evidence of bats using the building as a place of shelter.

There is a roosting opportunity for bats between the rear of the fibre cement roof sheets and the top of the brickwalls or the timber sheeting rails. These roosting places would only support individual bats during periods of warm weather and are highly unlikely to be used. There is a roosting opportunity for bats against the ridge board of the two storey section of the building but the likleyhood of this being used is very small because of weather and light penetration of the roof.

The very poor roosting opportunities can be managed when the building is being demolished by contractors following the method of working set out below to ensure that even in such a very small likleyhood of bats being present they will not be harmed.

The demolition of the building and the lean to will not affect nesting birds.

If demolition is undertaken between the beginning of March and the end of August in any year a check must first be made for nesting birds. If birds are nesting then no demolition can proceed until the young have fledged.

Impacts on bats.

The demolition of the property may have a negligible impact on bats due of the loss of the roosting between the rear of the fibre cement roof sheets and the brickwork or timber sheeting rails, or against the ridge board at first floor. The method of working below must be followed to ensure that the potential for disturbing or harming bats, however small, is minimized and avoided.

There is no loss of habitat from the proposed development and there will be no impact on habitat, forage or commuting routes from the proposed development.

Enhancements for bats.

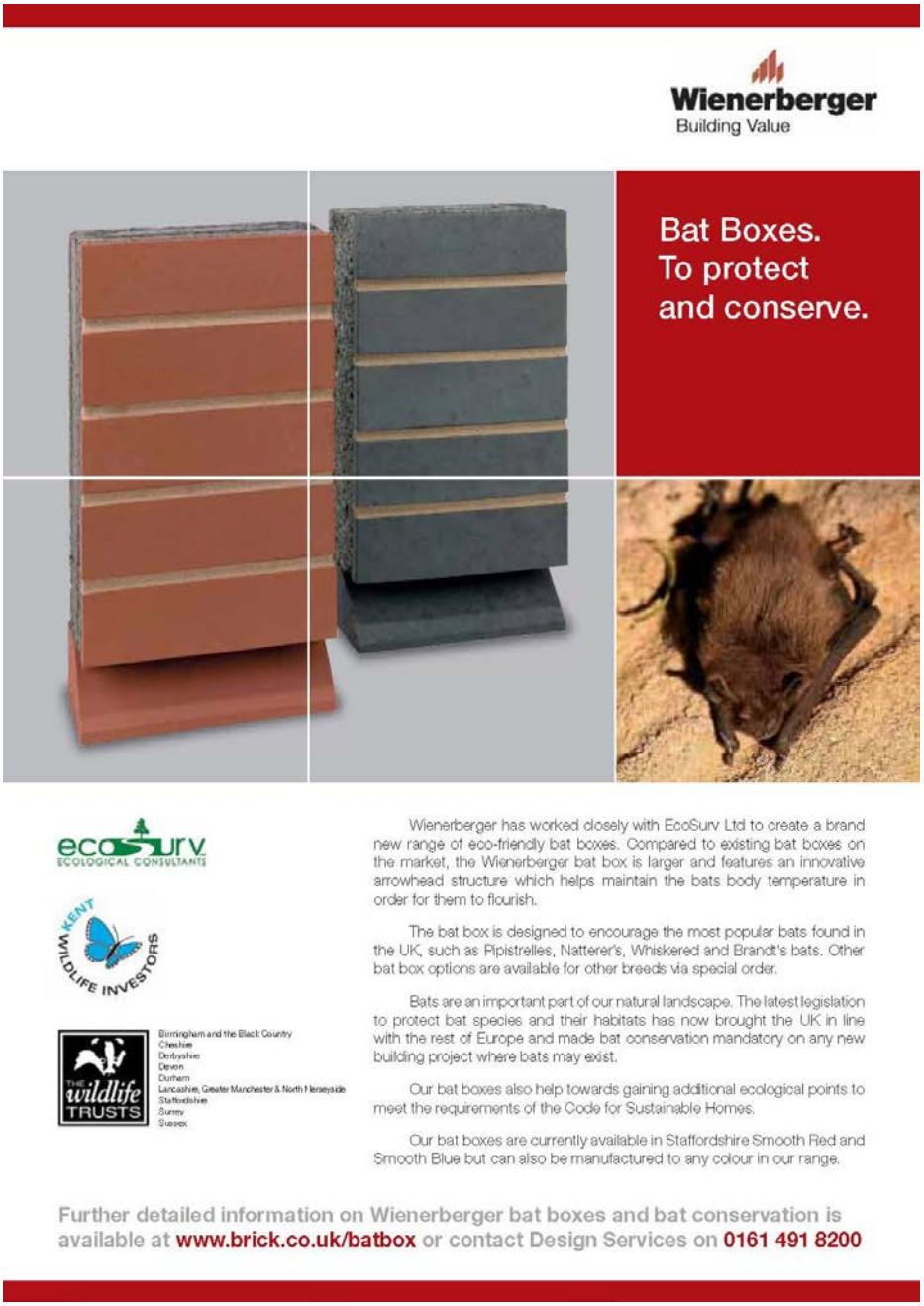
Records show that there are populations of crevice dwelling bats locally. New roosting opportunities for these species of bats can be created when the new dwelling is built if planning permission is granted, to meet the requirements of the National Planning Policy Framework (2012).

A brick built bat box can be installed at the gable apex of one elevation on each of the new dwellings, should planning permission be granted. These are constructed from brick or concrete blocks and are built into the outer leaf of brickwork. They can have facing bricks or be rendered. They provide no access to the cavity wall.



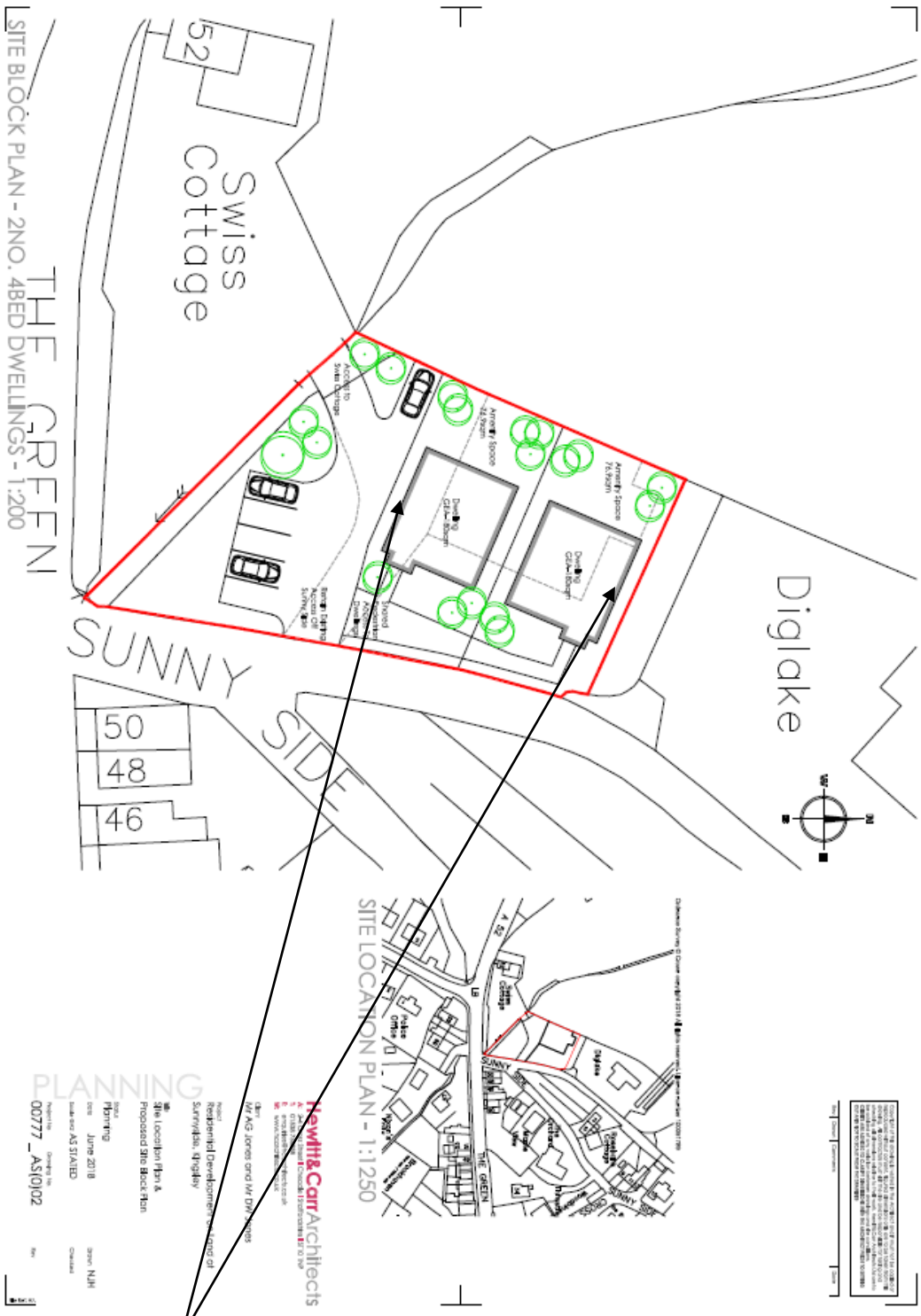


They are made by a number of companies including Wienerberger, Ibstock Brick, Habibat and Schwegler.



A location away from doors and windows should be chosen so that droppings falling from the bat box will not cause a nuisance for the occupiers. A south facing elevation will also benefit from solar gain and will provide a warm roost for crevice dwelling bats.

There should be no direct illumination of the new bat roosting opportunities. Lighting around the site will be by low wattage down lights at low level to provide security and safety lighting for the dwelling and service area. This lighting will be set no higher than the head height of the ground floor windows and will minimise the possible disturbance to bats in this area. Any security lighting will use PIR's to ensure they turn off automatically once the movement has ceased.



Bat box locations.

The method of working has been set out so that it can printed and handed to contractors on site.

Method of working.

There is no evidence of bats using the buildings as a place of shelter but it is possible that individual bats may use the very poor roosting sites between the rear of the fibre cement roof sheets and the top of the brickwork or the timber sheeting rails, or against the ridge board during periods of warm weather. Because of this possibility a method of working should be put in place when there are contractors on site. This would cover work to the roof or demolition where there was access for bats.

The common species of bats that are likely to roost in buildings of this nature and are evidenced from the regional records, are crevice dwelling bats, such as the Common Pipistrelle. These bats are small and can use accesses as little as 50mm x 20mm. when found in buildings they appear no bigger than a thumb and have dark brown fur.





It is common to find bat droppings in places used by bats. These are small and often confused with mouse droppings. It is possible to distinguish between them as mouse droppings are hard whereas bat droppings, being only insect remains, crumble when rubbed between the fingers.





The other species of bat that may possibly be found on site is the Brown Long Eared bat. These are a medium sized bat, larger than a Pipistrelle with very long ears that meet in the centre of the head. These bats may be found in crevices in the brickwork, behind ridge boards or in splits in the larger roof timbers.





- When tiles are removed they should be lifted away from the roof and not slid or twisted to avoid injuring any bats roosting beneath the tiles.
- Ridge tiles should be lifted without sliding so as to avoid injuring any bats roosting beneath them.
- If a bat is found under a roof tile or ridge tile, the tile should be carefully replaced and work in that area stopped until such time as a licensed bat worker can attend the site.
- The bat can then be removed to a place of safety until such time that it can be released at night.
- The demolition of any part of the building where bats could potentially roost should be by hand. This includes the removal of roof tiles, ridge tiles, soffits, gutter fascia boards and hanging tiles. If a bat is found the work should be stopped immediately and a bat worker called to come and deal with the bat. The bat should not be handled except by a licensed bat worker. Any bats found will be taken into care for release on site later dependent upon the time and weather.
- Bats discovered during the winter period will be taken into care, feed and kept healthy until they can be released on site in the Spring.
- Bats will not be released on site until evening temperatures are consistently above 6°C, at least three nights, the wind is light, and there is no rain.
- Bats taken into care over the winter will be released to the new roost opportunities in Spring if they are available using the same release criteria as above.

Legislation concerning bats.

The Wildlife and Countryside Act 1981 (WCA) protects bats and their roosts in England, Scotland and Wales. Some parts have been amended by the Countryside and Rights of Way Act 2000 (CRoW) which applies only in England and Wales, and by the Nature Conservation (Scotland) Act 2004 which applies in Scotland.

The Conservation of Habitats and Species Regulations 2010 (better known as the Habitats Regulations) implements the Council Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora. All bats are listed as 'European protected species of animals'.

It is an offence for any person to:

- Deliberately capture, injure or kill a bat.
- Intentionally or recklessly disturb bats, where that disturbance may significantly affect the ability of those bats to survive, breed, rear or nurture their young, or is likely to significantly affect the local distribution or abundance of any bat species, whether in a roost or not.
- Damage or destroy a place of shelter (roost) of a bat, be that a resting or breeding place.
- Possess a bat, whole or in part, alive or dead.
- Intentionally or recklessly obstruct access to a roost.
- Sell or offer for sale or exchange whole or parts of bats, alive or dead.

The fine for committing an offence is £5,000 per bat.

If a bat is found on site, work should stop in the area where the bat was found and the contractor should call the Bat Consultant; S. Christopher Smith 07967636115.

Breathable Roofing Membranes-Info Sheet

What are they?

- Traditional roofing felt was bitumen based
- Modern membranes are made from very fine and long plastic fibres that are spun into thin sheets. They be single ply or have various layers to provide a more complex membrane.
- They are known as Breathable roofing membranes or Vapour permeable underlay's (BRMs/VPUs)

Who Makes them?

- When most people talk about BRMs, they will call it Tyvek as this is the most famous brand name
- There are over 70 products in the UK alone, made by 20+ companies – never assume the product is Tyvek unless there is proof.

Why are they used?

- Modern houses are designed to be more energy efficient, meaning they tend to be warmer.
- Along with human activities this means increased levels of water vapour in the air
- When this passes up into the cold roof space, it forms condensation, which can lead to problems
- In the past gaps would have been left near the ridge and eaves to allow ventilation, but increased insulation often means this isn't possible. A breathable membrane aids this as it allows water vapour to pass out of the loft into the external air

Potential Problems

- There have been reports of bats becoming entangled in fibres pulled from the membranes
- Possibility of Temperature and humidity change
- Alot of membranes are white or brightly coloured





Advice

- At present we cannot recommend specific brands that are considered safe for use in bat roosts, as such it is recommended that bitumen felt be used where possible
- It is not against the law not to install a BRM
- If the planner insists on a BRM, suggest a dark coloured and reinforced membrane

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S.Christopher Smith MRICS MSc CEnv.

Appendix 1.

Roost Types as designated by Natural England and the Bat Surveys for Professional Ecologists, Good Practice Guidelines.

A. Day roost: a place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer.
B. Night roost: a place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be used regularly by the whole colony.
C. Feeding roost: a place where individual bats or a few individuals rest or feed during the night but are rarely present by day.
D. Transitional / occasional roost: used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.
E. Swarming site: where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites
F. Mating sites: sites where mating takes place from later summer and can continue through winter.
G. Maternity roost: where female bats give birth and raise their young to independence.
H. Hibernation roost: where bats may be found individually or together during winter. They have a constant cool temperature and high humidity.
I. Satellite roost: an alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.
J. Other – Explain what the roost type is if not one of the above (it is recognised that roost types are interchangeable and not always easy to classify according to the nuances of certain species).