stark ecology ltd

PRELIMINARY ECOLOGICAL APPRAISAL

SOUTH CROFT, WORTON, WILTSHIRE

BY

stark ecology ltd

OCTOBER 2023

stark ecology ltd

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EXECUTIVE SUMMARY

Stark Ecology Ltd was asked by Dolman Building Surveyors LLP to carry out a Preliminary Ecological Appraisal of the house, outbuildings and garden at South Croft, Worton, Wiltshire. Work proposed at this site includes the extension and renovation of the existing house, the demolition of three outbuildings and replacement with a new garage/annexe, the construction of new horse stables with associated outdoor facilities and the construction of a new agricultural barn.

A building inspection survey, emergence and re-entry surveys have identified day roosts of low numbers of common pipistrelle and brown long-eared bats in the roof and loft space of the house.

All the roosts that are present in the property will be disturbed or destroyed when the building is renovated and extended and in order to proceed lawfully, work to the roof and roof materials, including repairs and work to internal areas of the roof and loft space, will require a licence from Natural England. Under the terms of this licence work to remove roof materials will be carried out by hand under ecological supervision and any bats found will be transferred by the supervising ecologist to a Schwegler 2F bat box (or suitable equivalent) which will be installed on a mature tree or retained building close by. The bat box will be retained on completion of development to enhance roosting opportunities for bats in the local area.

Mitigation for the loss of the brown long-eared roost will be provided in the eaves of a new garage/annexe building with access slates installed in the eastern face of the roof, which will be lined with bituminous felt or a breathable membrane which is approved for use in bat roosts by Natural England. Integrated bat tubes in the house and new garage/annexe will provide crevice features for pipistrelle bats.

The habitats the site supports are used by a range of bat species, including lesser horseshoe and barbastelle bats, when commuting and foraging through the wider landscape. The proposals for the site include the retention of boundary hedgerows and the garden surrounding the property and so no disturbance to bats flying over the site is anticipated.

No sett entrances or other evidence of badgers was found however badgers may move across the site at night and recommendations for appropriate site management during construction are provided to prevent harm to animals moving through the site overnight. These steps will also protect hedgehogs which are known to raise young in the garden of the property and brown hare, which may commute through the site on occasion.

Although the site supports suitable terrestrial habitat for great crested newts, it lacks connectivity to ponds and other waterbodies which could be used for breeding. As a result, the site is not considered to support a population of great crested newts.

The site supports habitats which are potentially suitable to support common reptile species such as slow worm and grass snake. No further surveys for reptiles are recommended but the working areas of the site should be kept clear of vegetation throughout construction works. On completion of construction and landscaping the site will continue to provide suitable habitat for reptiles in the garden and boundary hedgerows.

The removal of a small section of boundary hedgerow will need to be timed to avoid the nesting bird season (March to August, inclusive) or carried out under ecological supervision.

Demolition of the outbuildings should avoid the nesting period as active swallow nests have been recorded during July, August and September 2023.

INTRODUCTION

Stark Ecology Ltd was asked by Dolman Building Surveyors LLP to carry out a Preliminary Ecological Appraisal of the house, outbuildings and garden at South Croft, Worton, Wiltshire. Work proposed at this site includes the extension and renovation of the existing house, the demolition of three outbuildings and replacement with a new garage/annexe, the construction of new horse stables with associated outdoor facilities and the construction of a new agricultural barn.

The site is c.1.2Ha and is located at OS Grid Reference ST982567, to the south of the village of Worton. It is surrounded by mixed farmland with excellent hedgerow and woodland connectivity.



Fig 1: The site has excellent connectivity to woodland and hedgerow networks.

The Preliminary Ecological Appraisal was carried out by Georgie Starkie BSc (Hons) MSc MRSB (Natural England Class 2 Bat Licence Number 2015-13123-CLS-CLS) on 27th July 2023, when the weather was overcast with light rain showers and a light wind, the temperature was approximately 18ºC.

Evidence of roosting bats was found in the loft space of the house and so a full suite of emergence and re-entry surveys was recommended. The first emergence survey was carried out by Georgie Starkie, Sarah Hobbs PhD and Gareth Harris BSc (Hons) MSc MCIEEM (Natural England Class 3 & 4 Bat Licence Number 2015-11684-CLS-CLS) on 10th August 2023 when the weather conditions were dry with some light cloud, a light wind and when the temperature was between 18 and 23°C.

A re-entry survey was carried out by the same surveyors on 23rd August 2023 when the weather was clear and dry with no wind and the temperature was between 13 and 16°C.

The second emergence survey was carried out by Georgie Starkie, Gareth Harris and Ellie Gollop PgD on 11th September 2023 when the weather was clear and dry during the survey with a light wind and the temperature was between 20 and 21°C.

METHODOLOGY

Desk Study

The Multi-Agency Geographic Information for the Countryside (MAGIC) website was reviewed for records of designated sites within 2km of the survey area and for records of licences granted by Natural England for work affecting European Protected Species within 2km.

A data search was requested from the Wiltshire and Swindon Biological Records Centre (WSBRC) for records of protected species and habitats within 2km of the site.

Preliminary Ecological Appraisal

The site was surveyed according to the extended phase 1 habitat survey guidelines set out by the Joint Nature Conservancy Committee (JNCC), in which the habitats present on site are classified. Any signs of protected or notable species were also recorded:

Bats: The buildings on site that are to be affected by the proposed work were assessed for their potential to support roosting bats. The habitats on site were assessed for their potential to provide commuting and foraging opportunities for bats.

Badgers: Evidence of badgers was sought, in particular badger setts which can be recognised by their characteristic size and shape, with large spoil heaps outside entrances. Other signs such as latrines (small pits in which badgers deposit their faeces), pathways through vegetation, hairs adhering to vegetation or sett entrances and snuffle holes indicating foraging were also noted.

Great crested newts: The habitats on and surrounding the site were assessed for their suitability to support great crested newts.

Reptiles: The habitats on site were assessed for their suitability to support reptile species.

Nesting birds: The habitats on site were assessed for their suitability to support nesting birds.

Emergence Surveys

Emergence surveys were carried out from 15 minutes before sunset until 90 minutes after sunset on 10th August and 11th September 2023. EM Touch Pro, Anabat SD2 and Elekon Batscanner detectors were used to confirm the species observed and a Panasonic HC-VX870 with infra-red, supported by a Nightfox XC5 850nm torch, was

used to aid visual assessment of bat activity associated with the property. Bat activity in the surrounding area was also noted.

Re-entry Survey

One re-entry survey was conducted from 90 minutes before sunrise until 15 minutes after sunrise on 23rd August 2023. EM Touch Pro and Anabat SD2 detectors were used to confirm the species observed and a Panasonic HC-VX870 with infra-red, supported by a Nightfox XC5 850nm torch, was used to aid visual assessment of bat activity associated with the cottages. Bat activity in the surrounding area was also noted.

Limitations

The survey provides a brief snapshot of the site at the time the work was carried out and while every step was taken to ensure that the results of the survey are accurate, features of ecological value can change and therefore this report is only valid for 12 months.

RESULTS

Desk Study

Habitats

There are no Special Areas of Conservation (SAC), Special Protection Areas (SPA) or Sites of Special Scientific Interest (SSSI) within 2km of South Croft. The site does not lie within any Bat SAC Consultation Zones.

There is one Local Wildlife Site (LWS) within 2km of the site. Cheverell Wood LWS is c.975m to the southwest and is a woodland with a mixture of semi-natural and conifer plantation including very old sweet chestnut coppice stools.

There are no Priority Habitats within or adjacent to the site.

Species

The following bat species have been recorded within 2km of South Croft:

- Greater horseshoe *Rhinolophus ferrumequinum*;
- Lesser horseshoe *R. hipposideros*;
- Barbastelle *Barbastella barbastellus*;
- Serotine *Eptesicus serotinus*;
- Noctule *Nyctalus noctula*;
- Common pipistrelle *Pipistrellus pipistrellus*;
- Soprano pipistrelle *P. pygmaeus*; and
- Brown long-eared *Plecotus auritus*.

The results of the data search also included records of hedgehog *Erinaceus europaeus*, otter *Lutra lutra*, beaver *Castor fiber*, badger *Meles meles*, water vole *Arvicola amphibius* and brown hare *Lepus europaeus*.

There is one historic record (1978) of great crested newt *Triturus cristata* at a location c.1.65km to the west of the site.

There are historic records of slow worm *Anguis fragilis*, grass snake *Natrix natrix*, common lizard *Lacerta vivipara* and adder *Vipera berus* which are more than 15 years old.

Bird records include species associated with water (eg. kingfisher *Alcedo atthis*), species associated with buildings (eg. barn owl *Tyto alba*, starling *Sturnus vulgaris* and house sparrow *Passer domesticus*) and passerine species such as yellowhammer *Emberiza citrinella*, greenfinch *Chloris chloris* and linnet *Linaria cannabina*.

Two licences have been granted by Natural England for work affecting European Protected Species within 2km of South Croft:

- In 2017, a bat licence was granted for work at a site approximately 1.4km to the west which would result in the destruction of a resting place of common pipistrelle, whiskered *Myotis mystacinus* and Brandt's *M. brandtii* bats.
- In 2019 a bat licence was granted for work at a site approximately 1.65km to the west which would result in the destruction of a resting place of common pipistrelle, soprano pipistrelle, serotine and brown long-eared bats.

Habitats

The habitats present on site are:

- Trees;
- Hedgerow;
- Semi-improved grassland;
- Fence;
- Bare ground; and
- Building.

Trees

To the north of the house, close to the driveway, is a willow tree which is to be retained.

Hedgerow

The site boundaries are generally formed by native species hedgerows. Hedgerow references are shown in the Habitat Map in Appendix 1.

H1 – running along the western boundary of the site, adjacent to the house, comprising hawthorn *Crataegus monogyna*, elder *Sambucus nigra*, bramble *Rubus fruticosus* agg. and nettle *Urtica dioica*.



Fig 2: Hedgerow 1. This photo taken south on 27th July 2023.

H2 – a beech *Fagus sylvaticus* and bramble hedgerow along the roadside to the east.

H3 – a laurel *Prunus laurocerasus* hedgerow at the existing site entrance.

H4 – a broken native species hedgerow along the eastern boundary of the site which comprises blackthorn *Prunus spinosa*, bramble, hawthorn, nettle, ivy *Hedera helix*, common comfrey *Symphytum officinale*, cleavers *Galium aparine* and bindweed *Convolvulus*.



Fig 3: Hedgerow 4. This photo taken facing northeast on 27th July 2023.

Semi-improved Grassland

Much of the site is semi-improved grassland which is kept mown. The grassland comprises Yorkshire fog *Holcus lanatus*, white clover *Trifolium repens*, red clover *T.*

pratense, creeping buttercup *Ranunculus repens*, dock *Rumex obtusifolius*, nettle, silverweed *Argentina anserina* and red fescue *Festuca rubra*.



Fig 4: Semi-improved grassland.

This photo taken facing northwest on 27th July 2023.

Fence

There are timber post and rail fences separating different areas of the site. A metal horse walker is surrounded by metal mesh fencing.



Fig 5: Most fences are timber post and rail but the horse walker is surrounded by a metal fence.

This photo taken facing northwest on 27th July 2023.

Bare Ground and Hard Standing

Close to the house and stables are areas of hard standing and bare ground. Other areas of bare ground include the horse walker and the menage arena.

Buildings

Five buildings will be affected by the proposals for this site, references are shown on the Habitat Map in Appendix 1.

B1 – a single storey shed which has a timber frame with unlined timber walls and a timber roof which is covered with corrugated rubber.



Fig 6: B1. This photo taken 27th July 2023, facing northeast.

Doors and windows are kept closed and secured but there are holes in the wall where the timber has been damaged. Internally the shed is open to the roof and it is disturbed by daylight throughout.

B2 – a single storey block garage with an open doorway on the western aspect. The roof is clay pantiles which are lined with bitumen felt.



Fig 7: B2.

This photo taken facing southeast on 27th July 2023.



Fig 8: B2 is open internally to the roof.

This photo taken 27th July 2023.

B3 – A single storey stable building which has block walls and an unlined corrugated cement fibre roof. The roof has been damaged during a storm and no longer provides full protection from the worst of the weather.



Fig 9: B3.

This photo taken facing east on 27th July 2023.



Fig 10: The roof of B3 has been damaged in a storm and it no longer provides protection from the worst of the weather or disturbance from daylight.

B4 – a single storey summerhouse extension to the main house. The walls are timber and the roof is covered with corrugated rubber. Large windows allow daylight to penetrate all areas of this building and there is no separate loft space.



Fig 11: The summer house (B4) which is attached to the southeast corner of the house.

This photo taken facing northeast on 27th July 2023.

B5 – the house has painted brick walls and the roof is interlocking cement tiles. Doors, windows and soffits are uPVC.



Fig 12: The house (B5) has painted brick walls and the roof is interlocking cement tiles.

This photo taken facing west on 27th July 2023.



Fig 13: The house (B5).

This photo taken facing south on 27th July 2023.

There is single loft space above the property which is c.1.8m high to the ridge. The roof is lined with bitumen felt and the loft space is insulated throughout with fibreglass material.

Bats

Roosting

B1: The single skin timber shed provides no insulation from the worst of the weather and daylight penetrates throughout. No evidence of bats was found in any part of this building and it has Negligible potential to support a roost.

B2: The open doorway on the western face of the garage building allows daylight to penetrate throughout this barn and provides little shelter from fluctuations in environmental conditions. It was considered to have Negligible potential to be used for these purposes.

B3: The stable building supports little suitable habitat for roosting bats as damage to the roof allows daylight and the worst of the weather to penetrate. The stables are considered to have Negligible potential to support roosting bats.

B4: The timber summerhouse supports no external crevice features in which bats could seek shelter and there are no voids inside the building. This building is considered to have Negligible potential to support roosting bats.

B5 (House): The roof of the house was found to be generally well sealed but a small number of crevices or potential access points to the loft space were identified close to the brick chimneys and where there is a broken roof tile at the western gable.

Internally bat droppings were found scattered on top of the fibreglass insulation in the loft space, confirming that the property supports a bat roost. Samples of droppings were collected and sent for DNA analysis to aid species identification and confirmed the presence of common pipistrelle and brown long-eared bats.



Fig 14: Bat droppings in the loft space of the house were sent for DNA analysis which confirmed the presence of common pipistrelle and brown long-eared bats.

Emergence Survey – 10th August 2023

During this survey one common pipistrelle bat and one soprano pipistrelle bat emerged from the stable along the eastern boundary of the site (which will not be affected by the development proposals). One bat, which did not call on emergence, appeared from the eaves at the southeast corner of the house. No other emergences were noted.

Commuting and foraging over the site was recorded by common and soprano pipistrelle, noctule, serotine and Myotis sp. bats, with activity particularly focussed along the western boundary hedgerow.

Full results of this survey are set out in Appendix 2.

Re-entry Survey – 23rd August 2023

During this survey one common pipistrelle bat was recorded returning to a roost close to the western chimney of the property.

Commuting and foraging over the site was recorded by common and soprano pipistrelle, whiskered and Daubenton's *M. daubentonii* bats and a single pass by a barbastelle bat was also recorded.

Full results of this survey are set out in Appendix 3.

Emergence Survey – 11th September 2023

During this survey two common pipistrelle bats emerged from the roof of the house, one from the western gable and the other from the eaves at the southeastern corner of the house. No other emergences were recorded.

Commuting and foraging over the site was recorded by common and soprano pipistrelle, serotine, Myotis sp. and one lesser horseshoe bat.

Full results of this survey are set out in Appendix 4.

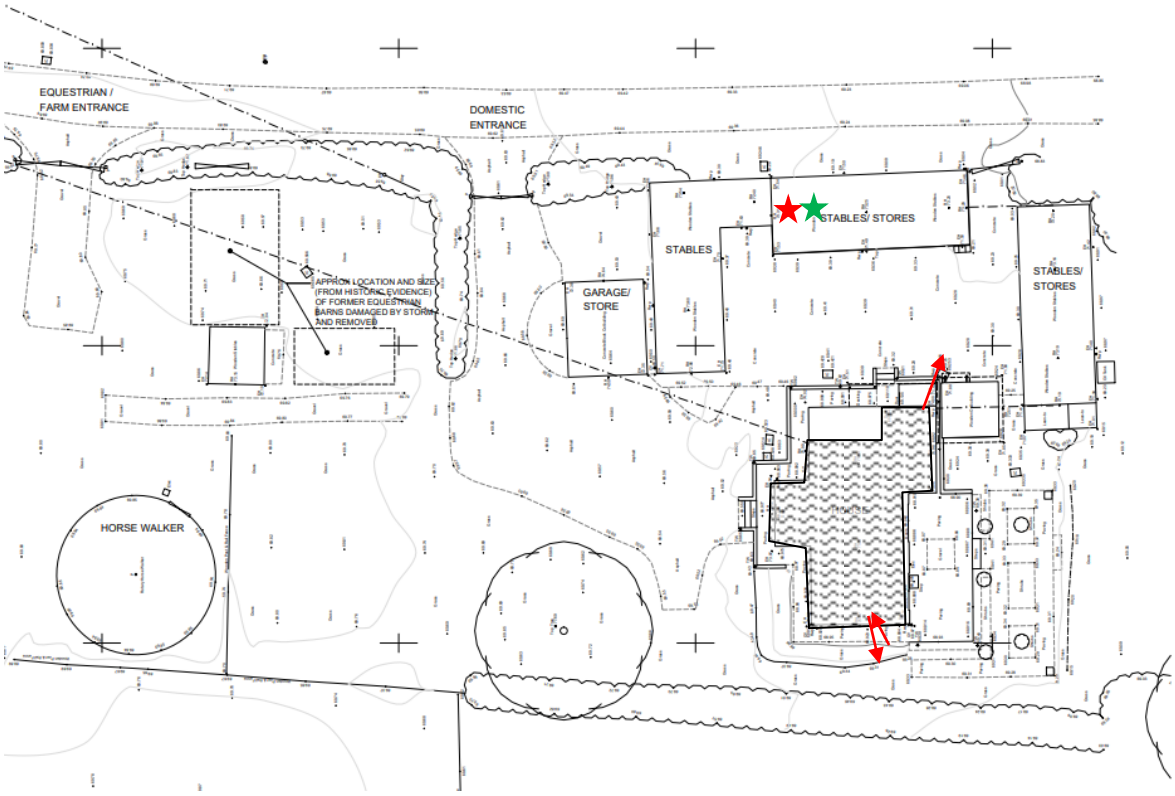

Fig 15: Bat roosts identified at South Croft.

Brown long-eared and common pipistrelle bat droppings in loft space

Common pipistrelle emergence and re-entry points

Common pipistrelle day roost

Soprano pipistrelle day roost

Commuting and Foraging

The habitats on site (hedgerow and semi-improved grassland) provide suitable habitat for bats to use when commuting and foraging through the landscape. The site is well connected to woodland and there are good hedgerow networks in the

surroundings. As such, the site provides excellent habitat for bats to use when commuting and foraging.

During emergence and re-entry surveys carried out in August and September 2023 bat activity over the site comprised commuting and foraging by a range of species, including those found to be roosting on site (common and soprano pipistrelle and brown long-eared) as well as noctule, serotine, barbastelle and lesser horseshoe. High levels of foraging by Myotis species (whiskered and Daubenton's) were recorded along the western boundary hedgerow during all surveys.

Badgers

No sett entrances were found within the site boundaries and no other evidence of badgers (latrines, snuffles holes, pathways through vegetation) were noted. The site supports suitable habitat for badgers to use when commuting and foraging through the landscape and is well connected to other areas of habitat which are suitable for this purpose.

Great Crested Newt

The habitats on site (semi-improved grassland and hedgerows) provide habitat which is potentially suitable for great crested newts to use during the terrestrial phase of their lifecycle. Great crested newts rely on pond networks for breeding and a review of OS maps and aerial photographs has identified a series of ponds to the southwest within 250m of the site. Further review of these ponds confirmed that they are a commercial trout fishery and as a result would not be suitable for great crested newts to successfully breed in. Furthermore, the results of the data search returned only one historic record of great crested newts within 2km of the site.

Given the lack of potential breeding habitat for great crested newts in the surroundings the site is not considered likely to support great crested newts during the terrestrial phase of their lifecycle.

Reptiles

The semi-improved grassland and hedgerows on site provide suitable habitat for reptile species such as slow worm and grass snake.

A pile of old tree stumps in the northwest part of the site (Target Note 1 on the Habitat Map in Appendix 1) provides suitable habitat for reptiles to use over the winter hibernation period.



Fig 16: A pile of tree stumps has become overgrown and provides suitable conditions for hibernation over the winter months (TN1 in Appendix 1).

This photo taken facing northwest on 27th July 2023.

Nesting Birds

The boundary hedgerows provide suitable habitat for nesting birds between March and August (inclusive).

There was no evidence of birds nesting in or on the main house but swallow *Hirundo rustica* nests were noted (Target Notes 2 in the Habitat Map in Appendix 1) in outbuildings 2 and 3 as well as in the stables which are to be retained. These nests showed high levels of activity throughout surveys carried out in July, August and September 2023.

One old wren *Troglodytes troglodytes* nest was noted in building 1 during the survey carried out in July 2023 but it did not show signs of current or recent activity.

Other Species

Hedgehog

The site is suitable for hedgehogs, which were recorded in the garden during emergence surveys for bats in August and September 2023. The owners of the property reported that hedgehogs have used the garden of the property for breeding.

Brown Hare

There are records of brown hare in the surrounding landscape and the site provides suitable habitat for them when commuting and foraging.

LEGISLATION

Bats

Bats are protected under Regulation 41 of the Conservation of Habitats and Species Regulations 2017 and under Section 9 of the Wildlife and Countryside Act 1981.

Under this legislation it is an offence to:

- Kill, injure or handle a bat;
- Possess a bat (whether alive or dead);
- Disturb a roosting bat; or
- Sell (or offer for sale) a bat (without an appropriate licence).

In addition, it is an offence to damage, destroy or obstruct access to a bat roost, whether it is currently in use or not.

Where bats are present within a feature or structure on a development site in England, a licence may be granted by Natural England for works to alter or remove the roost. Licence applications can only be made once full planning permission has been granted and a suitable mitigation strategy (set out in a detailed Method Statement) forms an essential part of this application process. Works are likely to be seasonally restricted and must be carried out in accordance with the Method Statement agreed with Natural England.

Reptiles

All native reptile species are protected against intentional or reckless killing or injury by the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act.

The habitat of the four common species of reptile (common lizard *Lacerta vivipara*, slow worm, adder *Vipera berus* and grass snake) does not receive additional protection.

Nesting Birds

The Wildlife & Countryside Act 1981 protects bird species in the UK and makes it an offence to:

- Intentionally kill, injure or take a wild bird;

- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; and
- Intentionally take or destroy the egg of any wild bird.

Other offences under this legislation relate to taking and possessing specimens or the eggs of wild birds.

Hedgehog

Hedgehogs are a Species of Principal Importance (SoPI) under Section 41 of the NERC Act (2006) and should, as such, be conserved through the planning process. Hedgehogs would also fall under the provisions of the Wild Mammals (Protection) Act, 1996, which prevents certain cruel acts against wild mammals.

Brown Hare

Brown hare are a SoPI under Section 41 of the NERC Act (2006) and should, as such, be conserved through the planning process. Brown hare would also fall under the provisions of the Wild Mammals (Protection) Act, 1996, which prevents certain cruel acts against wild mammals.

DISCUSSION AND CONCLUSIONS

Bats

Roosting

Emergence and re-entry surveys of the house and outbuildings at South Croft have confirmed day roosts in the roof and loft space of the house which are used by low numbers of brown long-eared, common pipistrelle and soprano pipistrelle bats and a day roost of low numbers of common pipistrelle and soprano pipistrelle in one of the stables which is to be retained.

The roosts in the stable will not be affected by the proposals for the site but all the roosts in the house will be disturbed or destroyed when the building is renovated and extended. In order to proceed lawfully, work to the roofs and roof materials, including repairs and work to internal areas of the roof and loft space, will require a licence from Natural England. An application to Natural England for a licence can be made once full planning permission has been granted and all conditions relating to wildlife discharged. Under the terms of the licence, and to maintain the Favourable Conservation Status of bats at the site, works to strip roof materials (tiles, batten, timber and felt) will need to be carried out by hand under ecological supervision. Tiles, batten, timber, felt and other materials will be carefully removed by hand and will be lifted, not rolled, to prevent crushing any bats which may be present beneath. All materials will then be checked on all surfaces for bats before stacking or throwing.

Any bats that are found will be caught by the supervising ecologist and placed in a Schwegler 2F bat box (or suitable equivalent) which will be installed on a tree or retained building in a quiet area of the site, away from disturbance by construction works.

The bat roosts at this site are of low conservation significance (Figure 4, Bat Mitigation Guidelines) and so works which have the potential to disturb bats or their roosts can be carried out at any time of the year, although not when daytime temperatures are below 8ºC, in heavy rain or strong winds.

Mitigation

The site will need to continue to provide roosting opportunities for common pipistrelle and brown long-eared bats on completion of works.

The provision of integrated bat tubes (eg. Vivara Pro Build-in Woodstone Bat Tube | NHBS Naturschutz) where the house is extended and in the new garage/annexe

building will provide suitable roost provision, and enhancement for roosting bats. The bat tubes should be provided in the locations shown in Fig 17 and 18 below.



PROPOSED SIDE/WEST ELEVATION
SCALE 1:50



PROPOSED REAR/SOUTH ELEVATION
SCALE 1:50

Fig 17: Integrated bat tubes (5no) in the west and south aspects of the house.

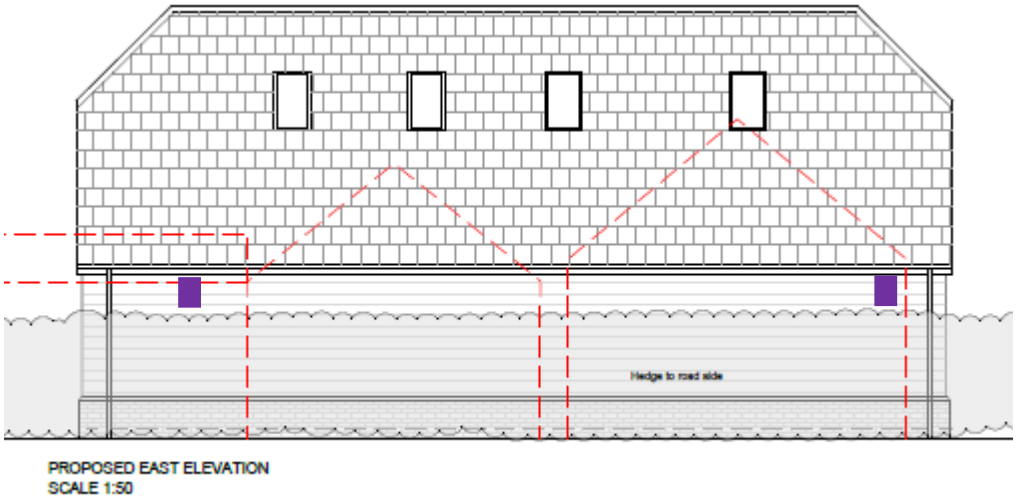

Fig 18: Integrated bat tubes (2no) in the new garage/annexe building.

There will be few void spaces remaining in the house and this will result in a reduction in the space available for brown long-eared bats, which require a void in which to roost. The droppings found in the loft space were scattered below the ridge but did not indicate levels of use which would be seen in a maternity roost. Furthermore, no brown long-eared bats were recorded roosting in the house during surveys carried out in August and September 2023.

A suitable void will be provided in the eastern eaves of the new garage/annex building which will be 14m long, 1m wide and 1.5m tall. This space will be adjacent to a hedgerow which will provide shelter and suitable foraging habitat for bats on emergence from their roost and is away from disturbance from human activity. Three bat access slates will be incorporated in this part of the roof and will allow bats to access this void. The roof will need to be lined with bitumen roofing felt or, if a breathable membrane is to be used, will need to be a roofing membrane that has passed a 'snagging propensity test' which checks that the membrane can stand the repeated snagging actions of roosting bats. To pass, a membrane must show no change in the average number of loops per cm^2 as rotations are increased from 0 to 1000.

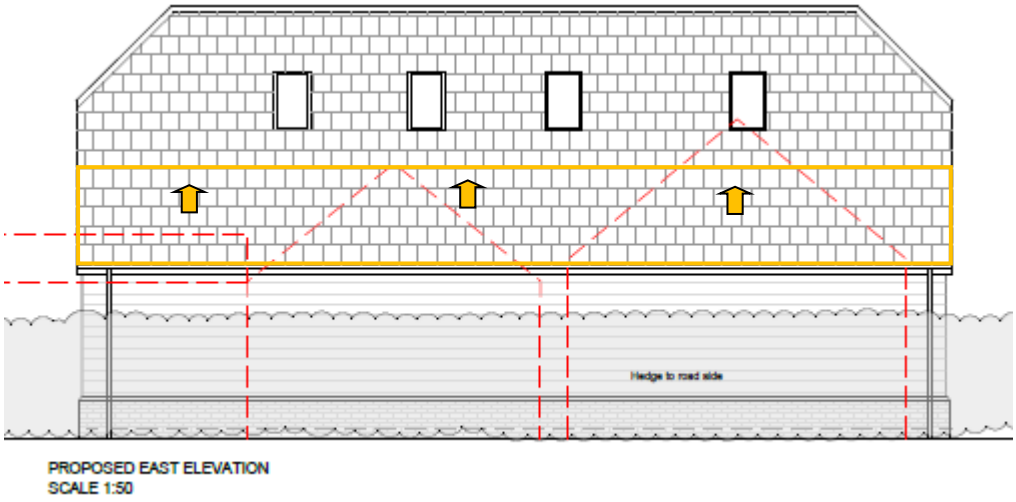

Fig 19: This void on the eastern aspect of the new garage/annexe will be provided for the benefit of brown long-eared bats.

⇧ Bat access slates.



Fig 20: Example of a bat access slate.

Commuting and Foraging

The site supports habitat which is of value to bats when commuting and foraging and is connected to other areas of suitable habitat for this purpose in the surroundings.

The proposals for the site include the long-term retention of boundary hedgerows and the property will continue to be surrounded by a garden, all of which will retain connectivity for bats commuting and foraging through the wider landscape.

Lighting is to be kept to a minimum but where external lighting is required for the purposes of safety or security, this will comply with ILP Guidance Note 8.

Badgers, Hedgehogs and Brown Hare

No badger setts or other evidence of badgers such as snuffle holes, latrines or pathways was found. However, the site supports suitable habitat for badgers and brown hare to use when commuting and foraging through the landscape and hedgehogs have been recorded on site, including when raising young. The following steps should be taken to avoid accidental harm to animals during development works:

- Any trenches that have to be left open overnight must be adapted so that any animal that falls into it is able to escape, either by leaving a gradient at one end, or placing a structure (such as a plank of wood) in the trench to allow animals to climb out;
- Drainage or other pipework should be sealed at both ends overnight; and
- Anything that may present a fire or other hazard (eg. stored chemicals) should be kept securely locked and made inaccessible to wild animals moving around the site at night.

Reptiles

The site supports habitat that is suitable for common reptile species such as slow worm and grass snake. No further survey work has been carried out for these species as impacts on potentially suitable reptile habitat will be temporary and on completion of construction and landscaping works the site will continue to provide habitat for reptiles and connectivity to other areas of suitable habitat for reptiles will be retained.

To protect individual animals from harm during construction, the following precautionary working methods should be adopted.

Precautionary Working Methods

April – September (Inclusive)

Where site works are to be carried out over the spring and summer months, when reptiles are active and could be present within the grassland in the construction area, the following approach to site preparation is recommended in order to avoid negative impacts on them.

Prior to any works commencing, and before any delivery of materials for the works, all vegetation in the construction area should be progressively mown to gradually reduce the length and density of the vegetation on site. The final cut should be as

close to the ground as possible without scouring. Progressive mowing carried out over several days will encourage any reptiles and amphibians present to move out of the development area into surrounding retained habitat. Once the vegetation has been mown to ground level it must be kept close mown until works on site are complete. If the vegetation is allowed to re-grow reptiles may move back onto the development site and a progressive mowing regime should be reinstated to prevent harm to animals that have returned.

October – March (Inclusive)

The base of hedgerows and piles of deadwood are suitable for reptiles to use over the winter hibernation period. Clearance of these areas must be carried out outside the winter hibernation period in order to avoid harm or disturbance. These areas of habitat are also suitable for hedgehogs to use for shelter over the winter months and so steps taken to protect reptiles will also protect hedgehogs from harm.

Enhancement

To enhance the site for reptiles (and for amphibians and small mammals, including hedgehogs), the provision of a hibernacula in a quiet area of the site, away from disturbance from human activity, is recommended. The hibernacula should be created according to the following specification:

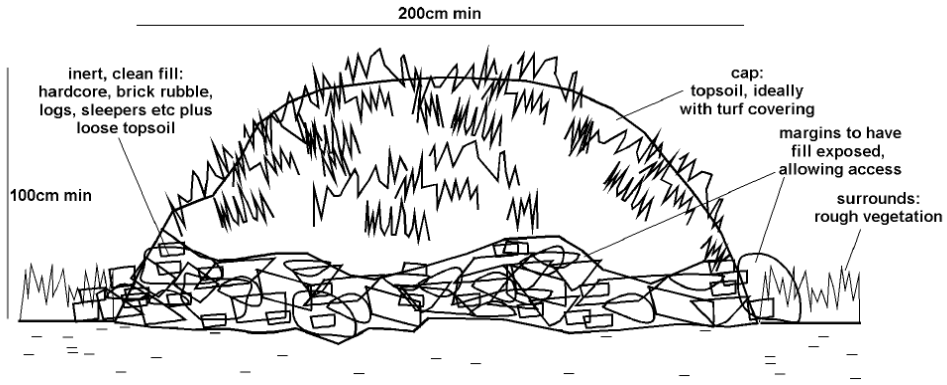

Fig 21: Hibernacula are to be created to this specification.

Nesting Birds

The hedgerows are suitable for use by nesting birds. Most of the boundary hedgerows will be retained and new hedgerow planting is proposed, but a small section of hedgerow is to be removed along the road at the northeastern corner of the site. Given the protection afforded to all breeding birds, their nests, eggs and young, it is strongly recommended that any removal of, or disturbance to, vegetation

that offers potential nesting habitat for breeding birds, should be undertaken between October and February, inclusive, outside of the main bird breeding season.

During this period the vegetation should be cut down to ground level, using hand-held mechanised tools, and the arisings removed from the site. Should this seasonal constraint prove not to be practicable, then suitable surveys for active nests should be undertaken of any vegetation which is to be cleared during the nesting bird season (March to August, inclusive). These surveys should be undertaken by a suitably qualified ecologist immediately prior to the start of any works. If any active nest or nest under construction is found, then a buffer zone of at least 5m (with distance dependent upon species and location) should be created around the nest and maintained until all chicks have fledged. Once the fledglings are no longer dependent upon the nest, works can then re-commence.

It should be noted that significant delays can result to works being undertaken during the breeding bird season and, as such, it is strongly recommended that vegetation clearance works, where possible, are completed during the winter months.

Swallow nests were noted in buildings 2 and 3 and there is an old wren nest in building 1. Demolition of these buildings should be carried out between October and February, outside the period when these nests could be active.

Mitigation

Swallow nest cups (eg. Vivara Pro WoodStone Swallow Bowl | NHBS Naturschutz) will be provided to encourage swallows to continue to nest at the site. The provision of nest cups in the new stable building would encourage nesting in this building. Eight nest cups should be installed at varying heights inside the building in areas that will always be accessible through an open doorway or window.

REFERENCES

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Collins, J. (ed.). (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition.). The Bat Conservation Trust, London. ISBN-13 978-1-872745-96-1.

Mitchell-Jones, A.J. 2004. Bat Mitigation Guidelines. English Nature.

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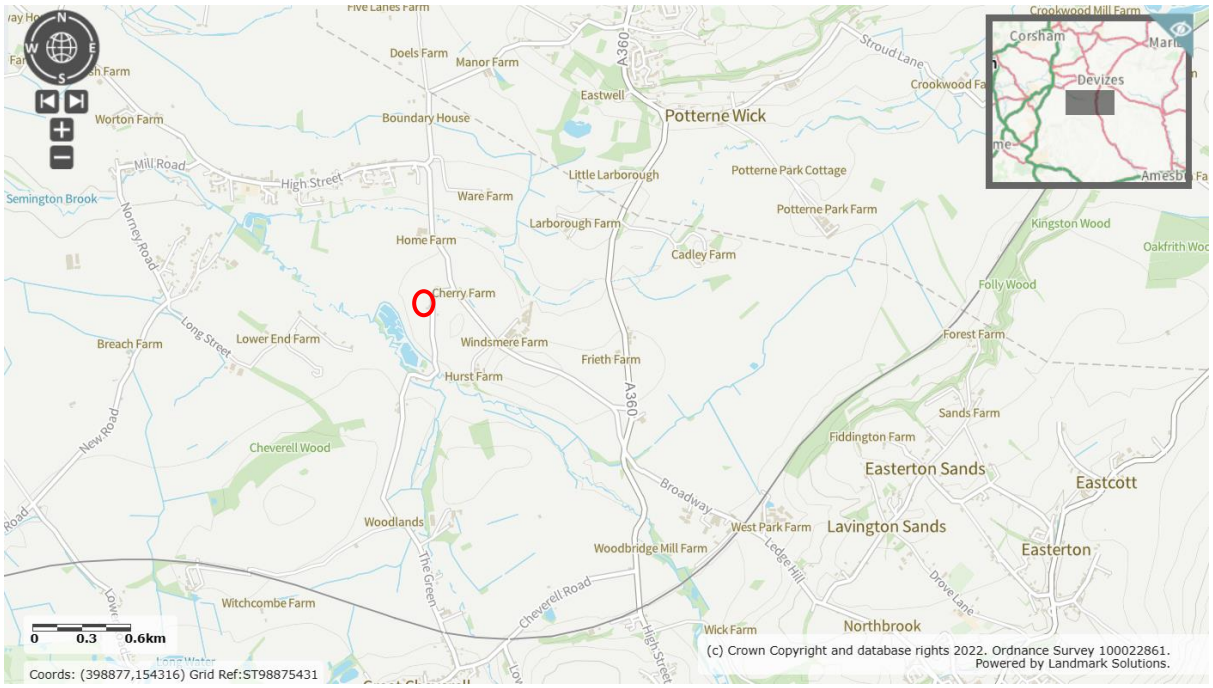
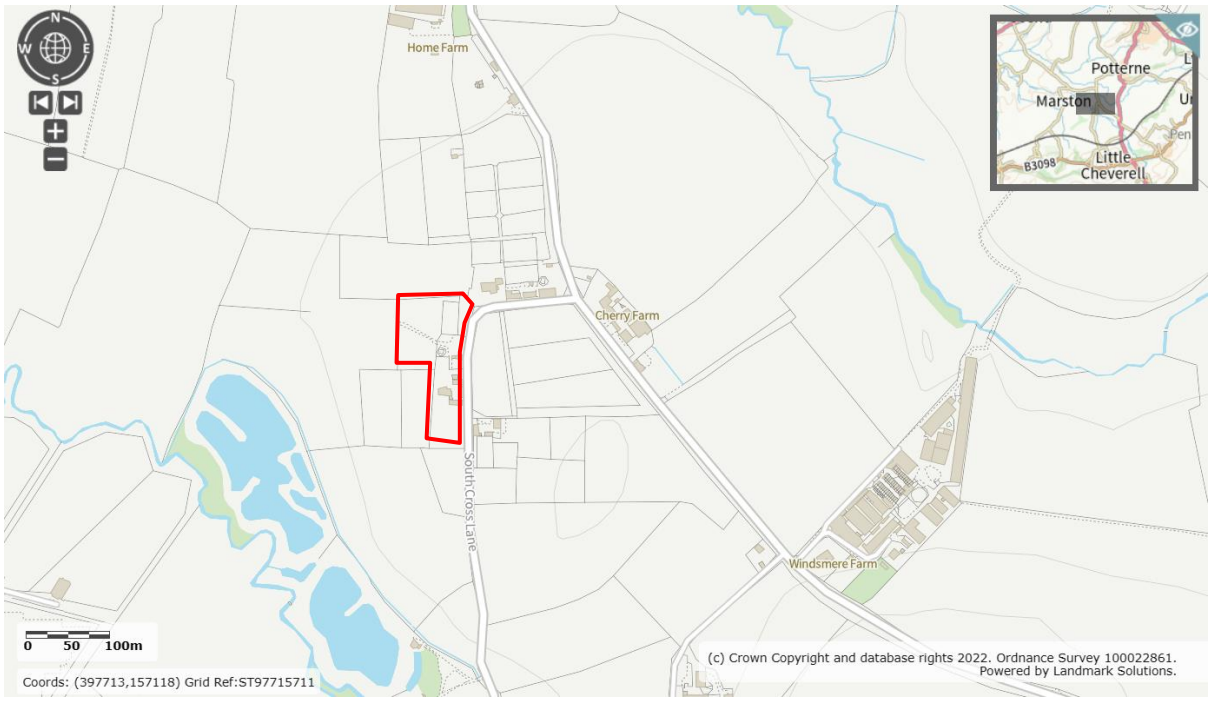
APPENDIX 1: SITE MAP






SI
SI
1
SI
SI
H4
SI
SI
SI
SI
SI
SI
SI
B1
The remains of collapsed barns.
H4
SI
SI
H3
B2
2
H2
B3
2
SI
No work to these buildings is proposed.
H1
B5
B4
SI

stark ecology ltd

KEY

Site boundary

Tree

Hedgerow

SI Semi-improved grassland

Fence

Bare ground or hard standing

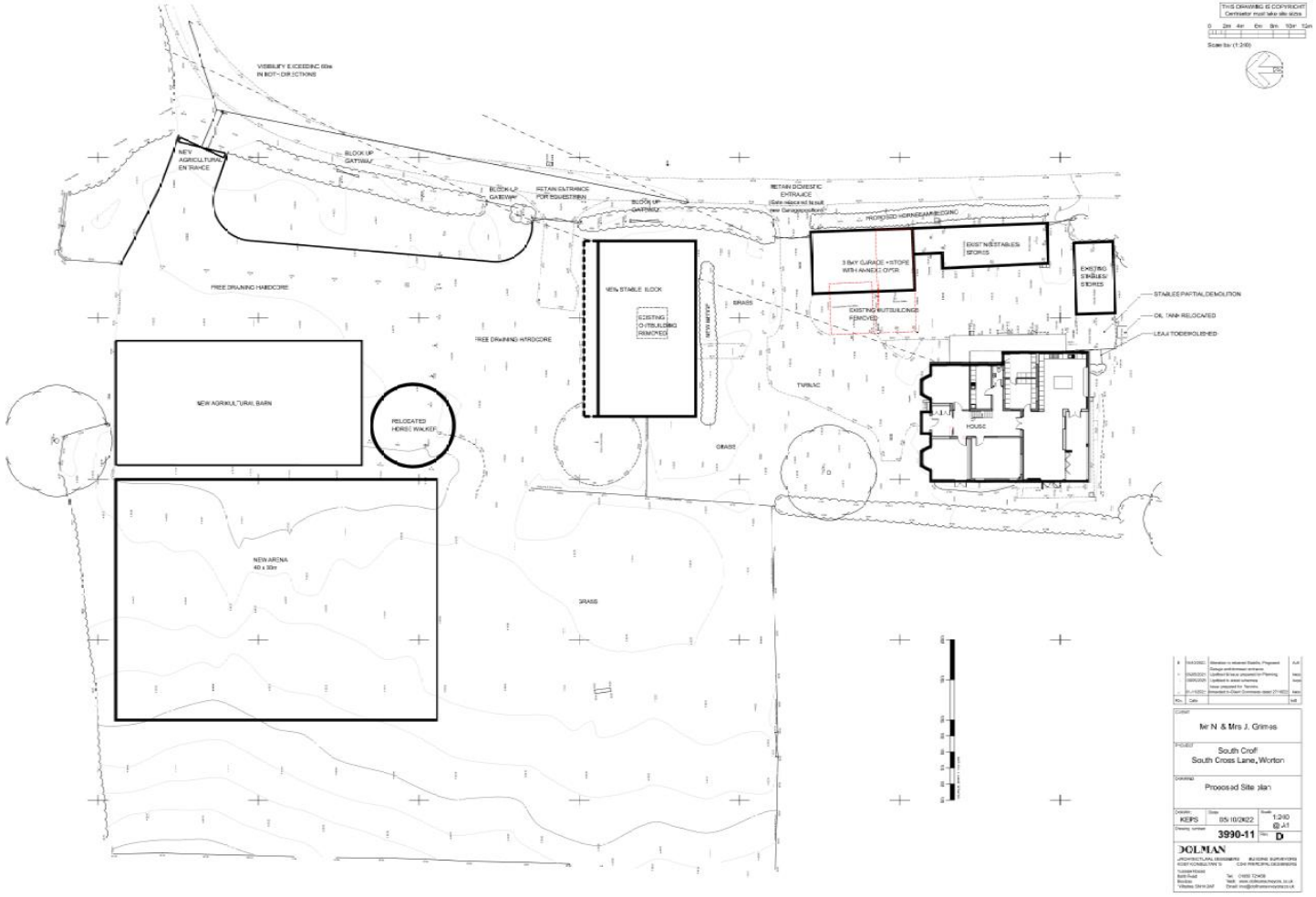
Buildings

Target Notes:

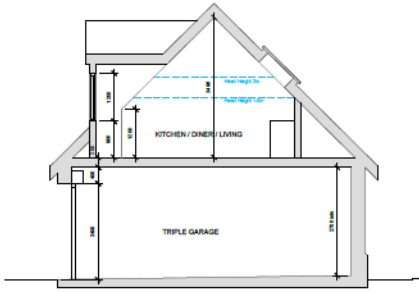
1: Pile of tree stumps (potential hibernacula)

2: Swallow nests

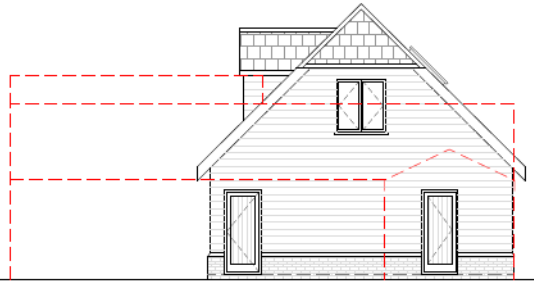
Site Proposals



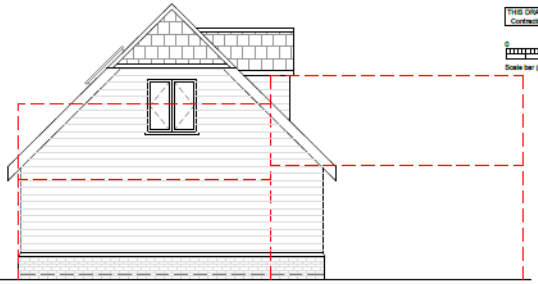

THIS DRAWING IS COPYRIGHT
Contractor must take site sizes
Scale bar (1:50)
PROPOSED FRONT/NORTH ELEVATION
SCALE 1:50
PROPOSED SIDE/EAST ELEVATION
SCALE 1:50
PROPOSED REAR/SOUTH ELEVATION
SCALE 1:50
PROPOSED SIDE/WEST ELEVATION
SCALE 1:50
Mr N. & Mrs J. Grimes
South Croft
South Cross Lane, Worton
Proposed Elevations
KEPS
11/10/2022
1:50
@ A1
3990-05
D
DOLMAN



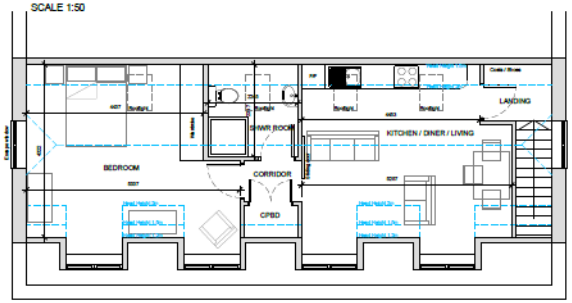
PROPOSED TYPICAL SECTION
SCALE 1:50



PROPOSED SOUTH ELEVATION
SCALE 1:50



PROPOSED NORTH ELEVATION
SCALE 1:50

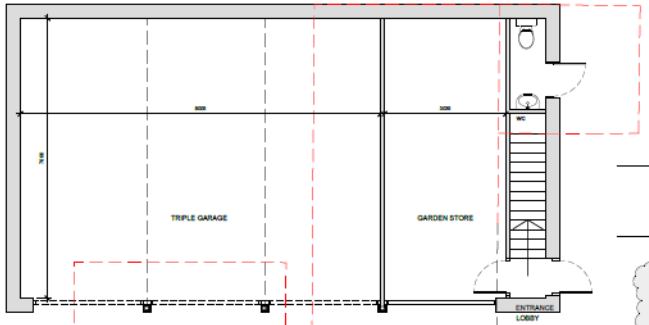


PROPOSED FIRST FLOOR PLAN
SCALE 1:50

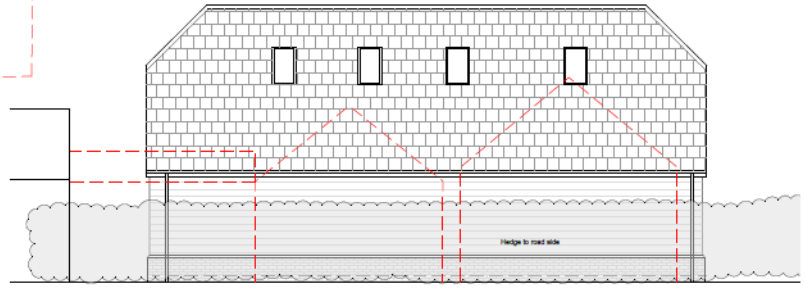


PROPOSED WEST ELEVATION
SCALE 1:50

MATERIALS:
Roof - Pitch 45deg Natural slate
Dormers – Slate roof and cedar board cheeks and gable
Walls generally - Horizontal cedar boarding stained black
Wall plinth - Mixed red multi clay brick with cant brick
Windows/ doors - Stained timber
Garage door - roller shutter



PROPOSED GROUND FLOOR PLAN
SCALE 1:50



PROPOSED EAST ELEVATION
SCALE 1:50

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Scale bar (1:50)

Mr N. & Mrs J. Grimes

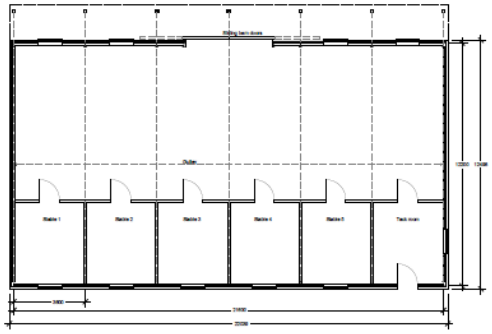
South Croft
South Cross Lane, Worton

Proposed Garage & Annexe
Plan, Section & Elevations

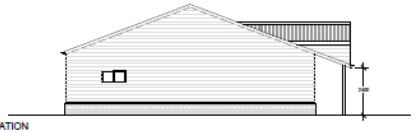
KEPS | 18/10/2022 | 1:50 @ A1

3990-20 | F

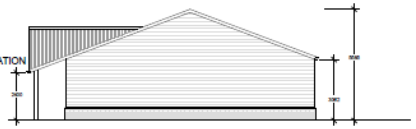
DOLMAN



PROPOSED STABLES PLAN
SCALE 1:100



PROPOSED WEST ELEVATION
SCALE 1:100



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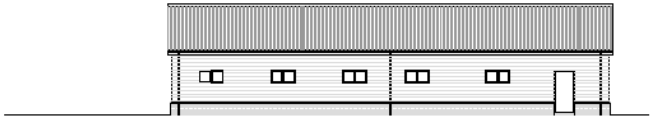
SCALE 1:100



PROPOSED SOUTH ELEVATION
SCALE 1:100



PROPOSED NORTH ELEVATION
SCALE 1:100

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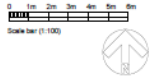
Contractor must take site sizes



MATERIALS:
Roof - Pitch 20deg Profiled metal sheet
Walls - Horizontal cedar boarding stained black
Plinth - Mixed red multi clay brick with cant brick
Windows/ doors - Stained timber
Sliding double doors - Profiled metal sheet

Rev.	Date	
C	03/05/2023	Roof updated. Issue prepared for Planning
B	03/04/2023	Amended to Client Comments dated 13/03/23
A	08/03/2023	Amended to Client Comments dated 01/03/23

CLIENT
Mr N. & Mrs J. Grimes

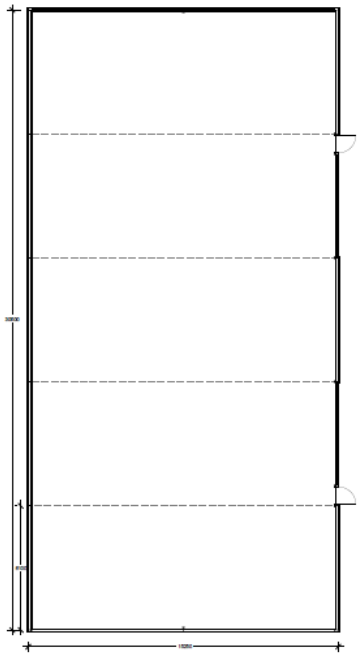
PROJECT
South Croft
South Cross Lane, Worton

DRAWING
New Stables

DRAWN	Date	Scale
KEPS	02/02/2023	1:100 @ A1

Drawing number: 3990-31 Rev. C

DOLMAN
ARCHITECTURAL DESIGNERS BUILDING SURVEYORS
CDM CONSULTANTS CDM PRINCIPAL DESIGNERS



PROPOSED AGRICULTURAL BARN PLAN
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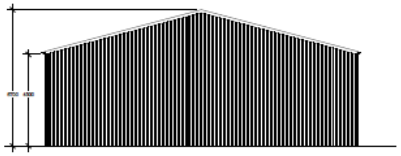
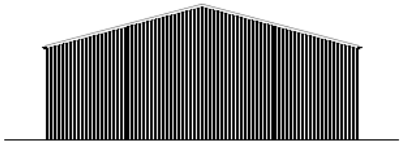
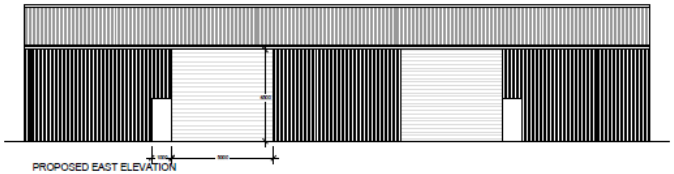


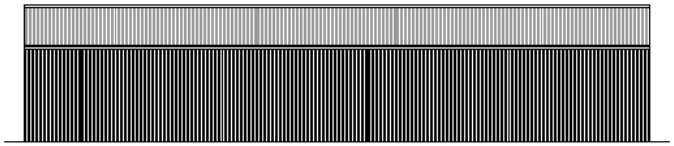
PROPOSED SOUTH ELEVATION
SCALE 1:100



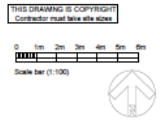
PROPOSED NORTH ELEVATION
SCALE 1:100



PROPOSED EAST ELEVATION
SCALE 1:100



PROPOSED WEST ELEVATION
SCALE 1:100



Rev	Date		Id
D	05/05/2023	Issue prepared for Planning	[illegible]
C	29/04/2023	Door height corrected	[illegible]
B	28/03/2023	Amended to Client Comments dated 01/03/23	[illegible]
A	31/01/2023	Scale corrected to 1:100 and scale bar	[illegible]

CLIENT
Mr N. & Mrs J. Grimes

PROJECT
South Croft
South Cross Lane, Worton

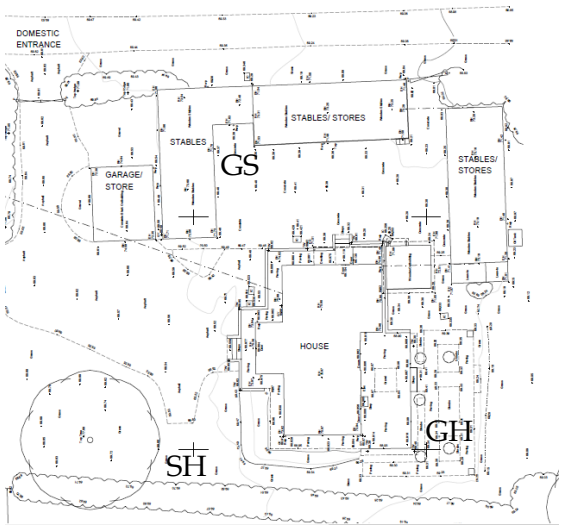
DRAWING
New Agricultural barn

DRAWN	Date	Scale
KEPS	31/01/2023	1:100 @ A1

Drawing number: 3990-30 Rev: D

DOLMAN
ARCHITECTURAL DESIGNERS BUILDING SURVEYORS
COST CONSULTANTS CDM PRINCIPAL DESIGNERS
Bussels House
Bussels Road
Dartmouth
Wilkinson 38/10 2AP
Tel: 01380 729456
Web: www.dolmanaurveyors.co.uk
Email: info@dolmanaurveyors.co.uk

APPENDIX 2: EMERGENCE SURVEY 10TH AUGUST 2023



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Survey Sheet – Bat Activity

Equipment:

EM Touch Pro 2

Panasonic HC-VX870

Nightfox XC5

Site Name: South Croft, Worton Date: 10/08/23

Weather Conditions: 50% cloud, no rain, no wind

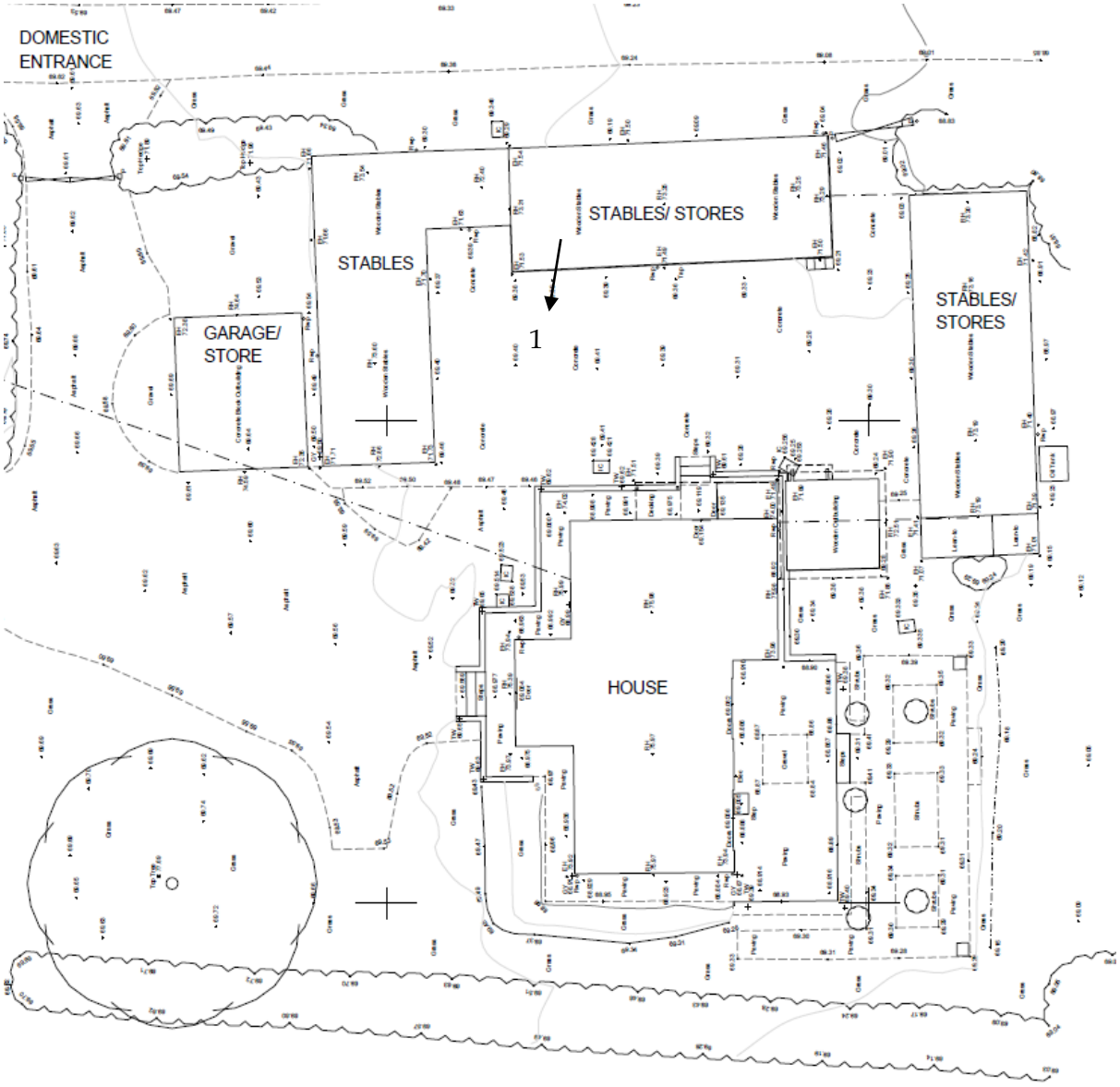
Max Temp: 23.1°C Min Temp: 18.9°C

Sunset Time: 2040 Survey Type: Emergence

Survey Starts: 2025 Survey Ends: 2210 Surveyor: GS

Time	Map Ref	Species	Activity
2105	1	45 pip	1 bat emerged from stable behind surveyor
2108	1	55 pip	1 bat emerged from stable behind surveyor
2112		55 pip	Faint calls HnS
2114		45 pip	1 bat commuting through farmyard
2124		Whiskered	Circling above surveyor
2124		55 pip	Foraging over farmyard
2128		Serotine	Flying through farmyard

Time	Map Ref	Species	Activity
2131		45 pip	HnS
2136		Noctule	HnS
2138		Myotis sp.	Commuting low through courtyard
2148		45 pip	Faint call HnS
2204		45 pip	HnS



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stark ecology ltd

Survey Sheet – Bat Activity

Equipment:

Anabat SD2

Site Name: South Croft, Worton Date: 10/08/23

Weather Conditions: 50% cloud, no rain, no wind

Max Temp: 23.1ºC Min Temp: 18.9ºC

Sunset Time: 2040 Survey Type: Emergence

Survey Starts: 2025 Survey Ends: 2210 Surveyor: SH

Time	Map Ref	Species	Activity
2117		55 pip	Foraging along western boundary hedgerow
2118		55 pip	Foraging along western boundary hedgerow
2119-20		55 pip	Foraging ongoing along western boundary hedgerow
2122		45 + 55 pip	At least 4 bats now foraging along western boundary hedgerow
2122-2210		45 + 55 pip	Ongoing foraging along western boundary hedgerow until the end of the survey
2143		Leislers	HnS
2208		Myotis sp.	HnS

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Survey Sheet – Bat Activity

Equipment:

EM Touch Pro 2

Elekon Batscanner

Site Name: South Croft, Worton Date: 10/08/23

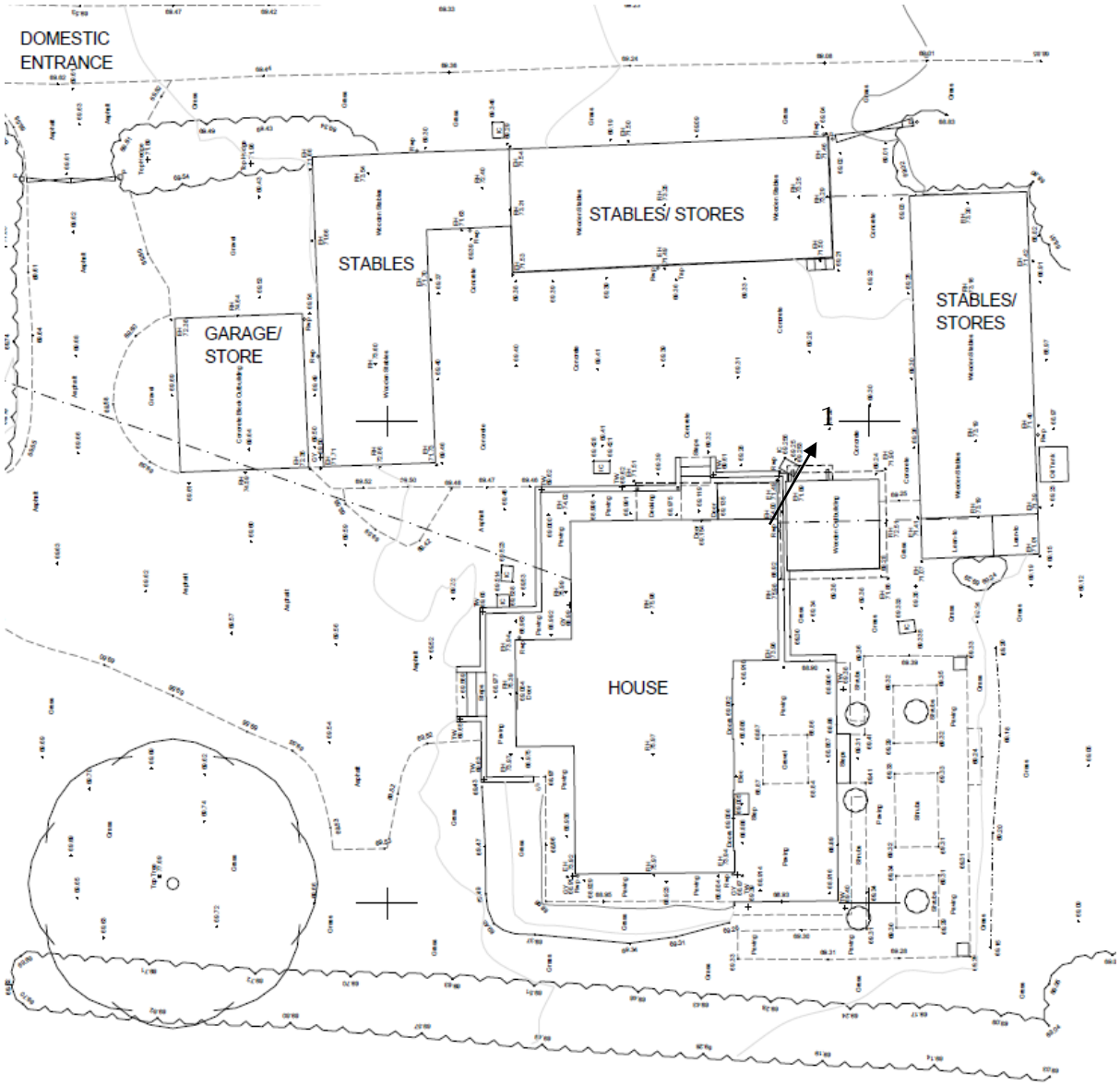
Weather Conditions: 50% cloud, no rain, no wind

Max Temp: 23.1ºC Min Temp: 18.9ºC

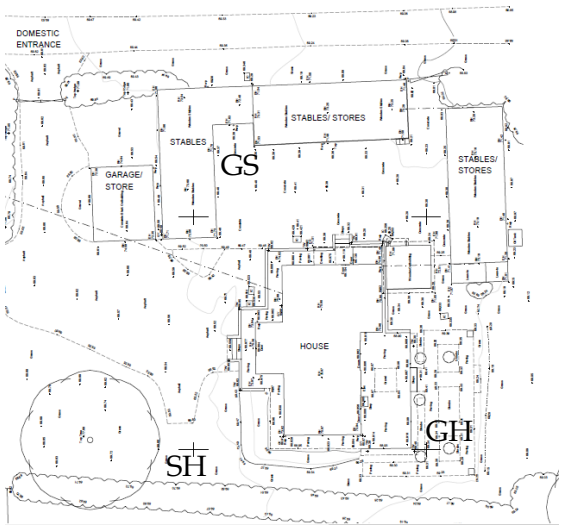
Sunset Time: 2040 Survey Type: Emergence

Survey Starts: 2025 Survey Ends: 2210 Surveyor: GH

Time	Map Ref	Species	Activity
2104		55 pip	HnS in distance to W
2105	1	No call	1 bat emerged
2112		55 pip	Commuting to S of house heading W
2118		55 pip	Foraging over garden and boundary hedgerow
2118		Noctule	HnS high over site
2119		55 pip	Commuting along western boundary hedgerow
2122		45 + 55 pip	Multiple passes along western boundary hedgerow
2122		Myotis	Two bats foraging along western boundary hedgerow
2124		Natterer's	Foraging along western boundary hedgerow
2125		Myotis sp.	Foraging along western boundary hedgerow
2134		Natterer's	HnS
2138		Noctule	HnS
2142		Daubentons	HnS
2143		Noctule	HnS
2149		Myotis	HnS


DOMESTIC
ENTRANCE
STABLES
STABLES/ STORES
STABLES/
STORES
GARAGE/
STORE
HOUSE
1

APPENDIX 3: RE-ENTRY SURVEY 23RD AUGUST 2023



stark ecology ltd

Survey Sheet – Bat Activity

Equipment:

EM Touch Pro 2

Panasonic HC-VX870

Nightfox XC5

Site Name: South Croft, Worton Date: 23/08/23

Weather Conditions: 0% cloud, dry with no wind

Max Temp: 16.2°C Min Temp: 13.2°C

Sunrise Time: 0604 Survey Type: Re-entry

Survey Starts: 0434 Survey Ends: 0619 Surveyor: GS

Time	Map Ref	Species	Activity
0436		55 pip	Brief call HnS
0440		Barbastelle	HnS
0452		55 pip	HnS
0456		Daubentons	HnS
0506		55 pip	Faint call – HnS
0531		Myotis sp.	Circling around surveyor

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stark ecology ltd

Survey Sheet – Bat Activity

Equipment:

EM Touch Pro 2

Elekon Batscanner

Site Name: South Croft, Worton Date: 23/08/23

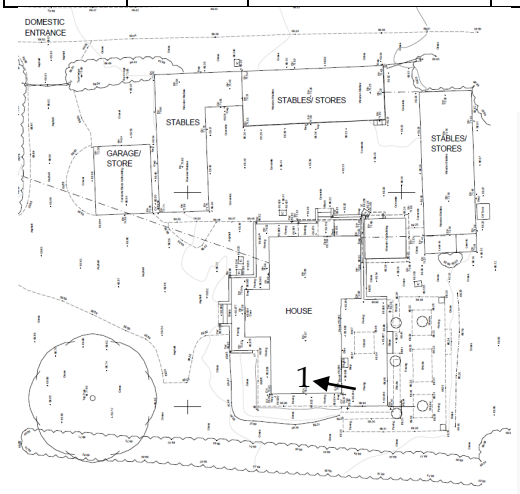
Weather Conditions: 0% cloud, dry with no wind

Max Temp: 16.2ºC Min Temp: 13.2ºC

Sunrise Time: 0604 Survey Type: Re-entry

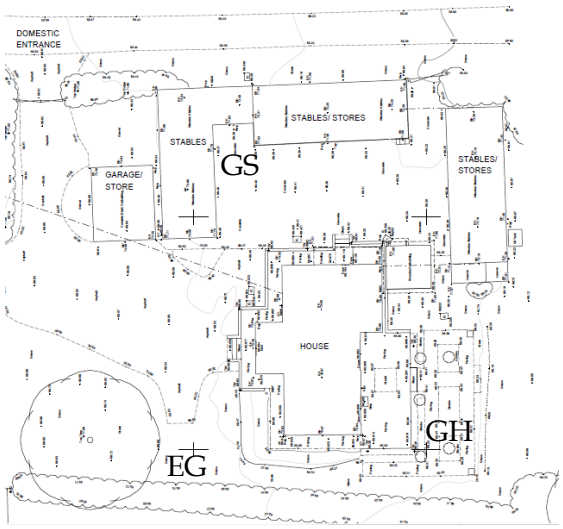
Survey Starts: 0434 Survey Ends: 0619 Surveyor: GH

Time	Map Ref	Species	Activity
0434		45 pip	Foraging along western boundary hedgerow
0441		55 pip	Foraging along western boundary hedgerow
0445		Daubentons	Commuting along hedgerow
0454		Whiskered	Commuting along hedgerow
0455		Myotis sp.	Commuting along hedgerow
0506		Myotis sp.	Commuting along hedgerow
0508		45 pip	Foraging along western boundary hedgerow ongoing until 0526
0532		45 pip	HnS
0533	1	45 pip	1 bat entered at chimney





APPENDIX 4: EMERGENCE SURVEY 11TH SEPTEMBER 2023



stark ecology ltd

Survey Sheet – Bat Activity

Equipment:

EM Touch Pro 2

Panasonic HC-VX870

Nightfox XC5

Site Name: South Croft, Worton Date: 11/09/23

Weather Conditions: 10% cloud, no rain, no wind

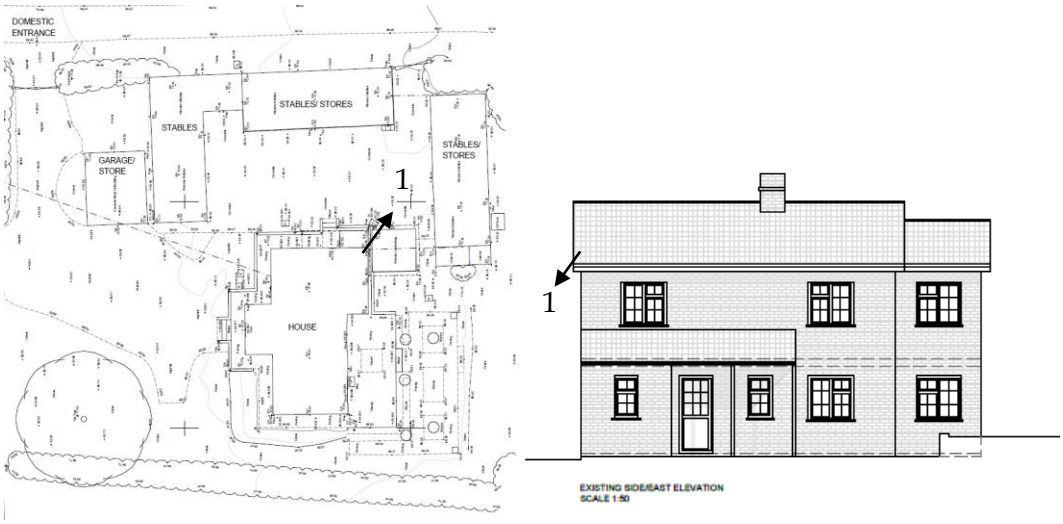
Max Temp: 21°C Min Temp: 20°C

Sunset Time: 1932 Survey Type: Emergence

Survey Starts: 1917 Survey Ends: 2102 Surveyor: GS

Time	Map Ref	Species	Activity
1941		Noctule	HnS
1942		45 pip	Foraging over farmyard
1945		45 pip	Foraging over farmyard
1947		45 pip	Foraging over farmyard
1948		45 pip	Foraging over farmyard
1951		45 pip	Foraging over farmyard
1955		45 pip	2 bats chasing over farmyard

Time	Map Ref	Species	Activity
1957	1	45 pip	1 bat emerged
1958		45 pip	2 bats chasing over farmyard
2004		45 pip	Foraging over farmyard
2011		55 pip	Foraging over farmyard
2015		Noctule	HnS
2022		45 pip	Foraging over roof of house
2028		Daubentons	HnS
2028		45 pip	HnS
2035		45 pip	Foraging HnS – quite faint
2048		Serotine	HnS
2052		Serotine	HnS
2052		45 pip	HnS
2054		Serotine	HnS – more than one bat
2056		Daubentons	HnS
2058		45 pip	HnS



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stark ecology ltd

Survey Sheet – Bat Activity

Equipment:

EM Touch Pro 2

Site Name: South Croft, Worton Date: 11/09/23

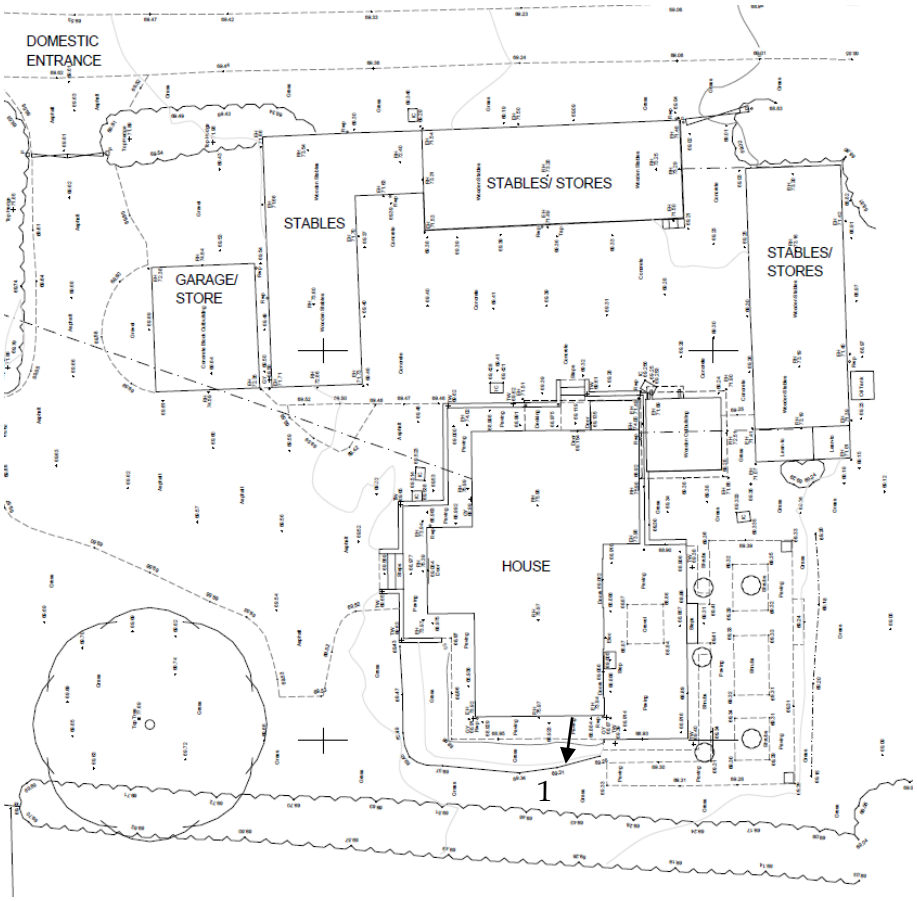
Weather Conditions: 10% cloud, no rain, no wind

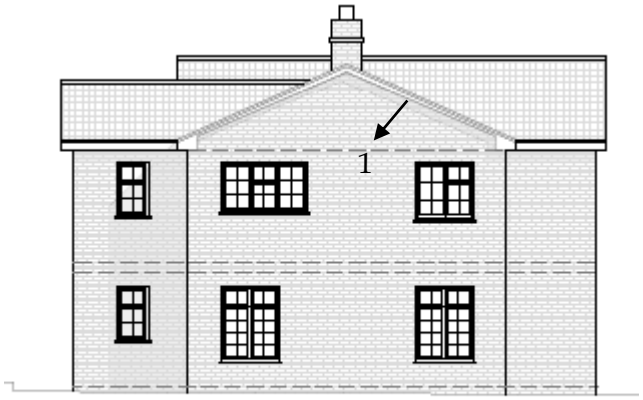
Max Temp: 21°C Min Temp: 20°C

Sunset Time: 1932 Survey Type: Emergence

Survey Starts: 1917 Survey Ends: 2102 Surveyor: EG

Time	Map Ref	Species	Activity
1938		Noctule	HnS
1939	1	45 pip	1 bat emerged at the roof verge
1955		55 pip	2 bats chasing
1956		45 pip	Foraging over roof
2000		55 pip	Foraging along western boundary hedgerow
2011		Noctule	HnS
2023		45 + 55 pip	Repeated passes HnS
2023		45 pip	Social calls HnS
2034		Natterer's	Commuting HnS
2045		Serotine	HnS
2050		Natterer's	Commuting overhead
2053		Serotine	HnS
2054		BLE	HnS
2055		Serotine	HnS
2056		BLE	Commuting HnS





EXISTING SIDEWEST ELEVATION
SCALE 1:50

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Survey Sheet – Bat Activity

Equipment:
EM Touch Pro 2
Elekon Batlogger

Site Name: South Croft, Worton Date: 11/09/23

Weather Conditions: 10% cloud, no rain, no wind

Max Temp: 21°C Min Temp: 20°C

Sunset Time: 1932 Survey Type: Emergence

Survey Starts: 1917 Survey Ends: 2102 Surveyor: GH

Time	Map Ref	Species	Activity
1938		Noctule	HnS
1948		45 pip	Commuting along other side of western boundary hedgerow
1954		45 + 55 pip	Foraging along hedgerow
1955		Serotine	Distant call HnS
2001		55 pip	Foraging in garden
2011		Myotis sp.	Commuting along boundary hedgerow
2011 - 2102		45 + 55 pip	Constant foraging over garden throughout survey
2012		Noctule	HnS
2013		Myotis sp.	Commuting along hedgerow
2017		Daubenton's	Foraging along hedgerow until 2025
2028		Myotis sp.	HnS along hedgerow
2029		Noctule	HnS
2032		45 pip	HnS
2033		LHS	Commuting along hedgerow