



GSL Ecology

For Mr and Mrs Penny

**The Shooting Box,
Edmundbyers**

**Great crested newt Risk Assessment and Bat
Survey Report R01**

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1.0 Executive Summary

GSL Ecology was commissioned to carry out a Great crested newt Risk Assessment, Bat Preliminary Roost Assessment (PRA) Survey, and bat emergence and dawn re-entry surveys at The Shooting Box, Edmundbyers (see Figs 1 to 9).

The surveys were requested to support a planning application for development which includes extension and internal rationalisation of the house, extension of an associated detached garage, realignment of the drive and associated landscaping. There is also a detached cottage on the site, but this is not part of the development proposal (See Section 2.3. for details).

The Great crested newt risk assessment concluded that the risk of great crested newts being present on site is negligible.

Bat surveys were carried out in accordance with current industry best practice guidance: (Collins, J (ed) (2016) *Bat Surveys for Professional Ecologists. Good Practice Guidelines (3rd Edition)*. Bat Conservation Trust).

PRA survey was carried out on 15/2/21, dusk emergence surveys on 19/5/21 and 24/5/21, and dawn re-entry surveys on 3/6/21, 8/6/21 and 11/6/21

Risk assessment survey for nesting birds was carried out in conjunction with the PRA survey.

Bat droppings collected on site were sent for DNA analysis to identify species.

The surveys undertaken have demonstrated that the house is used as:

- A maternity roost site (See Section 4.1 for definitions) by Common pipistrelle bats with a minimum colony size of 92 bats, though the true number is very likely to be larger as a minimum count of 140 Common pipistrelle bats were also observed heading past the building on the morning of 11/6/21 when bats were unable to enter the house due to the strong blustery wind).
- A day roost site by Brandt's bats with a minimum colony size of 6 bats.

Bats roost:

- Within Loft 3 (See Fig 4)
- Between roof slates and under boarding above Lofts 1 and 2.
- On wall tops
- Behind gutter fascia boards

There is no evidence of bats roosting within the garage building.

The adjacent Cottage was not subject to full survey because it is not part of the development proposal, but it was observed to support roosting Common pipistrelle bats during surveys of the House. Other bat species may also be present in the cottage and additional roost access points may be present beyond those observed during surveys of the House

The proposed works to the house as described in Section 2.3:

- Will result in disturbance to bats present at the time works are carried out. If work is carried out at the time the maternity colony of Common pipistrelle bats is present (May to August inclusive)

that disturbance would be "significant" (as defined by Natural England in relation to the Habitats and Species Regulations 2017 (as amended)).

- Has the potential to result in bats being killed or injured if any present at the time works within lofts (e.g. re-wiring and installing new heating system) or near wall tops are carried out.

It is noted that the construction of the extension at the western end of the south elevation will not result in obstruction of the roost access points on wall tops and behind fascia boards in this area because the extension is lower than the existing wall top height.

The works to the house described in Section 2.3 can be carried out without a significant negative impact on bats provided that:

- Works are carried out in a manner which minimises the risk of bats being killed or injured during the works, and;
- The existing roost sites and access points are retained, and;
- Works are not carried out during the bat maternity period (which is weather dependent but generally May to August inclusive)

If works to:

- The house and
- External works:
 - within 10m of the western half of north elevation,
 - within 10m of the western half of South elevation
 - within 10m of the west elevation

can be carried out and completed outside of the bat maternity period and in accordance with the recommendations below, a Bat Mitigation Licence will not be required, and it will be possible to instead rely on the principle of Continued Ecological Functionality. This will require:

- the work described above to be carried out in accordance with a precautionary, written, ecological method statement prepared by an appropriately experienced and licensed bat ecologist.
- The work to be carried out with some elements of ecological supervision and periodic site inspections by the bat ecologist.
- work to be carried out in a manner which avoids the triggering of any offences (i.e. breaching the legal protection afforded to bats and bat roosts). This to be set out in the written method statement.
- Work to be carried out without damaging, destroying, or obstructing any roost site.

No timing restrictions or precautionary working methods/licensing are required for the proposed work to the detached garage described in Section 2.3 as there is no evidence of the detached garage being used by roosting bats.

It is recommended that:

Once any planning permission required has been obtained, a detailed mitigation proposal is drawn up by an appropriately experienced and licensed bat ecologist. The Ecologist should be someone who is able to obtain Bat Mitigation Licences sites for development in case development proposals (or bat use of the building) changes, or the work programme is delayed, and a licence is then required

The mitigation proposal should preferably be drawn up in consultation with the building contractor specifying or undertaking the works (to ensure that the detailed mitigation proposal is feasible and deliverable from both a construction and an ecological perspective).

While the detail of the mitigation proposal cannot be finalised prior to consultation with the building contractor, in general terms the mitigation required will involve:

- Works that could disturb bats roosting in the house not taking place during the bat maternity period (which is weather dependent but generally May to August inclusive).
- If works on site are to start after 28th February 2022, the buildings on site being re-surveyed (to confirm that there has been no change in bat use of the building) before works commence.
- A detailed written, precautionary method statement (Contractors Method Statement – CMS) being produced by the bat ecologist setting out the appropriate working methods, and timing of works, that will ensure that bats cannot be killed or injured during the works and that no roost site will be damaged, destroyed or have access to it obstructed.
- Prior to any works starting, all contractors being made aware (by means of the CMS and a tool box talk by the supervising bat ecologist) of the presence of bat roosts in the house, of the locations known to be used by bats, of their legally protected status, of the working methods and timing to be adhered to, and the appropriate course of action to be taken if bats are found in an unexpected location.
- Elements of work where there is a risk that bats might be present in the working areas during the works being identified within the CMS. Those elements of work being carried out under the direct ecological supervision of the bat ecologist. The works requiring ecological supervision are likely to include, but will not necessarily be limited to:
 - Any works within the lofts of the house (e.g. re-wiring and work on heating system).
 - Modification and creation of any new wall openings in the house (e.g. in the south elevation of the building)
 - Construction of the dining room extension on the south elevation of the house.
- The CMS will also identify areas on site where works **can** take place during the bat maternity period and without ecological supervision (e.g. the detached garage, external areas more than 10m from the house).
- All existing roost sites and access points in the house being retained during and after the works are undertaken.

It should be noted that implementation of the recommendation listed above may be made a condition of any planning permission granted and therefore this report should not be submitted in support of a planning consent application if there is any doubt that all the recommendations can be fully implemented.

Local Planning Authorities (LPA) may attach a condition to any planning consent issued that a CMS is submitted for approval by the LPA before works commence.

The recommendations within this report are those we consider are necessary to comply with the legal protection afforded to bats and to allow an LPA to grant planning and listed building consent (where required). However, if you believe any recommendation may be problematic for your development, please contact GSL Ecology to discuss any concerns before submitting this report in support of a planning application.

If works to the house that could potentially disturb roosting bats cannot be carried out and completed outside of the bat maternity period, a Bat Mitigation Licence will be required because of disturbance impacts on the maternity colony of Common pipistrelle bats.

The details and recommendations within this report are valid for a period of 12 months from the date of the last survey completed (11/6/21). Beyond this period, if works are not underway, a new review of the ecological conditions on site will need to be carried out.

2.0 Introduction

2.1 Background to the Proposal

It is proposed to extend and modify a detached, two-storey house and an adjacent detached single-storey garage at The Shooting Box, Edmundbyers.

The site lies at OS Grid Reference NZ 01747 49972 and Postcode DH8 9NL.

The proposal requires planning permission and, in response to a request from the local planning authority, Crispin Mason-Jones (architect for the owner) commissioned GSL Ecology to carry out a Great crested newt Risk Assessment and a Preliminary Bat Roost Assessment (PRA) Survey prior to submitting a planning application for the work.

That PRA (undertaken in February 2021) identified that bat emergence and dawn re-entry surveys were required because of evidence (in the form of bat droppings within lofts) that the building supported roosting bats.

The results of all surveys undertaken are reported here.

2.2 Site/Habitat Description and Location of Proposed Works

The building lies in a rural location at the southern edge of the village of Edmundbyers at OS Grid Reference NZ 01747 49972 and Postcode DH8 9NL.

The location of the site is shown in Fig 1 below.



Fig 1 Site location

The site is immediately surrounded to the south by rough pasture fields leading to a well-wooded watercourse (See Fig 2 below).

The village of Edmundbyers to the north and west has a range of detached and semi-detached stone buildings suitable for supporting roosting bats.

The predominant habitat within 1km of the site is rough pasture with moorland at the periphery.

There is mature deciduous woodland along a minor watercourse within 250m to the south of the site.

Derwent Reservoir and the River Derwent lie approximately 1.2km to the north east.

These provide excellent bat foraging habitat and potential commuting routes to the wider countryside.

Overall, the surrounding habitat within 1km of the site is of high quality for supporting bats.



Fig 2. Site Location and Surrounding Habitat

2.3 Full details of proposed works on site

Our understanding is that the following works are proposed for the buildings:

The House:

1. *Construction of a single storey dining room extension on the south elevation (west end)*
2. *Construction of a single storey porch on the north elevation (east end)*
3. *Internal alterations to rationalise the room layout on the ground floor including:*
 - a. *Remodelling of the garden room on the south elevation.*
 - b. *Modification of an existing opening in the external wall of the south elevation (west end) to connect the new extension to the original house.*
 - c. *Conversion of an existing window opening to create a new door opening in external wall of the existing sitting room to allow access to the new extension*
 - d. *Realignment of staircase.*
 - e. *Associated changes to electrical, plumbing, and other fittings*
4. *Internal alterations to rationalise the room layout on the first floor including:*
 - a. *realignment of staircase.*
 - b. *New partition walls and creation of new ensuite*
 - c. *Associated changes to electrical, plumbing, and sanitary installations and fittings.*

The Garage:

5. *Construction of a two-storey extension on the east elevation of the existing garage to create a gym and additional garage, with games room above and a covered terrace to the rear (south)*
6. *Installation of low-level lighting on the terrace*

Externally:

7. *Realignment of the driveway and associated soft and hard landscaping including new hard standing, steps, retaining walls, etc.*
8. *Demolition of an existing timber shed to the north of the existing garage*
9. *Relocation of an existing oil tank on the alignment of the proposed new driveway*
10. *Partial demolition of garden walls on the alignment of the proposed new driveway*
11. *Installation of low-level lighting along the proposed new driveway*

We understand that no works are proposed for the adjacent cottage a short distance to the north of the house, which lies within the curtilage of the property and the same ownership as the house and garage.

Photographs of the buildings are included in Appendix A.

Architect's Drawings are included in Appendix B.

The site layout is shown in Figs 4 to 9 and the Architects Drawings in Appendix B.

3.0 Survey and Site Assessment

3.1 Pre-existing information on bats and Great crested newts at the survey site

To our knowledge, no previous bat surveys or Great crested newt assessments have been undertaken at the site prior to the PRA carried out by GSL Ecology in February 2021.

3.2 Objectives of the Great crested newt Risk Assessment

The aims of the assessment work undertaken by GSL Ecology was to determine the risk of Great crested newts being present at the site and affected by the proposed development.

3.3 Objectives of the Bat Surveys

The aims of the survey work undertaken by GSL Ecology, and the subsequent report presented are to:

- Outline the legislative protection conferred on bats (See Appendix C)
- Identify features within the buildings to be developed that have the potential to be utilised by bats.
- Search for field signs indicating current or past use of the buildings by bats.
- Document the results of internal/external inspections of the buildings.
- Document the results of emergence and dawn re-entry surveys of the buildings.
- Assess what impacts the proposal will have on bats.
- Design appropriate mitigation to minimise any impacts and advise if a Bat Mitigation Licence will be required.

3.4 Site and Building Description

The House

The house is a two-storey, stone, detached dwelling house (See Photos in Appendix A) which has been extended (to the west) in the past. It is approximately 22m x 20m in plan with a complicated roof structure and roof slopes facing in all directions.

There is a glazed garden room on the south elevation.

The roof is of slate with clay ridge tiles.

External walls are of stone. Wall mortar is in sound condition.

Gutters are on timber fascia boards on the extension sections and on metal brackets fixed direct to walls on the older section of the house.

Windows are timber and are a combination of sash and casement windows with frames tight to walls.

There are three lofts in the house.

Loft 1 is above the north side of house, within an extended section of the house. The main part of the loft is 7m X 4m x 3m high to the ridge beam. There is a raised platform at the south end. The underside of the roof is fully lined with sterling board, though composite timber ridge beam and purlins are exposed. The loft is fully boarded out for storage and has a light but is empty.

Loft 2 is a T-shaped loft above the west end of the house (with an extended section of the house), accessed via a crawl-through from Loft 1. The underside of the roof is again fully lined with sterling board, with composite timber ridge beam exposed, but this loft is only 1m high to the ridge. The loft is fully boarded out for storage but is empty.

Loft 3 is a large H-shaped loft above the east end of the house, which is the original house. The loft is approximately 12m x 10m at its largest extent and 3m high to the ridge. Roof trusses and rafters are of rough cut, round, timber, and there is full timber sarking beneath the slate roof covering. There is fibreglass insulation on the top of the ceiling and a light within the loft.

A stone chimney stack passes through the loft.

The house is part of the development proposal.

(See Photos in Appendix A)

The Garage

The garage is a single-storey, stone, detached double garage that stands a short distance to the east of the house. The walls are of stone and well mortared. The roof is of slate supported on modern fink trusses and the interior is open to the roof without a loft. Gutters are of uPVC and fixed directly to the wall without fascia boards.

The garage is part of the development proposal.

(See Photos in Appendix A)

The Cottage

The cottage is a stone dwelling which is part single, and part two-storey. The roof is of slate. There is a single-storey kitchen extension on the south side which has a mono-pitch roof of slate which faces west.

Gutters are on timber fascia boards which are fixed to the end of rafters which project a short distance past the wall top.

There are no accessible loft spaces, though there is a small (inaccessible) void (approx. 50mm high) below the ridge above the first-floor rooms.

The Cottage is not part of the development proposal.

Figs 1 and 2 show the site in the context of the surrounding habitat.

Fig 4 shows the locations of buildings and lofts.

4.0 Survey Methodology

4.1 Great crested newt Risk Assessment

The risk of Great crested newts being present at the site was assessed by:

- Using online aerial imagery and maps to identify if there are any ponds or standing water within 250m of the site, and;
- For ponds within 250m of the site, assess the risk of the pond supporting great crested newts by inspecting the pond, where access available, and completing a standard Habitat Suitability Index (HSI) assessment.

4.2 Bat Roost Assessment

An internal and external bat roost assessment of the buildings was completed (on 15/2/21) by a suitably experienced and licensed bat ecologist: Graeme Smart under Natural England Class Licence WML-CL19 & 20. The bat roost assessment was completed under suitable weather conditions with survey methodology based on current industry best practice guidance (Collins, J (ed) (2016) *Bat Surveys for Professional Ecologists. Good Practice Guidelines (3rd Edition)*. Bat Conservation Trust)

This preliminary roost assessment was completed to assess the likelihood of bats using the buildings as a roost site. The exterior of the buildings was inspected from ground level during daylight, and any features with potential for being exploited by roosting bats were noted. All areas were viewed using close-focussing 8 x 40 Leica binoculars from the ground level. Any potential access points were identified and inspected.

The loft areas which were accessible were entered and inspected.

Where appropriate walls, ledges, eaves etc. were inspected from the head of a ladder and a torch, angled mirror, digital camera and/or flexible endoscope were used to inspect accessible cavities.

During the external and internal inspection, the following field signs indicative of past or current use by bats were searched for:

- bat droppings on the ground, floor, or stuck to walls.
- suitable entry and exit points including cracks and gaps in mortar/external and internal wall coverings.
- live bats, bat corpses or skeletons
- oily marks (from fur) or localised clean spots around possible access points and roost areas
- lack of cobwebs in potential access point entrances and roost areas
- feeding remains (such as moth wings).

All bat species resident in the UK have been recorded using buildings and built structures at some time during the year. Many bat species also use underground sites or trees as roosts. Different types of roost are used by bats throughout the year, and bat species may show preferences for certain locations. Table 1 below shows broad categories of bat species according to roosting preferences (adapted from Hundt, 2012).

Table 1. Broad categories of bat species according to roost preference (Hundt, 2012)

Broad categories of bat species according to roosting preference
<ul style="list-style-type: none"> • Crevice dwelling bat species (which tend to be hidden from view): <i>common pipistrelle</i>, <i>soprano pipistrelle</i>, <i>Nathusius' pipistrelle</i>, <i>Brandt's bat</i>, <i>whiskered bat</i>, <i>Alcathoe bat</i>, <i>Bechstein's bat</i>. • Roof-void dwelling bat species (that may or may not be visible on roof timbers): <i>noctule</i>, <i>serotine</i>, <i>Leisler's bat</i>, <i>Daubenton's bat</i> and <i>Barbastelle</i>. • Bat species that need flight space in certain types of roost (that may or may not be visible on roof timbers): <i>Natterer's bat</i>, and <i>brown and grey long-eared bats</i>. • Bat species that need flight space and flying access (and roost hanging freely in the open): <i>greater and lesser horseshoe bats</i>.

The type of roost used may vary throughout the year. Roost types can be:

- **Transitional (April-September/October).** On waking from hibernation or in the period prior to hibernation, bats search for roosts in which they stay for only a few days or on some occasions several weeks. These transitional roosts can be occupied by a few individuals or occasionally small groups. The transitional roosts used prior to hibernation are generally cool and thus may allow bats to reduce their energy requirements before going into hibernation.
- **Maternity Roost (May – August).** Breeding females gather together around the beginning of May to form nursery colonies. During this period gestation begins with births typically occurring between June and July. The females and their young remain within the maternity roost until the young are weaned and independent (late July-August). These roosts tend to break up between August and September. Adult males are rarely found within these colonies. However, the adult males of long-eared bats, Daubenton's, Natterer's, greater and lesser horseshoe bats can be found roosting within maternity colonies with their numbers increasing throughout the active season.
- **Satellite Roost (May-August).** Breeding females may have alternative roosts in close proximity to the main nursery colony. These are referred to as 'satellite roosts'. The numbers of bats using these roosts can vary greatly, from a few individuals to small groups.
- **Mating roost (September – November).** All British bats are polygynous i.e., males mate with several females. Mating generally takes place from late summer and can continue through winter.
- **Hibernation Roost (October – March).** Depending on the weather and food availability, bats tend to move to hibernation sites from October.

- **Night Roost (March – November).** Bats may use roosts other than traditional day roosting sites to rest in during the night. These roosts vary in their conservation significance. Night roosts may be used by a single individual on occasion, or they could be used regularly by the whole colony. Studies have shown that night roosts may be of particular importance to some species i.e. the lesser horseshoe, providing key resting places within core foraging areas.
- **Day Roost (March – November).** These roosts are used during the day to rest in. Males of most British species spend the summer roosting alone or in small groups with other males in such roosts. Bats may regularly use a number of day roosts, switching between them on a daily basis, though conversely, they may occupy the same roosting site for several weeks.
- **Feeding Roost (May – November).** These roosts can be occupied by a single animal or a few individuals throughout the active season. They vary in their significance as they may be used by the whole colony or just a few individuals to feed, to shelter from the weather or to rest temporarily.
- **Swarming sites.** Swarming takes place between August and November, whereby large numbers of bats from several species gather, generally around caves and mines. They are often dominated by the *Myotis* species and appear to be important mating sites with some bats travelling several kilometres to reach these areas. A proportion of the bats that travel to these sites will remain to hibernate.

Following the assessment, the building was categorised in accordance with the criteria for roost assessments identified in the Bat Conservation Trust: Bat Surveys. Good Practice Guidelines (2016), and as shown in Table 2. Suitability categorisation takes into consideration the location and habitat connectivity, construction materials used in buildings, age, and condition of buildings (and trees), aspect, and orientation etc.

Table 2. Criteria for Assessing Roosting Suitability

Suitability for Supporting Roosting Bats	Description
Negligible	Negligible habitat features on site likely to be used by roosting bats
Low	<p>A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).</p> <p>A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential</p>
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only - the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed)

High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions, and surrounding habitat
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4.3 Nesting Bird Risk Assessment

Survey was carried out on 15/2/21 in conjunction with the bat roost assessment survey.

The objective of the survey was to determine whether the buildings are used as a nest site by any bird species, including Barn Owls.

The buildings were searched internally and externally for field signs indicative of the current or past use of the building by nesting birds.

Signs indicative of the presence of nesting birds were searched for including:

- Live or dead birds
- droppings under possible entry points at wall tops or holes in walls or beneath nest locations
- feathers
- nests

Where appropriate walls, ledges, eaves etc. were inspected from the head of a ladder and a torch, angled mirror, digital camera and/or flexible endoscope were used to inspect cavities.

During inspection of the exterior walls and interior of the roof from ground level, 8 x 40 Leica binoculars and a 1,000,000-candle power Clulite torch were used where necessary.

4.4 Dusk Emergence and Dawn Re-entry Surveys

The number of dusk emergence and dawn re-entry surveys undertaken was based on the results of the PRA undertaken on 15/2/21 and in line with current survey guidelines (Collins, 2016).

The house would have been assessed as having high roost suitability, but was already confirmed as supporting roosting bats, and therefore one dusk emergence and two dawn re-entry survey were completed as roost characterisation surveys.

The garage was assessed as having moderate roost suitability in the PRA conducted on 15/2/21 and one dusk emergence and one dawn re-entry survey were therefore completed.

The Cottage was assessed as having moderate roost suitability in the PRA conducted on 15/2/21 but is not part of the development proposal and therefore was not surveyed further. However, the presence of roosting bats within the Cottage was confirmed during surveys of the house (See Section 5.4 below).

Surveys were carried out by Graeme Smart, assisted by four additional experienced field surveyors, Sannce cctv cameras with supplementary IR emitters, Canon XA11 infra-red video camera with supplementary IR emitters, and Pulsar Accolade XP50 Thermal imaging binoculars on each survey.

Surveyors used BatloggerM detectors to listen to and identify bat species during survey and to record bat activity for post-survey analysis.

Bat calls recorded were analysed using BatExplorer sound analysis software.

Sample sonograms from calls recorded during survey are included below.

Infra-red video recordings made by cctv and Canon XA11 were reviewed using VLC Media player.

Pulsar Accolade XP50 Thermal imaging binoculars were used either as a surveyor aid, or as tripod-mounted monitoring device recording continuously with recordings being reviewed post-survey using VLC Media player.

Dusk emergence surveys commence 15 minutes before sunset and continue for approximately 1.5 to 2 hours after sunset.

Dawn re-entry surveys commence 2 hours before sunrise and continue until sunrise, or until 15 minutes after sunrise if there is still bat activity at sunrise.

Table 3 Summarises the dates of the surveys and weather conditions.

Figures 5 to 9 show the locations of surveyors and video cameras during surveys.

Table 3: Dates and weather conditions for surveys.

Date and Survey	Start time	Sunrise/ Sunset	Finish time	Temp. Start (°C)	Temp. End (°C)	Precipitation	Cloud	Wind (Beaufort)
15/2/21 Day time Assessment	13:00	N/A	15:50	2	2	None	20% at start of survey. 20% at end of survey.	B1 from NE
19/5/21 Emergence Survey (Garage)	20:53	21:15	22:51	12.5	12.5	None	100% at start and 100% at end of survey	Beaufort B0 at start and end of survey.

24/5/21 Emergence Survey (House)	20:40	21:23	22:44 (rain)	9.5	9	Light rain at end if survey.	50% at start and 100% at end of survey	Beaufort 2 from W at start, rising to B4 briefly during survey then B0 at end of survey.
3/6/21 Dawn re- entry survey (South elevation of House)	01:54	04:36	04:37	10.5	8	None	100% at start and 100% at end of survey	Beaufort 0 at start, B1 from SE at end of survey.
8/6/21 Dawn re- entry survey (Garage and North elevation of House)	01:58	04:31	04:41	10.5	9	None	<10% at start and 50% at end of survey	Beaufort 0 at start, B2 from SW at end of survey.
11/6/21 Dawn re- entry survey (North elevation of House)	02:20	04:29	04:40	14.5	13.5	None	100% at start and 100% at end of survey	Beaufort 4/5 from S at start, B5 from SE gusting to B6 at end of survey.

4.5 DNA Analysis

Following the observation of Myotis bats roosting within the building which are either Whiskered or Brandt's bats during surveys of the house, samples of droppings collected within the lofts during the PRA inspection, were sent to Ecotype Genetics Ltd Laboratory at Sussex University for identification of species.

Dropping sample A from Loft 3 (See Fig 4 for location) was sent as a mixed sample with a request to identify all species present.

Dropping sample B from Loft 3 were sent as a mixed sample with a request to identify all species present.

4.6 Limitations

There are no significant limitations on the survey undertaken.

All areas of the building were accessible and were inspected in February 2021.

Bat emergence and dawn re-entry surveys were carried out in the optimal survey period (May to August)

The details and recommendations within this report will remain valid for a period of 12 months from the date of the last survey undertaken (11/6/21).

5.0 Results

5.1 Great crested newt Risk Assessment Results

Review of maps and aerial imagery identified that:

- There are no ponds within 250m of the site.
- The nearest pond is 389m to the west of the site, on the opposite side of the village to the site

See Fig 3 in Appendix B

5.2 Bat Roost Assessment Results

During the external and internal assessment undertaken on 15/2/21, the features detailed in Table 4 and 5 below were noted that provide potential for the buildings to support roosting or hibernating bats (Also see photos in Appendix A).

The house was assessed to have high suitability for supporting roosting bats. The presence of bat droppings within Loft 3 confirmed that the building is used as a roost site

The garage was assessed to have low to moderate suitability for supporting roosting bats.

The cottage was assessed to have moderate suitability for supporting roosting bats but is not part of the development proposal.

Table 4: Features/Areas with potential for bats to access or roost within The House.

Elevation/Roof Void	Potential Bat Access points (PBA) Potential Bat Roost Locations (PBR)	Any indications or contraindications of current or recent use by bats?
Northwest elevation	PBA: <ul style="list-style-type: none"> • Behind timber gutter fascia boards • Occasional gaps under ridge tiles • Gaps at wall tops • Gap at apex of gable wall above front door • Behind metal verge plates on gable walls (Verge mortar is generally in good condition elsewhere) • Under lead flashing at base of chimney at south end • Occasional raised roof slates PBR: <ul style="list-style-type: none"> • Within lofts • Between roof slates and under boarding • Behind timber gutter fascia boards • Under ridge tiles 	No field signs indicating use by bats seen.

	<ul style="list-style-type: none"> On wall tops Under lead flashing at base of chimney at south end 	
North East Elevation	<p>PBA:</p> <ul style="list-style-type: none"> Occasional raised slates Under lead flashing at base of chimney Gaps at wall top. <p>PBR:</p> <ul style="list-style-type: none"> Within lofts Between roof slates and under boarding Under ridge tiles On wall tops Under lead flashing at base of chimney 	No field signs indicating use by bats seen.
South East Elevation	<p>PBA:</p> <ul style="list-style-type: none"> Behind timber gutter fascia boards Occasional gaps under ridge tiles Gaps at wall tops Gaps in verge mortar Occasional raised roof slates and edge of valley gutters <p>PBR:</p> <ul style="list-style-type: none"> Within lofts Between roof slates and under boarding Behind timber gutter fascia boards Under ridge tiles On wall tops In holes in verge mortar Under lead flashing at base of chimneys 	No field signs indicating use by bats seen.
South West Elevation	<p>PBA: Very few</p> <ul style="list-style-type: none"> Occasional raised roof slates and gaps under slates Velux windows (Wall top gap behind gutter fascia board is foam-filled) <p>PBR:</p> <ul style="list-style-type: none"> Between roof slates and under boarding Behind gutter fascia board 	No field signs indicating use by bats seen.

Loft 1	PBA: <ul style="list-style-type: none"> As described above by elevation PBR: <ul style="list-style-type: none"> On and above roof timbers On wall tops Between slates and under boarding 	No field signs indicating use by bats seen within the loft. Gaps between sterling board under boarding is filled with expanding foam in most places.
Loft 2	PBA: <ul style="list-style-type: none"> As described above by elevation PBR: <ul style="list-style-type: none"> On and above roof timbers On wall tops Between slates and under boarding 	No field signs indicating use by bats seen within the loft. Gaps between sterling board under boarding is filled with expanding foam in most places.
Loft 3	PBA: <ul style="list-style-type: none"> As described above by elevation PBR: <ul style="list-style-type: none"> On and above roof timbers On wall tops Around chimney stack 	Scattered bat droppings throughout the loft and two distinct accumulations beneath central ridge beam at A and B (sampled).
Additional Notes		
The lofts are not accessible to birds.		
Field Sign Samples collected for possible future DNA analysis?		
Yes (Samples of bat droppings collected from within Loft 3).		

Table 5: Features/Areas with potential for bats to access or roost within The Garage.

Elevation/Roof Void	Potential Bat Access points (PBA) Potential Bat Roost Locations (PBR)	Any indications or contraindications of current or recent use by bats?
All Elevations	PBA: (Very Limited) <ul style="list-style-type: none"> Gap at wall top and gap behind gutter on south elevation PBR: <ul style="list-style-type: none"> On wall tops 	No field signs indicating use by bats seen.
Additional Notes		
The interior is not accessible to birds.		
Field Sign Samples collected for possible future DNA analysis?		
No		

5.3 Nesting Bird Survey Results

The interior of the house, including lofts, is not accessible to birds. No old nests were seen on the exterior of the building.

The interior of the garage is not accessible to birds. No old nests were seen on the exterior of the building.

5.4 Dusk Emergence and Dawn Re-entry Survey Results

During the emergence survey of the Garage at The Shooting Box on 19/5/21:

The following survey resources were in use in the locations shown in Fig 5:

- 2 surveyors with BatloggerM bat detectors
- 2 x Sannce CCTV cameras with supplementary IR illumination (covering a recessed roof area at the north west corner of the building)

No bats emerged from the garage building.

The following species were detected on site: Common pipistrelle, Soprano pipistrelle, Noctule, Myotis sp.¹, Brown long-eared bat. Some Myotis calls recorded during survey have characteristics that suggest that Daubenton's bat and Natterer's bat were present at the site.

The first bat observed or detected on site was a Common pipistrelle bat at 21:13hrs (2 minutes **before** sunset) which arrived from the west, flying past the north face of the house.

Several more Common pipistrelle bats arrived from the west, flying past the north and south of the house between 21:13hrs and 21:48hrs, suggesting a roost site either on site in either the house or the cottage, or very close to site somewhere to the west or north.

Common pipistrelle was the bat species most frequently detected on site.

Soprano pipistrelle was detected occasionally, and the first Soprano pipistrelle was detected at 21:34hrs (19 minutes after sunset)

A single detection of a Noctule bat commuting over or past the site (bat not seen) was made at 21:43hrs (29 Minutes after sunset)

Myotis sp. bats were detected infrequently by surveyors at the garage building. The first detection was made at 21:43hrs (29 Minutes after sunset) to the south west of the garage.

Most Myotis calls recorded during survey have characteristics that suggest the bat was probably Whiskered or Brandt's, but some were possibly Daubenton's bat.

Brown long-eared bats were detected to the south of the house with the first being detected at 22:12hrs (58 minutes after sunset)

¹ A bat of the genus Myotis but the call recorded does not allow identification of the bat to species level.

During this survey, a BatloggerM detector was deployed as a static detector for the duration of the survey, to gauge bat activity and the range of species on site. The detector was deployed in the darkest location near the house (beneath the large Sycamore tree 7m to the south of the house). The detector was operational between 20:38hrs (37 minutes before sunset) and 22:46hrs (91 Minutes after sunset).

This detector recorded Common pipistrelle bat at 20:47hrs (28 minutes **before** sunset) adding weight to a conclusion that Common pipistrelle bats were roosting in the house or cottage, or very close to the site.

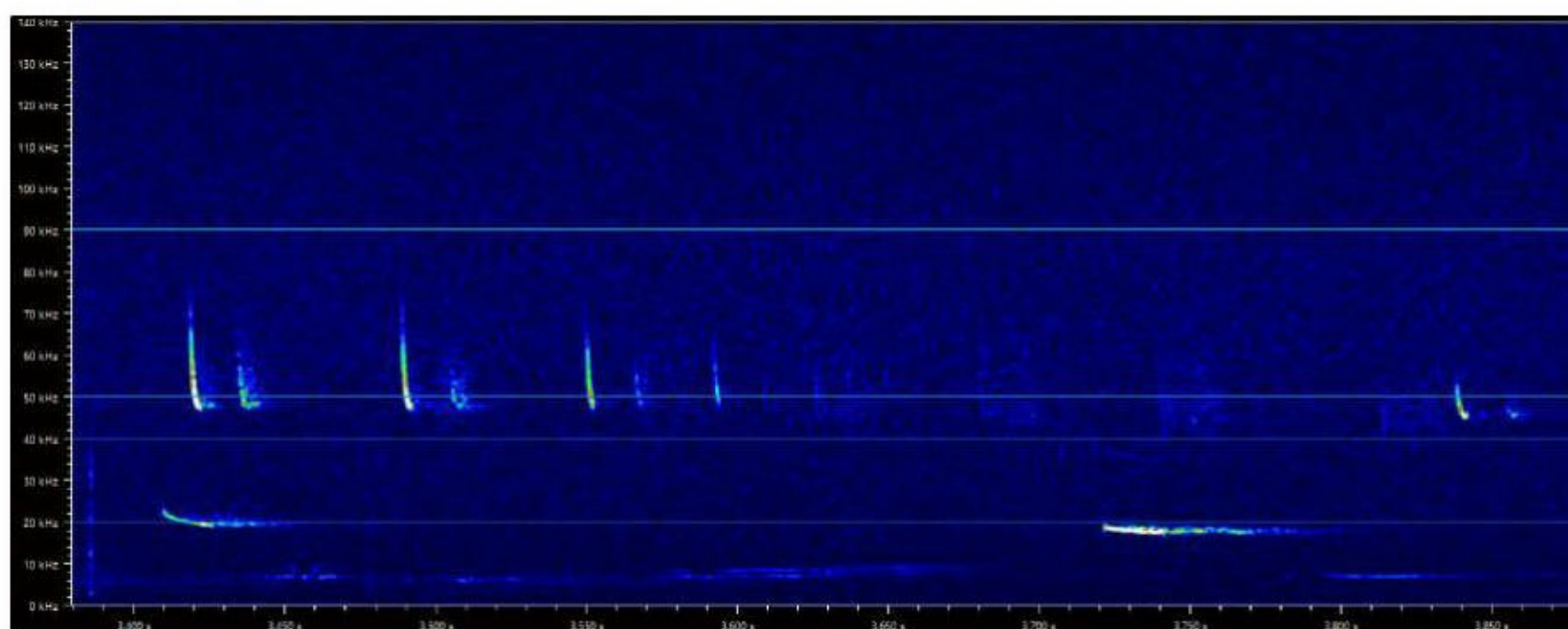
The detector also recorded Soprano pipistrelle, Brown long-eared bat and Myotis sp. bats.

The first Soprano pipistrelle was recorded at 21:25hrs (10 minutes after sunset).

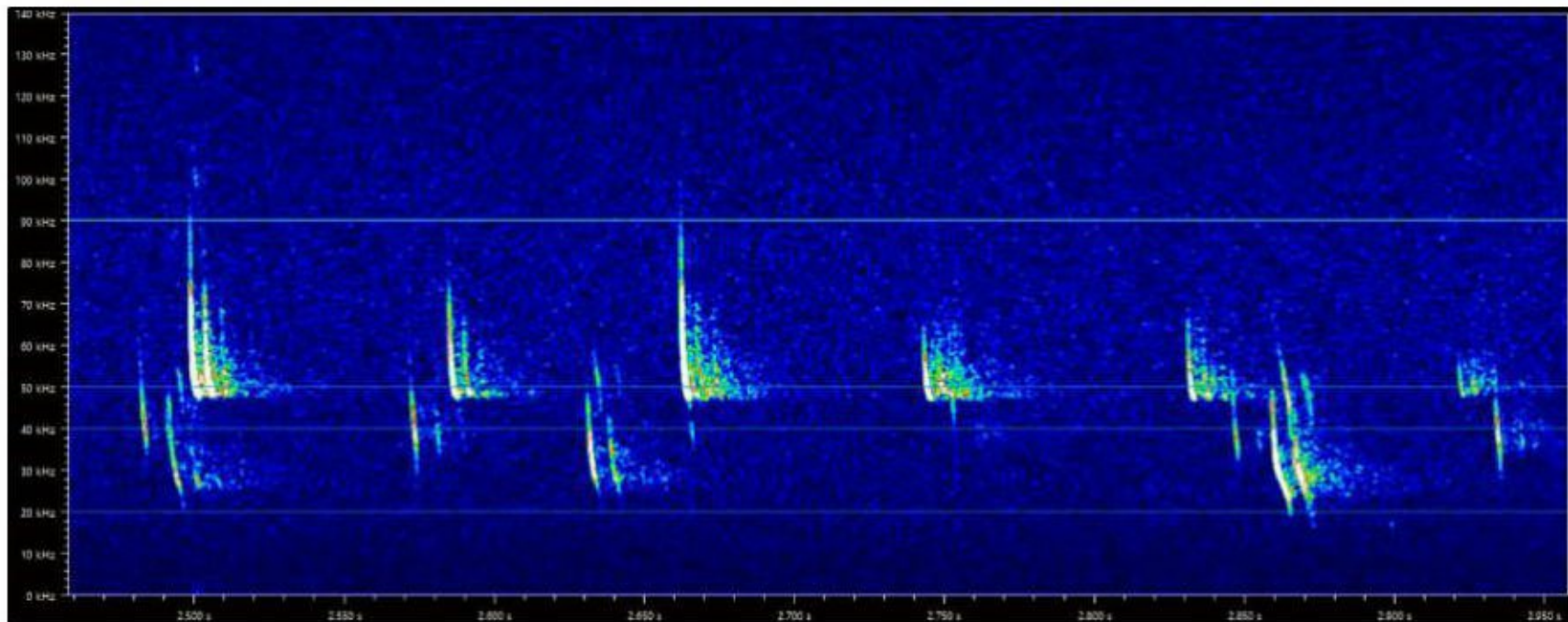
The first Brown long-eared bat was recorded at 21:49hrs (34 minutes after sunset).

Some Myotis calls recorded by this detector have characteristics that suggest the bat recorded was probably a Natterer's bat.

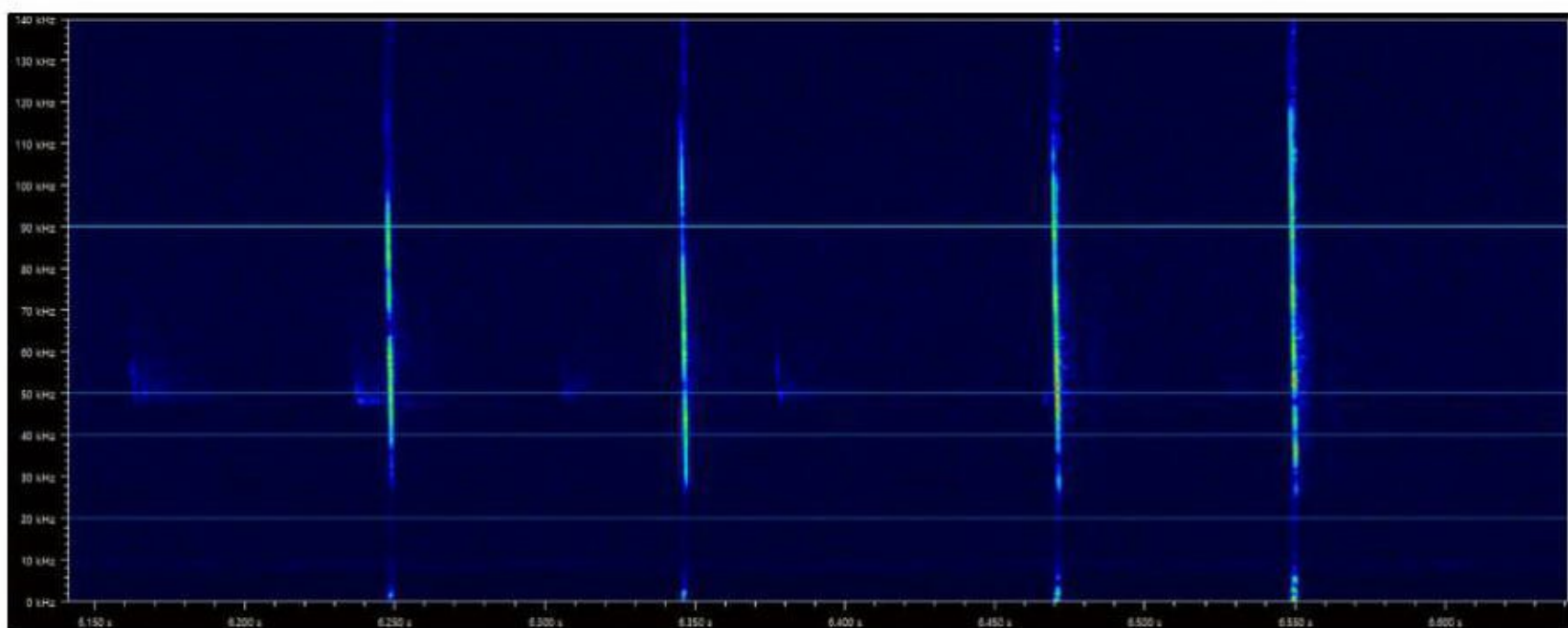
Example sonograms of bat calls recorded during the survey are reproduced below.



***Common pipistrelle and Noctule recorded during survey. (Did not emerge).
 (Recorded on BatloggerM)***



***Common pipistrelle and Brown long-eared bat recorded during survey. (Did not emerge).
(Recorded on BatloggerM)***



***Myotis bat (Possibly Natterer's bat) recorded during survey (Did not emerge).
(Recorded on BatloggerM)***

During the emergence survey of the House at The Shooting Box on 24/5/21:

The following survey resources were in use in the locations shown in Fig 6:

- 5 surveyors with BatloggerM bat detectors
- 1 x Canon XA11 video camera with supplementary IR illumination (covering the south west corner of the building)
- 2 x Sannce CCTV cameras with supplementary IR illumination (covering a recessed roof area at the north west corner of the building)
- 1 x Pulsar Accolade XP50 - Thermal Imaging Binocular (used as surveyor aid)

Shortly after arrival at site, while setting up cctv and video cameras for survey, a single small bat was seen flying to the south of the building at 20:29hrs (54 minutes **before** sunset). This is assumed to have been a Pipistrelle bat based on size, flight characteristics, and the early emergence time.

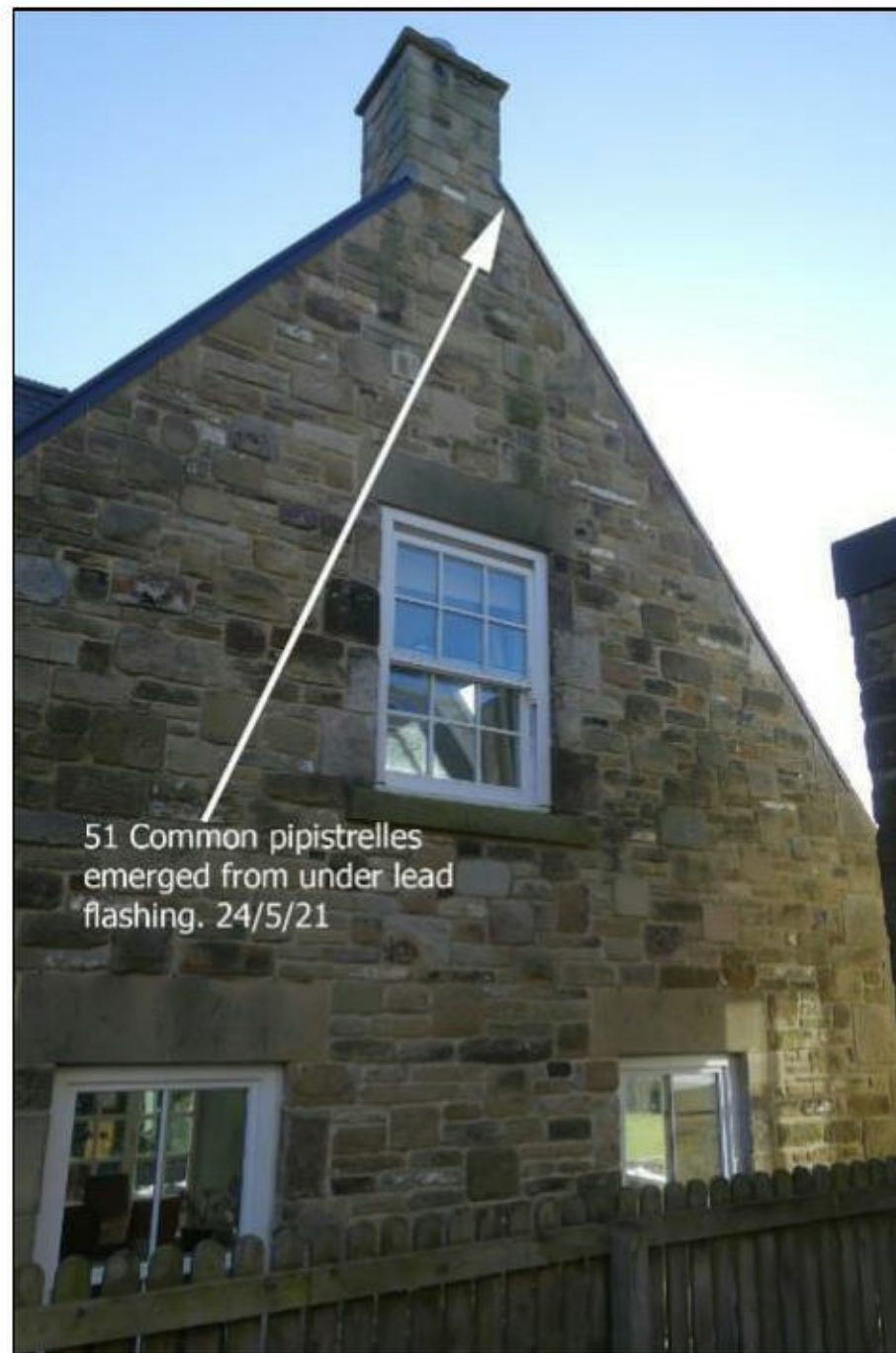
In response, surveyors were deployed and were active with detectors switched on by 20:40hrs (43 minutes before sunset)

54 Common pipistrelle bats emerged from the building from the locations shown in the photographs below.

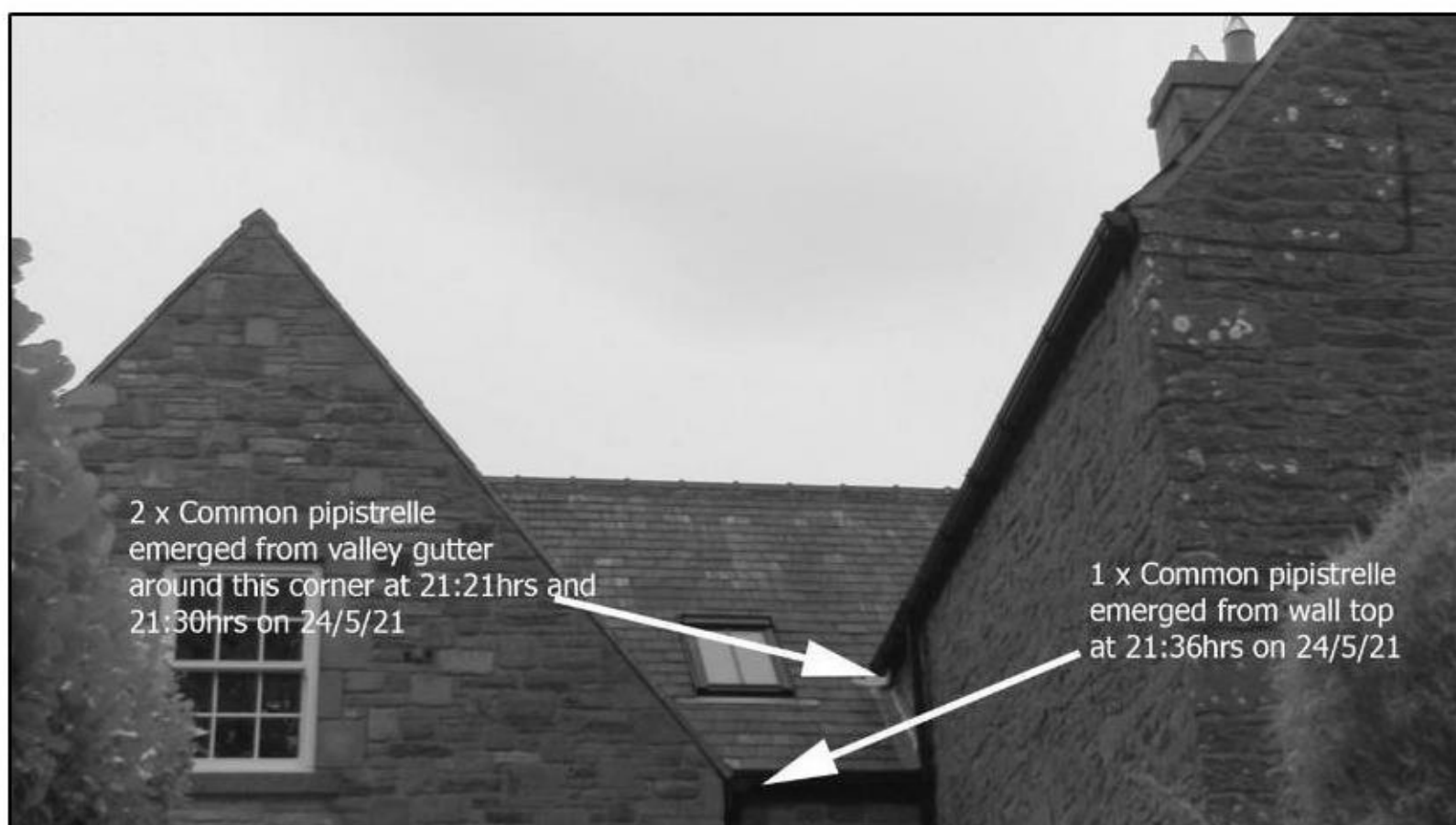
51 bats emerged from the north elevation, emerging from beneath the lead flashing at the base of the chimney at the north west corner of the building between 21:01hrs (22 minutes **before** sunset) and 21:40hrs.

3 bats emerged from the western end of the south elevation. 2 emerged from somewhere around the lead valley gutter, appearing around the corner of the wall in the location indicated in the photo below (i.e. did not emerge from the gap at the bottom of the lead flashing visible in the photo). The third emerged from over the wall top (see photo).

Pre-emergence chittering was heard by surveyors on both the north and south side of the western end of the building from 20:53hrs



West end of North Elevation of House



West end of South Elevation of House

Common pipistrelle was the bat species most frequently detected on site.

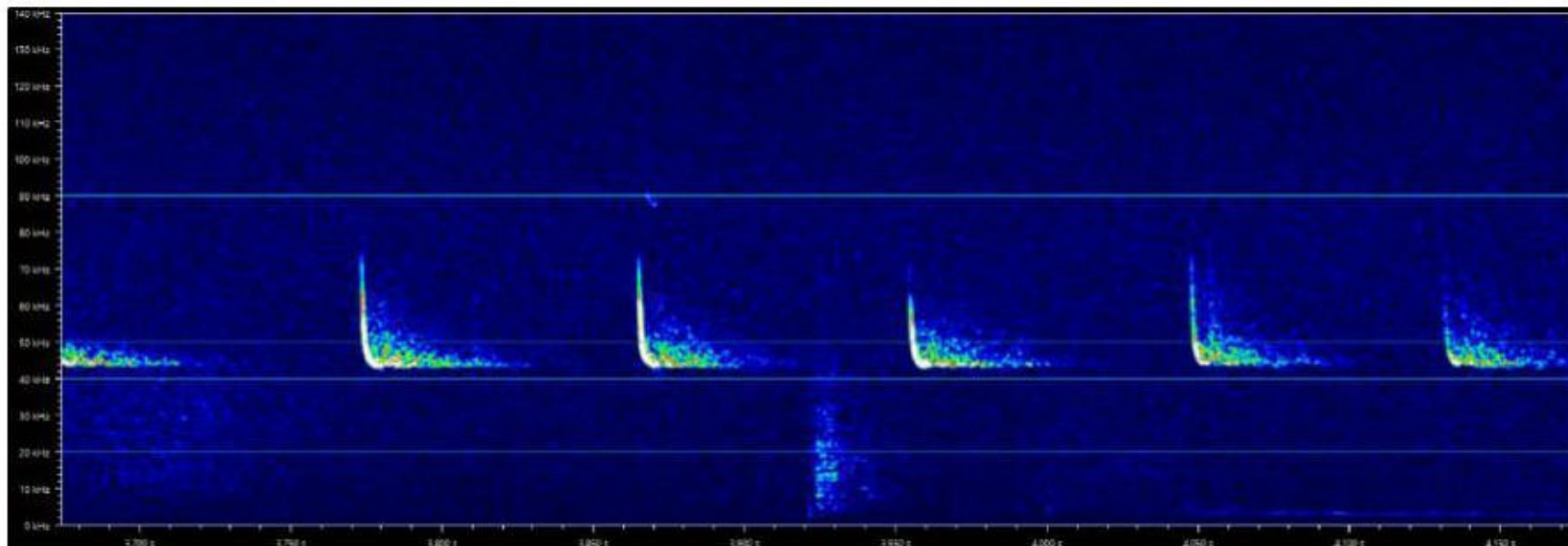
Soprano pipistrelle was detected occasionally, and the first Soprano pipistrelle was detected at 21:30hrs (7 minutes after sunset)

Myotis sp. bats were detected infrequently, mostly by surveyors at the south of the building. The first detection was made at made at 21:51hrs (18 minutes after sunset).

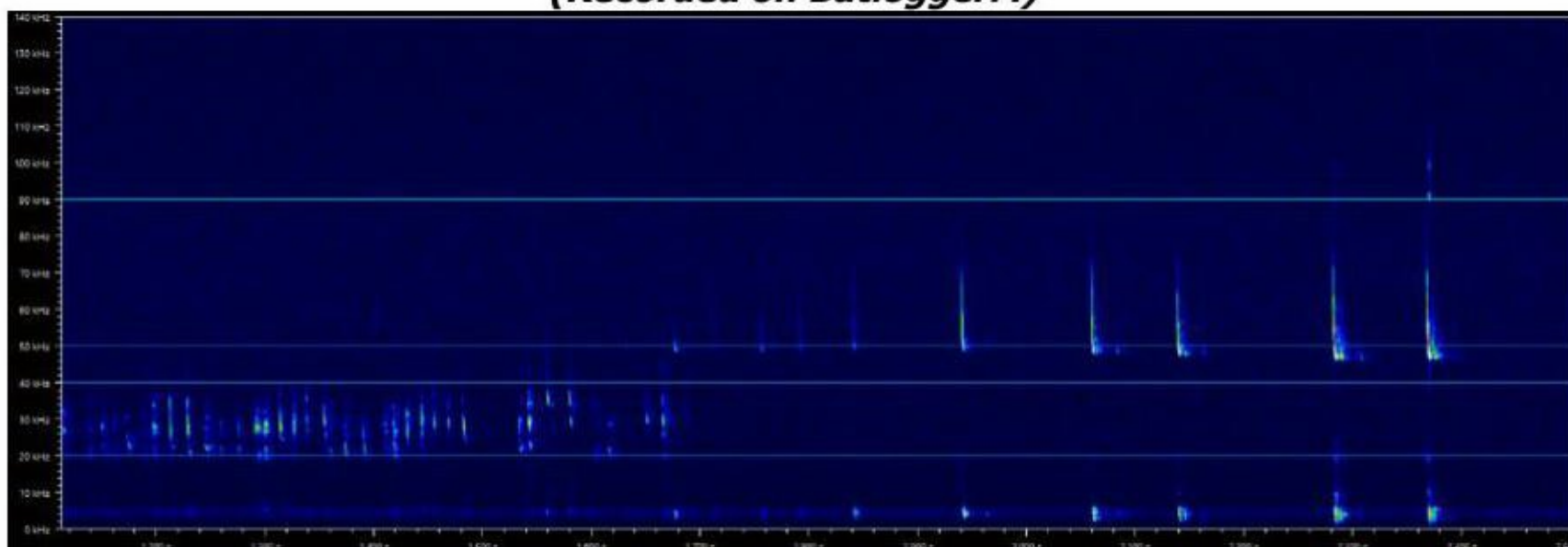
Most Myotis calls recorded during survey have characteristics that suggest the bat was probably Whiskered or Brandt's, but some were possibly Daubenton's bat.

No detections were made of Brown long-eared or Noctule bats during this survey.

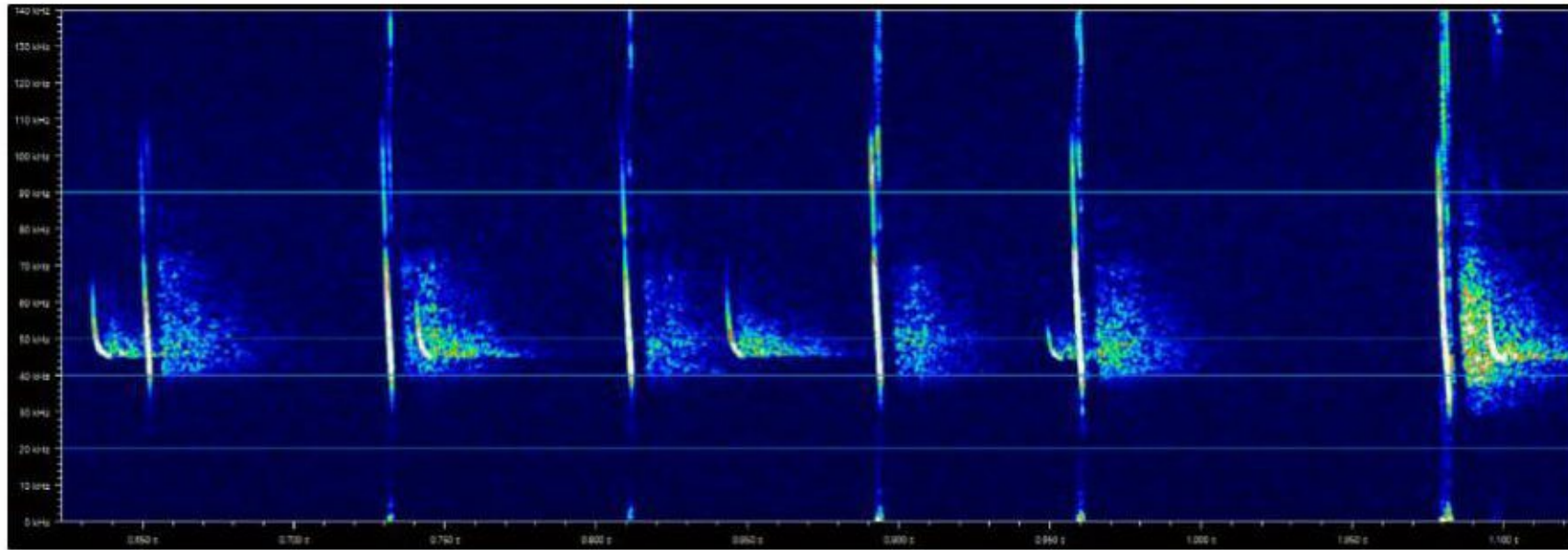
Example sonograms of bat calls recorded during the survey are reproduced below.



***Common pipistrelle which emerged from the south elevation of the building at 21:21hrs .
(Recorded on BatloggerM)***



***Common pipistrelle pre-emergence calls and emerging bat
(Emerged from under the lead flashing of the north elevation chimney at 21:09hrs).
(Recorded on BatloggerM)***



***Common pipistrelle and Myotis sp. bat recorded to south of building at 21:56hrs
(Did not emerge). (Recorded on BatloggerM)***

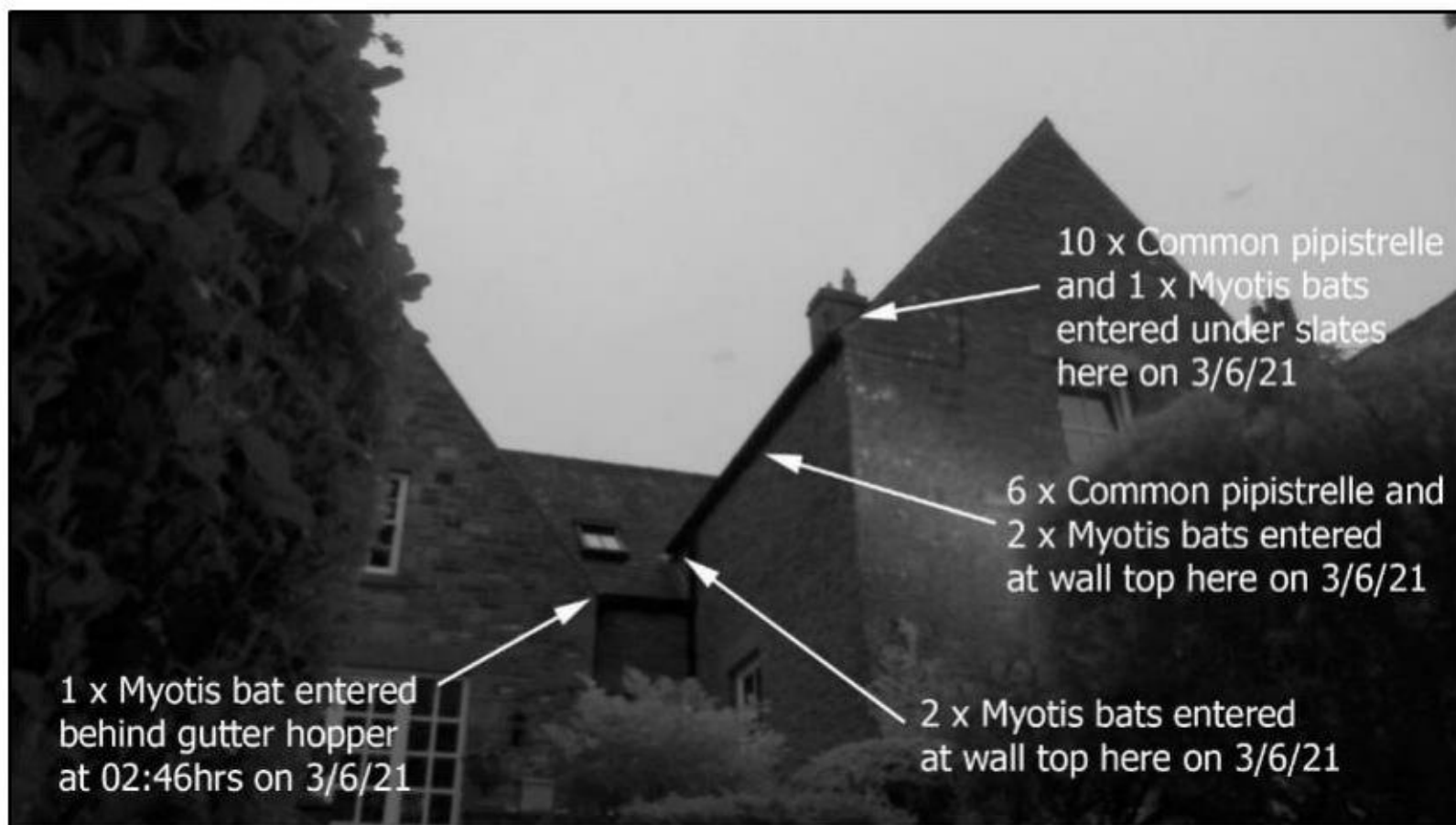
During the Dawn re-entry survey of the South elevation of the House on 3/6/21:

The following survey resources were in use in the locations shown in Fig 7:

- 3 surveyors with BatloggerM bat detectors
- 1 x Canon XA11 video camera with supplementary IR illumination (covering the south west corner of the building)
- 2 x Sannce CCTV cameras with supplementary IR illumination (covering the southern elevation of the building)
- 1 x Pulsar Accolade XP50 - Thermal Imaging Binocular (tripod mounted)

18 Common pipistrelle bats entered the south elevation of the building at the locations shown in the photographs below.

6 Myotis sp. bats, which were either Whiskered or Brandt's bats entered the south elevation of the building at the locations shown in the photographs below.



West end of South Elevation of House



East end of South Elevation of House

Large numbers of Common pipistrelle bats were also observed arriving at the site from the east, west, and south and flying round to the north side of the building. These bats were assumed to be entering the building at the access point at the gable apex on the north elevation which was identified during other surveys.

Common pipistrelle was the bat species most frequently detected on site.

Soprano pipistrelle was detected only occasionally

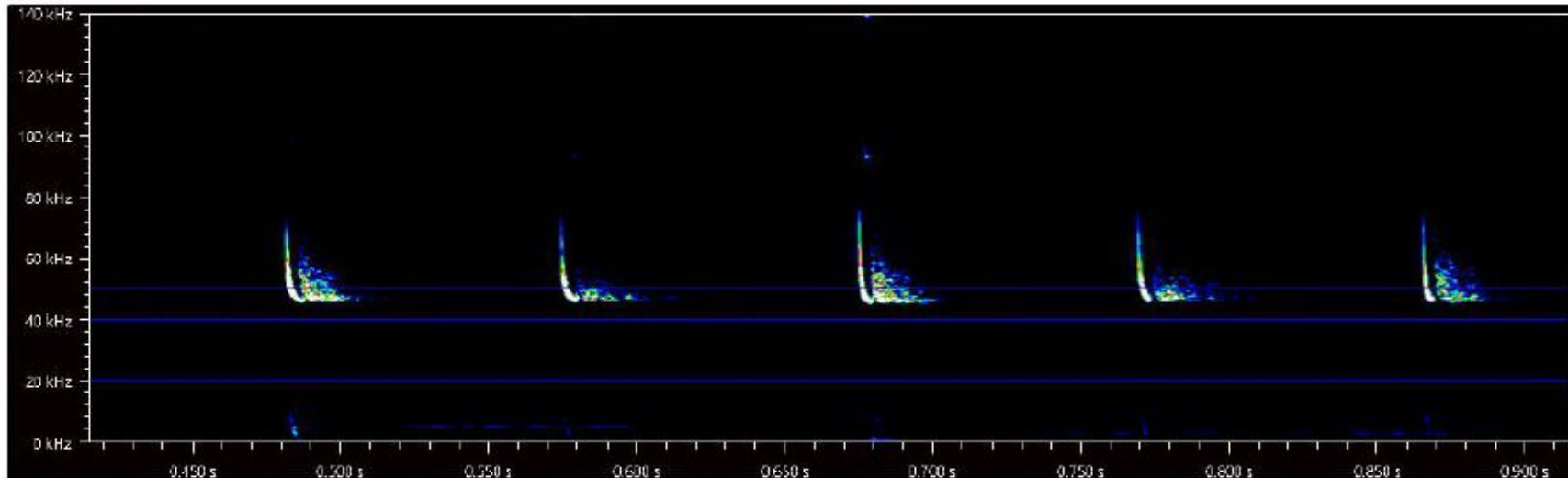
Myotis sp. bats were detected frequently.

Some Myotis calls recorded during survey have characteristics that suggest the bat was probably a Daubenton's bat, but most were either Whiskered or Brandt's bats.

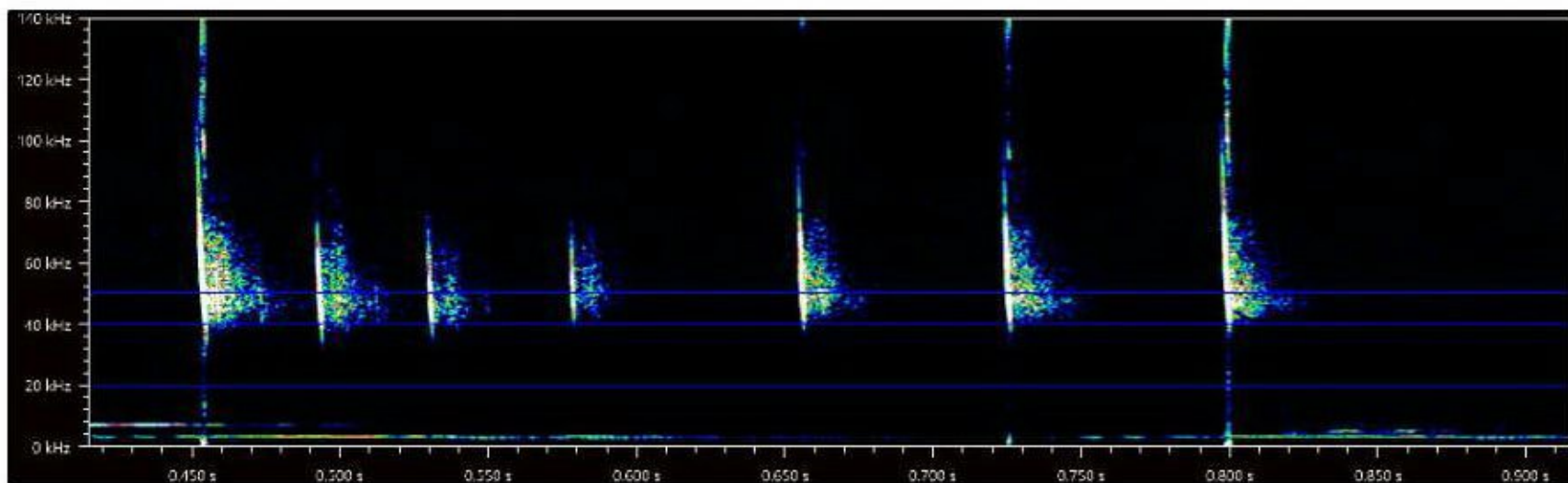
Brown long-eared were detected infrequently.

No detections were made of Noctule bats during this survey.

Example sonograms of bat calls recorded during the survey are reproduced below.



***Common pipistrelle which entered the building at 04:08hrs.
(Recorded on BatloggerM)***



***Whiskered or Brandt's bat which entered the building at 03:59hrs.
(Recorded on BatloggerM)***

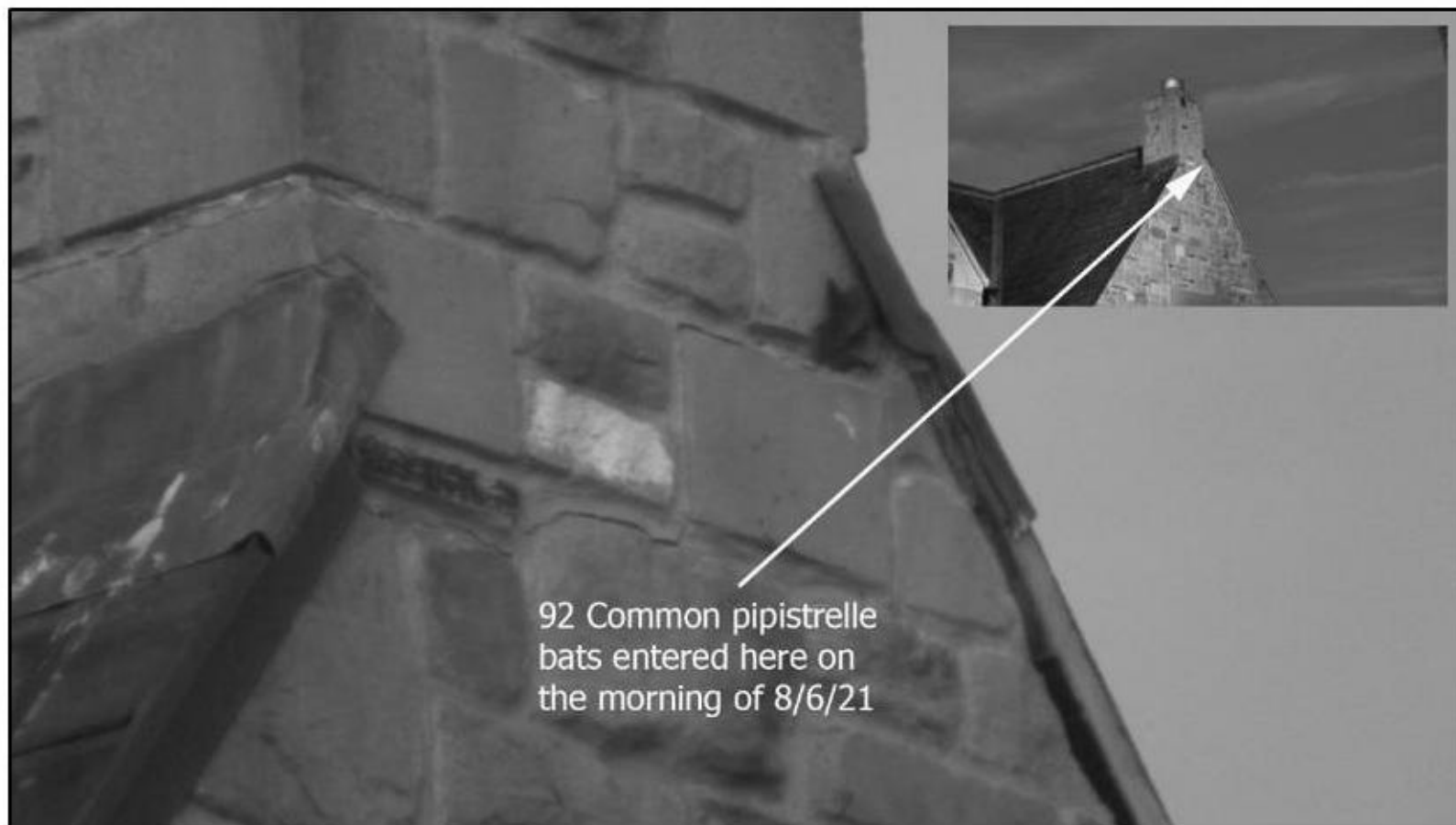
During the Dawn re-entry survey of the Garage and the North elevation of the House on 8/6/21:

The following survey resources were in use in the locations shown in Fig 8:

- 3 surveyors with BatloggerM bat detectors
- 1 x Canon XA11 video camera with supplementary IR illumination (covering the north west corner of the building)
- 2 x Sannce CCTV cameras with supplementary IR illumination (covering the garage)
- 1 x Pulsar Accolade XP50 - Thermal Imaging Binocular (used as surveyor aid)

No bats entered the garage building.

92 Common pipistrelle bats entered the north elevation of the building at the location shown in the photograph below (which also shows a bat entering). Bats entered under the lead flashing at the apex of the gable at the west end of the elevation.



West end of North Elevation of House

Common pipistrelle bats were also seen to enter under the fascia/ridge tiles on the single storey section of the cottage immediately to the north of the house (See Photo below). The cottage was not being surveyed (it is not part of the proposed development) and no count of bats entering was therefore made, the surveyor being focussed on observing the house.



Cottage to the North of the House

Common pipistrelle was the bat species most frequently detected on site.

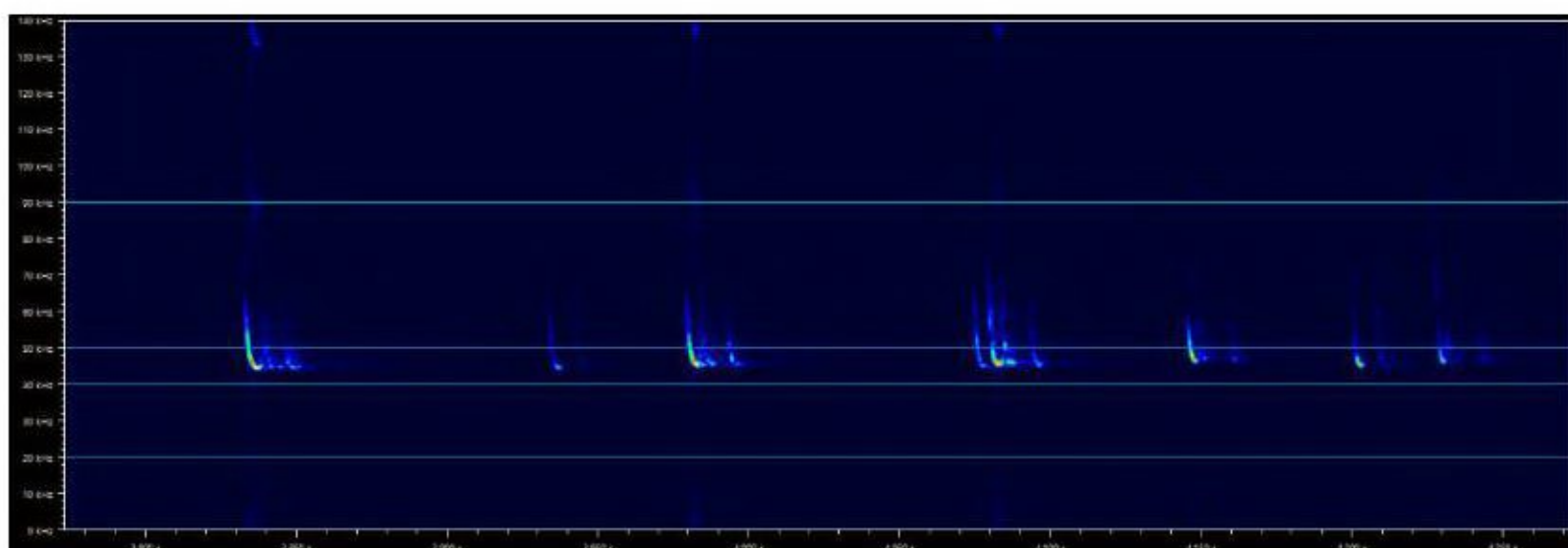
Soprano pipistrelle was detected only occasionally

Myotis sp. bats were detected occasionally over the garden to the south of the garage.

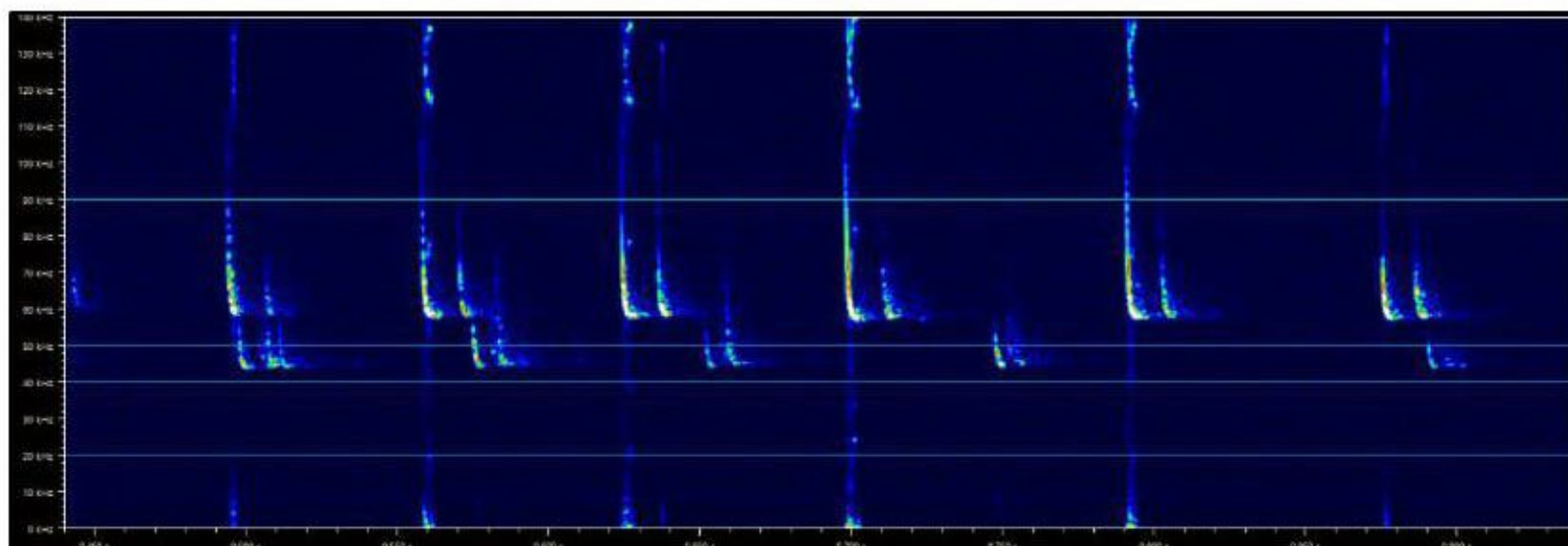
Brown long-eared were detected infrequently over the garden to the south of the garage.

No detections were made of Noctule bats during this survey.

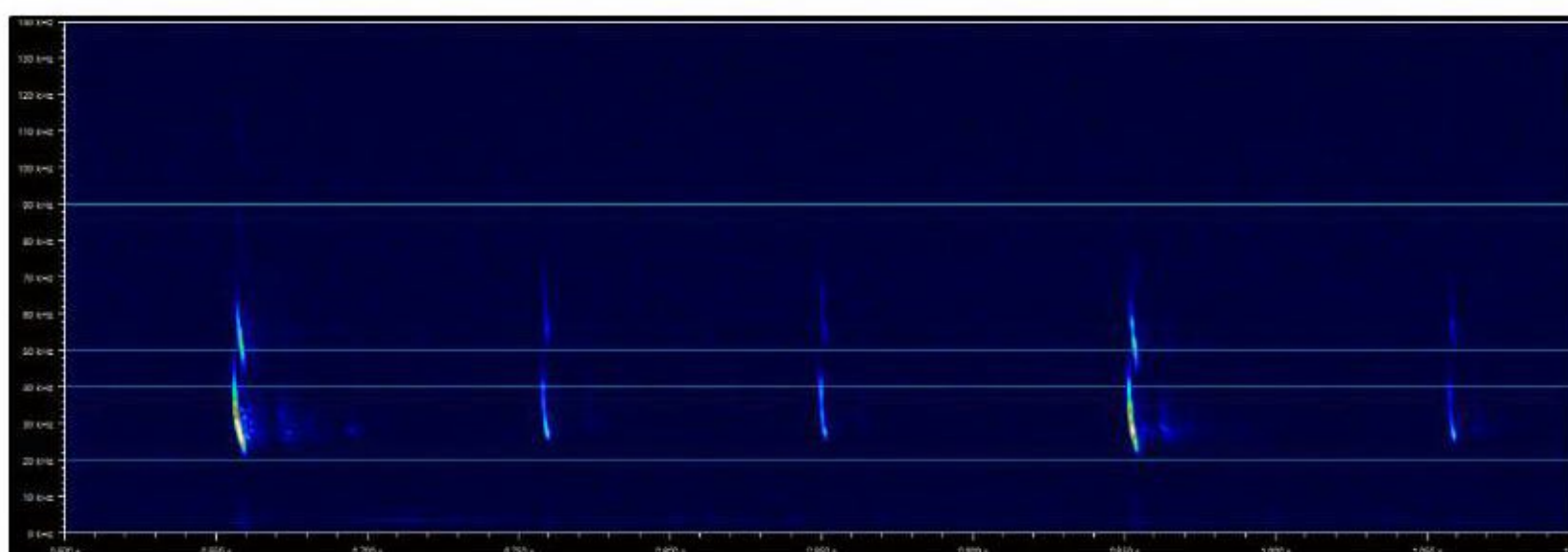
Example sonograms of bat calls recorded during the survey are reproduced below.



***Common pipistrelle which entered the house at 03:30hrs.
(Recorded on BatloggerM)***



***Soprano pipistrelle and Common pipistrelle recorded at 03:40hrs.
(Did not enter). (Recorded on BatloggerM)***



***Brown long-eared bat recorded at 03:27hrs to south of the garage.
(Did not enter). (Recorded on BatloggerM)***

During the dawn re-entry survey of the House on 11/6/21:

The following survey resources were in use in the locations shown in Fig 9:

- 3 surveyors with BatloggerM bat detectors
- 1 x Canon XA11 video camera with supplementary IR illumination (covering the south west corner of the building)
- 2 x Sannce CCTV cameras with supplementary IR illumination (covering the south west corner of the building)
- 1 x BatloggerM bat detector deployed as a static detector alongside the CCTV and Canon XA11 monitoring the south west corner of the building.
- 1 x Pulsar Accolade XP50 - Thermal Imaging Binocular (Tripod mounted) covering the west end of the north elevation

There was a strong blustery wind (Beaufort 5, gusting Beaufort 6) during the latter part of the survey which caused some bats attempting to enter the building to fail in those attempts.

2 x Myotis sp. bats entered the building at the western end of the south elevation in the locations shown in the photographs below. Based on the calls recorded, these bats were most probably either Whiskered or Brandt's bats.

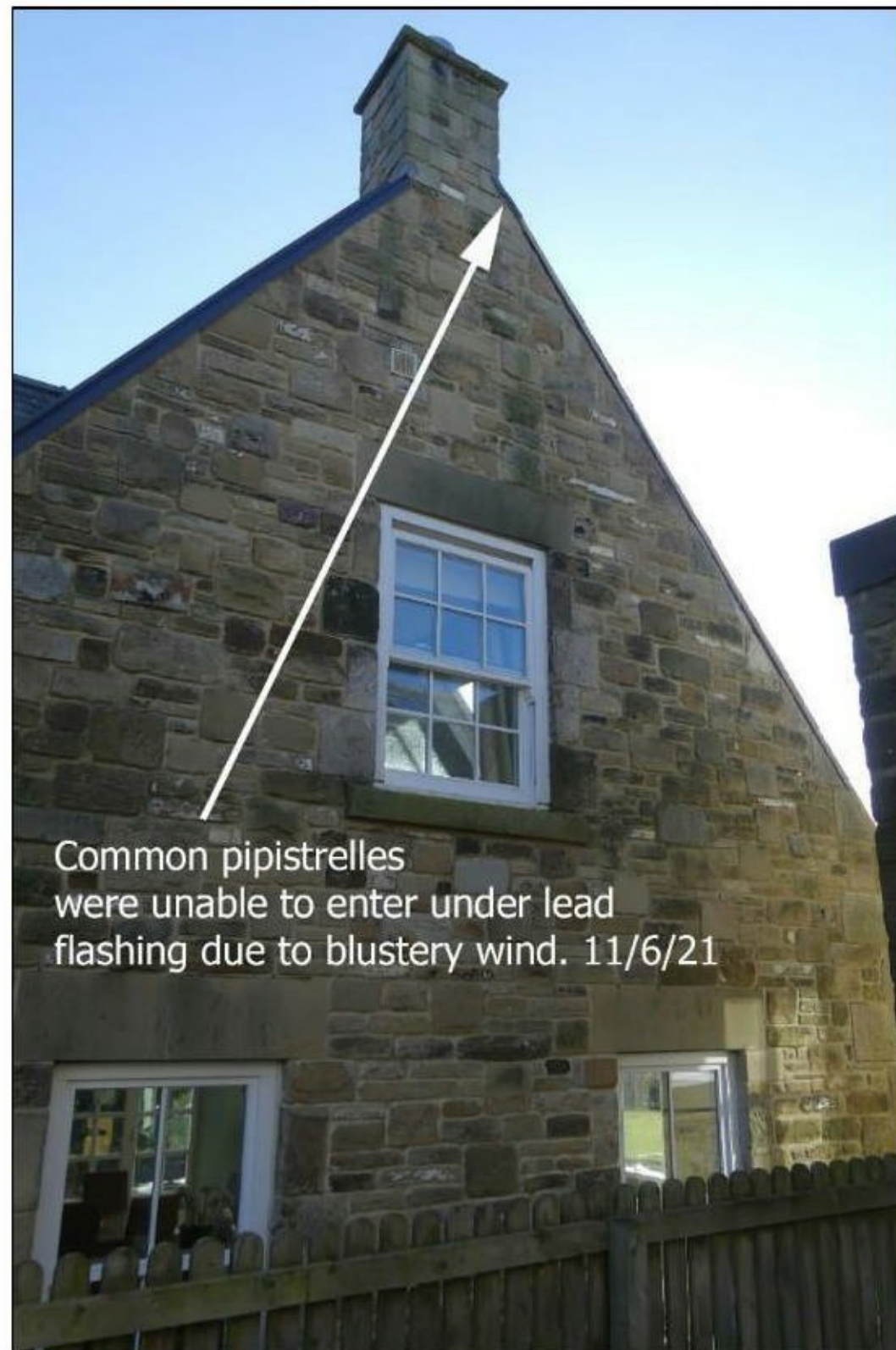
2 x Common pipistrelle bats entered the building at the western end of the south elevation in the locations shown in the photographs below.

These bats entered after having been blown on to the wall by the blustery wind. Other bats were seen to attempt to land on the wall but were unable to land because of the strong blustery wind.

Numerous Common pipistrelle bats were seen to attempt to enter the roost access point at the west end of the north elevation (See photo below) but were unable to do so because of the strong blustery wind. Some of these bats ended up blown to the ground between the house and the adjacent cottage. All the grounded bats were able to fly up from the ground again and at least 3 entered cottage under the fascia ridge tiles in the locations shown in the photograph below.

The rest of the Common pipistrelle bats which were unable to enter the roost in the house flew away to the west/north west indicating an alternative roost site somewhere to the west/north west, most probably within the village of Edmundbyers.

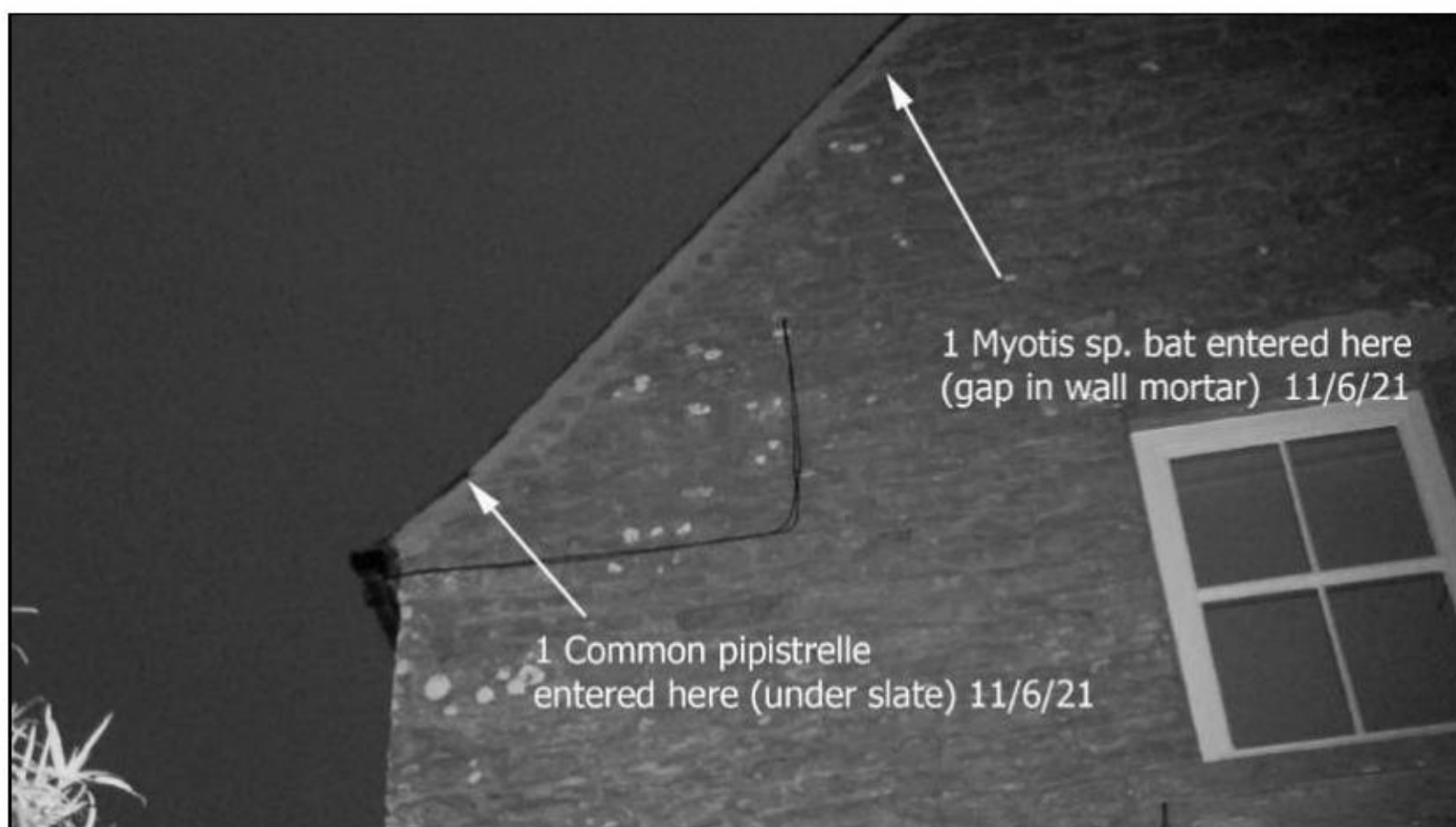
The surveyor to the north west of the house counted a minimum of 140 Common pipistrelle bats flying past or away from the house heading west/northwest between 03:23hrs and 04:16hrs.



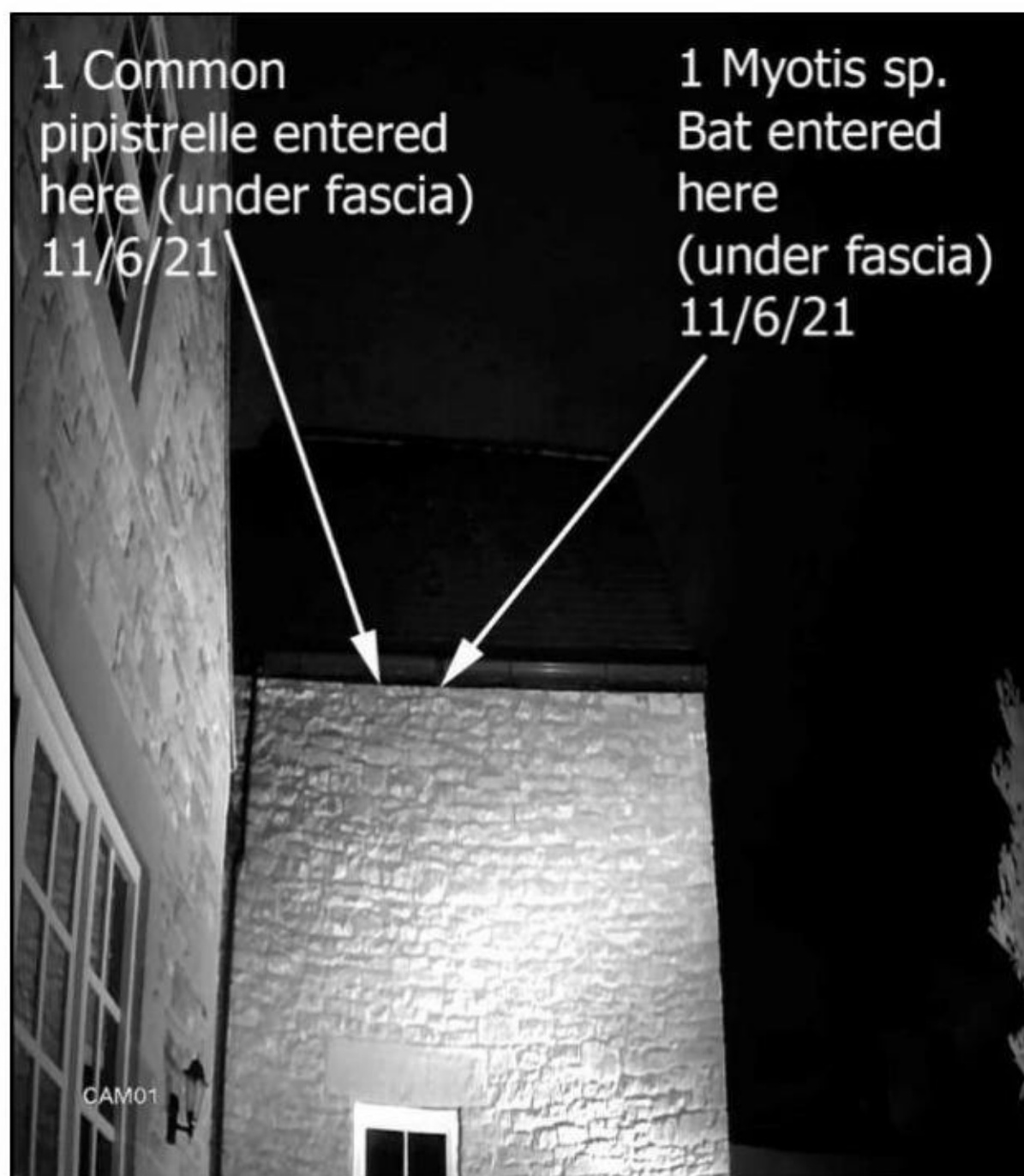
West end of North Elevation of House



Cottage to the North of the House



West end of South Elevation of House



West end of South Elevation of House

Common pipistrelle was the bat species most frequently detected on site.

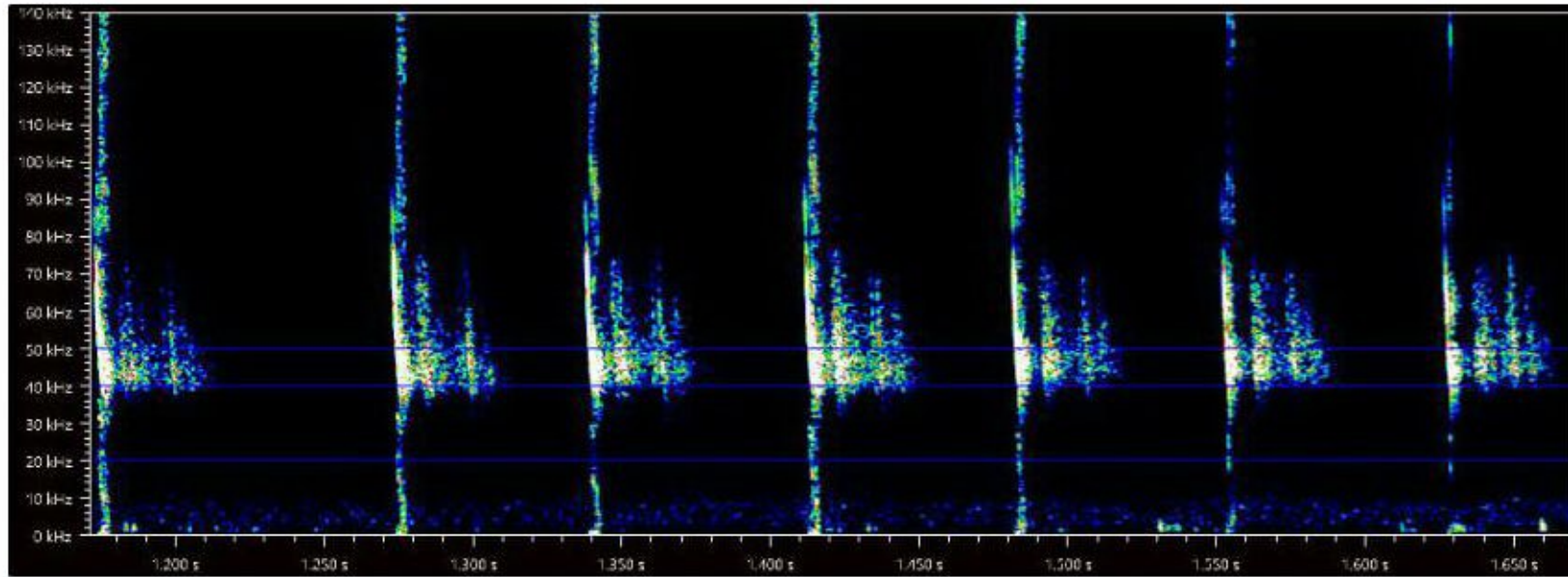
Soprano pipistrelle was detected infrequently

Myotis sp. bats were detected infrequently, mostly to the south of the building.

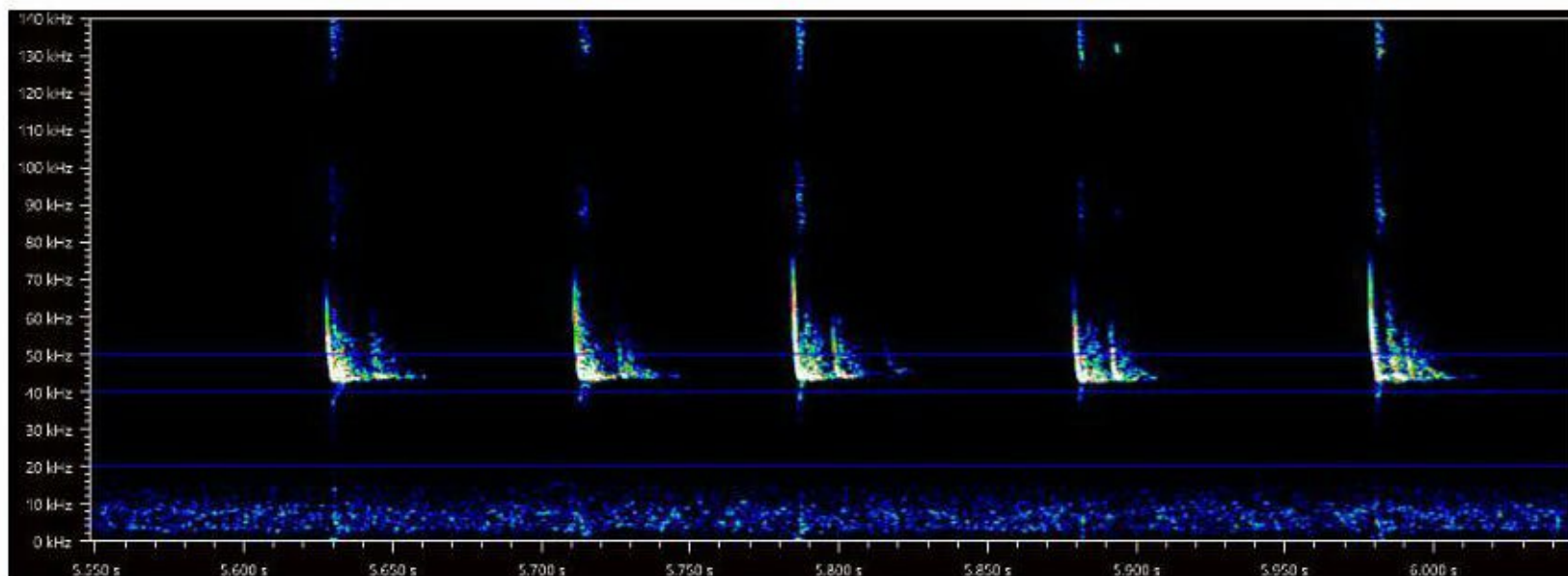
Some Myotis calls recorded during survey have characteristics that suggest the bats were either Whiskered or Brandt's bats.

No detections were made of Brown long-eared or Noctule bats during this survey.

Example sonograms of bat calls recorded during the survey are reproduced below.



Myotis bat which entered under fascia at west end of south elevation of the building at 02:53hrs . (Recorded on BatloggerM)



Common pipistrelle which entered under slates at the west end of the south elevation at 03:47hrs). (Recorded on BatloggerM)

5.5 DNA Analysis Results

DNA analysis of the mixed sample of droppings from Sample A from Loft 3 identified Common pipistrelle and Brandt's bats.

DNA analysis of the mixed sample of droppings from Sample B from Loft 3 identified Common pipistrelle and Brandt's bats.

5.6 Interpretation/Evaluation of Survey Results

Great crested newts

The risk of great crested newts being present at the site is negligible.

Bats

The House supports roosting Common pipistrelle and Brandt's bats.

Based on the number of bats observed during survey it is concluded that the building is used as:

- A maternity roost site (See Section 4.1 for definitions) by Common pipistrelle bats with a minimum colony size of 92 bats, though the true number is very likely to be larger as a minimum count of 140 Common pipistrelle bats were also observed heading past the building on the morning of 11/6/21 when bats were unable to enter the house due to the strong blustery wind).
- A day roost site by Brandt's bats with a minimum colony size of 6 bats.

Bats roost:

- Within Loft 3
- Between roof slates and under boarding above Lofts 1 and 2.
- On wall tops
- Behind gutter fascia boards

There is no evidence of bats roosting within the garage building.

The Cottage was not subject to full survey because it is not part of the development proposal, but it was observed to support roosting Common pipistrelle bats during surveys of the House. Other bat species may also be present and additional roost access points may be present beyond those observed during surveys of the House

Nesting birds

The interior of the House and garage are not accessible to birds and no old nests were seen on the exterior.

6.0 Impact Assessment, Mitigation, & Licensing

The proposed works to the house as described in Section 2.3 above:

- Will result in disturbance to bats present at the time works are carried out. If work is carried out at the time the maternity colony of Common pipistrelle bats is present (May to August inclusive) that disturbance would be "significant" (as defined by Natural England in relation to the Habitats and Species Regulations 2017 (as amended)).
- Has the potential to result in bats being killed or injured if any present at the time works within lofts (e.g. re-wiring and installing new heating system) or near wall tops are carried out.

It is noted that the construction of the extension at the western end of the south elevation will not result in obstruction of the roost access points on wall tops and behind fascia boards in this area because the extension is lower than the existing all top height.

The works to the house described in Section 2.3 can be carried out without a significant negative impact on bats provided that:

- Works are carried out in a manner which minimises the risk of bats being killed or injured during the works, and;
- The existing roost sites and access points are retained, and;
- Works are not carried out during the bat maternity period (which is weather dependent but generally May to August inclusive)

If works to:

- the house and
- external works:
 - within 10m of the western half of north elevation,
 - within 10m of the western half of South elevation
 - within 10m of the west elevation

can be carried out and completed outside of the bat maternity period and in accordance with the recommendations below, a Bat Mitigation Licence will not be required, and it will be possible to instead rely on the principle of Continued Ecological Functionality. This will require:

- the work described above to be carried out in accordance with a precautionary, written, ecological method statement prepared by an appropriately experienced and licensed bat ecologist.
- The work to be carried out with some elements of ecological supervision and periodic site inspections by the bat ecologist.
- work to be carried out in a manner which avoids the triggering of any offences (i.e. breaching the legal protection afforded to bats and bat roosts). This to be set out in the written method statement.
- Work to be carried out without damaging, destroying, or obstructing any roost site.

No timing restrictions or precautionary working methods/licensing are required for the proposed work to the detached garage described in Section 2.3 as there is no evidence of the detached garage being used by roosting bats.

It is recommended that:

Once any planning permission required has been obtained, a detailed mitigation proposal is drawn up by an appropriately experienced and licensed bat ecologist. The Ecologist should be someone who is able to obtain Bat Mitigation Licences sites for development in case development proposals (or bat use of the building) changes, or the work programme is delayed, and a licence is then required.

The mitigation proposal should preferably be drawn up in consultation with the building contractor specifying or undertaking the works (to ensure that the detailed mitigation proposal is feasible and deliverable from both a construction and an ecological perspective).

While the detail of the mitigation proposal cannot be finalised prior to consultation with the building contractor, in general terms the mitigation required will involve:

- Works that could disturb bats roosting in the house not taking place during the bat maternity period (which is weather dependent but generally May to August inclusive).
- If works on site are to start after 28th February 2022, the buildings being re-surveyed (to confirm that there has been no change in bat use of the building) before works commence.
- A detailed written, precautionary method statement (Contractors Method Statement – CMS) being produced by the bat ecologist setting out the appropriate working methods, and timing of works, that will ensure that bats cannot be killed or injured during the works and that no roost site will be damaged, destroyed or have access to it obstructed.
- Prior to any works starting, all contractors being made aware (by means of the CMS and a tool box talk by the supervising bat ecologist) of the presence of bat roosts in the house, of the locations known to be used by bats, of their legally protected status, of the working methods and timing to be adhered to, and the appropriate course of action to be taken if bats are found in an unexpected location.
- Elements of work where there is a risk that bats might be present in the working areas during the works being identified within the CMS. Those elements of work being carried out under the direct ecological supervision of the bat ecologist. The works requiring ecological supervision are likely to include, but will not necessarily be limited to:
 - Any works within the lofts of the house (e.g. re-wiring and work on heating system).
 - Modification and creation of any new wall openings in the house (e.g. in the south elevation of the building)
 - Construction of the dining room extension on the south elevation of the house.
- The CMS will also identify areas on site where works **can** take place during the bat maternity period and without ecological supervision (e.g. the detached garage, external areas more than 10m from the house).
- All existing roost sites and access points in the house being retained during and after the works are undertaken.

If works to the house that could potentially disturb roosting bats cannot be carried out and completed outside of the bat maternity period, a Bat Mitigation Licence **will** be required because of disturbance impacts on the maternity colony of Common pipistrelle bats.

7.0 Summary and Conclusion

The risk of great crested newts being present at the site is negligible.

The surveys undertaken have demonstrated that the House (Shooting Box) is used as a roost site by Common pipistrelle and Brandt's bats.

The building is used as:

- A maternity roost site (See Section 4.1 for definitions) by Common pipistrelle bats with a minimum colony size of 92 bats, though the true number is very likely to be larger as a minimum count of 140 Common pipistrelle bats were also observed heading past the building on the morning of 11/6/21 when bats were unable to enter the house due to the strong blustery wind).
- A day roost site by Brandt's bats with a minimum colony size of 6 bats.

There is no evidence that the detached garage is used as a roost site by bats and therefore no timing restrictions or precautionary working methods/licensing are required for the proposed work to the detached garage described in Section 2.3

The proposed works to the house as described in Section 2.3 above:

- Will result in disturbance to bats present at the time works are carried out. If work is carried out at the time the maternity colony of Common pipistrelle bats is present (May to August inclusive) that disturbance would be "significant" (as defined by Natural England in relation to the Habitats and Species Regulations 2017 (as amended)).
- Has the potential to result in bats being killed or injured if any present at the time works within lofts (e.g. re-wiring and installing new heating system) or near wall tops are carried out.

It is noted that the construction of the extension at the western end of the south elevation will not result in obstruction of the roost access points on wall tops and behind fascia boards in this area because the extension is lower than the existing all top height.

The works to the house described in Section 2.3 can be carried out without a significant negative impact on bats provided that:

- Works are carried out in a manner which minimises the risk of bats being killed or injured during the works, and;
- The existing roost sites and access points are retained, and;
- Works are not carried out during the bat maternity period (which is weather dependent but generally May to August inclusive)

If works to:

- the house and
- external works:

- within 10m of the western half of north elevation,
- within 10m of the western half of South elevation
- within 10m of the west elevation

can be carried out and completed outside of the bat maternity period and in accordance with the recommendations below, a Bat Mitigation Licence will not be required, and it will be possible to instead rely on the principle of Continued Ecological Functionality. This will require:

- the work described above to be carried out in accordance with a precautionary, written, ecological method statement prepared by an appropriately experienced and licensed bat ecologist.
- The work to be carried out with some elements of ecological supervision and periodic site inspections by the bat ecologist.
- work to be carried out in a manner which avoids the triggering of any offences (i.e. breaching the legal protection afforded to bats and bat roosts). This to be set out in the written method statement.
- Work to be carried out without damaging, destroying, or obstructing any roost site.

It is recommended that:

Once any planning permission required has been obtained, a detailed mitigation proposal is drawn up by an appropriately experienced and licensed bat ecologist. The Ecologist should be someone who is able to obtain Bat Mitigation Licences sites for development in case development proposals (or bat use of the building) changes, or the work programme is delayed, and a licence is then required

The mitigation proposal should preferably be drawn up in consultation with the building contractor specifying or undertaking the works (to ensure that the detailed mitigation proposal is feasible and deliverable from both a construction and an ecological perspective).

While the detail of the mitigation proposal cannot be finalised prior to consultation with the building contractor, in general terms the mitigation required will involve:

- Works that could disturb bats roosting in the house not taking place during the bat maternity period (which is weather dependent but generally May to August inclusive).
- If works on site are to start after 28th February 2022, the building being re-surveyed (to confirm that there has been no change in bat use of the buildings) before works commence.
- A detailed written, precautionary method statement (Contractors Method Statement – CMS) being produced by the bat ecologist setting out the appropriate working methods, and timing of works, that will ensure that bats cannot be killed or injured during the works and that no roost site will be damaged, destroyed or have access to it obstructed.
- Prior to any works starting, all contractors being made aware (by means of the CMS and a tool box talk by the supervising bat ecologist) of the presence of bat roosts in the house, of the locations known to be used by bats, of their legally protected status, of the working methods and timing to be adhered to, and the appropriate course of action to be taken if bats are found in an unexpected location.
- Elements of work where there is a risk that bats might be present in the working areas during the works being identified within the CMS. Those elements of work being carried out under the direct

ecological supervision of the bat ecologist. The works requiring ecological supervision are likely to include, but will not necessarily be limited to:

- Any works within the lofts of the house (e.g. re-wiring and work on heating system).
- Modification and creation of any new wall openings in the house (e.g. in the south elevation of the building)
- Construction of the dining room extension on the south elevation.
- All existing roost sites and access points in the house being retained during and after the works are undertaken.

It should be noted that implementation of the recommendation listed above may be made a condition of any planning permission granted and therefore this report should not be submitted in support of a planning consent application if there is any doubt that all the recommendations can be fully implemented.

Local Planning Authorities (LPA) may attach a condition to any planning consent issued that a CMS is submitted for approval by the LPA before works commence.

The recommendations within this report are those we consider are necessary to comply with the legal protection afforded to bats and to allow an LPA to grant planning and listed building consent (where required). However, if you believe any recommendation may be problematic for your development, please contact GSL Ecology to discuss any concerns before submitting this report in support of a planning application.

If works to the house that could potentially disturb roosting bats cannot be carried out and completed outside of the bat maternity period, a Bat Mitigation Licence will be required because of disturbance impacts on the maternity colony of Common pipistrelle bats.

The details and recommendations within this report are valid for a period of 12 months from the date of the last survey completed (11/6/21). Beyond this period, if works are not underway, a new review of the ecological conditions on site will need to be carried out.

8.0 References

- Altringham, J; 2003, *British Bats*, Harper Collins New Naturalist
- Barn Owl Trust; 2012, *Barn Owl Conservation Handbook*. Barn Owl Trust
- Bat Conservation Trust; *Bats and the Law*, BCT
- Collins, J (ed) (2016) *Bat Surveys for Professional Ecologists. Good Practice Guidelines (3rd Edition)*. Bat Conservation Trust
- Entwistle, A.C. Harris, S., Hutson, A.M., Racey, P.A., Walsh, A., Gibson, S.D., Hepburn, I. & Johnston, J. (2001). *Habitat Management for Bats - A guide for land managers, landowners, and their advisors*. JNCC, Peterborough.
- Hundt, L (2012) *Bat Surveys. Good Practice Guidelines 2nd Edition*, Bat Conservation Trust
- Ministry of Housing Communities and Local Government; July 2021; *National Planning Policy Framework*; Department for Communities and Local Government
- Mitchell-Jones, A. J. & McLeish, A. P. (2004) *The Bat Workers' Manual (3rd Ed.)*. JNCC, Peterborough.
- Mitchell-Jones, (2004), *Bat Mitigation Guidelines*, English Nature, Peterborough.
- Richardson, P, (2000)b, *Bats*, Whittet Books
- Russ, J, (1999), *The Bats of Britain and Ireland*, Alana Books
- Russ, J. (2012), *British bat calls: A guide to species identification*. Pelagic publishing.
- Schober, W and Grimmberger, E (1993), *Bats of Britain and Europe*, Hamlyn
- Smith, P and Racey, P (2002) *Habitat Management for Natterer's Bats*, PTES
- Statutory Instrument 2000 No. 192; The Conservation (Natural Habitats &c.) Regulations 1994 (as amended)*, HMSO
- Statutory Instrument 2010 No. 490; The Conservation of Habitats and Species Regulations 2010 (as amended)*, HMSO
- Statutory Instrument 2017 No. 1012; The Conservation of Habitats and Species Regulations 2017*, HMSO
- Statutory Instrument 2019 No. 579; The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*, HMSO
- Swift, S (2003) *Long-eared Bats*, Poysner
- Wildlife and Countryside Act, 1981 (as amended), HMSO

Appendix A – Photographs



Photo 1.
The House. North Elevation



Photo 2.
The House. North Elevation



Photo 3.
The House. North Elevation



Photo 4.
The House. East Elevation



Photo 5.
The House. South Elevation



Photo 6.
The House. West Elevation
(with single storey extension
of adjacent cottage behind the
hedge on the left)



Photo 7.
The House. Example of potential bat access – under ridge tiles



Photo 8.
The House. Example of potential bat access – gaps at gable wall apex at east end of south elevation

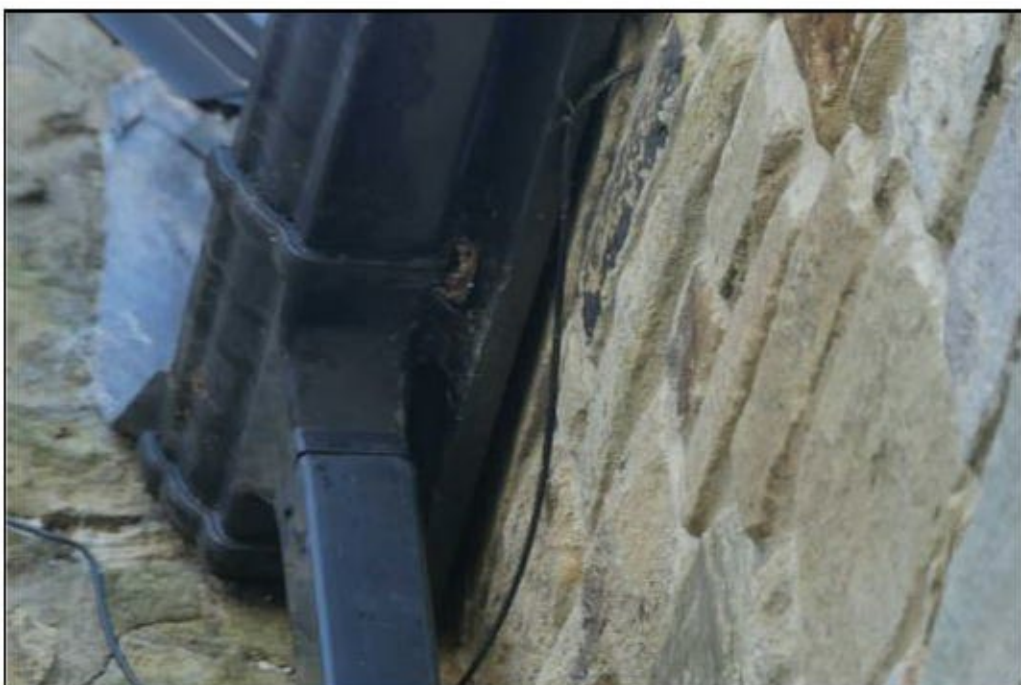


Photo 9.
The House. Example of potential bat access – gaps behind fascia boards



Photo 10.
The House. Example of potential bat access – wall top behind metal verge moulding



Photo 11.
The House. Example of potential bat access – gaps behind fascia boards



Photo 12.
The House. Example of potential bat access – raised slates



Photo 13.
The House. Example of potential bat access – gaps under ridge tiles and raised slates



Photo 14.
The House. Example of potential bat access – raised slates



Photo 15.
The House. Loft 1



Photo 16.
The House. Loft 1



Photo 17.
The House. Loft 2



Photo 18.
The House. Loft 2



Photo 19.
The House. Loft 3



Photo 20.
The House. Loft 3

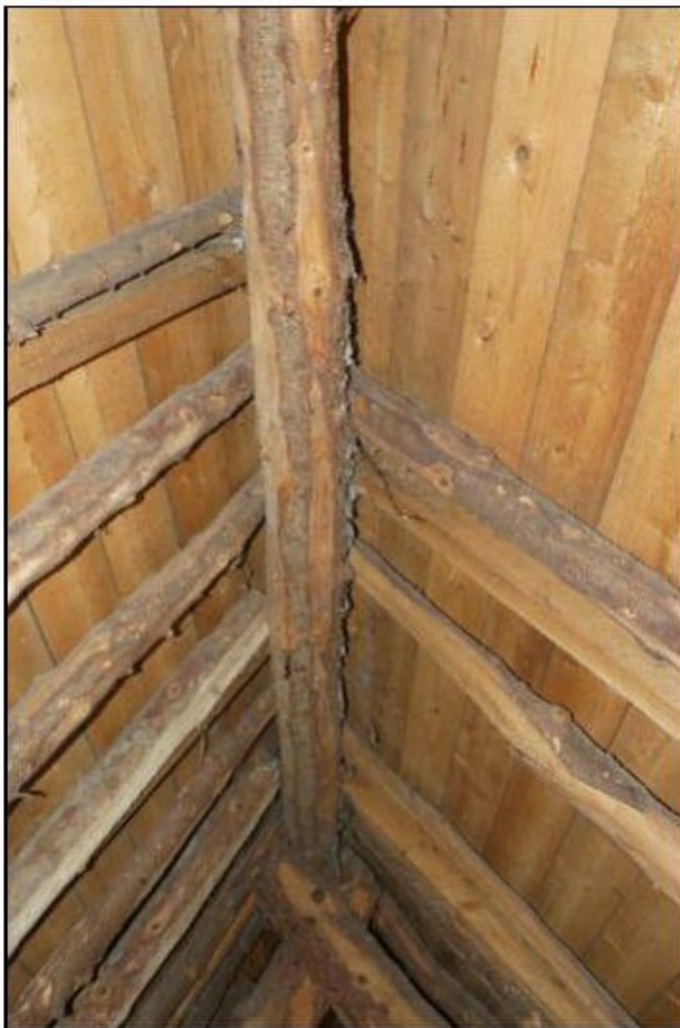


Photo 21.
The House. Loft 3



Photo 22.
The House. Loft 3



Photo 23.
The House. Loft 3. Bat
Dropping Sample A



Photo 24.
The House. Loft 3. Bat
Dropping Sample B.



Photo 25.
The Garage. North elevation.



Photo 26.
The Garage. South elevation.

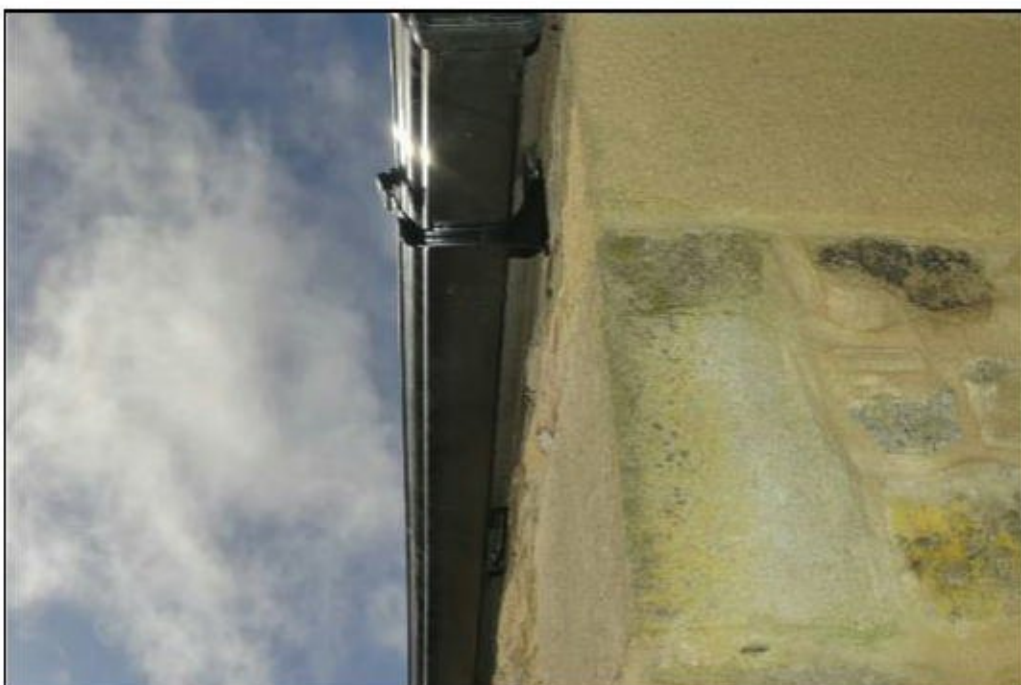


Photo 27.
The Garage. Example of potential bat access – gaps at wall top on south elevation.



Photo 28.
The Cottage – North east corner.
(House visible in left of photo.)



Photo 29.
The Cottage – West Elevation.
Single-storey extension of cottage behind hedge.
(House visible in right of photo.)



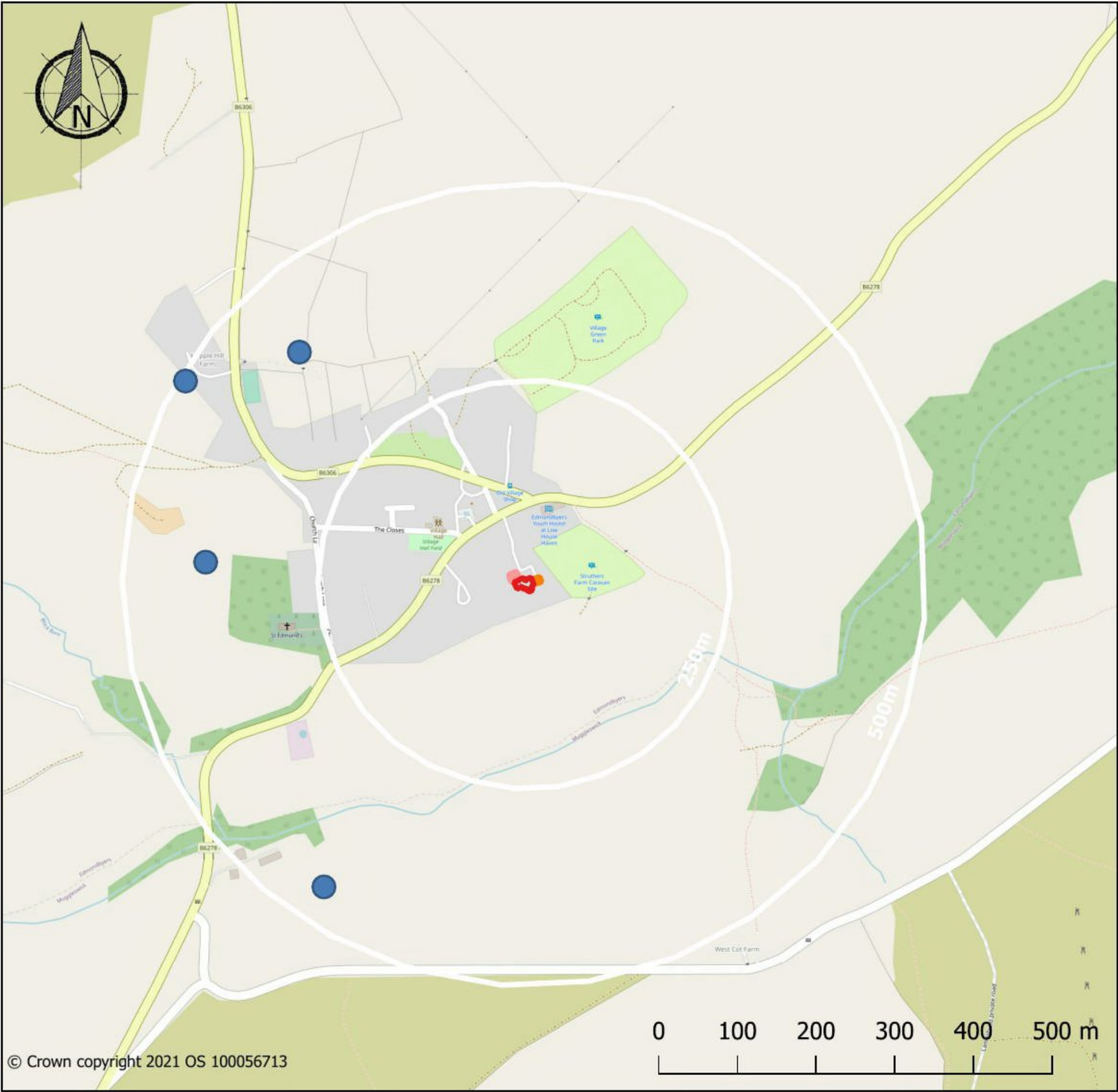
Photo 30.
Shed to be demolished.

Appendix B – Figures



GSL Ecology

Coniston, 4 Holeyn Hall Rd, Wylam,
Northumberland, NE41 8BB
Tel: 0191 6070668
Email: mail@gslecolgy.co.uk



Legend:




-  Shooting Box House
-  Cottage
-  Detached Garage
-  Ponds visible on aerial photographs and maps

Fig 3: GCN Risk Assessment.
Locations of Known Ponds
within 500m of the Site.

Project: Shooting Box, Edmundbyers

Client: Mr & Mrs Penny

Date: 10/11/21 **Revision:** 1

Scale: 1:12,500 @ A4



Legend:

-  Shooting Box House
-  House Loft
-  Cottage
-  Detached Garage
-  Bat Dropping Sample Collected
-  Known Roost Access Point

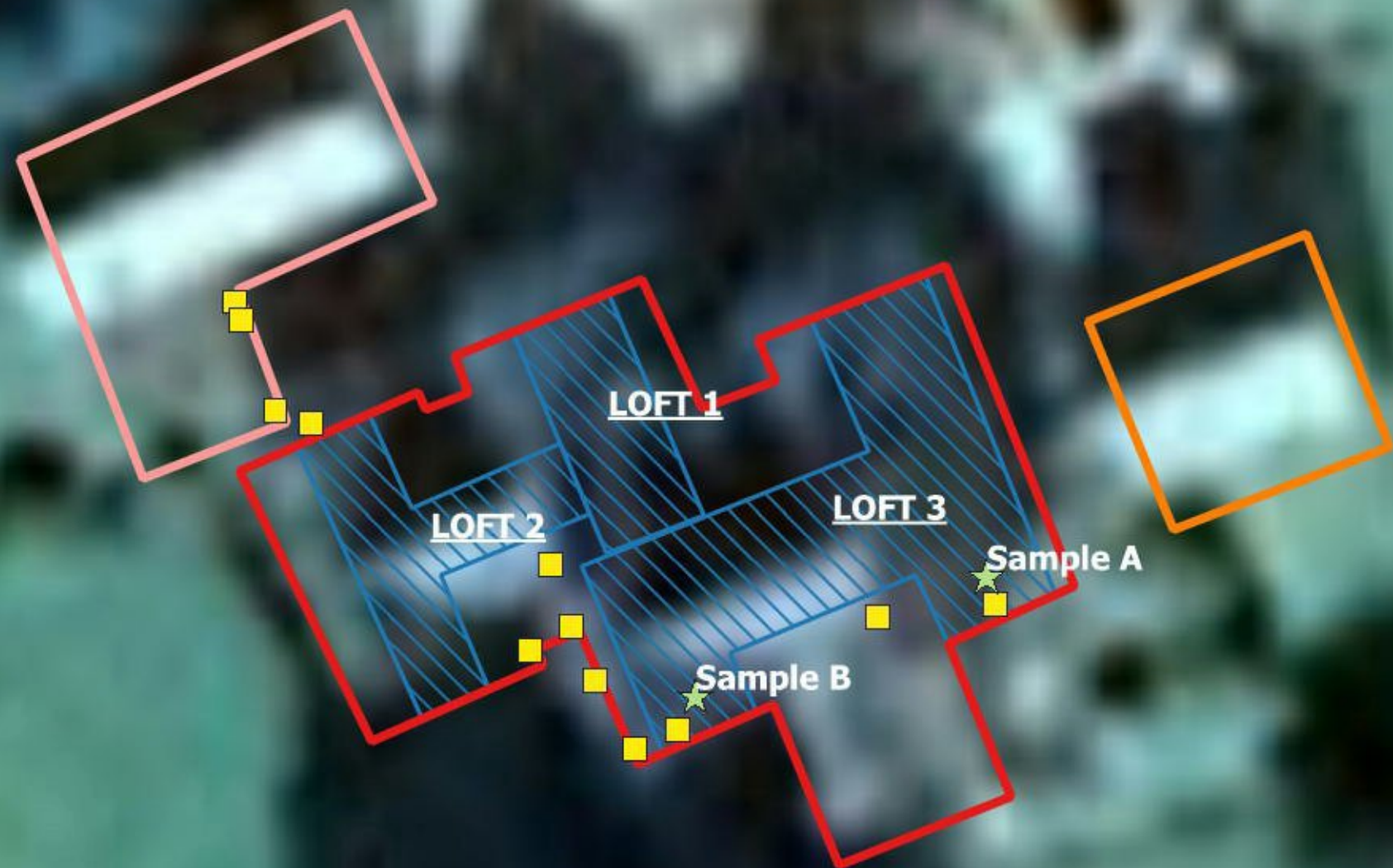


Fig 4: Bat Survey.
Locations of Buildings, Lofts,
Dropping Samples Taken,
and Known Roost Access
Points.

Project: Shooting Box, Edmundbyers

Client: Mr & Mrs Penny

Date: 10/11/21 **Revision:** 1

Scale: 1:500 @ A4



Legend:

-  Shooting Box House
-  House Loft
-  Detached Garage
- Surveyor, Video camera,
or static detector 19/5/21
 -  Static Detector
 -  Surveyor
 -  Video Camera
 -  Cottage

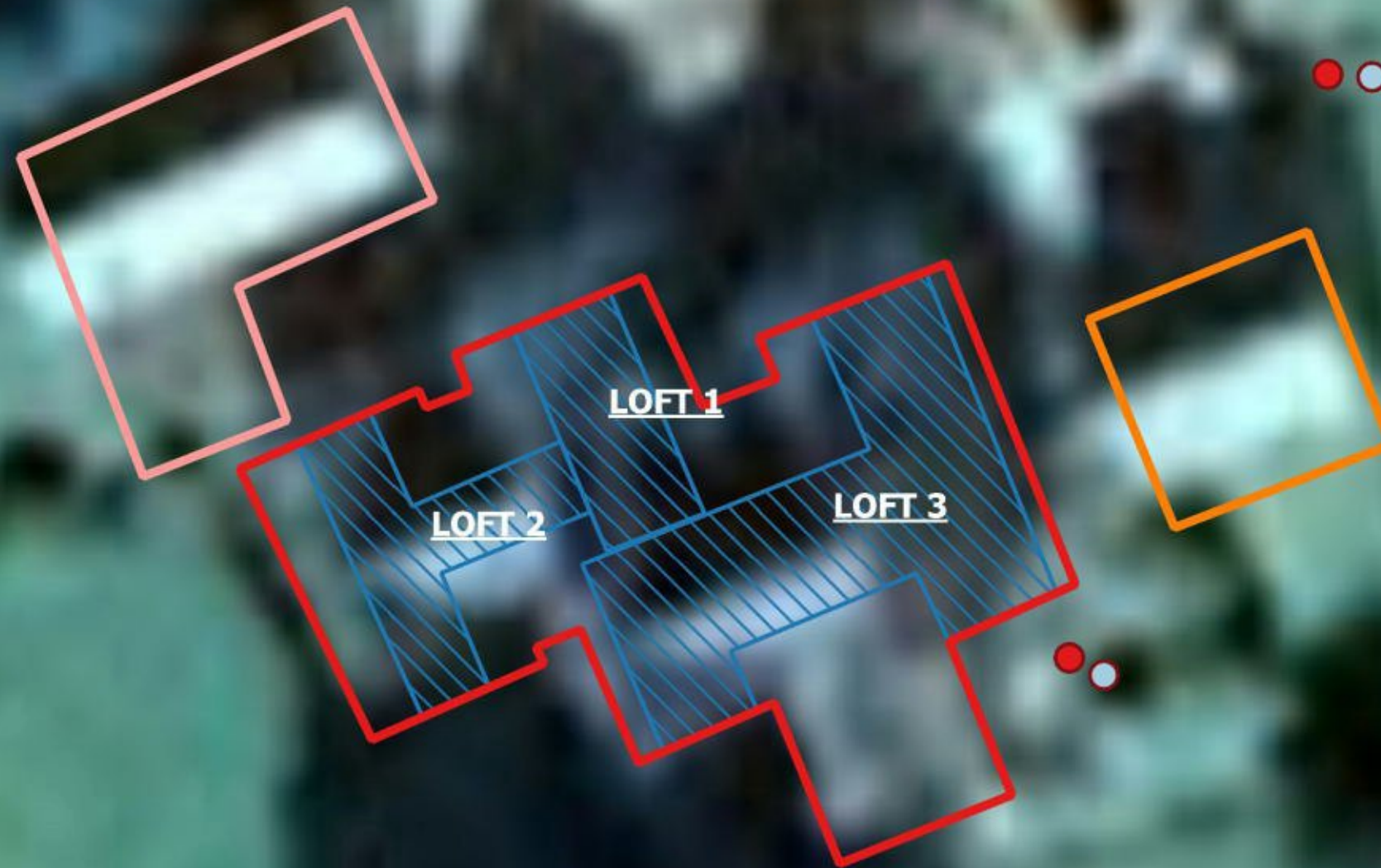


Fig 5: Bat Survey.
Locations of Surveyors,
Video Cameras, and Static
Detectors.
Emergence Survey 19/5/21

Project: Shooting Box, Edmundbyers

Client: Mr & Mrs Penny

Date: 10/11/21 Revision: 1

Scale: 1:500 @ A4



Legend:

-  Shooting Box House
-  House Loft
-  Detached Garage
- Surveyor, Video camera 24/5/21
-  Surveyor
-  Video Camera
-  Cottage

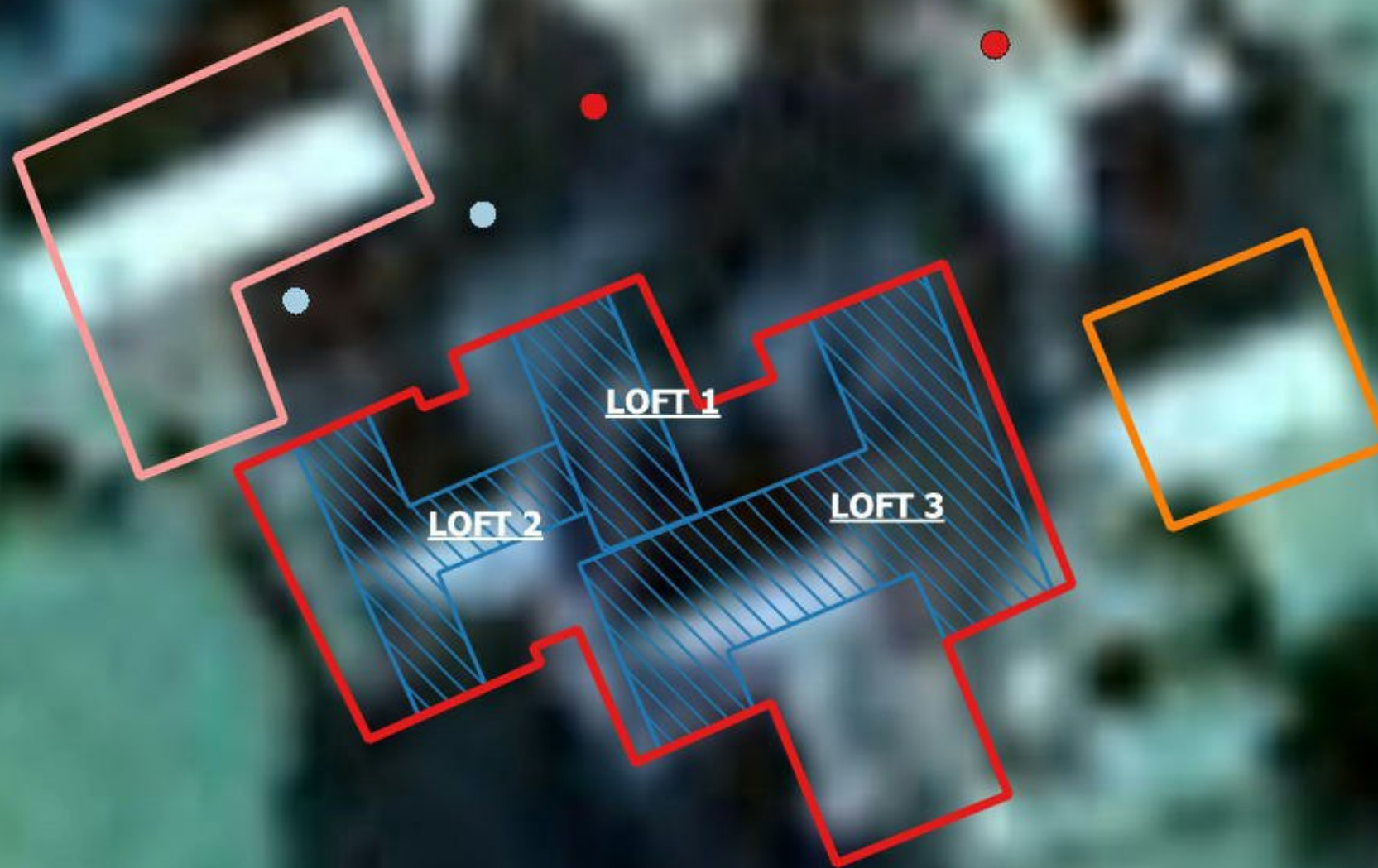
Fig 6: Bat Survey.
Locations of Surveyors and
Video Cameras.
Emergence Survey 24/5/21

Project: Shooting Box, Edmundbyers

Client: Mr & Mrs Penny




Date: 10/11/21 Revision: 1

Scale: 1:500 @ A4









Legend:

-  Shooting Box House
-  House Loft
-  Detached Garage

Surveyor, video camera, or Thermal Imager (Tripod-mounted) 03/06/21

-  Surveyor
-  Thermal Imager (Tripod-mounted)
-  Video
-  Cottage

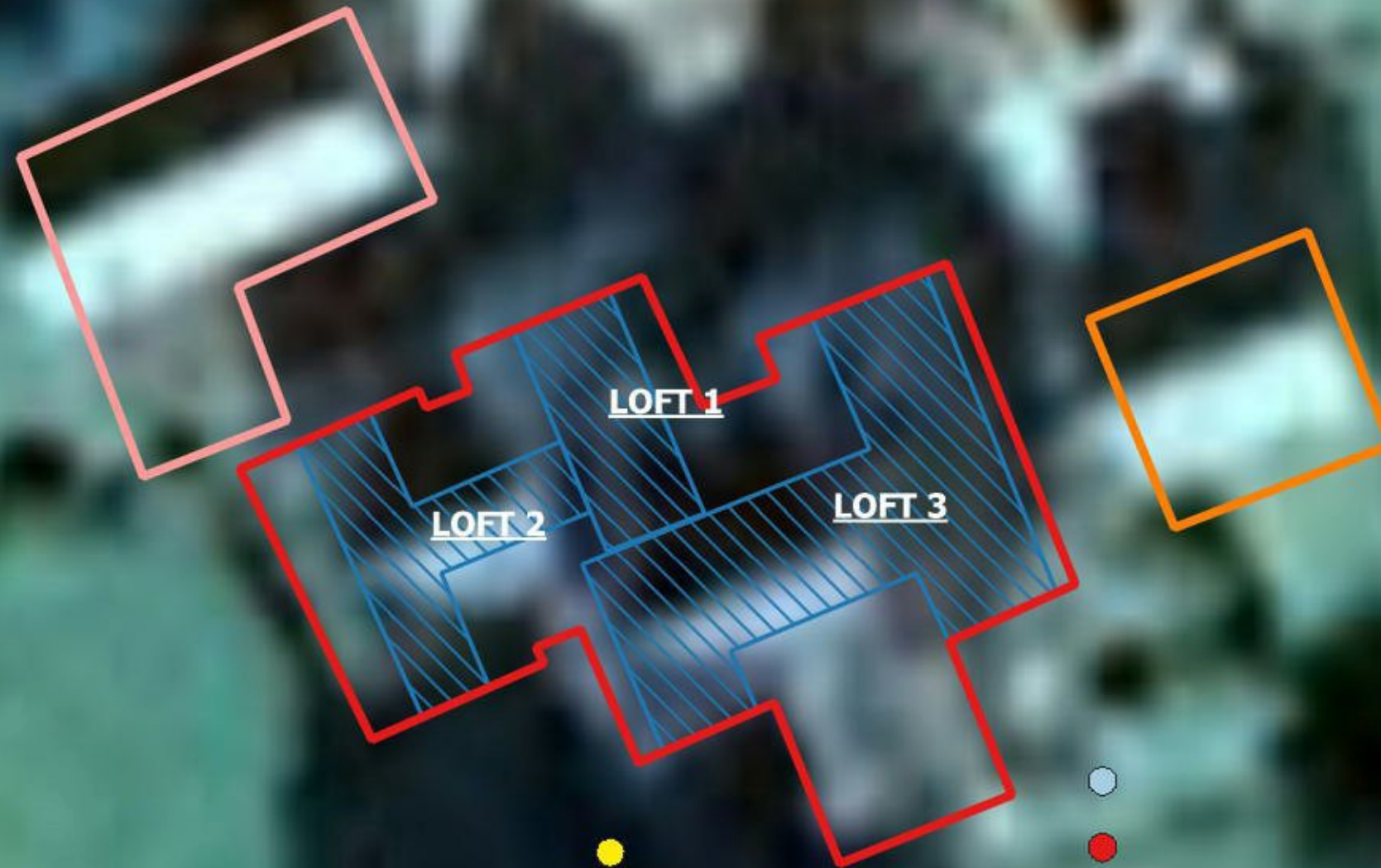


Fig 7: Bat Survey.
Locations of Surveyors,
Video Cameras, Thermal
Imaging.
Dawn Re-entry Survey
3/6/21

Project: Shooting Box, Edmundbyers

Client: Mr & Mrs Penny


Date: 10/11/21 **Revision:** 1

Scale: 1:500 @ A4



Legend:

 Shooting Box House


 House Loft

 Detached Garage

Surveyor, video camera, or static detector 8/6/21

 Surveyor

 Video Camera

 Static Detector

 Cottage



Fig 8: Bat Survey.
Locations of Surveyors,
Video Cameras, Static
Detectors.
Dawn Re-entry Survey
8/6/21

Project: Shooting Box, Edmundbyers

Client: Mr & Mrs Penny

Date: 10/11/21 Revision: 1

Scale: 1:500 @ A4



GSL Ecology

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Legend:

Shooting Box House

House Loft

Detached Garage

Surveyor, Video camera, or Thermal Imager (Tripod-mounted) 11/6/21

Surveyor

Video Camera

Thermal Imager (Tripod-mounted)

Cottage



Fig 9: Bat Survey.
Locations of Surveyors,
Video Cameras.
Dawn Re-entry Survey
11/6/21

Project: Shooting Box, Edmundbyers

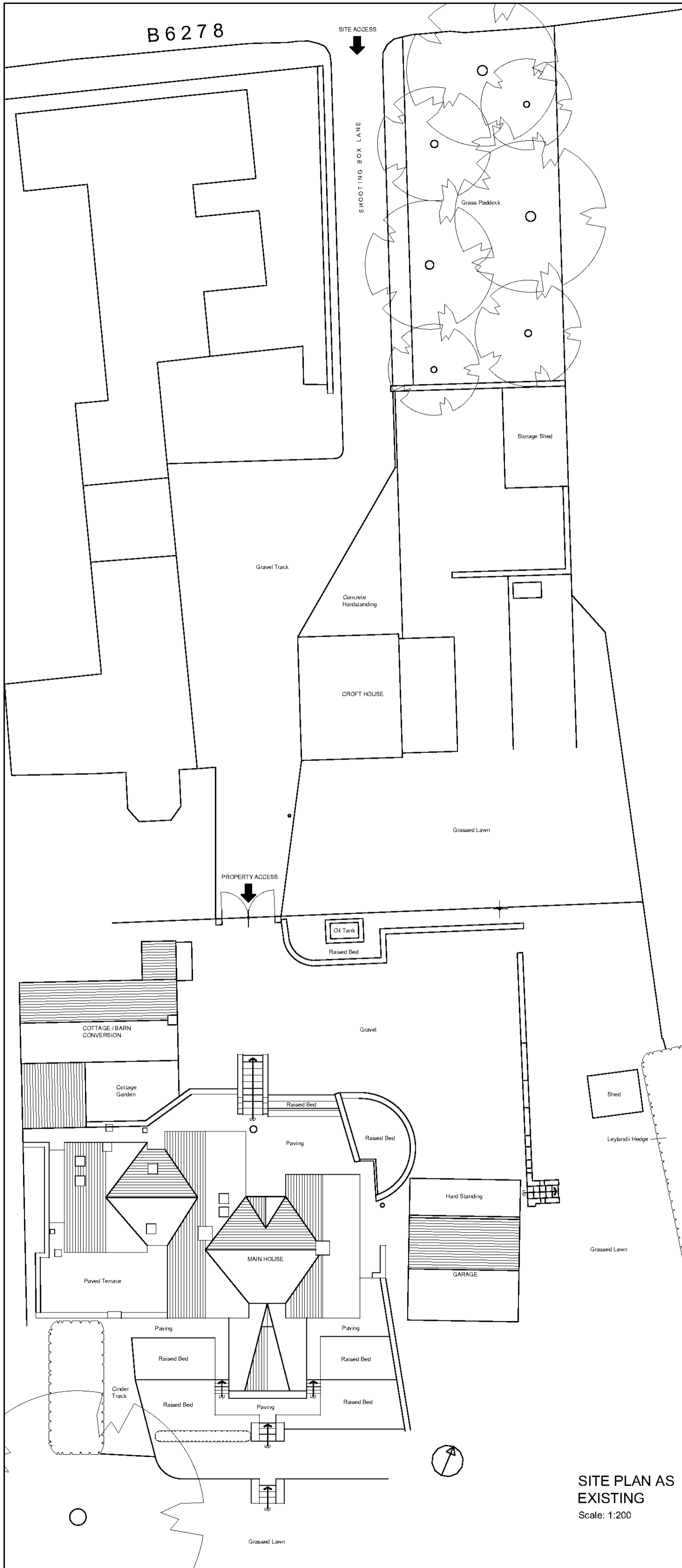
Client: Mr & Mrs Penny

Date: 10/11/21 Revision: 1

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B6278

SITE ACCESS
SHOOTING BOX LANE



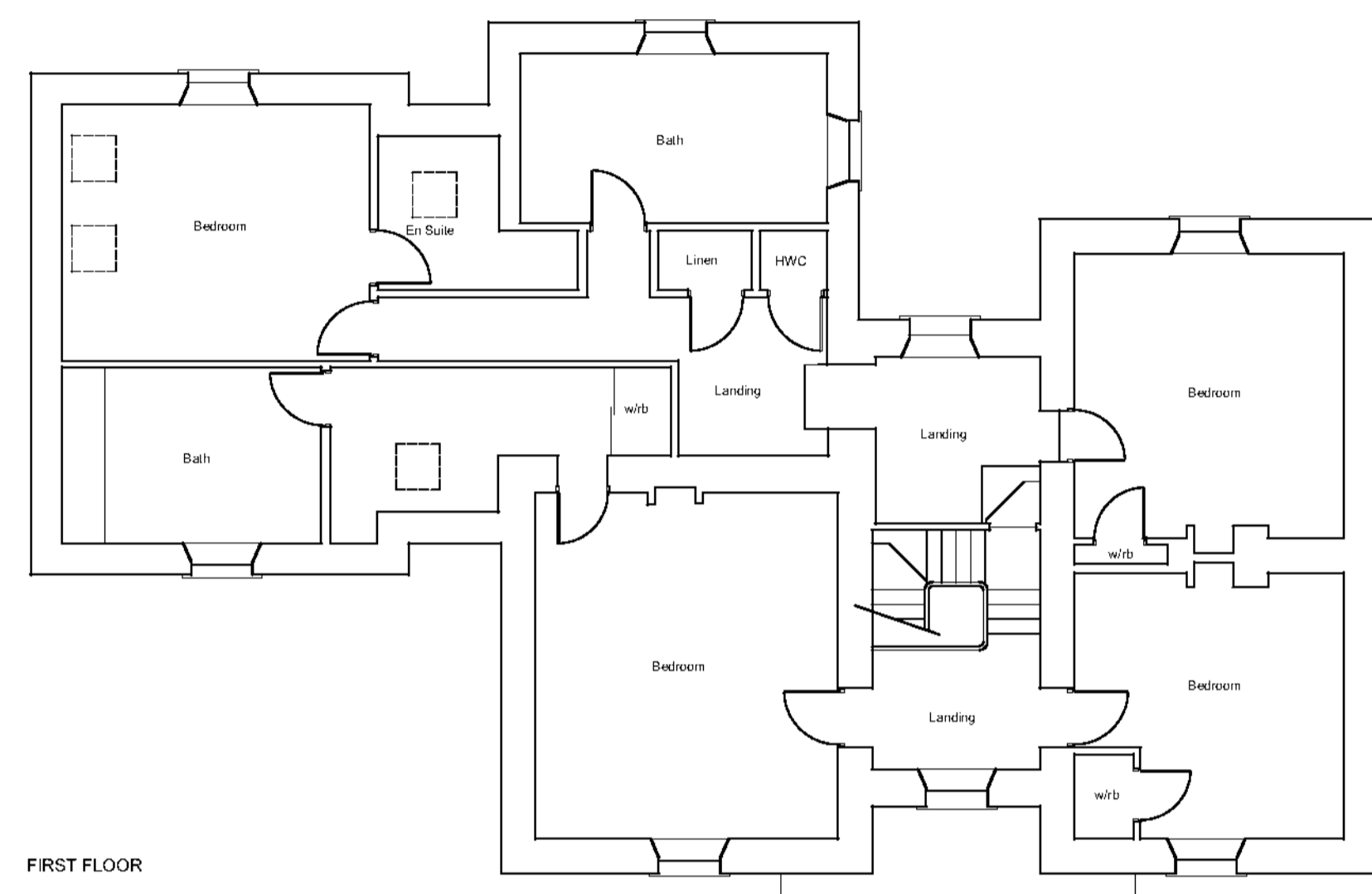
SITE PLAN AS EXISTING
Scale: 1:200



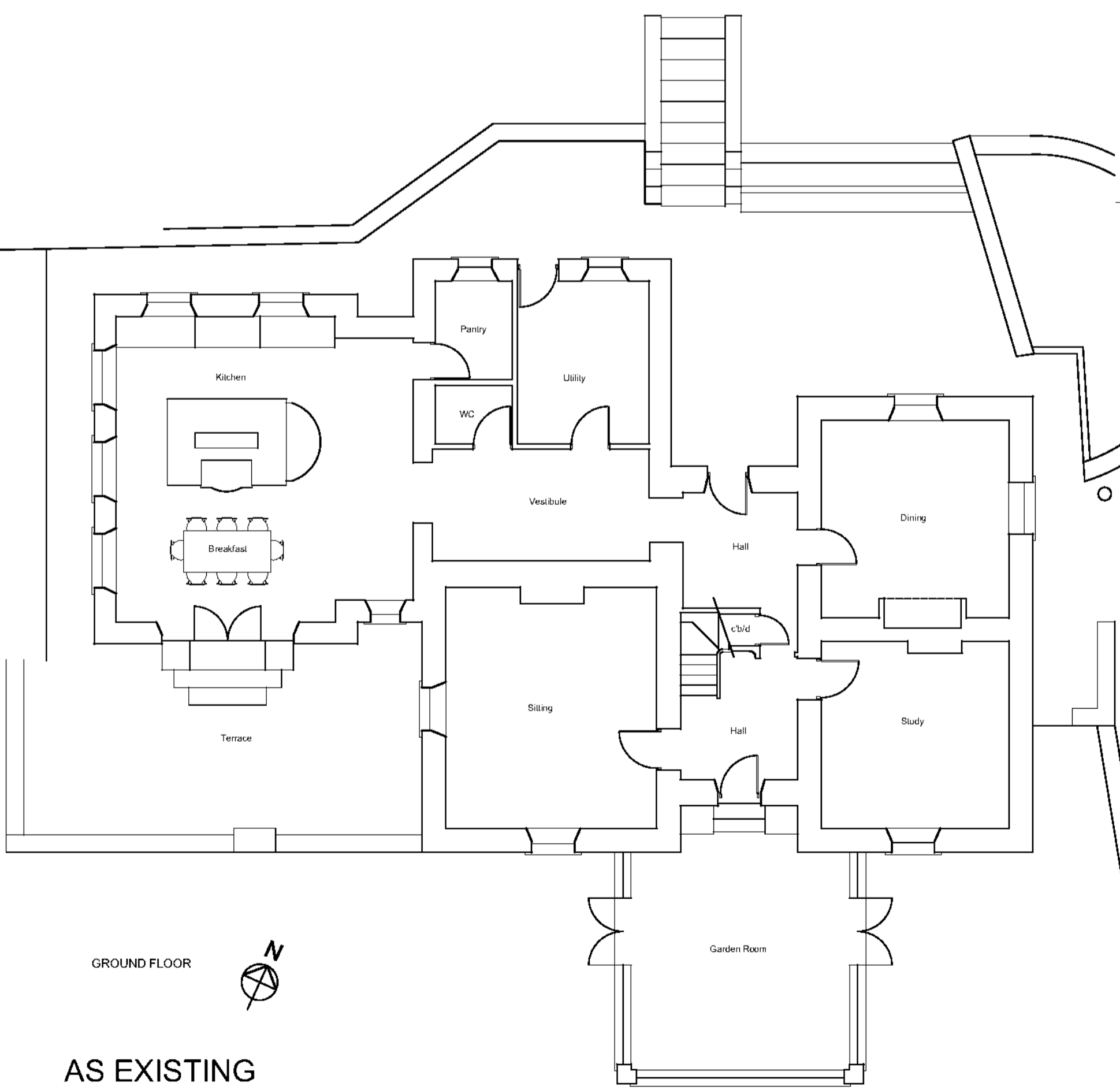
NORTHELEVATION



SOUTHELEVATION

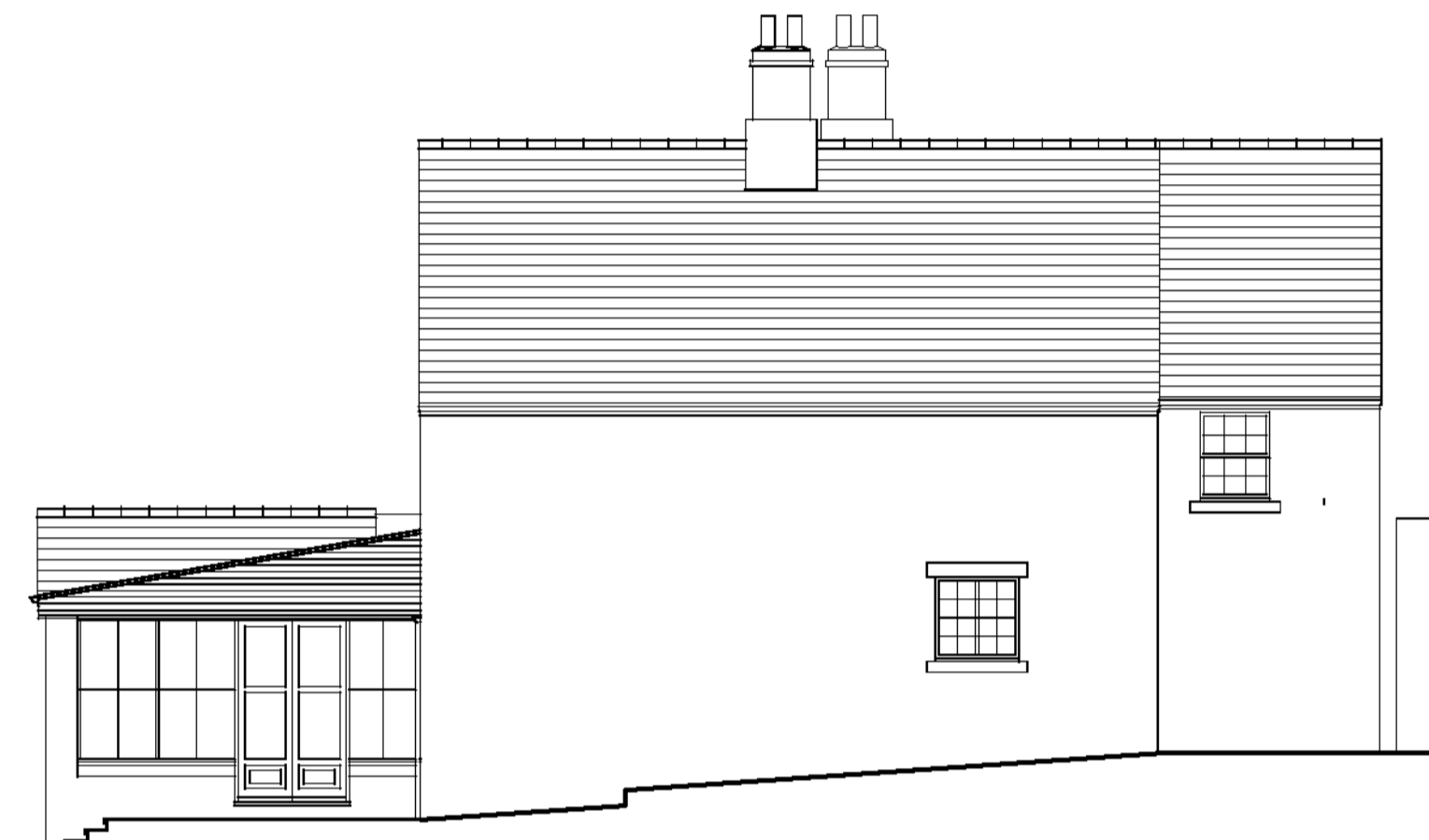


FIRST FLOOR



GROUND FLOOR

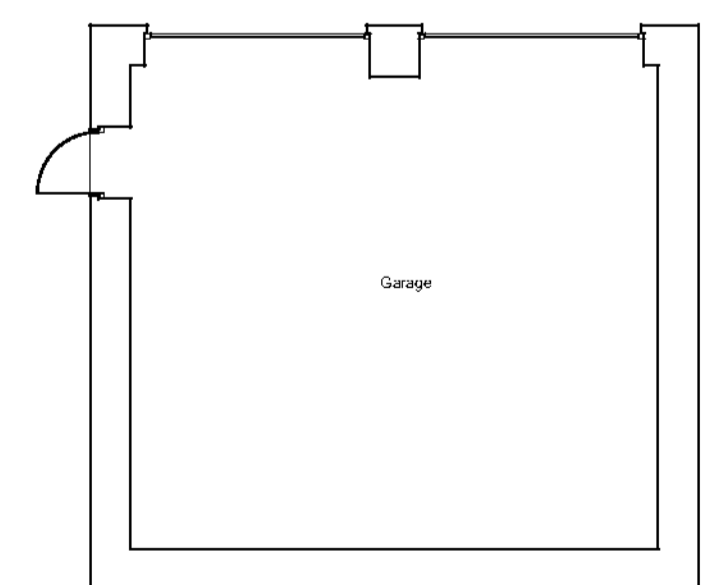
AS EXISTING



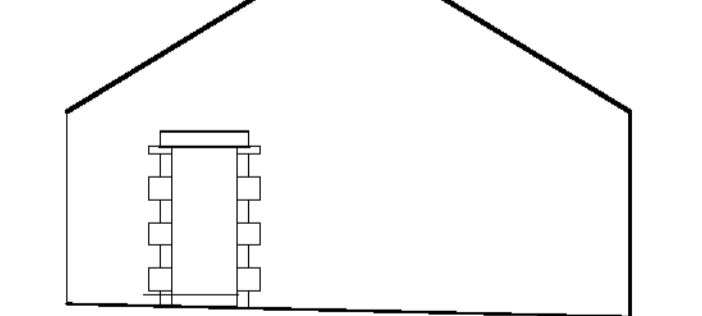
EAST ELEVATION



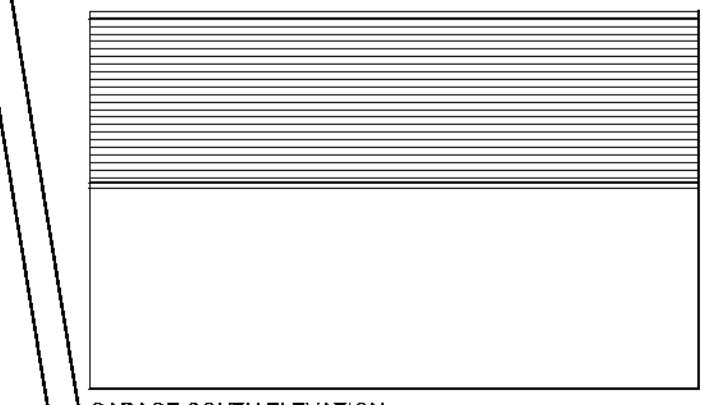
WEST ELEVATION



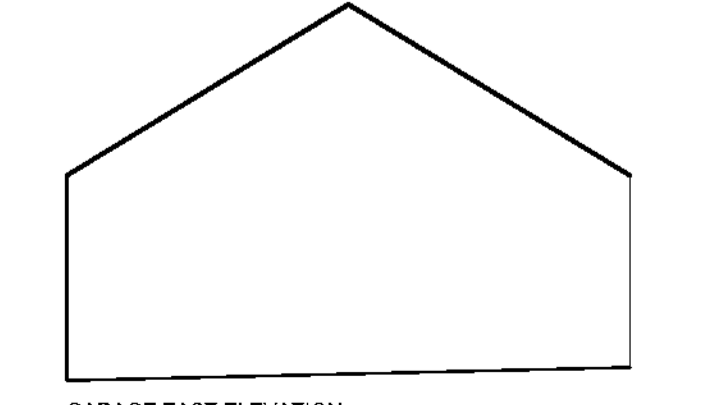
GARAGE NORTH ELEVATION



GARAGE WEST ELEVATION



GARAGE SOUTH ELEVATION



GARAGE EAST ELEVATION

All dimensions to be checked on site. Discrepancies, ambiguities and/or omissions between this drawing and information given elsewhere must be reported immediately to the architect before proceeding.

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NOTES

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Client Mr and Mrs D. Penny

Job Title Alterations to Shooting Box, Edmudbyers, County Durham.

Drawing Title Site Plan and Floor Plans and Elevations as Existing

Scale 1:100 & 1:200 at A1	Drawn CM-J	Date Jan 2021
Job No. 20/102	Drawing No. 101	Revision

B6278

SITE ACCESS

SHOOTING BOX LANE

Grass Paddock

Storage Shed

Gravel Track

Concrete Handstanding

CROFT HOUSE

Wall reduced and Oil Tank Relocated

Grassed Lawn

Line of driveway

Existing Gates Retained

Gravel

New retaining wall

COTTAGE / BARN CONVERSION

Cottage Garden

Raised Bed

Paving

Hard Standing

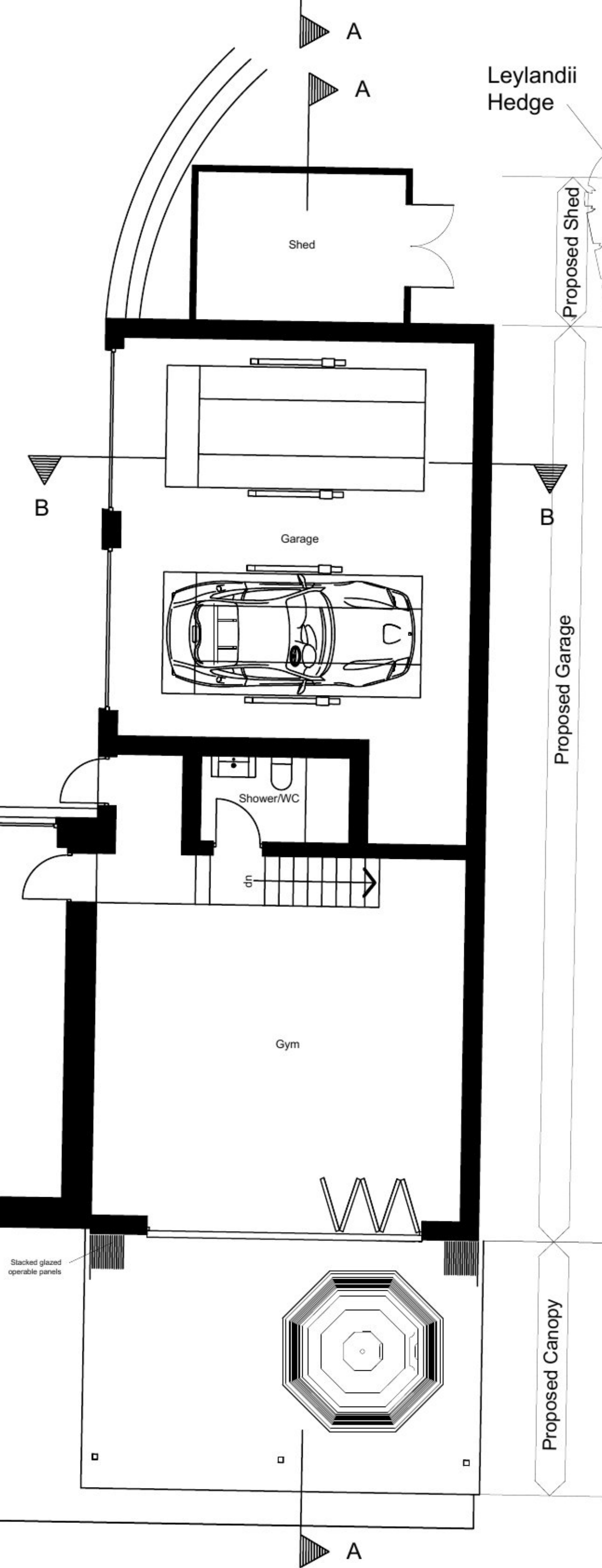
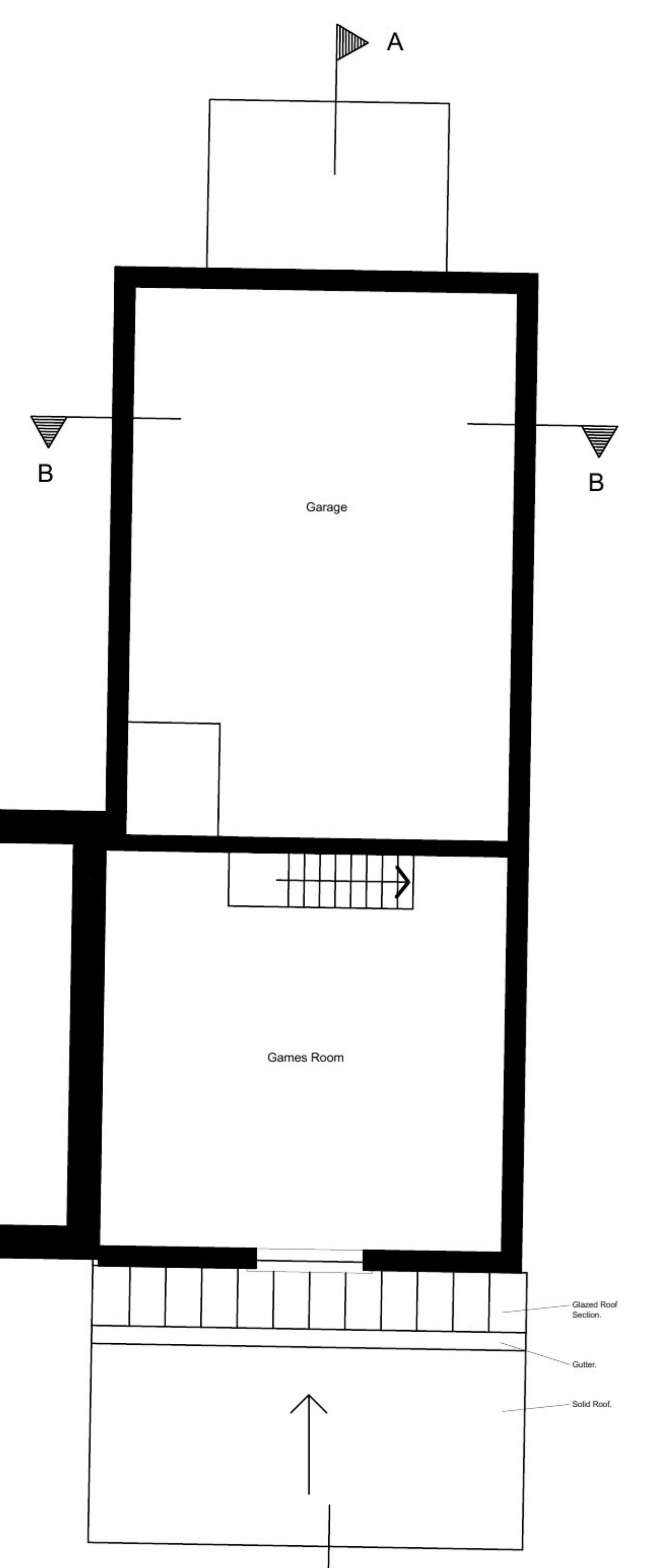
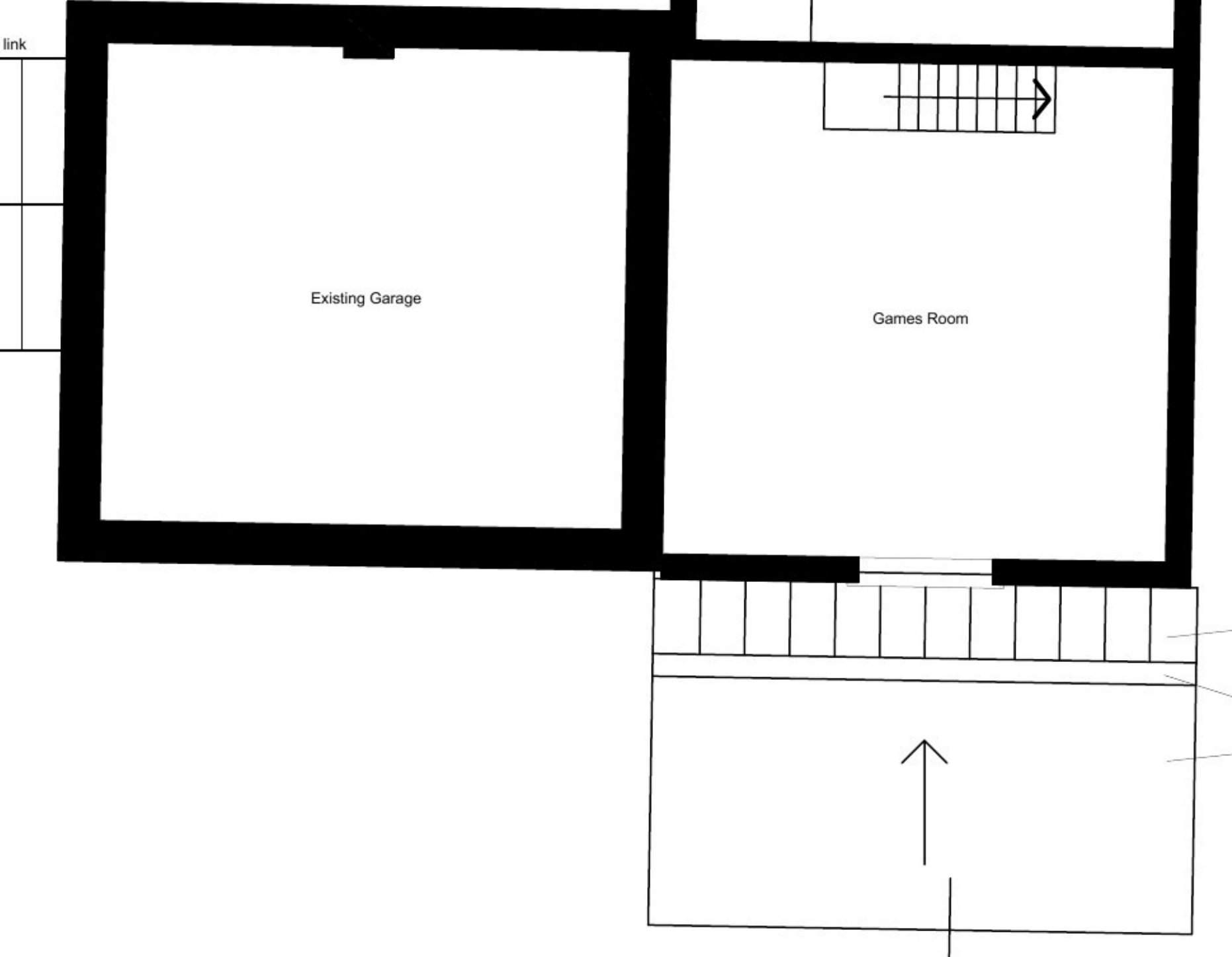
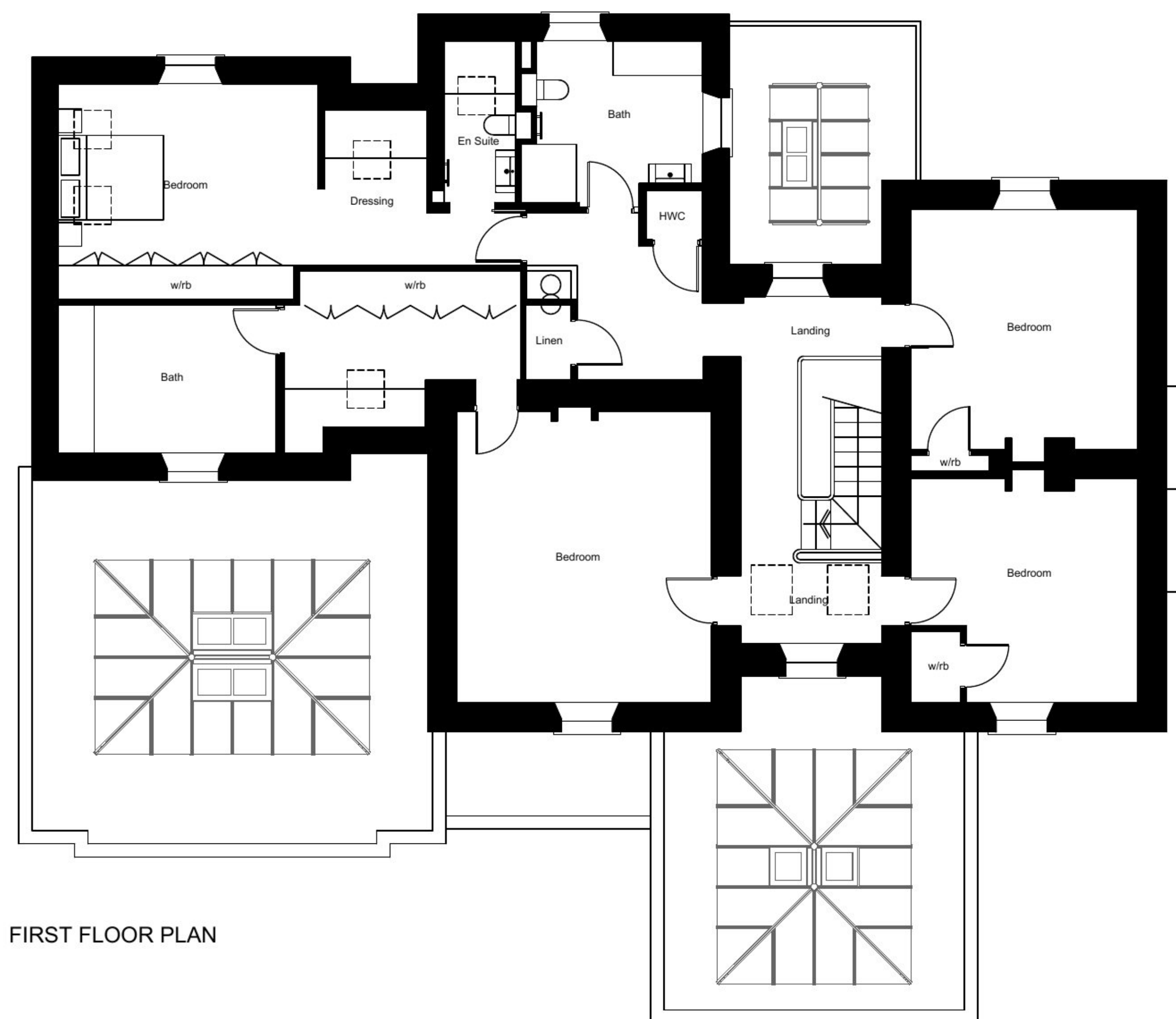
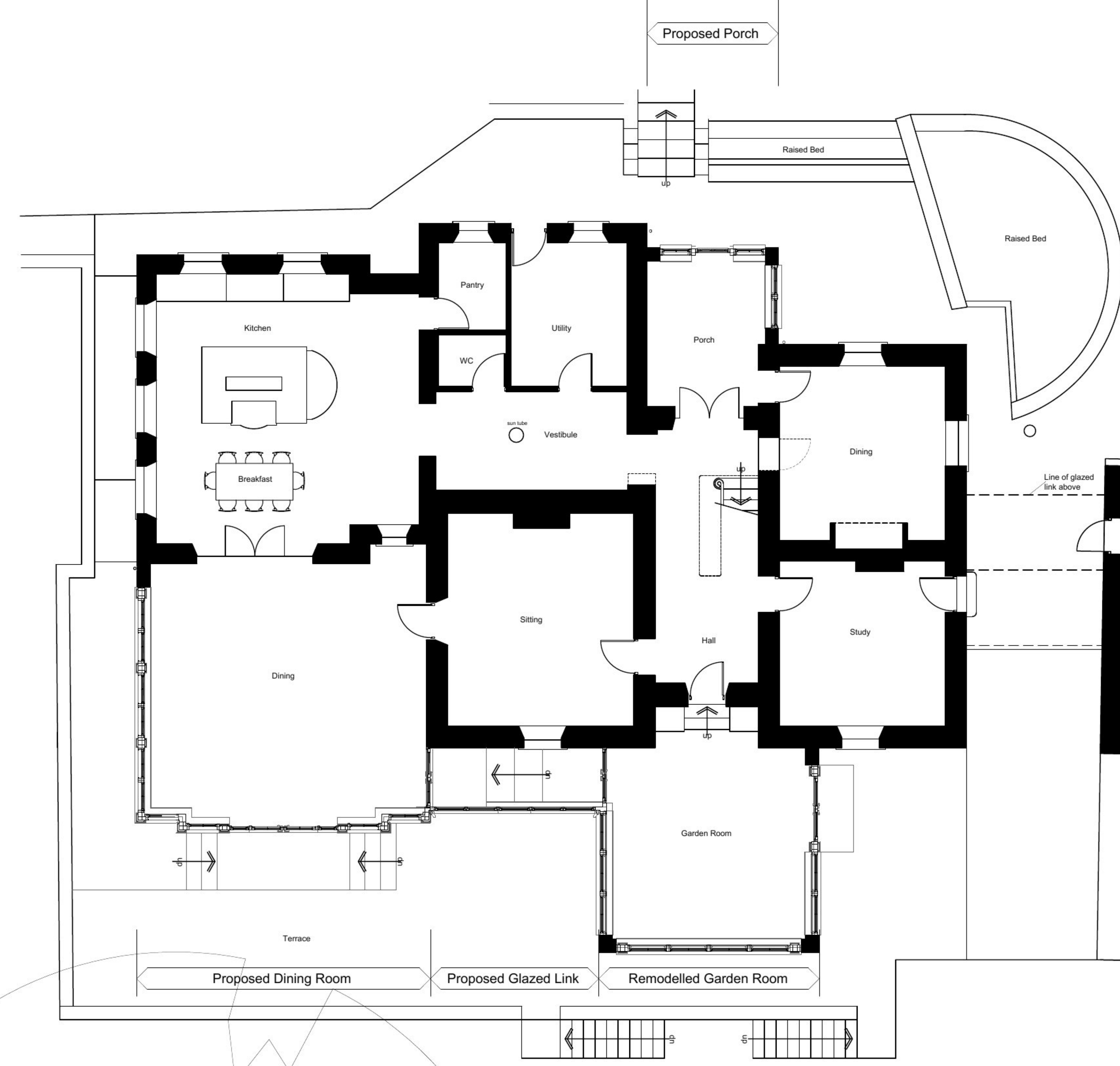
GARAGE

Paved Terrace

MAIN HOUSE

SITE PLAN AS PROPOSED
Scale: 1:200

FIRST FLOOR PLAN



All dimensions to be checked on site. Discrepancies, ambiguities and/or omissions between this drawing and information given elsewhere must be reported immediately to the architect before proceeding.

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NOTES

Rev A: Aug 2021: David Salisbury additions added

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Drawing Title Site Plan and Floor Plans as Proposed

Scale 1:100 & 1:200 at A1	Drawn CM-J	Date Jan 2021
Job No. 20/102	Drawing No. 102	Revision A

All dimensions to be checked on site. Discrepancies, ambiguities and/or omissions between this drawing and information given elsewhere must be reported immediately to the architect before proceeding.

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NOTES



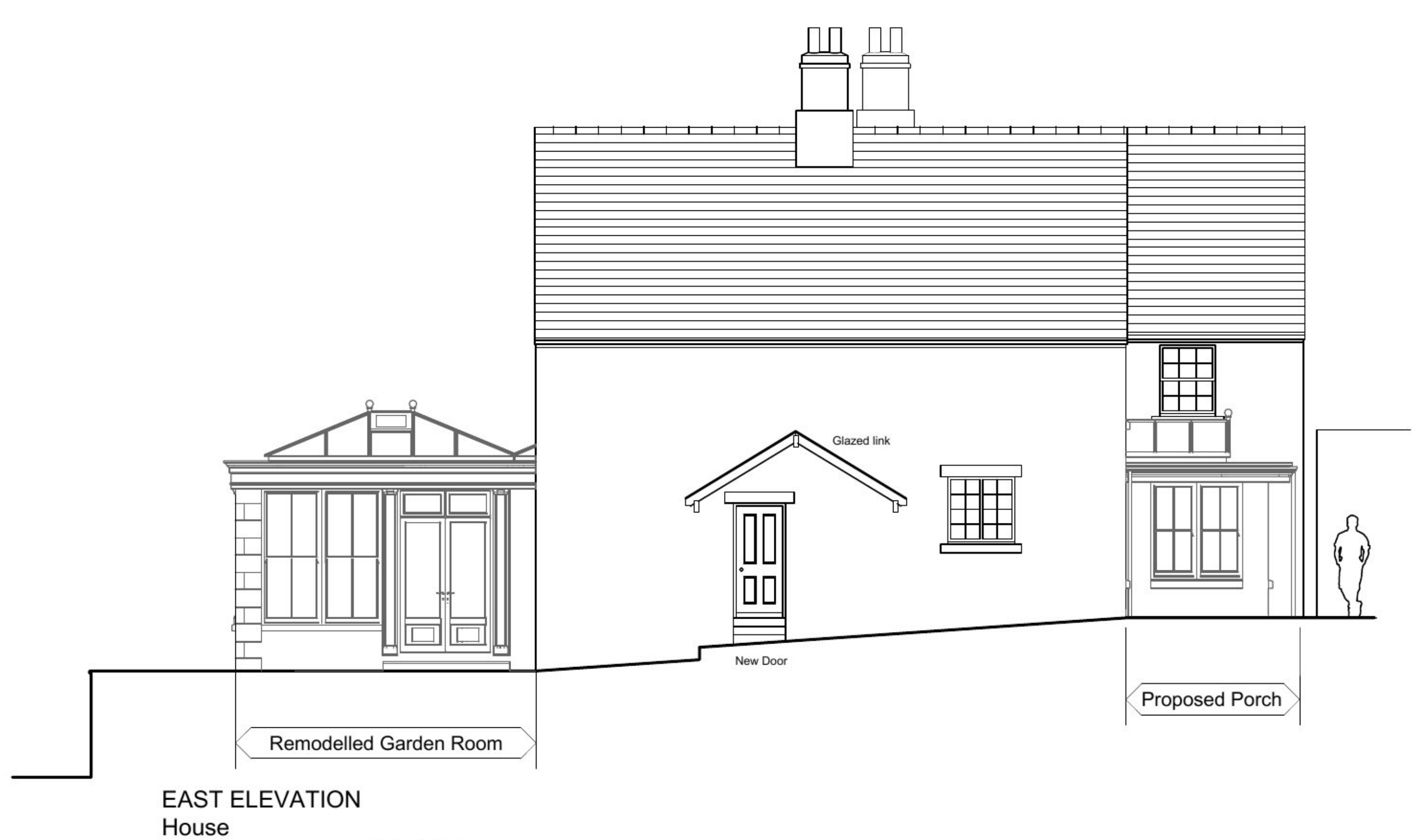
NORTH ELEVATION
House and Garage



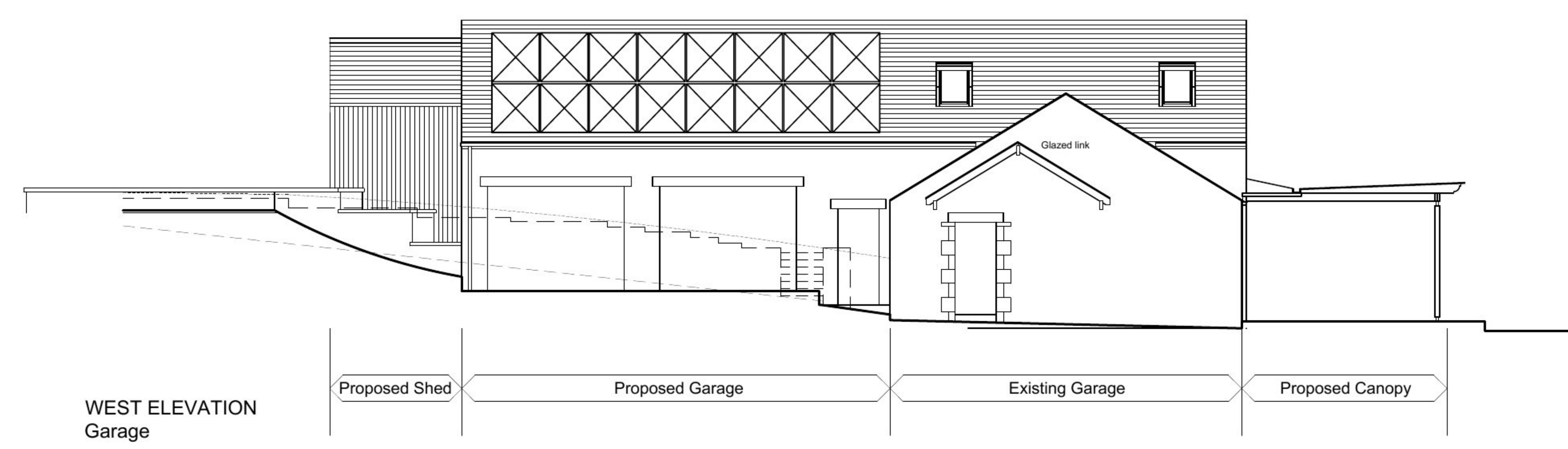
WEST ELEVATION
House



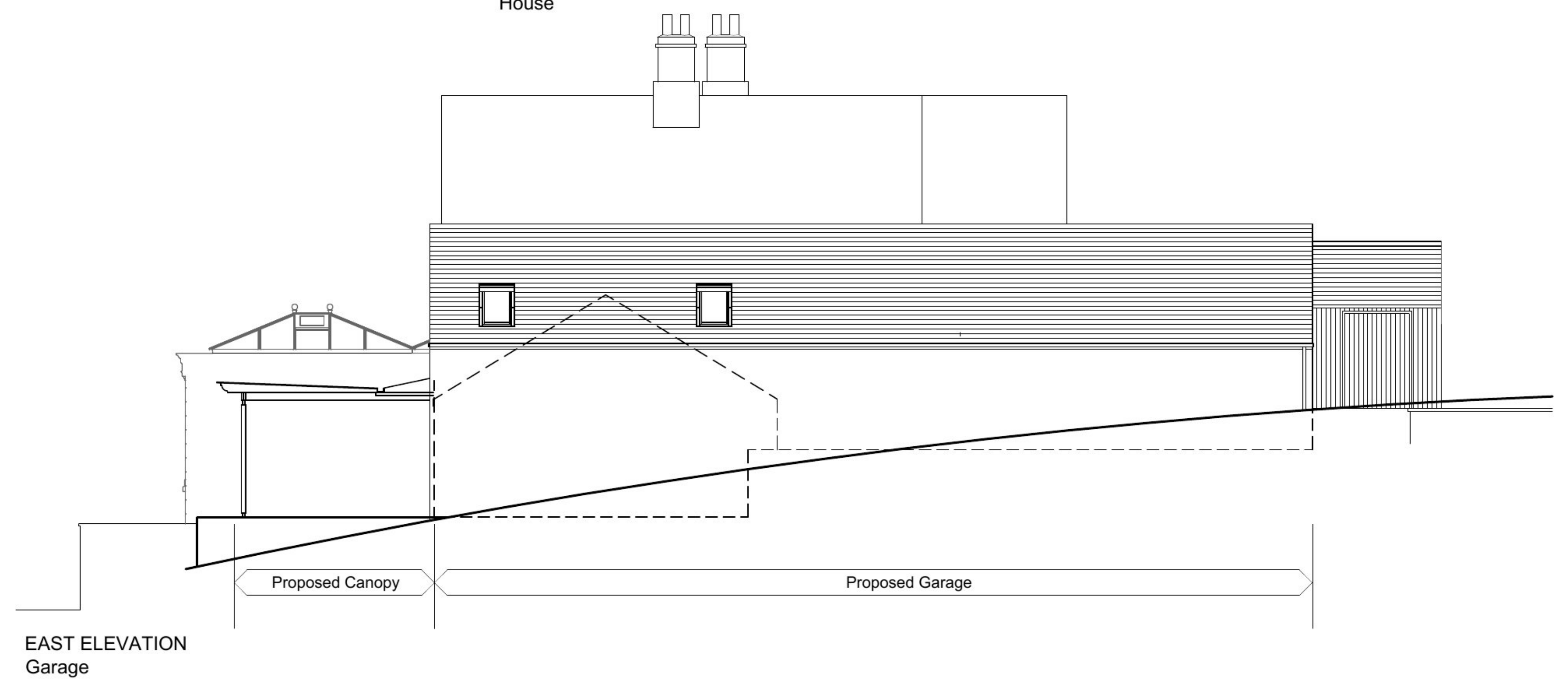
SOUTH ELEVATION
House and Garage



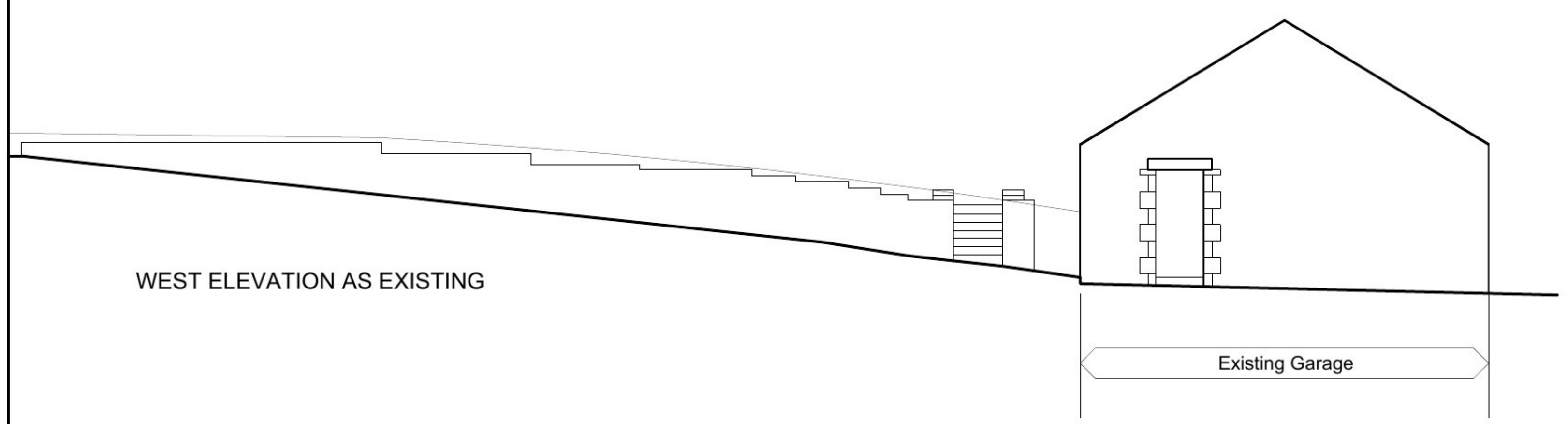
EAST ELEVATION
House



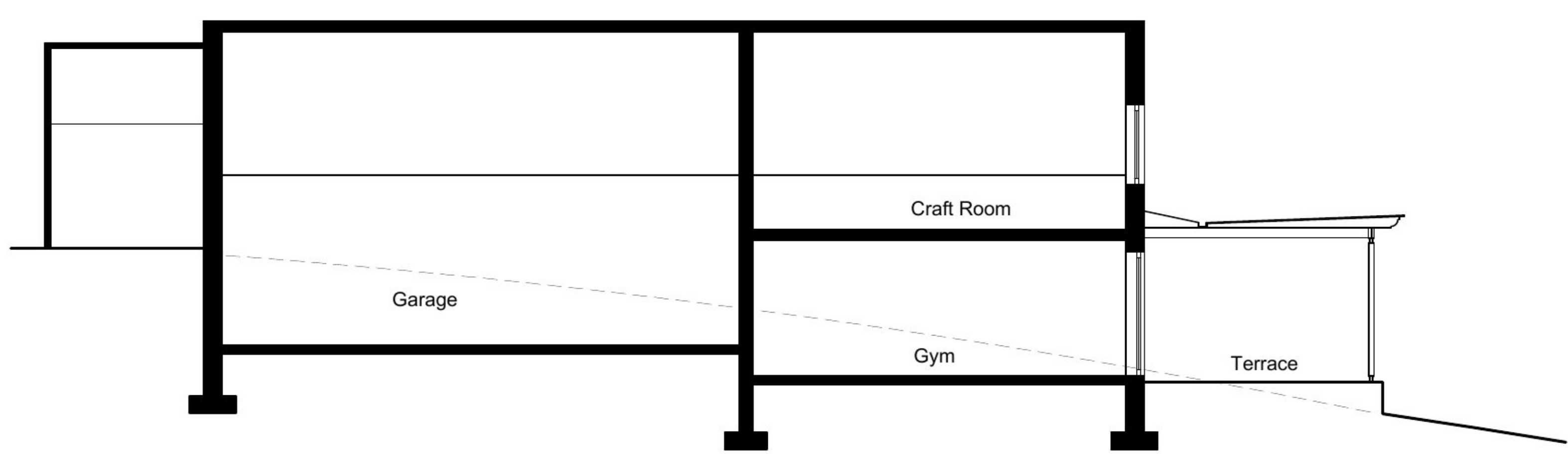
WEST ELEVATION
Garage



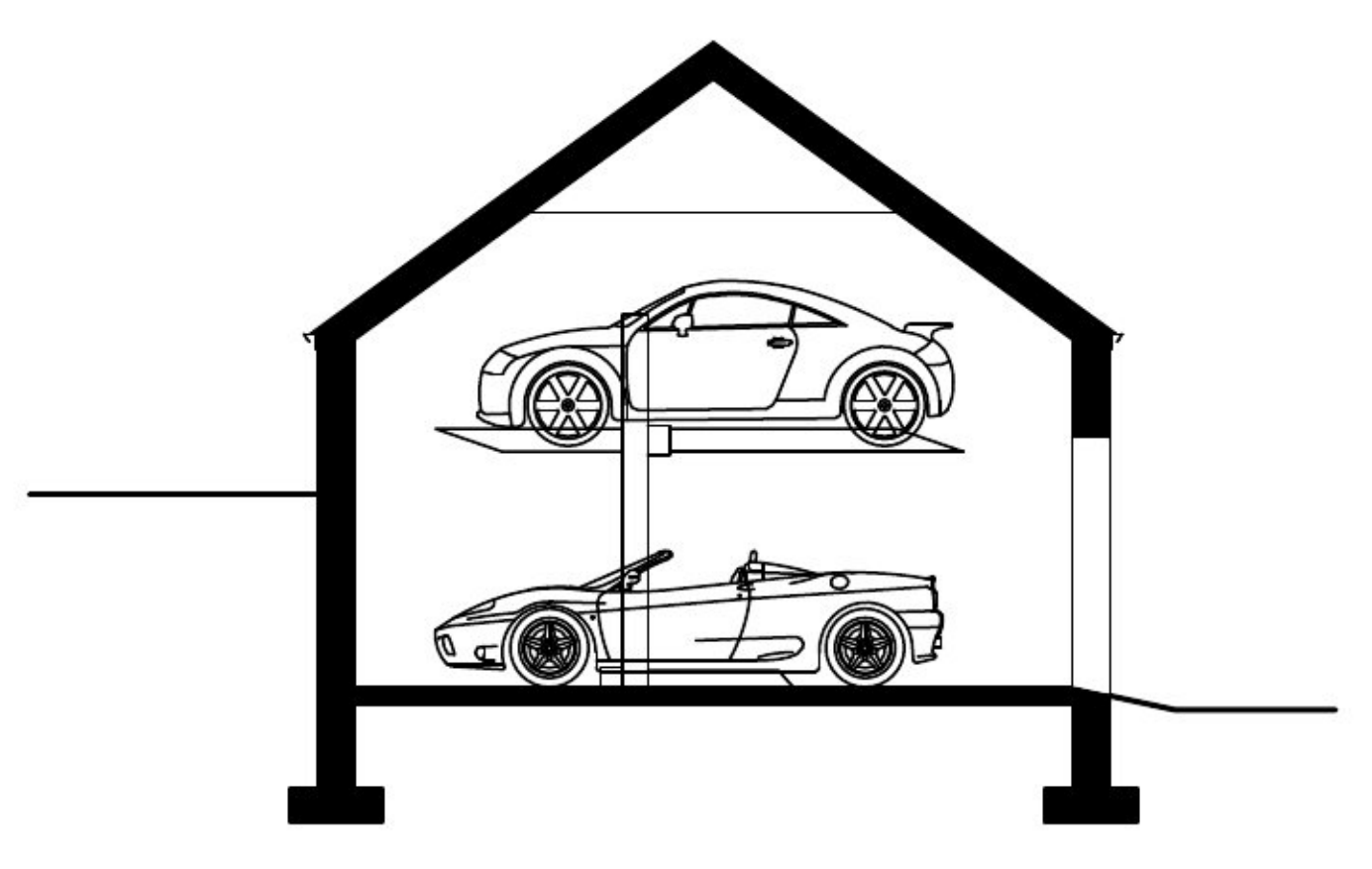
EAST ELEVATION
Garage



WEST ELEVATION AS EXISTING



SECTION AA
Garage



SECTION BB
Garage

Rev A: Aug 2021: David Salisbury additions added
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 Job Title Alterations to Shooting Box, Edmundbyers, County Durham.

Drawing Title Elevations and Sections as Proposed

Scale 1:100 at A1	Drawn CM-J	Date Jan 2021
Job No. 20/102	Drawing No. 103	Revision A

Appendix C – Summary of Relevant Legislation and Planning Policy

Bats

All British bat species are given special protection within England by their inclusion on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended) and Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).

Under the European Union (Withdrawal) Act 2018 (as amended) (the "**Withdrawal Act**"), EU-derived domestic legislation (such as existing environmental regulations that implement EU Directives) and Direct EU legislation (such as EU regulations and decisions) which were in force immediately prior to the end of the Brexit transition period continue to form part of UK domestic law after 31 December 2020 when the transition period ended (known as "**retained EU law**").

As a result, it is an offence to:

- Deliberately capture, injure, or kill a bat.
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats.
- Damage or destroy a bat roosting place (even if bats are not occupying a roost at the time)
- Intentionally or recklessly obstruct access to a bat roost.
- Possess or advertise, sell, or exchange a bat (dead or alive) or any part of a bat.

With specific reference to the offence of disturbance, regulation 43(1) of the Conservation of Habitats and Species Regulations 2017 states that:

".....disturbance of animals includes in particular any disturbance which is likely—

a) to impair their ability—

i. to survive, to breed or reproduce, or to rear or nurture their young; or

ii. in the case of animals of a hibernating or migratory species, to hibernate or migrate; or

b) to affect significantly the local distribution or abundance of the species to which they belong."

Where development will result in damage to, or obstruct access to, any bat roost (whether occupied or not) or risks harming or significantly disturbing bats (in England), a Bat Mitigation Licence is required from Natural England to allow the development to proceed.

The legal interpretation of "development" in the context of legally protected species is not restricted to works requiring planning permission from local planning authorities but includes permitted development and can encompass works that do not require any formal permission.

Bats are also afforded more general protection in England (and Wales) within the Natural Environment and Rural Communities Act (NERC), 2006. This imposes a duty on all public bodies, including local authorities and statutory bodies, in exercising their functions, "to have due regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity" [Section 40 (1)]. It notes that "conserving biodiversity includes restoring or enhancing a population or habitat" [Section 40

(3)]. Consequently, attention should be given to dealing with the modification or development of an area if aspects of it are deemed important to bats, such as roosts, flight corridors and foraging areas.

Nesting Birds

All naturally occurring wild birds in Great Britain are protected from persecution by the Wildlife and Countryside Act 1981 (as amended). It is illegal to kill, injure or 'take' any wild bird; or to take, damage or destroy the nest of any wild bird whilst in use or being built; or to take or destroy the egg of any wild bird.

Birds listed on Schedule 1 of the Wildlife and Countryside Act (which includes Barn Owls) are afforded additional protection. For birds listed on Schedule 1 of the act it is also illegal to intentionally or recklessly disturb the bird or its young at, on or near an active nest.

Planning Policy and Biodiversity

Section 40 of the NERC Act 2006 also places a duty on all "public authorities" (including statutory undertakers and local authorities) in England and Wales to have regard, in the exercise of their functions, to the purpose of conserving biodiversity. A key purpose of this duty is to embed consideration of biodiversity as an integral part of policy and decision making throughout the public sector, which should be seeking to make a significant contribution to the achievement of the commitments made by Government in its Biodiversity 2020 strategy.

The National Planning Policy Framework 2019 (NPPF, 2019) details the Government's planning policies for England and how these are expected to be applied.

The NPPF identifies the commitment of the UK Government to minimising impacts on biodiversity and providing net gains in biodiversity where possible, in order to contribute to the Government's commitment to halt the overall decline in biodiversity. It specifies the obligations that the Local Authorities and the UK Government have with regard to statutory designated sites and protected species under UK and international legislation and how this it to be delivered in the planning system.

The NPPF confirms that protected or notable habitats and species can be a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat, This may therefore make some sites unsuitable for particular types of development, or if development is permitted, mitigation measures may be required to avoid or minimise impacts on certain habitats and species, or where impact is unavoidable, compensation may be required.

Therefore, where planning permission or Listed Building consent is required, a local planning authority may also seek to secure a net gain for nature at the site when determining the planning application.

The Hedgerow Regulations 1997 give legal protection to important hedgerows. The presence of a protected species such as bats is a relevant consideration when assessing whether a hedgerow classifies as "important" under this legislation and may influence a local planning authority's decision on whether to approve removal of a hedgerow.