ARBOR VITAE

ECOLOGY • FORESTRY • LAND USE

PHASE 2 BAT ACTIVITY SURVEY

LAPWORTH GRANGE

Lower Betton Farm, Cross Houses, Shrewsbury, Shropshire, SY5 6JD

Project name:	Lapworth Grange, Lapworth, Warwickshire, B94 5NT
Grid Reference:	SP15917086
Date:	21/09/2022
Prepared by:	Phillipa Stirling MSc ACIEEM
Reviewed by:	William Prestwood BSc Director
Requested by:	The Rural Planning Co.

Contents

1 INTRODUCTION

1.1 BACKGROUND TO DEVELOPMENT

Planning permission will be sought for the development of a range of outbuildings associated with the residential property Lapworth Grange.

B1 was known to support a small roost of brown long eared bats in 2016 and a single common pipistrelle was roosting in B5 during the daytime. Further survey work is required to update the existing data for the site.

1.2 SCOPE OF SURVEY

Arbor Vitae were commissioned to undertake at least two bat activity surveys to determine if the buildings at Lapworth Grange are in use by roosting bats.

- Bats and their roosting sites are legally protected under The Conservation of Habitats and Species Regulations 2017 and The Wildlife and Countryside Act 1981.

The survey was also designed to assess the presence of any breeding birds using the buildings.

- All wild nesting birds, their nests and eggs are legally protected under The Wildlife and Countryside Act 1981.

1.3 KEY PRINCIPLES

All ecological surveys conducted by Arbor Vitae Environment Ltd are underpinned by the following key principles, as outlined by CIEEM (2018):

Avoidance - Seek options that avoid harm to ecological features (for example, by locating on an alternative site).

Mitigation - Adverse effects should be avoided or minimized through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.

Compensation - Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.

Enhancements - Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

2 SITE DESCRIPTION

2.1 LOCATION, LANDSCAPE, AND BACKGROUND

Lapworth Grange lies just north of the M40's junction 16 in Warwickshire (Figure 1). The land surrounding the house is a mixture of open parkland with mature trees, large detached residential properties and working farms with agricultural pasture fields (Figure 2). Pools Wood is located 700m from the site which features ancient and semi-natural woodland.

The proposals will include the conversion of a number of buildings on site and likely removal of some. Bat activity survey work was carried out on the site in 2016 by EcoLine and found the presence of a small roost of brown long-eared and common pipistrelle bats within the coach house building (B1).

2.2 BUILDING DESCRIPTION

The Original Coach House for Lapworth Grange (referred to as B1) dates back to the 19th century. It features one and two storey sections, open access into both areas through uncovered apertures, brick construction with a clay tiled roof and is newly lined throughout. Some of the roof timbers have been replaced with new material and the whole roof has been upgraded. There is a lean-to brick extension at the north gable and ventilation slits in the external brickwork.

B2 is a one and two storey garage/workshop with a part hipped clay roof and a boarded/plastered room above. Timber soffits are fixed around the edge of the building and some windows are broken/missing.

B3 is an L-shaped barn which has partly fallen down. The east wing remains but with the roof in serious decline and entirely open to the elements.

On the east side of the site, B4-6 are aligned with B7 adjacent. B4 features brick under clay garage with a hipped roof and enclosed loft above. The roof is lined and there are several broken windows providing access points into the structure. B5 is a steel frame Dutch barn with a small brick wall base and a tin roof covering. B6 is a single storey stable block of brick under clay construction. The roof is now overgrown with vegetation and shaded by overhanging branches of nearby trees. The verges of the roof are cemented at the gable ends. B7 is similar in construction to B4- hipped clay roof over a brick base with an enclosed loft above which is felt lined.

3 SURVEY METHODOLOGY

3.1 VISUAL INSPECTION

One visit was made to carry out a preliminary visual assessment of the property prior to the first dusk activity survey.

The objective of the survey was to find and record any signs of use by bats, for example:

- Droppings, sometimes in concentrations below roost sites,
- Feeding signs such as butterfly and moth wings,
- Staining of timber, brickwork around access points.

The general structure of the building was assessed for its potential to provide bats with roosting opportunities.

3.2 ACTIVITY SURVEYS

DATE	SURVEY TIME	SUNSET SUNRISE	WEATHER	OBSERVERS	STATIC RECORDERS
26/07/2022	21:00-22:40	21:08	Cloud: 0% Rain: - Wind: 0 (BFT) Temp: 12°C	Will Prestwood Phillipa Stirling Adam Stirling Fay Mundy Dave Mundy	Anabat Express internally x4
22/08/2022	04:30-06:18	06:03	Cloud: 0% Rain: - Wind: 0 (BFT) Temp: 15°C	Phillipa Stirling Adam Stirling Fay Mundy James Franklin	Anabat Express internally x4
Bat activity was registered and recorded externally using Echometer 2 Pro microphone with iPad Air, iPhone and Android.					

3.3 BREEDING BIRDS

The buildings were assessed for their potential to provide birds with nest sites, and to record any existing evidence of previous nesting.

3.4 PERSONNEL

The preliminary survey was carried out by Phillipa Stirling MSc ACIEEM Natural England bat licence number: 2021-52205-CLS-CLS. Additional bat surveyors

include: Will Prestwood BSc bat surveyor, Adam Stirling BSc assistant bat surveyor, Fay Mundy assistant bat surveyor, James Franklin BSc assistant bat surveyor and Dave Mundy assistant bat surveyor.

3.5 CONSTRAINTS

The north elevation of B6 and B7 is entirely obstructed by mature, dense vegetation growth. The areas were not visually accessible but similarly, would not provide suitable access points.

4 SURVEY RESULTS

4.1 VISUAL INSPECTION

Reference	Description
B1	Small number of brown long-eared bats found roosting in 2016. Conditions similar, building provides suitable shelter for bats.
B2	A small number of potential roosting features identified e.g. slipped tile and areas beneath timber soffits. No bat evidence, low potential.
B3	Most of the roof is missing and the structure is entirely open to the elements. Very limited suitable roosting opportunities and negligible potential as a roost.
B4	Roof in good condition but some potential roosting features in slipped tiles. Low potential.
B5	Seemingly very little potential for bats but a single common pipistrelle was found to be using the barn as a day time roost in 2016.
B6	Roof almost entirely obstructed by vegetation growth. No evidence of bats and low potential as a roost.
B7	Roof in good condition but partly obstructed by vegetation growth. Low potential.

4.2 ACTIVITY SURVEYS

Dusk emergence survey 27/07/2022

The first bat to be recorded was a common pipistrelle at 21:30 which seemed to emerge from the north facing gable of B1. At 21:34 a common pipistrelle was seen to fly out of the open garage door on the west facing elevation of B1. At 21:40 a noctule was recorded flying overhead. At 21:50 two common pipistrelle bats were

observed foraging between B5 and B3 in an open area. The bats frequently entered the space beneath the Dutch barn to feed also. This activity continued until the end of the survey.

Between 21:36 and 21:43, brief echolocation calls by a common pipistrelle were recorded on the internal detector within B4. No bats were seen to emerge from this building but regular outdoor passes by this species might have been picked up internally.

A very brief call by brown long-eared was picked up on the internal detector within B1 at 21:24 although no external confirmation of this species was made during the survey.

Dawn re-entry survey 22/08/2022

Common pipistrelle was recorded upon arrival at the site, flying around between B3 and B5. A total of two were observed in flight at any one time and appeared to use boundary trees and built features as a means of navigating the site. A single soprano pipistrelle was recorded at 04:57 and 05:07, flying around B1 and the west side of the site.

A Natterer's bat was recorded very briefly at 05:02 but was not observed. At 05:07 a brown long-eared bat was observed flying around the roof of B1 before disappearing from sight. A second silent bat also appeared to enter the roof after a period of repeated approaches to the roof.

At 05:42 a common pipistrelle was observed flying round the roof of B1 before entering the building at the north facing gable. A noctule was recorded flying overhead at 05:46.

At 04:36 a very brief call from a brown long-eared bat was recorded within the loft of B1. More sustained called were then recorded at 05:34 and 05:35 within the loft.

4.3 BREEDING BIRDS

At least one pair of swallows are using B1 for nesting.

5 EVALUATION OF RESULTS AND IMPACT

5.1 BATS

A total of five bat species were recorded on or near to the site, including: common and soprano pipistrelle, brown long-eared, Natterer's and noctule. Building B1 appears to be in use as a daytime roost site for a minimum of two brown long-eared bats and two common pipistrelle bats.

A European Protected Species Mitigation Licence will be required for the conversion of B1 to proceed.

No other roosting activity was recorded in association with other buildings on site over the course of the survey work. Bats were observed using mature trees and built structures as a way of navigating the site and therefore plans for the site should seek to retain as many trees at the periphery as possible.

It will be necessary to implement a Wildlife Sensitive Lighting Plan as part of the required mitigation licence.

5.2 BREEDING BIRDS

The conversion work will result in the loss of a nesting sites for swallow and replacement nest sites will be required.

6 MITIGATION & ENHANCEMENT

6.1 BATS

Mitigation measures to be included within the EPS Mitigation Licence will include:

- The work will be timed so as to avoid the main activity window for bat species i.e. building to be sealed and roof repairs carried out between October and April in a given time period.
- A purpose built bat loft will be created in-situ above B1 and will be ready by 1st May in any year following the conversion work. The bat loft will comprise the following features:
    - The void height (floor to ridge) should be at least 2m and preferably exceed 2.5m (Razgour et al. 2013), with a length and width of at least 4m (preferably 5m) as detailed in English Nature's Bat Mitigation Guidelines (Mitchell-Jones 2004).

- An access hatch measuring 600mmx600mm will be the only entrance to the loft which will provide a point of entry for inspections by NE or the licenced ecologist.
- Bat access points will be created at the north facing gable using the existing ventilation gaps in brickwork.
- Internal roosting features will be installed to include rough sawn boards and sheets fixed to the underside of the rafters to create voids and crevices within.
- Any parts of the roof which are currently exposing breathable roof membrane will be covered over to prevent the trapping and death of individual bats. Use of breathable roofing membrane within a bat roost is not permitted.
- The bat loft will not be used for storage or other purposes.
- A Wildlife Sensitive Lighting Plan will be designed and implemented for the site as a whole.

6.2 BREEDING BIRDS

The proposed development will have to be carefully timed so as to avoid disturbing nesting swallows or other species of nesting birds.

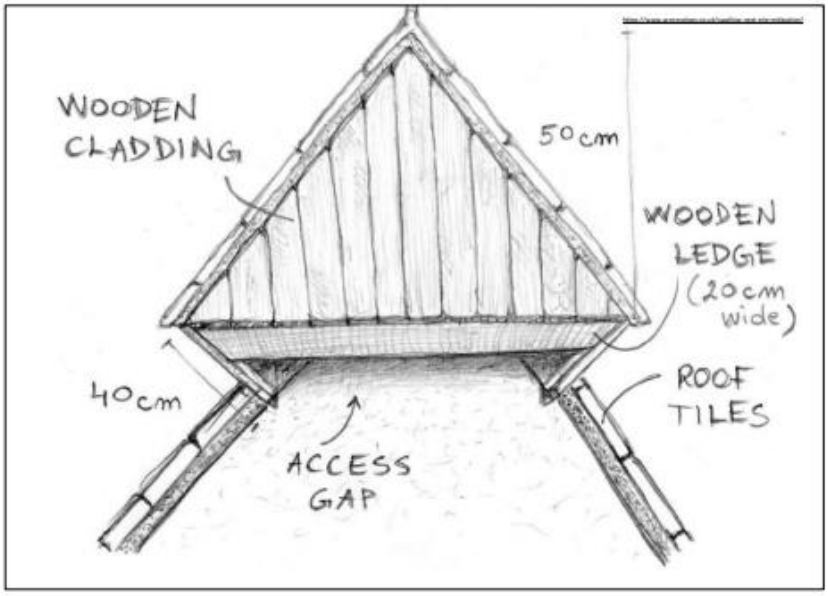
B1 should be sealed entirely during the winter months between October and March to prevent returning birds from nesting within. The nesting season can sometimes fluctuate and therefore the building should be sealed once it has been confirmed that swallows or other nesting birds have left/are not present.

Replacement nesting sites should be constructed/installed before the return of any swallows. We recommend that the nesting sites are in place before March of any given year when the building has previously been sealed. E.g. Building sealed in November 2022, replacement nesting sites must be in place before March 2023.

Swallows usually nest within outbuildings and can enter through very small holes. The preferred replacement nesting site would be within an existing building, within a 1st floor section which has been separated from the main living area and can be accessed via purpose built holes of at least 200m wide x 50mm high. A Woodcrete nest cup should be fixed within to encourage nesting.

If this is not possible we recommend that a large eaves over-hang nesting feature is installed to provide a replacement nesting site for swallows. A Woodcrete nest

cup should be fixed inside and the box should be positioned at the apex of a structure on site.



7 SUMMARY

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8 REFERENCES

Bat Conservation Trust (2018) Bats and artificial lighting in the UK. *Bats and the Built Environment series*, Guidance Note 08/18. Institution of Lighting Professionals.

Collins, J (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

Hundt L (2012) Bat Surveys: Good Practice Guidelines, 2nd edition, Bat Conservation Trust.

Mitchell-Jones, A.J. (2004) Bat mitigation guidelines. English Nature.

FIGURE 1 LOCATION. 1:50,000

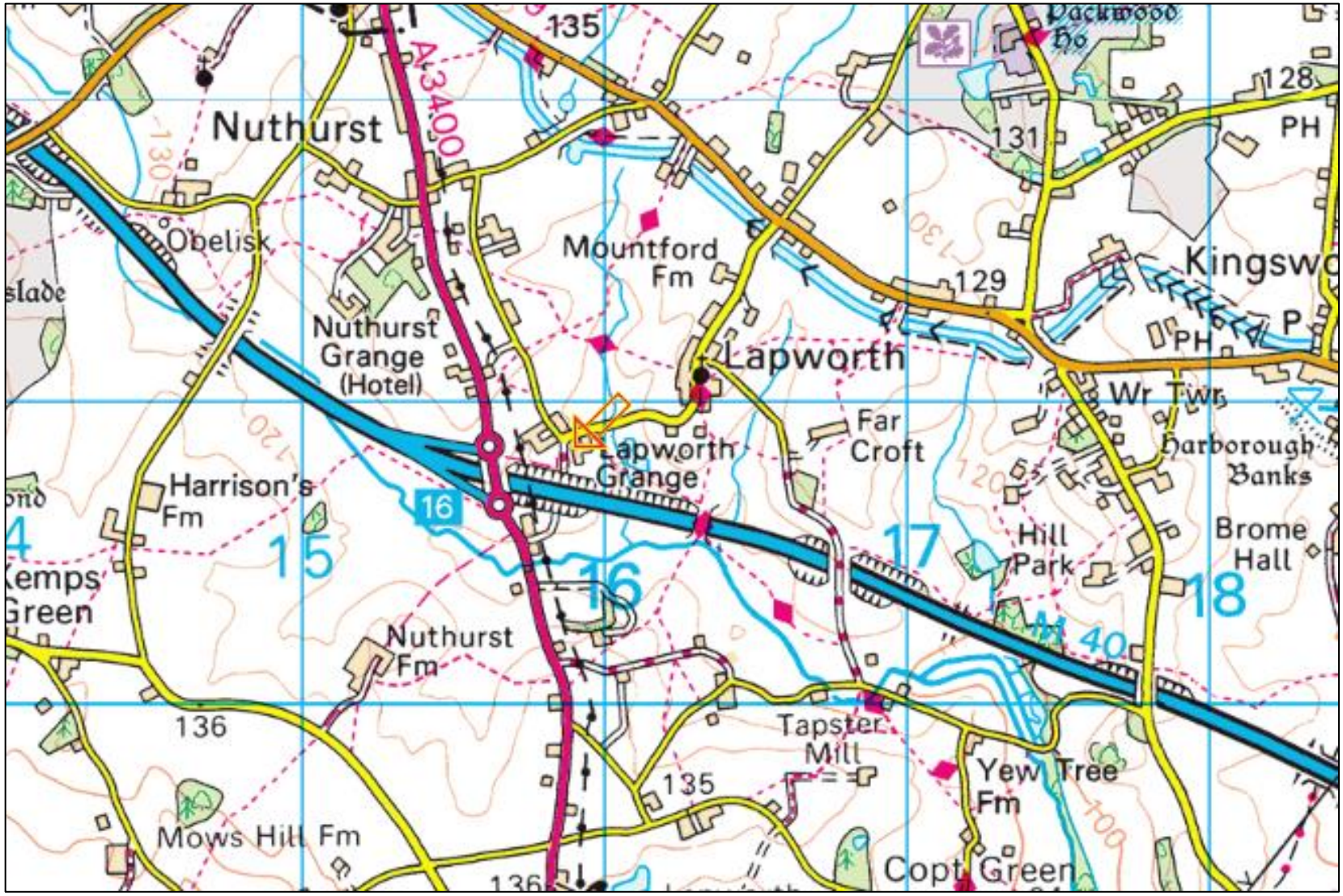
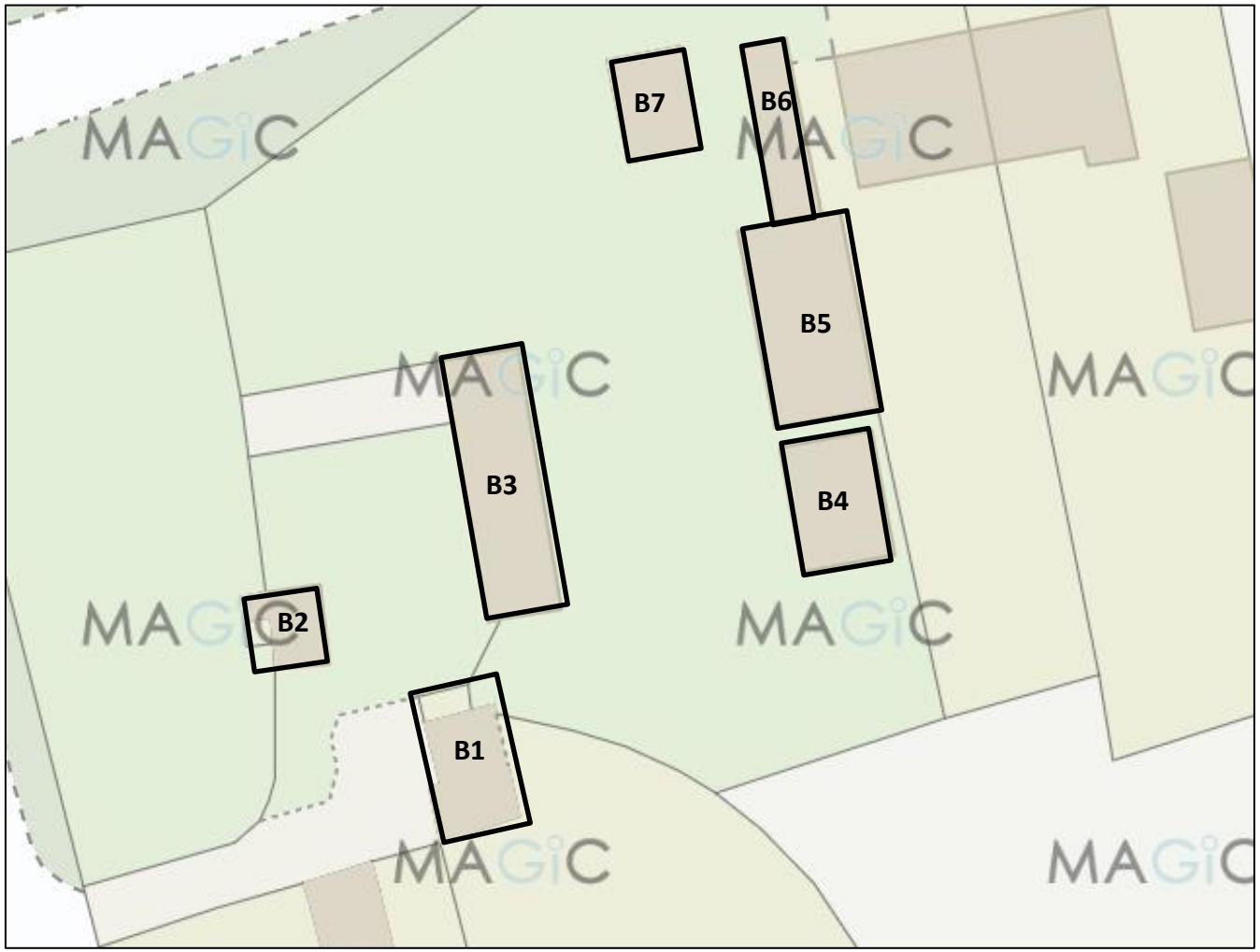


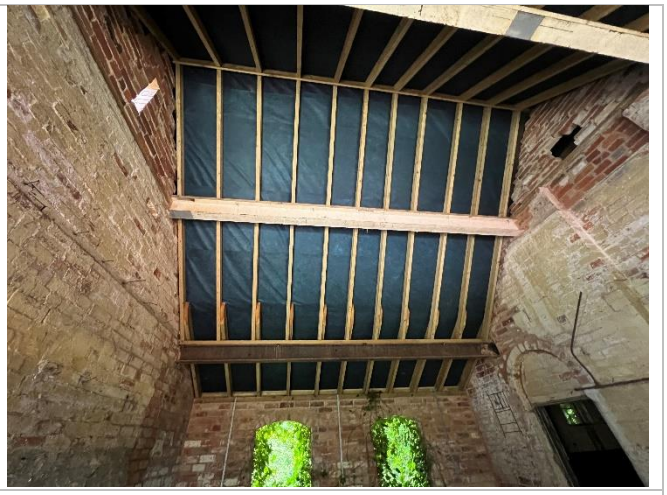
FIGURE 2 AERIAL PHOTOGRAPH AND SURVEYOR LOCATION

FIGURE 3 BUILDING LAYOUT



APPENDIX 1 PHOTOGRAPHS

B1



B1

B2

B3

B3

B4

	
B5	B6
	
B7	Bramble scrub