

# Fall Head Farm Silkstone

## Ecological Impact Assessment

7<sup>th</sup> February 2021



Prepared by:

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|---------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| <b>Site Name</b><br>Fall Head Farm                                              | <b>Location</b><br>Fall Head Lane, Silkstone, S75 4LB                                                |
| <b>Local Authority</b><br>Barnsley Metropolitan Borough Council                 | <b>Grid Reference</b><br>SE 29727 06155                                                              |
| <b>Surveyor</b><br>Robert Bell MCIEEM                                           | <b>Date of Survey</b><br>14/08/20                                                                    |
| <b>Soilscape</b><br>Slowly permeable seasonally wet acid loamy and clayey soils | <b>Designation of Site</b><br>No designation but adjacent to Silkstone Fall Wood Local Wildlife Site |

### Phase 1 Habitat Types on Site and adjacent

A2.1 Dense scrub, A3.1 Scattered broadleaf trees, B6 Poor semi-improved grassland, C3.1 Tall ruderal, J1.1 Arable, J1.2 Amenity grassland, J1.4 Introduced scrub, J2.1.2 Intact hedge, J3.6 Buildings, J4 Bare ground, J5 Other (hardstanding)

### Protected/Notable Species, Constraints on Site

Roosting bats, nesting birds (inc. barn owl & swallow)

### HPIs and SPIs under NERC Act 2006

brown long-eared bat, hedgerows, barn owl

### Barnsley BAP

All bat species, hedgerows, barn owl

## 1. Summary

- 1.1.1 THIS REPORT CONTAINS BADGER RECORDS. PLEASE REDACT APPENDIX 5 PRIOR TO UPLOADING TO PUBLIC PORTALS.
- 1.1.2 This ecological impact assessment of Fall Head Farm was commissioned by the client Emma Prichard-Selby of The Vesta Group on 13<sup>th</sup> August 2020.
- 1.1.3 The survey was commissioned to inform the conversion of five barns to residential use. Five other structures are to be demolished whilst the farmhouse and garage are to be retained unaltered. Land surrounding the buildings is to be modified to provide a new access route, parking area and new residential gardens.
- 1.1.4 The purpose of this report is to present the findings of an extended Phase 1 habitat survey and suite of nocturnal bat surveys. The report considers the ecological value of the site, presents an assessment of the impacts of the proposed development and provides details of mitigation and compensation necessary to avoid or reduce impacts.
- 1.1.5 The surveyed area comprises a farmstead and surrounding vegetation including dense scrub, poor semi-improved grassland, amenity grassland (lawn), tall ruderal, scattered trees, hedgerow, bare ground and introduced shrub. A c.450m track is included in the survey area. The site is located adjacent to Silkstone Fall Wood Local Wildlife Site.
- 1.1.6 Site buildings are considered to be of district level importance to roosting bats, with a brown long-eared bat maternity roost present. Site habitats are not considered to be of greater than site level importance to nature conservation, nor is the site considered to be of greater than site level importance to any other species or species group, although two barn owl roosts are present.
- 1.1.7 The site is located between Silkstone Fall Wood LWS and Hugset Wood LWS. In order for the proposed development to help deliver a net ecological gain, it has been agreed to plant a new 190m hedgerow along the northwest boundary of the wider Fall Head Farm landholding, increasing connectivity between the two LWS.
- 1.1.8 The proposed plan for the site shows new hedgerow and tree planting within the development boundary, together with a new area of wildflower grassland. Over time delivery of the proposed landscaping scheme has the potential to mitigate for habitats lost. It is however recommended that landscaping proposals are formalised in an Ecological Design Strategy.
- 1.1.9 A bat EPS mitigation licence will be required to permit the development. A bat mitigation plan has been outlined to include construction of a bat loft in a new building. Only traditional bituminous hessian backed Type 1F felt should be used during re-roofing of site buildings. Two ash trees displaying significant bat roost potential and should be subject to direct inspection by a licensed bat ecologist prior to felling.
- 1.1.10 In order to mitigate for lost barn owl roosts, two new barn owl boxes should be fitted, with new swallow mitigation and a sparrow nesting enhancement also recommended. Precautionary working practices are recommended in relation to nesting birds and trees/hedgerows.

## **2. Introduction**

- 2.1.1 This ecological impact assessment of Fall Head Farm was commissioned by the client Emma Prichard-Selby of The Vesta Group on 13<sup>th</sup> August 2020.
- 2.1.2 The survey was commissioned to inform the conversion of five barns to residential use. Five other structures are to be demolished whilst the farmhouse and garage are to be retained unaltered. Land surrounding the buildings is to be modified to provide a new access route, parking area and new residential gardens.
- 2.1.3 The purpose of this report is to present the findings of an extended Phase 1 habitat survey and suite of nocturnal bat surveys. The report considers the ecological value of the site, presents an assessment of the impacts of the proposed development and provides details of the mitigation and compensation necessary to avoid or reduce these impacts.
- 2.1.4 Key legislation relating to designated sites and protected species and habitats is detailed in Appendix 3. The implications of legislation are detailed in the body of the report where necessary.

## **3. Site Description**

- 3.1.1 The area surveyed is approximately 0.8ha in size and comprises a farmstead and its curtilage together with an access track (Fall Head Lane). The site is located 850m northeast of the village of Silkstone and 4km west of Barnsley town centre.
- 3.1.2 Fall Head Farm adjoins the northern tip of Silkstone Fall woods, a large area of replanted ancient woodland. To the south and east of the farmstead are arable fields, with a narrow pasture field to the north. Approximately 110m northeast of the site is a further deciduous woodland belt, which connects to Hugset Wood, a large mixed woodland, which is c.310m from the site at its closest point.
- 3.1.3 The access track (Fall Head Lane), which connects Fall Head Farm to the A628 Barnsley Road is c.450m long and extends in a southeast direction from the farm. Lees Hall Farm is located midway along this track, which is bordered by arable land to the southwest and a golf course, pasture and arable fields to the northeast.
- 3.1.4 The site falls within National Character Area (NCA) 38 - the Nottinghamshire, Derbyshire and Yorkshire Coalfield. This is a generally low-lying area, with hills and escarpments above wide valleys, the landscape embraces major industrial towns and cities as well as villages and countryside. Very little of the NCA is designated for geology or nature conservation, but instead the landscape is dotted with many pockets and patches of habitat where species find refuge.

**Figure 1. Farmstead location indicated by solid red line, with access track indicated by dotted red line**



## 4. Methodology

### 4.1 Data Consultation

4.1.1 Barnsley Biological Records Centre (BBRC) were contacted to request the following information for locations within a 1.5km radius of the site:

- Protected and notable species records
- The boundaries of non-statutory designated sites of nature conservation interest

4.1.2 South Yorkshire Bat Group and South Yorkshire Badger Group were also contacted to request records for locations within 2km of the site.

4.1.3 A search of the Multi-Agency Geographical Information for the Countryside (MAGIC) website was undertaken to determine the following:

- The boundaries of statutory designated sites of nature conservation interest
- The locations of historic European Protected Species (EPS) licences granted by Natural England

## 4.2 Field Survey

### Extended Phase 1 Habitat Survey

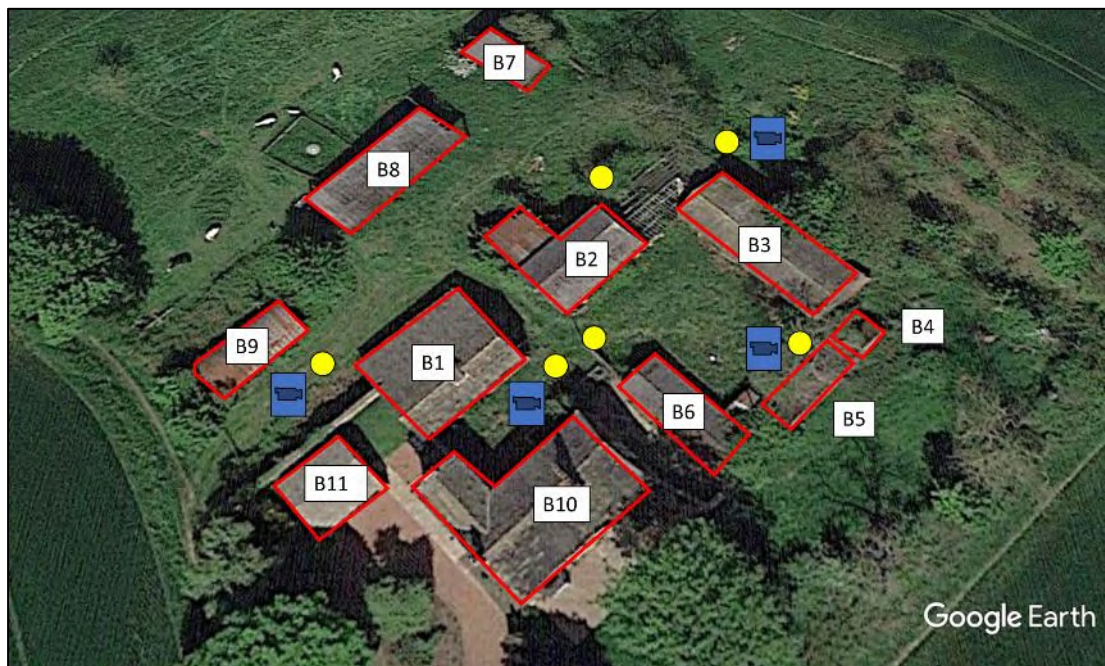
- 4.2.1 The site and land within a 50m buffer were surveyed over the dates 14<sup>th</sup> August and 17<sup>th</sup> September 2021 using extended Phase 1 habitat survey methodology (JNCC, 2010) by the following personnel:
- Robert Bell (MCIEEM; Bat Survey Class license WML-A34-Level 4, 2016-25236-CLS-CLS; Barn Owl Survey Class Licence CL29/00070)
- 4.2.2 Notable, rare or scarce plant species were highlighted if present. Evidence of protected species or species of nature conservation importance was recorded where present at the time of survey. Species recorded are included within the report as appropriate. Information is presented on the Phase 1 plan, using Target Notes (TN) to identify particular features of interest, where appropriate.
- 4.2.3 Ariel photographs (Google Earth) were studied to place the site in its wider context and to look for ecological features that would not be evident on the ground during the walkover survey. This is particularly useful for identifying wildlife corridors and ponds but because the latter are often not apparent on aerial photographs, OS 1:25 000 scale maps are also used.
- 4.2.4 Habitats of Principal Importance (HPIs) and Species of Principal Importance (SPIs) are included on Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 were noted together with priority species and habitats as included on the Local Biodiversity Action Plan (LBAP).

### Nocturnal Surveys

- 4.2.5 The following personnel conducted the nocturnal surveys:
- Robert Bell, Peter Middleton (MCIEEM; Class license WML-A34-Level 4, 2017-27977-CLS-CLS), Amanda Murphy (QualICIEEM; Class license WML-A34-Level 2, 2020-47913-CLS-CLS), Andrew Hill (ACIEEM, WML-A34-Level 2, 2018-33316-CLS-CLS) and Carl Dixon.
- 4.2.6 Two nocturnal surveys visits were undertaken on three two-storey barns (B1, B2 and B3 in Appendix 1) with two ash trees which displayed a moderate or moderate-high level of bat roost potential (TN1 & TN2 in Appendix 1) included in one nocturnal survey visit, as was the single-storey outbuilding B6.
- 4.2.7 The following activities were carried out in compliance with relevant Bat Survey Guidelines (Collins 2016):
- Four-person dusk emergence survey on 14<sup>th</sup> August 2020. This survey covered barns B1 & B2.
  - Two-person dawn return survey on 18<sup>th</sup> August 2020. This survey covered barns B3, together with trees TN1 & TN2.
  - Two-person dawn return survey on 27<sup>th</sup> August 2020. This survey covered barns B2 & B6.
  - Two-person dusk emergence survey on 31<sup>st</sup> August 2020. This survey covered B3.

- Two-person dusk emergence survey on 17<sup>th</sup> September 2020. This survey covered barn B1.
- 4.2.8 The dusk emergence survey continued from 15 minutes prior to sunset until at least 1.5 hours after this time. The dawn return surveys continued from 1.5 hours prior to sunrise until 15 minutes after this time.
- 4.2.9 The following equipment was used during the surveys:
- Wildlife Acoustics EM Touch bat detectors and iPad/iPod recorders
  - Canon XA10 video camera and infra-red lights
- 4.2.10 Surveyor positions during nocturnal surveys are shown on Figure 2.

**Figure 2. Building numbering and nocturnal survey plan.** Nocturnal surveyor locations (dusk and dawn) are shown as yellow circles with camera positions indicated by blue icons.



### 4.3 Method of Assessment

- 4.3.1 The value and sensitivity of ecological features present on site were determined based on the guidance given in 'Guidelines on Ecological Impact Assessment' (CIEEM, 2016). Individual ecological receptors (habitats and species that could be affected by the development) for the scheme were assigned levels of importance for nature conservation. The highest level is international, then decreasing in order of importance through national, regional, county, local and lastly site.
- 4.3.2 The assessment of the buildings' bat roost potential is in accordance with Bat Survey Good Practice Guidelines (Collins 2016). The system of categorisation is applied using professional judgement with the habitat feature assigned a level of suitability: negligible, low, moderate or high.

## 4.4 Survey Limitations

- 4.4.1 The nocturnal bat surveys commenced at the soonest opportunity in mid-August 2020. Bat maternity roosts have often started to disperse by this time of year and consequently there is a risk they may not be present at the time of survey. Bat maternity roosts do however often leave evidence of their recent presence, such as large dropping accumulations and/or staining. Other than evidence associated with the brown long-eared bat maternity roost, which was recorded during the survey visits, no other such evidence was observed during the visual inspection providing some confidence that no additional maternity roosts were present on site in 2020.

## 5. Ecological Baseline

### 5.1 Designated Sites

- 5.1.1 Designated sites present within 1.5km of the site are detailed in Table 1.

**Table 1. Designated sites**

| Designation               | Name                | Description                                                                                                                                        | Distance and direction from site |
|---------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| Local Wildlife Site (LWS) | Silkstone Fall Wood | Replanted ancient woodland now comprising a mixed wood with areas of ground flora supporting numerous ancient woodland indicator species.          | Adjacent to site boundary        |
|                           | Hugset Wood         | Mixed woodland including areas of ancient and semi-natural woodland. Areas of ground flora supporting numerous ancient woodland indicator species. | 310m northeast                   |

- 5.1.2 Records of protected and notable species obtained are discussed in the species sections of the results.

### 5.2 Habitats

- 5.2.1 The arrangement of site habitats is shown on the Phase 1 plan in Appendix 1, whilst a full list of plant species recorded is provided in Appendix 2.
- 5.2.2 Site buildings are considered to be of district level importance to roosting bats. Site habitats are not considered to be of greater than site level importance to nature conservation, nor is the site considered to be of greater than site level importance to any other species or species groups.
- 5.2.3 A detailed description of the site and adjacent habitats and the site's potential to support protected and notable species is provided below.

#### A2.1 Dense scrub

- 5.2.4 An extensive area of dense scrub is present to the northeast of B3 (Appendix 1) with other areas of this habitat present on the northwest boundary of the survey area and to the southwest of the garden hedge (H1, Appendix 1). This habitat totals c.0.2ha.

- 5.2.5 Dense scrub comprises abundant bramble *Rubus fruticosus* agg. with frequently occurring nettle *Urtica dioica* and ash *Fraxinus excelsior* together with occasional elder *Sambucus nigra*, goat willow *Salix caprea* and rosebay willowherb *Chamerion angustifolium*. At the edges, this habitat grades into tall ruderal vegetation (Plate 1) with this vegetation type having established as a result of a lack of vegetation management on nutrient rich soils surrounding the farmstead.

**Plate 1. Mixed tall ruderal vegetation and dense scrub to northeast of B3 (Appendix 1)**



#### A3.1 Scattered broadleaf trees

- 5.2.6 Scattered mature and semi-mature ash and sycamore *Acer pseudoplatanus* border the farmstead on the southeast and southwest boundaries (Plate 2), with two mature ash trees present close to either end of B3 (see TN1 & TN2 in Appendix 1; Plate 3).
- 5.2.7 Immature ash trees border an area of hardstanding to the northwest of B3 (Plate 4). At the northern end of the dwelling's garden are two immature walnut *Juglans regia* trees, whilst an apple *Malus domestica* tree is present in a rose bed to the south of the farmhouse (B10).
- 5.2.8 A treeline is present outside of the survey area to the east of the access track's southern end (Plate 5), whilst several mature sycamores and pendunculate oak *Quercus robur* trees located elsewhere on the edge of the access track.

**Plate 2. Mature trees along southwest boundary of farmstead**



**Plate 3. Mature ash at TN1**



**Plate 4. Immature ash surrounding hardstanding to northwest of B3**



**Plate 5. Scattered trees bordering the southern end of the access track**



### B6 Poor semi-improved grassland

- 5.2.9 Species poor semi-improved grassland is present within the courtyard and around many areas on the edge of site barns (Plate 6), where vegetation management/mowing has persisted. Narrow belts of this habitat type border the access track and are present to the north of the retaining wall beside the A628 Barnsley Road (Plate 7).
- 5.2.10 Grasses present within this habitat type comprise abundant cock's-foot *Dactylis glomerata* with frequent Yorkshire fog *Holcus lanatus* and occasional perennial rye grass *Lolium perenne* and rough meadow grass *Poa trivialis*. Herb species present include frequent white clover *Trifolium repens* and occasional nettle *Urtica dioica*, cow parsley *Anthriscus sylvestris*, dandelion *Taraxacum* spp., ribwort plantain *Plantago lanceolata* and cleavers *Galium aparine*.

**Plate 6. Poor semi-improved grassland to west of B1**



**Plate 7. Poor semi-improved grassland to north of A628 Barnsley Road**



### C3.1 Tal ruderal

- 5.2.11 Tall ruderal vegetation is present in various locations around the site. These comprise a small area of land between B7 and B8, a location at the northern end of the farmhouse lawn and in various locations at the edge of dense scrub (Plate 1). This habitat includes frequent nettle and creeping thistle *Cirsium arvense*, together with occasional bramble and hedge bindweed *Calystegia sepium*.

### J1.1 Arable

- 5.2.12 Several small areas of Arable land are located within the survey area at the southern end of the farmstead and also to the east of the access track.

### J1.2 Amenity grassland

- 5.2.13 A lawn is present to the south and east of the farmhouse (B10). This habitat supports frequent cock's-foot and Yorkshire fog, together with abundant dandelion *Taraxacum* spp. and white clover and rarely occurring perennial ryegrass.

#### **Plate 8. Lawn south & east of farmhouse**



### J1.4 Introduced shrub

- 5.2.14 A small rose bed with several small shrubs and an apple tree is located to the southwest of the farmhouse (Plate 9).

#### **Plate 9. Rose bed to southwest of farmhouse (B10)**



#### J2.1.2 Intact hedge

- 5.2.15 A 1.5m high x 1m wide intact hawthorn *Crataegus monogyna* dominated hedge is present along the southeast edge of the farmhouse lawn (Plate 10). This hedge has occasional hazel *Corylus avellana* present within it.
- 5.2.16 Species poor native hedgerows, sections of which are intact with other lengths defunct, border parts of the access track, beyond the site boundary.

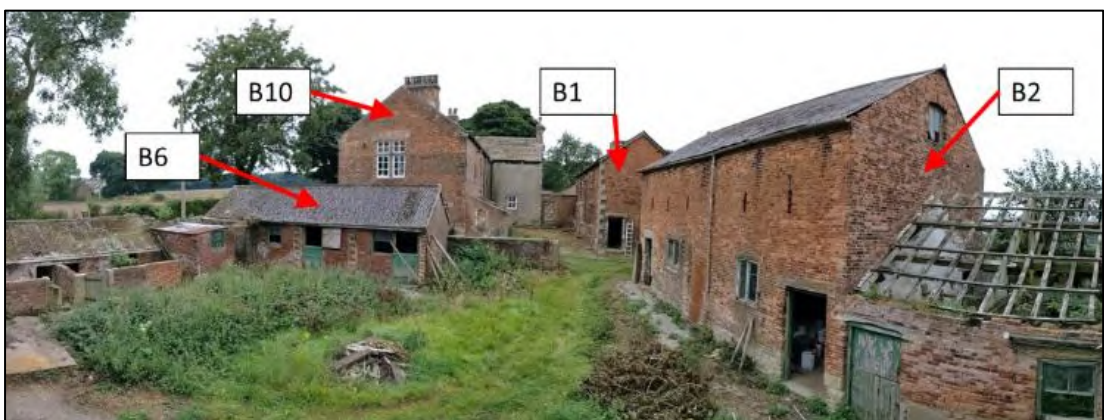
**Plate 10. Hedge to southwest of farmhouse lawn**



#### J3.6 Buildings

- 5.2.17 A total of 11 buildings are present within the farmstead, comprising a mixture of brick-built 19<sup>th</sup> Century buildings, including the farmhouse, together with original barns and more recently constructed outbuildings of various different construction types.

**Plate 11. Looking west across the farmstead**



- 5.2.18 The bat roost and bird nesting potential of these buildings is discussed in the species sections of this report.

#### J4 Bare ground

- 5.2.19 An unsealed gravel drive is present to the southwest of the farmhouse (Plate 9).

J5 Other: hardstanding

- 5.2.20 A tarmac covered access road extends from the A628 Barnsley Road to the site. Two concrete pads are also present in the eastern corner of the farmstead.

### 5.3 Species and Species Groups

Amphibians

- 5.3.1 A single Great Crested Newt (GCN) *Triturus cristatus* record was provided by BBRC for a location within 1.5km of the site. This record, collected in 2010, was obtained from a location 1.25km southwest of the site, on the opposite side of Silkstone.
- 5.3.2 The closest historic GCN EPS licence was issued for a location over 3km from the site, with the closest record in the GCN Class Survey Licence dataset, provided on MAGIC, relating to the same location.
- 5.3.3 No waterbodies are present on site. The only pond identified within 500m of the site comprises a c.730m<sup>2</sup> pond located on a golf course 280m northeast of the site, on the opposite side of a woodland belt and pasture field. A Habitat Suitability Indices (HSI) assessment of this waterbody was undertaken, the results of which are presented in Appendix 4. The HSI assessment showed this pond has below average potential to support GCN, due to the presence of a major fish population. This presence of fish was confirmed by the greenkeeper who confirmed that he had introduced mirror carp *Cyprinus carpio* and goldfish *Carassius auratus* into the pond. These fish species would be expected to heavily predate any newt larvae present in the pond.
- 5.3.4 Taking into account the lack of local GCN records, the low number of local ponds and the lack of suitability of the only pond within 500m of the site to support GCN; this species is considered highly unlikely to be a receptor to the proposed scheme.
- 5.3.5 In addition to the GCN record, BBRC supplied a single common frog record, collected in 1999 from a location 1.3km north of the site. Common amphibian species may use the site, however, they are considered unlikely to make extensive use of it given the lack of local waterbodies.

Badger

- 5.3.6 All badger survey information and assessment considerations are included in Appendix 4.

Bats

*Historic records*

- 5.3.7 A total of 23 bat records were provided for locations within 1.5km of the site by BBRC. These records included observations of brown long-eared bat *Plecotus auritus* and common pipistrelle *Pipistrellus pipistrellus*, obtained from the site in 2007. It is not clear whether these records comprise roost observation, foraging bats or some other record type. Additional records provided relate to one of the following species or species groups: noctule *Nyctalus noctula*, an unidentified *Myotis* species, an unidentified *Pipistrellus* species or an unidentified bat species.

- 5.3.8 South Yorkshire Bat Group provided 57 records for locations within 2km of the site. The 2007 brown long-eared bat and common pipistrelle records provided by BBRC were included, with the associated data specifying that the common pipistrelle record related to a roost of at least one male bat. The number of brown long-eared bats is specified as unknown and it is not clear whether this relates to a roost observation. Other local records relate to the presence of low numbers of roosting common pipistrelle, brown long-eared bat, Natterer's bat *Myotis nattereri* and whiskered bat *Myotis mystacinus*, recorded from 2019-2021, roosting in a rock outcrop within Silkstone Fall Wood, c.50m northwest of the southern end of the red-line boundary/access track. Other bat records received from South Yorkshire Bat Group included confirmed Daubenton's bat *Myotis daubentonii* and soprano pipistrelle *Pipistrellus pygmaeus* records.

*Bat roost potential*

- 5.3.9 For ease of description, the buildings were numbered as shown in Figure 2 and Appendix 1. Full descriptions of the buildings' bat roost potential, images of the buildings and bat roost observations collected during the internal and external visual inspection are provided in Appendix 6.
- 5.3.10 On the basis of the internal and external visual inspection, B1 was considered to offer high bat roost potential with a roost confirmed. Buildings 2, 3 and 10 were considered to offer a moderate-high level of bat roost potential, whilst B6 & B11 were considered to offer low bat roost potential. Buildings 4, 5, 7, 8 & 9 were considered to offer negligible bat roost potential.
- 5.3.11 One bat roost was recorded during the internal and external building inspections which comprised a brown long-eared bat maternity roost within the first floor of B1. During the inspection at least five bats were observed clustering on the ridge beam, with a further bat observed roosting on the internal wall in the same room. A cluster of 500+ brown long-eared bat droppings was recorded beneath an area of stained plaster in the corner of the same room, indicating an additional roost location, whilst several hundred droppings were scattered elsewhere in the room. On exiting B1, a dead juvenile male bat (Plate 12) was recorded on the stairs within this building, confirming the roosts status as a maternity roost, where adult female bats rear their young.

**Plate 12. Dead juvenile brown long-eared bat, recorded from B1 on 14<sup>th</sup> August 2020**



5.3.12 Two ash trees on site were considered to offer a significant level of bat roost potential. The mature ash tree at TN1 (Plate 3) was considered to offer a moderate to high level of bat roost potential, whilst the mature ash tree at TN2 was considered to offer a moderate level of bat roost potential. The ash tree at TN1 is 18m in height with extensive rot on the south side of the stem, resulting in lifted bark and three rotten knot-holes between 7-9m. An eastern limb had a rotten stub in a knot hole at 7m, whilst lifted bark was present on a rotten limb at 8m on the north side of the tree. The tree at TN2 is also 18m tall; this tree supports a west facing tear-out at 10m.

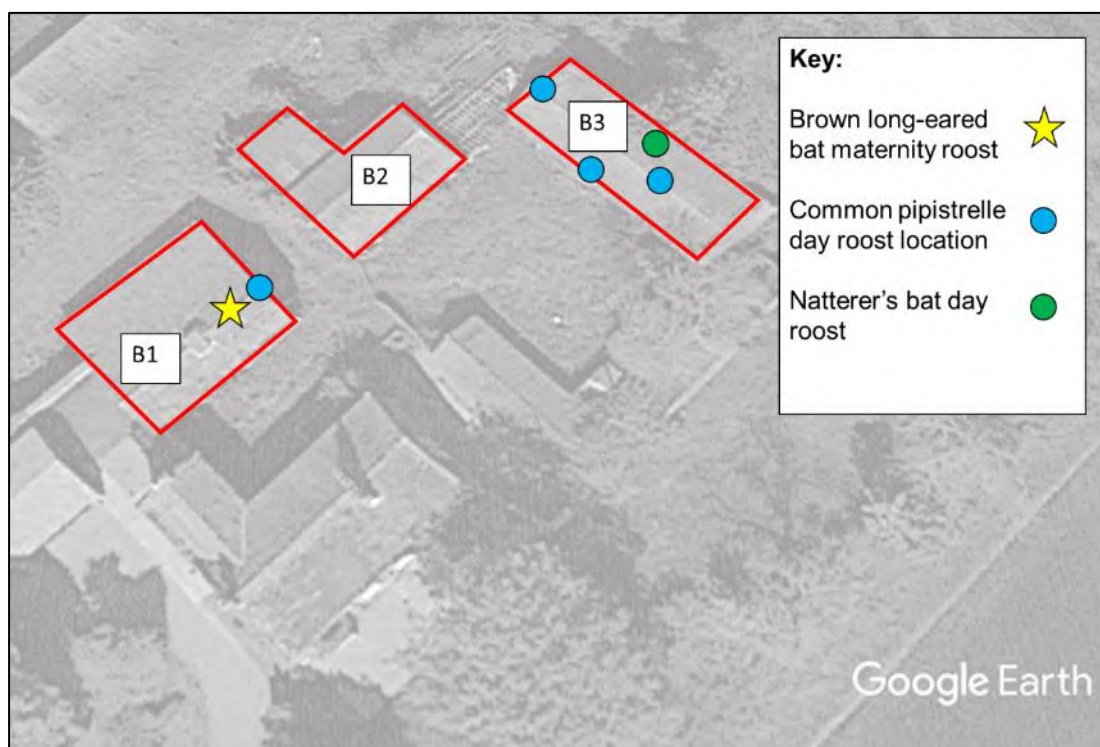
#### *Nocturnal surveys*

5.3.13 Descriptions of bat sightings collected during the activity surveys are detailed in Appendix 7, including pictures of roost locations recorded. A total of 6 roost locations belonging to three bat species were recorded across two buildings (B1 & B3) during bat survey works (see Figure 3).

5.3.14 A maximum count of 19 brown long-eared bats was recorded roosting in B1 on 14<sup>th</sup> August 2020, this count being expected to include juvenile bats. In addition, a maximum count of one common pipistrelle was recorded using a day roost location at the apex of the northeast gable of this building.

5.3.15 Three pipistrelle roost locations were recorded from B3, all in the southwest roof pitch with a maximum count of two bats present on any occasion. The three roost locations were functionally similar, and this is classed as a single day roost. In addition, a single Natterer's bat was recorded using an unidentified day roost location within B3.

**Figure 3. Bat roost plan**



### *Foraging and commuting*

- 5.3.16 Most emerging brown long-eared bats were recorded commuting in the direction of Silkstone Fall Woods, with extensive high quality bat foraging habitat located very close to the site. The site itself does however offer relatively good quality foraging habitat and a reasonable level of bat commuting and foraging activity was recorded during nocturnal surveys.

### *Summary*

- 5.3.17 Common pipistrelle bats are considered to be common in South Yorkshire according to South Yorkshire Bat Group, with brown long-eared bats and Natterer's bats classed as locally distributed (Slack, 2019). Taken in combination, the bat roosts recorded from Fall Head Farm are considered to be of importance at the District (Barnsley) level. The brown long-eared bat maternity roost is the most ecologically valuable roost on site and is considered to be of medium conservation significance (Mitchell-Jones, 2004). The other roosts present are all considered to be of relatively low conservation value (Mitchell-Jones, 2004).
- 5.3.18 Site buildings lack cellars or areas with the cool, stable and humid conditions preferred by many species of hibernating bats (i.e. whiskered bat), however, pipistrelle and to a lesser extent brown long-eared bat will over winter in a wide range of locations. For this reason, usage of site buildings by pipistrelle and brown long-eared bat over the winter period cannot be ruled out.
- 5.3.19 Site habitats other than scattered trees are of some value to foraging bats, however, the adjacent woodland provides extensive high-quality foraging opportunities close to the site.

### Birds

- 5.3.20 Quite well-used barn owl *Tyto alba* roosts were recorded from B2 and B3, however, no evidence of barn owl nesting was recorded from the site. Three historic swallow *Hirundo rustica* nests were also recorded from B3, with a blackbird *Turdus merula* nest recorded from B6.
- 5.3.21 Site trees, buildings, hedgerow and scrub offer potential for use by a range of bird species for nesting.
- 5.3.22 Site habitats offer potential for use by a range of common resident and migrant bird species including birds noted on the Red List of the Birds of Conservation Concern (Eaton *et al.*, 2015) such as house sparrow *Passer domesticus*, song thrush *Turdus philomelos* and starling *Sturnus vulgaris*.

### Reptiles

- 5.3.23 One grass snake *Natrix helvetica* record was provided for a location in Silkstone Fall Wood 760m south of the site, recorded in 2017. Four adder *Vipera berus* records were also provided for locations 1.4km south of the site, the most recent of which was dated 2009.
- 5.3.24 The site lacks habitats suitable for use by adder, whilst it also lacks waterbodies or other habitats offering particular appeal to grass snake. It is considered unlikely that

reptile would use the site.

#### Invasive species

- 5.3.25 No invasive plants, included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), were recorded from the site.

#### Invertebrates

- 5.3.26 The site supports a range of ubiquitous habitats and consequently rarely occurring invertebrate species are unlikely to be present.

#### Plants

- 5.3.27 The habitats present do not include long-established unimproved grasslands, ancient woodlands, species rich hedgerows or other diverse botanical communities. Therefore, protected or priority plants are unlikely to be present.

**Table 2. Ecological importance of each habitat, species or species group on site and adjacent**

| Habitat, Species or Species Group | Ecological value                             |
|-----------------------------------|----------------------------------------------|
| A3.1 Scattered broadleaf trees    | Site                                         |
| B6 Poor semi-improved grassland   | Site                                         |
| J1.2 Amenity grassland            | Site                                         |
| J1.4 Introduced shrub             | Site                                         |
| A2.1 Dense scrub                  | Site                                         |
| A3.1 Scattered broadleaf trees    | Site                                         |
| B6 Poor semi-improved grassland   | Site                                         |
| C3.1 Tall ruderal                 | Site                                         |
| J1.1 Arable                       | Site                                         |
| J1.2 Amenity grassland            | Site                                         |
| J1.4 Introduced scrub             | Site                                         |
| J2.1.2 Intact species poor hedge  | Site                                         |
| J4 Bare ground                    | Site                                         |
| J5 Other: hardstanding            | Site                                         |
| Amphibians                        | Site                                         |
| Badger                            | See Appendix 5                               |
| Bats                              | District (for roosting)                      |
| Birds                             | Site (possibly Local importance to barn owl) |
| Reptiles                          | Unlikely to be present                       |
| Invasive species                  | Not present                                  |
| Invertebrates                     | Site                                         |
| Plants                            | Site                                         |

## 6. Assessment

### 6.1 Proposals

- 6.1.1 The survey was commissioned to inform the conversion of five barns to residential use. Five other structures are to be demolished whilst the farmhouse and garage are to be retained unaltered. Land surrounding the buildings is to be modified to provide a new access route, parking area and new residential gardens. These proposals are shown on the plans in Appendix 8.

### 6.2 Assessment of Impacts, Mitigation Measures and Enhancements

- 6.2.1 The assessment of impacts and mitigation measures are considered in relation to habitat, species or species group. For information relating to badger please see Appendix 5.

#### Designated sites

- 6.2.2 The site is located adjacent to Silkstone Fall Woods LWS. The proposed development is not anticipated to result in direct impacts upon the woodland. During development, a minor increase in noise within the northern corner of the woodland may be experienced, however, this site is already subject to numerous anthropogenic impacts including extensive use by mountain bikers and a very minor increase in day-time noise would not be expected to result in any significant impacts to the site. In the long-term a small increase in the number of residents using the woodland may be expected, however, this woodland is well used by walkers and any increase in total numbers using the LWS will be very minor.
- 6.2.3 The site is located between Silkstone Fall Wood LWS and Hugset Wood LWS. In order for the proposed development to deliver a net ecological gain, it has been agreed to plant a new 190m species-rich native hedgerow including tree standards, along the northwest boundary of the wider Fall Head Farm landholding, increasing ecological connectivity between the two woodlands. and once it has developed, it is anticipated this hedgerow will comprise a benefit to nature conservation of local importance. This increase in ecological connectivity between two large woodlands will be beneficial for a range of faunal species, notably including bats. These measures could be secured through a planning condition requiring an Ecological Design Strategy (EDS) to be produced for this site.

**Plate 13. Fence comprising existing northwest boundary to Fall Head Farm landholding**



#### Habitats

- 6.2.4 The scheme will result in the loss of two mature ash trees (TN1 & TN2), almost all the dense scrub, poor semi-improved grassland and the tall ruderal vegetation currently present on site. The two trees to be lost are of significant ecological value but are located close to one of the barns and are in an unsafe condition. The scrub habitat is quite valuable as a foraging area for faunal species; however, it is species poor, whilst the tall ruderal habitat and poor semi-improved grassland are of limited ecological value.
- 6.2.5 The proposed plans for the site (Appendix 8) shows new gardens to be created to the northeast of B3 and the northwest of B2, backed by a new species rich native hedge. A further length of hedgerow will form the eastern boundary of a new access track onto the site from Fall Head Lane. Within the northeast corner of the site, an area currently comprising dense scrub and two concrete pads, new wildflower grassland is proposed, to be interspersed with new native tree planting of species including oak and field maple. New fruit tree planting is also proposed for this area. Over time the proposed landscaping scheme for the site has the potential to mitigate for habitats which will be lost. It is however recommended that ecological friendly landscaping proposals are formalised in an EDS.
- 6.2.6 Trees and hedgerows to be retained should be protected in accordance with British Standard 5837 (2012): Trees in relation to design, demolition, and construction. Root Protection Zones (RPZ's) should be calculated and implemented to prevent harm to trees. This will include any trees or hedgerows out-with the site, up to 5 m from the boundary.

## Species and Species Groups

### *Bats*

- 6.2.7 Roosting bats are subject to strong legal protections as detailed in Appendix 3. The site supports a total of four roosts (six roost locations) belonging to three bat species.
- 6.2.8 The conversion of B1 and B3 will result in the loss of the brown long-eared bat maternity roost. Re-roofing of B1 and B3 will result in modification of common pipistrelle roosts in these roofs, however, there is scope for these roosts to be retained. An EPS mitigation licence must be obtained prior to these works commencing. This can only be applied for once planning permission has been obtained and any nature conservation related planning conditions have been discharged. The EPS licence will need to include measures to prevent killing or injuring bats during the development and the creation of replacement bat roosting opportunities. Natural England take up to 30 working days to determine EPS licence applications and typically require some nocturnal survey to have been undertaken during the most recent bat activity season, therefore, a further nocturnal survey is proposed for Summer 2021, to inform licensing.
- 6.2.9 Given the site's proximity to Silkstone Fall Wood, together with the use of traditional roofing slates on most buildings, only traditional Type 1F bituminous felt should be used during roofing/re-roofing of site buildings. This stipulation is required, as bats have been shown to frequently become entangled in the component filaments of modern Non-Bitumen Coated Roofing Membranes (NBCRMs). Where stone roof slates, or imitation stone roof slates, are used in a roof, it is typically not possible to prevent the inadvertent creation of potential bat access points. This is due to the uneven thickness and irregular edges of natural slates and the chamfered edges of many imitation slate designs. Natural England will not licence the use of NBCRMs in bat roosts.
- 6.2.10 In order to mitigate for the loss of the brown long-eared bat maternity roost in B1, a bat loft is to be created in the new outbuilding (Appendix 8), to be constructed in the western corner of the site. This location is preferred for the bat loft as it is largely unshaded but is adjacent to tree cover which connects to Silkstone Fall Wood, the bat loft will be 2.5m high x 7m wide and 12m long. It will be roofed with imitation stone slates lined with bituminous Type 1F felt and suspended on a cut roof, with purlins, rafters, laths and a ridge beam. The walls of the building will be concrete block, clad with timber boarding. Access will be provided by wood louvre access points built into each gable (see Figure 4), supplemented by four slots (50mm wide by 20mm high) constructed at the top of gable walls, immediately beneath the eaves, leading into the loft. Four wooden baffle boxes fixed within the bat loft will provide roosting opportunities for bats using this feature. In order to provide opportunities for crevice roosting bats access for bats will be provided behind wooden cladding on the two gables of the outbuilding. In order to help encourage bats into the new bat loft, it will be 'seeded' with droppings from the existing maternity roost. In addition, if possible, stripped pieces of timber from the roof of B1 will be fastened within the bat loft.
- 6.2.11 In order to enable the retention of common pipistrelle roost in the roofs of B1 and B3, roof slates will be offset in present roost locations (see Plate 14), allowing bats access into the crevices between stone slates and also the void between slates and the bituminous and hessian backed Type 1F felt. In addition to the fitting of offset slates in roost locations, this feature will be created in eight additional locations across the roofs of B1, B2 and B3.

**Figure 4. Louvre access to bat loft**

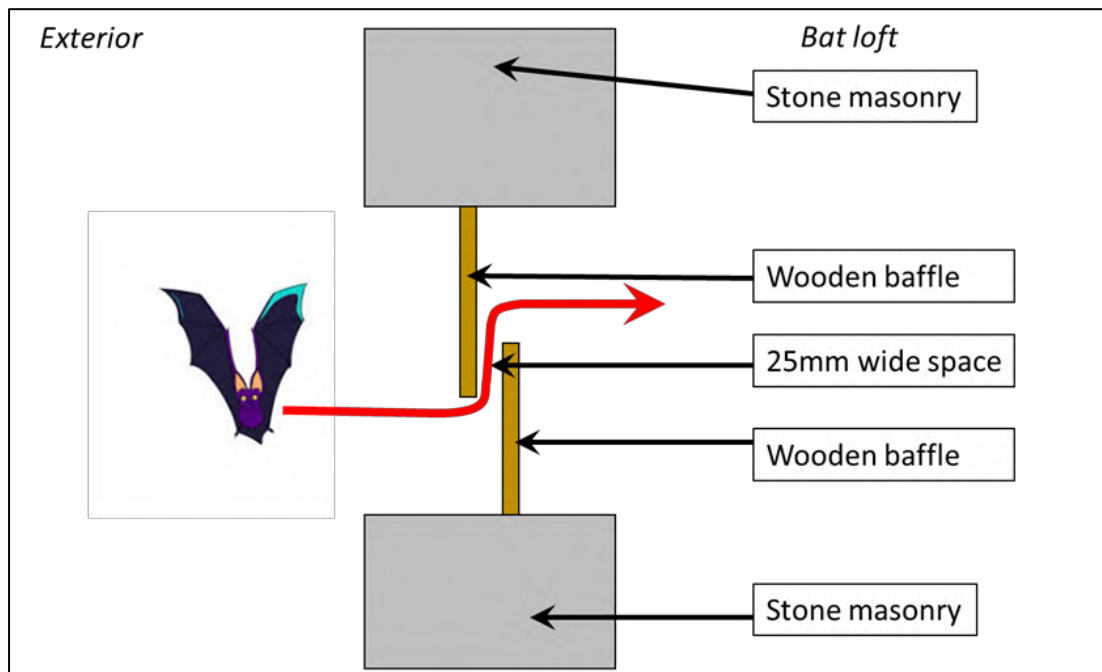


**Plate 11. Roost space creation between stone slates**



6.2.12 The maternity roosting bats in B1 cannot be left without a roost and consequently, it may be necessary to construct the outbuilding prior to the conversion of B1. The conversion of B1 cannot commence during the bat maternity season (May to August). In addition, it is not possible to confidently rule out the presence of hibernating bats in site buildings. Consequently, it is advised that works to B1, B2 and B3 should commence outside the bat hibernation period (peak season: December to February).

6.2.13 Once an EPS licence has been issued and prior to any building works commencing, a Toolbox Talk should be delivered to all site staff by an ecologist. This should be

followed by the supervised strip or exclusion of any known or potential roosts within the building to be impacted. Once the works areas are considered to be clear of bats, then consent will be given to proceed with the works unsupervised.

- 6.2.14 Due to the presence of a bat maternity roost, it will be necessary to undertake two post-construction monitoring surveys to determine the effectiveness of mitigation measures.
- 6.2.15 It is advised that an ecologically sensitive external lighting scheme should be developed which seeks to minimise artificial external lighting so far as practicable. In particular, no new artificial lighting should be installed on the exterior of the new outbuilding, or within the courtyard to the east of this building. Measures reducing lighting impacts, such as the use of PIR sensor activation systems, low height lighting units and lighting shields should be used to both reduce the time of operation and light spill away from non-target areas. An ecologically sensitive lighting plan will need to be submitted with the bat licence application.
- 6.2.16 The two ash trees denoted by TN1 and TN2 should be subject to a direct inspection of potential roost features by a licensed bat ecologist prior to their felling. If roosting bats, or signs of bat roosting, are recorded during this inspection, then works should cease until an EPS licence covering the required felling is obtained.

#### *Birds*

- 6.2.17 Nesting birds are subject to legal protection (Appendix 3) which amongst other things makes it an offence to take, damage or destroy a bird nest. If the buildings were renovated during the bird nesting season this would likely entail the destruction of active nests. Consequently, it is recommended these works take place outside the main bird nesting season (March-September (inclusive)). It is however known that barn owl may nest in all months of the year. Consequently, an inspection of all barns by a barn owl licensed ecologist should precede the conversion works. If any element of these works is to take place during the bird nesting season, then these works should be preceded by a nesting bird check to be undertaken by an ecologist.
- 6.2.18 The conversion of B2 and B3 will result in the loss of two barn owl roost sites. It is advised that new barn owl roosting/nesting provision is installed on site but not near the bat mitigation loft. It is recommended that two tree mounted barn owl boxes should be erected. One of these boxes can be installed on the east side of one of the mature sycamore trees along the southeast side of the garden. It is recommended that the second box be erected on a tree outside the red-line boundary but within the wider Fall Head Farm landholding, on the woodland edge, approximately 115m east of the site (Figure 5). These boxes will both be located in ideal situations for barn owl to access the suitable foraging habitat, quite far away from the bat loft.

**Figure 5. Proposed barn owl box locations**



6.2.19 In order to compensate for the loss of swallow nesting, it is advised that two new swallow cups should be fitted within the new partially open-fronted bin store, with two more cups fitted below the overhanging eaves on the northwest elevation of the outbuilding.

6.2.20 As a further ecological enhancement, it is recommended that new integrated or externally mounted sparrow boxes should be installed on all three main barns (B1, B2 and B3) to be converted.

### **6.3 Conclusions and Residual Effects**

6.3.1 The proposed scheme will need to be permitted by a bat EPS mitigation licence. Providing mitigation and compensation measures detailed in this document are adopted then scheme impacts will be of significance at the site level only.

## 7. References

Collins J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines. The Bat Conservation Trust.

CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

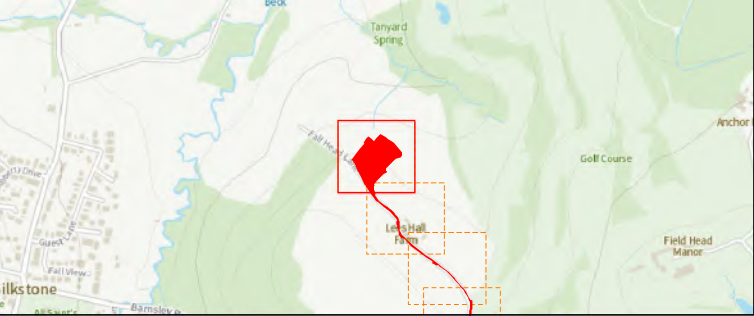
CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man. British Birds 108, 708–746.

Mitchell – Jones, A.J (2004) Bat Mitigation Guidelines, English Nature

Slack, G (2019) South Yorkshire Bat Status. Northern Bats, Volume 4.

## **Appendix 1. Phase 1 Plan**



| Survey Information     |                                                               |
|------------------------|---------------------------------------------------------------|
| <div></div>            | Site boundary (8,022.1m <sup>2</sup> )                        |
| Phase 1 Habitat Survey |                                                               |
| <div></div>            | Dense scrub (1,997.2m <sup>2</sup> )                          |
| <div>SI</div>          | Species poor semi-improved grassland (1,743.4m <sup>2</sup> ) |
| <div></div>            | Tall ruderal (284.6m <sup>2</sup> )                           |
| <div>A A A</div>       | Amenity grassland (654.8m <sup>2</sup> )                      |
| <div>A A A</div>       | Arable (150.6m <sup>2</sup> )                                 |
| <div></div>            | Introduced shrub (51.1m <sup>2</sup> )                        |
| <div></div>            | Bare ground (544.2m <sup>2</sup> )                            |
| <div></div>            | Building (1,014.7m <sup>2</sup> )                             |
| <div></div>            | Hardstanding (1,581.6m <sup>2</sup> )                         |
| <div></div>            | Intact species poor hedgerow                                  |
| <div></div>            | Scattered tree (broadleaf)                                    |
| <div></div>            | Target note                                                   |

**Target Notes:**

[1] Ash tree with a moderate to high level of bat roost potential  
[2] Ash tree with a moderate level of bat roost potential

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PROJECT TITLE

**FALL HEAD FARM, SILKSTONE**

DRAWING TITLE

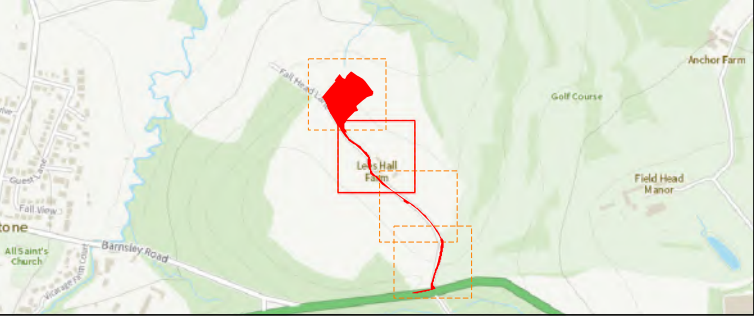
**Appendix 1.1. Phase 1 Habitat Plan**

| VER | DATE     | REMARKS | Drawn | Checked |
|-----|----------|---------|-------|---------|
| 2.2 | 03/02/21 | Phase 1 | MP    | RB      |

DRAWING NUMBER:

**MIDDLETONBELLECOLOGY/FallHeadFm/Phase 1Map1**

| SCALE | 1:525 | PLOT SIZE | A3 | DATUM | OSGB | PROJECTION | BNG |
|-------|-------|-----------|----|-------|------|------------|-----|
|-------|-------|-----------|----|-------|------|------------|-----|



| Survey Information     |                                                               |
|------------------------|---------------------------------------------------------------|
| <div></div>            | Site boundary (8,022.1m <sup>2</sup> )                        |
| Phase 1 Habitat Survey |                                                               |
| <div></div>            | Dense scrub (1,997.2m <sup>2</sup> )                          |
| <div>SI</div>          | Species poor semi-improved grassland (1,743.4m <sup>2</sup> ) |
| <div></div>            | Tall ruderal (284.6m <sup>2</sup> )                           |
| <div>A A A</div>       | Amenity grassland (654.8m <sup>2</sup> )                      |
| <div>A A A</div>       | Arable (150.6m <sup>2</sup> )                                 |
| <div></div>            | Introduced shrub (51.1m <sup>2</sup> )                        |
| <div></div>            | Bare ground (544.2m <sup>2</sup> )                            |
| <div></div>            | Building (1,014.7m <sup>2</sup> )                             |
| <div></div>            | Hardstanding (1,581.6m <sup>2</sup> )                         |
| <div></div>            | Intact species poor hedgerow                                  |
| <div></div>            | Scattered tree (broadleaf)                                    |
| <div></div>            | Target note                                                   |

**Target Notes:**

[1] Ash tree with a moderate to high level of bat roost potential  
[2] Ash tree with a moderate level of bat roost potential

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PROJECT TITLE

***FALL HEAD FARM, SILKSTONE***

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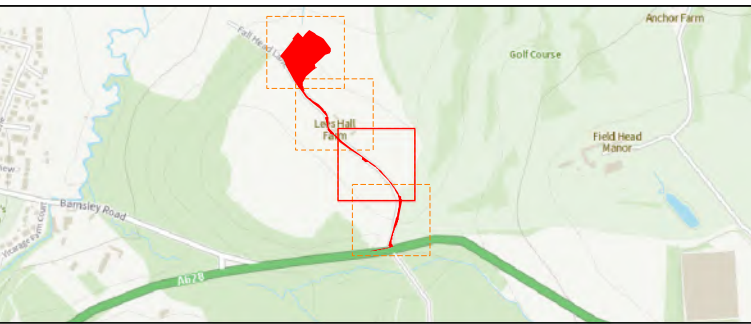
**Appendix 1.2. Phase 1 Habitat Plan**

| VER | DATE     | REMARKS | Drawn | Checked |
|-----|----------|---------|-------|---------|
| 2.2 | 03/02/21 | Phase 1 | MP    | RB      |

DRAWING NUMBER:

**MIDDLETONBELLECOLOGY/FallHeadFm/Phase 1Map2**

| SCALE | 1:525 | PLOT SIZE | A3 | DATUM | OSGB | PROJECTION | BNG |
|-------|-------|-----------|----|-------|------|------------|-----|
|-------|-------|-----------|----|-------|------|------------|-----|



| Survey Information     |                                                               |
|------------------------|---------------------------------------------------------------|
| <div></div>            | Site boundary (8,022.1m <sup>2</sup> )                        |
| Phase 1 Habitat Survey |                                                               |
| <div></div>            | Dense scrub (1,997.2m <sup>2</sup> )                          |
| <div>SI</div>          | Species poor semi-improved grassland (1,743.4m <sup>2</sup> ) |
| <div></div>            | Tall ruderal (284.6m <sup>2</sup> )                           |
| <div></div>            | Amenity grassland (654.8m <sup>2</sup> )                      |
| <div>A A A</div>       | Arable (150.6m <sup>2</sup> )                                 |
| <div></div>            | Introduced shrub (51.1m <sup>2</sup> )                        |
| <div></div>            | Bare ground (544.2m <sup>2</sup> )                            |
| <div></div>            | Building (1,014.7m <sup>2</sup> )                             |
| <div></div>            | Hardstanding (1,581.6m <sup>2</sup> )                         |
| <div></div>            | Intact species poor hedgerow                                  |
| <div></div>            | Scattered tree (broadleaf)                                    |
| <div>x</div>           | Target note                                                   |

**Target Notes:**

[1] Ash tree with a moderate to high level of bat roost potential  
[2] Ash tree with a moderate level of bat roost potential

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PROJECT TITLE

***FALL HEAD FARM, SILKSTONE***

DRAWING TITLE

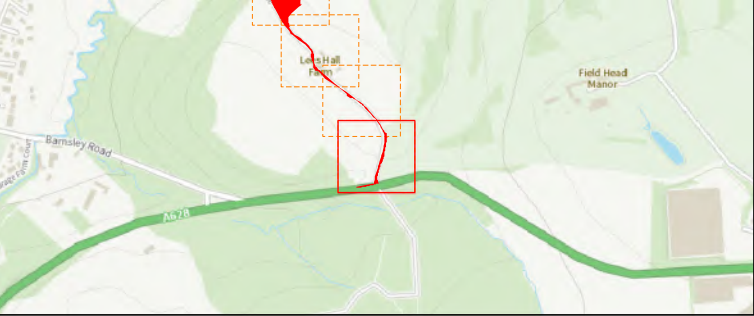
**Appendix 1.3. Phase 1 Habitat Plan**

| VER | DATE     | REMARKS | Drawn | Checked |
|-----|----------|---------|-------|---------|
| 2.2 | 03/02/21 | Phase 1 | MP    | RB      |

DRAWING NUMBER:

**MIDDLETONBELLECOLOGY/FallHeadFm/Phase 1Map3**

| SCALE | 1:525 | PLOT SIZE | A3 | DATUM | OSGB | PROJECTION | BNG |
|-------|-------|-----------|----|-------|------|------------|-----|
|-------|-------|-----------|----|-------|------|------------|-----|



| Survey Information                   |                                                               |
|--------------------------------------|---------------------------------------------------------------|
| <div><div></div></div>               | Site boundary (8,022.1m <sup>2</sup> )                        |
| Phase 1 Habitat Survey               |                                                               |
| <div><div></div></div>               | Dense scrub (1,997.2m <sup>2</sup> )                          |
| <div><div>SI</div><div>£</div></div> | Species poor semi-improved grassland (1,743.4m <sup>2</sup> ) |
| <div><div></div></div>               | Tall ruderal (284.6m <sup>2</sup> )                           |
| <div><div>A A A</div></div>          | Amenity grassland (654.8m <sup>2</sup> )                      |
| <div><div>A A A</div></div>          | Arable (150.6m <sup>2</sup> )                                 |
| <div><div></div></div>               | Introduced shrub (51.1m <sup>2</sup> )                        |
| <div><div></div></div>               | Bare ground (544.2m <sup>2</sup> )                            |
| <div><div></div></div>               | Building (1,014.7m <sup>2</sup> )                             |
| <div><div></div></div>               | Hardstanding (1,581.6m <sup>2</sup> )                         |
| <div><div></div></div>               | Intact species poor hedgerow                                  |
| <div><div></div></div>               | Scattered tree (broadleaf)                                    |
| <div><div>X</div></div>              | Target note                                                   |

**Target Notes:**

[1] Ash tree with a moderate to high level of bat roost potential  
[2] Ash tree with a moderate level of bat roost potential

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PROJECT TITLE

***FALL HEAD FARM, SILKSTONE***

DRAWING TITLE

**Appendix 1.4. Phase 1 Habitat Plan**

| VER | DATE     | REMARKS | Drawn | Checked |
|-----|----------|---------|-------|---------|
| 2.2 | 03/02/21 | Phase 1 | MP    | RB      |

DRAWING NUMBER:

**MIDDLETONBELLECOLOGY/FallHeadFm/Phase 1Map4**

| SCALE | 1:525 | PLOT SIZE | A3 | DATUM | OSGB | PROJECTION | BNG |
|-------|-------|-----------|----|-------|------|------------|-----|
|-------|-------|-----------|----|-------|------|------------|-----|

## Appendix 2. Plant Species Recorded on Site

**D** = Dominant, **A** = Abundant, **F** = Frequent, **O** = Occasional, **R** = Rare

### Dense scrub

| Common name        | Latin name                     | DAFOR |
|--------------------|--------------------------------|-------|
| Bramble            | <i>Rubus fruticosus agg.</i>   | A     |
| Common Nettle      | <i>Urtica dioica</i>           | F     |
| Ash                | <i>Fraxinus excelsior</i>      | F     |
| Elder              | <i>Sambucus nigra</i>          | O     |
| Goat Willow        | <i>Salix caprea</i>            | O     |
| Rosebay Willowherb | <i>Chamerion angustifolium</i> | O     |
| Ivy                | <i>Hedera helix</i>            | R     |

### Scattered trees

| Common name | Latin name                 | DAFOR |
|-------------|----------------------------|-------|
| Ash         | <i>Fraxinus excelsior</i>  | F     |
| Sycamore    | <i>Acer pseudoplatanus</i> | F     |
| Walnut      | <i>Juglans regia</i>       | R     |
| Apple       | <i>Malus domestica</i>     | R     |

### Poor SI Grassland

| Common name         | Latin name                   | DAFOR |
|---------------------|------------------------------|-------|
| Cock's-foot         | <i>Dactylis glomerata</i>    | A     |
| White Clover        | <i>Trifolium repens</i>      | F     |
| Yorkshire-fog       | <i>Holcus lanatus</i>        | F     |
| Common Nettle       | <i>Urtica dioica</i>         | O     |
| Cow Parsley         | <i>Anthriscus sylvestris</i> | O     |
| Dandelion           | <i>Taraxacum</i>             | O     |
| Perennial Rye-grass | <i>Lolium perenne</i>        | O     |
| Ribwort Plantain    | <i>Plantago lanceolata</i>   | O     |
| Rough Meadow-grass  | <i>Poa trivialis</i>         | O     |
| Common Mouse-ear    | <i>Cerastium fontanum</i>    | R     |
| Yarrow              | <i>Achillea millefolium</i>  | R     |

### Tall ruderal

| Common name      | Latin name                   | DAFOR |
|------------------|------------------------------|-------|
| Common Nettle    | <i>Urtica dioica</i>         | F     |
| Creeping Thistle | <i>Cirsium arvense</i>       | F     |
| Bramble          | <i>Rubus fruticosus agg.</i> | O     |
| Hedge bindweed   | <i>Calystegia sepium</i>     | O     |

### Amenity grassland

| Common name         | Latin name                | DAFOR |
|---------------------|---------------------------|-------|
| Cock's-foot         | <i>Dactylis glomerata</i> | F     |
| Yorkshire-fog       | <i>Holcus lanatus</i>     | F     |
| Dandelion           | <i>Taraxacum</i>          | O     |
| White Clover        | <i>Trifolium repens</i>   | O     |
| Perennial Rye-grass | <i>Lolium perenne</i>     | R     |

### Intact hedge

| Common name | Latin name                | DAFOR |
|-------------|---------------------------|-------|
| Hawthorn    | <i>Crataegus monogyna</i> | D     |
| Hazel       | <i>Corylus avellana</i>   | O     |

### Introduced shrub

| Common name | Latin name  | DAFOR |
|-------------|-------------|-------|
| Rose        | <i>Rosa</i> | F     |

## Appendix 3. Relevant Legislation and Planning Policy

Wildlife legislation relating to statutory designated sites and species is summarised in Table A1 and A2 below. This legal information is intended for summary only, and the original legal documents should be consulted if a detailed understanding is required.

**Table A1.** Legislation relating to designated sites and habitats.

| Designated Site           | Legal Status                                                                                                                                                                                                                                                                                |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Local Wildlife Site (LWS) | While they have no direct legal status, Local Wildlife Sites are considered important enough to receive recognition within the planning system. National planning policy requires local authorities to identify Local Wildlife Sites and provide for their protection through local policy. |

**Table A2.** Legislation relating to species.

| Species                                                                                               | Legal Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| European protection                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| European Protected Species (EPS) (including bats, Great Crested Newt (GCN), otter and hazel dormouse) | <p>These animal species and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species Regulations 2017, which makes it illegal to:</p> <ul style="list-style-type: none"> <li>• Intentionally or deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs.</li> <li>• Deliberately disturb such an animal.</li> <li>• Damage or destroy a breeding site or resting place of such an animal.</li> </ul> <p>European Protected Species (EPS) licences can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following 3 tests (set out in the EC Habitats Directive) are passed:</p> <ul style="list-style-type: none"> <li>• The development is for reasons of overriding public interest.</li> <li>• There is no satisfactory alternative; and</li> <li>• The favourable conservation status of the species concerned will be maintained and/or enhanced.</li> </ul> <p>Under Regulation 9(5) of the Conservation Regulations, Planning Authorities have a legal duty to 'have regard to the requirements of the EC Habitats Directive in the exercise of their functions'. This means that they must consider the above 3 tests when determining whether Planning Permission should be granted for developments likely to cause an offence under the Conservation Regulations. As a consequence, Planning Applications for such developments must demonstrate that the 3 tests will be passed.</p> <p>Natural England also allow sites to be registered on the Bat Low Impact Class Licence to permit activities that would otherwise be unlawful under the Conservation Regulations where the 3 tests can be passed and the bat roosts to be impacted are of low conservation status.</p> |

| Species                                                                                     | Legal Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| National protection                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| European Protected Species and other species including water vole and white clawed crayfish | These animals receive full protection under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to: <ul style="list-style-type: none"> <li>• Intentionally kill, injure or take any such animal.</li> <li>• Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any such animal; and</li> <li>• Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.</li> </ul> |
| Common amphibians and reptile species                                                       | These animals receive limited protection under The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal to intentionally kill or injure any such animal.                                                                                                                                                                                                                                                                                                                                           |
| Badger                                                                                      | The Protection of Badgers Act 1992 makes it illegal to wilfully kill or injure a Badger or attempt to do so and also make it illegal to intentionally or recklessly interfere with a Badger sett. This includes damaging or destroying a sett, obstructing access to a sett and disturbing a Badger while it is occupying a sett. Licences can be granted by Natural England to permit sett closure and/or disturbance between July and November inclusive.                                                                                                        |
| Schedule 1 birds                                                                            | Special penalties relate to offences concerning birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). In addition to the offences detailed above relating to all wild birds, it is illegal to intentionally or recklessly disturb any Schedule 1 bird or their dependent young while nesting.                                                                                                                                                                                                                                          |
| All bird species                                                                            | All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to: <ul style="list-style-type: none"> <li>• Intentionally kill, injure or take any wild bird.</li> <li>• Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.</li> </ul>                                                                                                                                                                 |
| Invasive species                                                                            | The Wildlife and Countryside Act 1981 (as amended) contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 of the Act. In relation to Schedule 9 plants, it is an offence to plant or otherwise cause these plant species to grow in the wild.                                                                                                                                                                        |

### Species and Habitats of Principal Importance

Planning authorities have a duty under Section 40 of the NERC Act 2006 to have regard to priority species and habitats in exercising their functions including development control and planning. In compliance with Section 41 of the NERC Act, the Secretary of State has published a list of species and habitats considered to be of principal importance for conserving biodiversity in England under the UK Post-2010 Biodiversity Framework. This is known as the list of Habitats and Species of Principal Importance (HPI/SPI). The HPI/SPI list is used to guide planning authorities in implementing their duty under the NERC Act.

### National Planning Policy Framework

The National Planning Policy Framework for England was revised in 2018. This document states that plans should 'promote the conservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species; and identify

and pursue opportunities for securing measurable net gains for biodiversity'. It also puts an emphasis on refusing development which would result in the 'loss or deterioration of irreplaceable habitats (such as ancient woodland)' unless there are 'wholly exceptional reasons and a suitable mitigation strategy exists'.

### **Local Biodiversity Action Plans**

The HPI/SPI list included on Section 41 of the NERC Act 2006 is supported by a series of Local Biodiversity Action Plans (LBAPs), usually set up on a local authority local authority administrative boundary basis. Each LBAP identifies those habitats and species considered to be most important in that area (usually referred to as priority habitats and species). Commonly, an LBAP will identify a number of habitats and species for which "action plans" have been prepared.

## Appendix 4. GCN HSI Assessment

| Location | Pond Area | Pond Drying | Water Quality | Shade | Fowl   | Fish  | Ponds | Terrestrial Habitat | Macrophytes | HSI   | Suitability   |
|----------|-----------|-------------|---------------|-------|--------|-------|-------|---------------------|-------------|-------|---------------|
| Zone A   | 500-700m2 | Never Dries | Moderate      | 0-60% | Absent | Major | 2     | Good                | 26-30%      | 0.542 | Below Average |

Plate A4.1 Golf course pond



## Appendix 5. (CONFIDENTIAL) Badger Survey and Assessment

### Historical records

- 7.1.1 South Yorkshire Badger Group supplied four sett records. These records were not provided with a recording date and all relate to locations within Hugset Wood, more than 300m from the site.
- 7.1.2 A total of eight records relating to this species were received from BBRC. The closest records relate to one of more locations in Hugset Wood, with these records all collected in the 1980s.

### Ecological baseline

- 7.1.3 No badger signs were recorded from the survey area. A former resident had apparently mentioned the presence of badgers in connection with a hole in the floor of B1 (Plate A5.1). This hole is relatively small with no associated evidence of badger present. It is considered unlikely this shallow hole was created by badger and is not of suitable size or depth to comprise a sett.

**Plate A5.1. Hole present within B1**



### Assessment

- 7.1.4 No evidence of badger presence was recorded from Fall Head Farm although it is accepted that badger may use this site occasionally for foraging or commuting.
- 7.1.5 The site includes suitable locations for sett building by badgers and as a result it is recommended the site is re-inspected by an ecologist at the stage when vegetation is cleared, prior to development works commencing.

## Appendix 6. Building Descriptions and Images

### Building 1

#### *General description*

- 7.1.6 Building 1 comprises a C19th two-storey mainly brick-built barn with stone window surrounds and quions. The roof is pitched and covered by stone slates and a clay ridge, with a central brick chimney present. The northwest roof pitch is extended to first floor height and the building is partially open-fronted on its northwest elevation. Single paned wood-framed windows with missing panes are present together with two single wooden doors. This building has lead flashing at the base of the chimney, wooden gutter boards and plastic guttering.

**Plate A6.1. East corner of B1**



**Plate A6.2. West corner of B1**



*External bat roost opportunities*

- 7.1.7 Bats may access the interior of the building via broken window-panes on the southeast elevation, or through the open-sided section of the northwest elevation. Once inside the open-sided section of the barn bats can pass into the two-storey section of the building via two large holes in the internal southwest to northeast dividing wall.
- 7.1.8 On the exterior of B1 bats may roost in numerous locations in association with the uneven stone slates, with access to the wall top also present. Lifted flashing is also present in association with the chimney.

*Internal inspection*

- 7.1.9 The roof of B1 is lined with a modern breathable roof membrane on one pitch (southeast) with the other pitch (northwest) unlined. The roof is suspended on a king-post trusses, purlins, rafters, a ridge beam and laths. The building formerly had a part-vaulted ceiling with a 1m high roof-void above, however, the plaster ceiling has now largely collapsed (Plate A6.3).
- 7.1.10 A cluster of at least five brown long-eared bats was recorded roosting against the ridge beam in the northern room of the first floor (Plate A6.4). A sixth bat was recorded roosting on the internal wall in the same room. In the northern corner of the first floor a cluster of 500+ brown long-eared bat droppings were recorded (Plate A6.5) with stained plaster above showing the well-used roost location. Several hundred bat droppings were scattered elsewhere in the room. At the base of the staircase a quite recently deceased dead male brown long-eared bat was confirmed as a juvenile through examination of the finger joints, which had not ossified. The finding of a juvenile bat confirmed that the roost found comprised a brown long-eared bat maternity roost.
- 7.1.11 A barn owl box with no associated signs of use was recorded from the first floor of B1, accessed from the open fronted northwest elevation.
- 7.1.12 Building 1 was considered to offer high bat roost potential.

**Plate A6.3. Interior of B1, in southern section of first floor**



**Plate A6.4. Bat roost location against ridge in B1**



**Plate A6.5. Cluster of brown long-eared bat droppings in north corner of first floor room in B1**



## Building 2

### *General description*

7.1.13 Building 2 comprises a C19th two-storey brick-built barn with a pitched corrugated concrete-sheet covered roof, with a concrete ridge covering (Plate A6.6). Stone lintels

are present and the building has some wood-framed single-pane windows, wooden doors, a wooden hatch in the southwest gable and ventilation slits in the southeast elevation. A corrugated metal-sheet covered lean-to extension is present on the northwest elevation (Plate A6.7) and the building has a wooden fascia board. A single-storey brick passageway with no roof, connects B2 to B3.

**Plate A6.6. Eastern corner of B2 in foreground, with B1 in background**

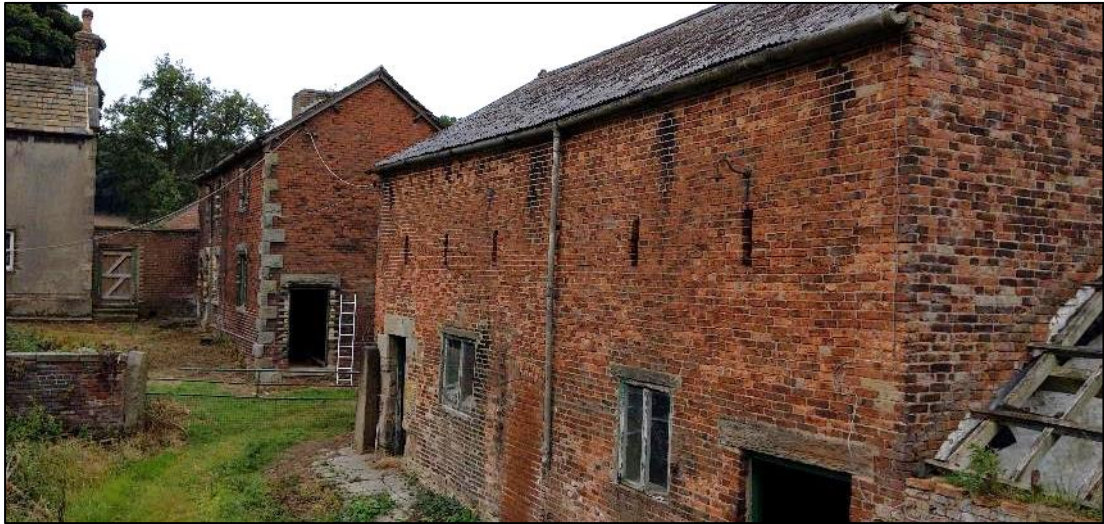


**Plate A6.7. Western corner of B2**



*External bat roost opportunities*

- 7.1.14 Bats have access to wall tops and can easily access the interior via either the ventilation slits, around the wooden hatch or via a broken window in the northeast gable.

*Internal inspection*

- 7.1.15 The unlined roof of B2 is suspended on queen-post roof trusses, purlins and a ridge beam. No roof-void is present and the first floor is in a bad state of repair. Extensive open joints were recorded from the internal face of the brick walls.
- 7.1.16 Approximately 30 barn owl pellets of mixed age were recorded from the first floor of B2, mainly beneath the two trusses.
- 7.1.17 Building 2 was considered to offer a moderate to high level of bat roosting potential.

**Plate A6.8. First floor of B2 with scattered barn owl pellets on floor**



Building 3

*General description*

- 7.1.18 Building 3 comprises a C19th two-storey brick-built barn with a pitched stone slate covered roof with stone ridge tiles and mortar filled verges (Plates A6.9 & A6.10). Large timber double doors are present in the southwest elevation with ventilation slits at first floor height in this elevation. Single-paned wood-framed windows are present with stone lintels above.

**Plate A6.9 Southwest elevation of B3**



**Plate A6.10. North corner of B3**



*External bat roost opportunities*

- 7.1.19 Bats may access the interior via ventilation slots, missing window-panes, via an unglazed window opening in the southeast gable or across the top of the double doors.
- 7.1.20 The main potential roost location present on the exterior of B3 comprises the many crevices between the irregularly shaped stone slates.

*Internal inspection*

- 7.1.21 The roof of B3 unlined and suspended on king-post trusses, purlins, a ridge beam and laths. The interior of the barn is mainly single storey (Plate A6.11) however the northwest section is two-storey, although it also lacks a roof void.
- 7.1.22 No signs of bat presence were recorded from the interior of B3, however, in the northwest section of the barn a cluster of 30 barn owl pellets was recorded beneath trusses. Three old swallow nests were also recorded from this section of B3.
- 7.1.23 Building 3 was considered to offer moderate to high bat roosting potential.

**Plate A6.11. Interior of B3**



**Plate A6.12. Swallow nest within B3**



Building 4

*General description*

- 7.1.24 Building 4 comprises a single-storey brick outdoor toilet with a sloping corrugated cement sheet roof.

*External and internal bat roost opportunities*

- 7.1.25 Building 4 was considered to offer negligible bat roost potential.

**Plate A6.13. Northwest elevation of B5, with B4 on far left of image**



Building 5

*General description*

- 7.1.26 Building 5 comprises a single-storey brick-built pigsty with a mono pitched corrugated asbestos cement sheet roof.

*External and internal bat roost opportunities*

7.1.27 Building 5 was considered to offer negligible bat roost potential.

Building 6

*General description*

7.1.28 Building 6 comprises a single-storey brick-built outbuilding with a pitched corrugated concrete sheet covered roof with a concrete ridge and wooden barge boards. The building has part-open timber stable doors and single-pane wood-framed windows (Plate A6.14).

*External bat roost opportunities*

7.1.29 Few clear potential roost locations were noted from the exterior of B6; however, bats have easy access to the interior.

*Internal inspection*

7.1.30 The unlined roof is suspended on a king-post roof truss, purlins, a ridge beam and rafters with no void present. Bats may roost on either the wall tops or roof timbers. A recently constructed but abandoned blackbird nest with an unhatched egg was recorded from the window-sill (Plate A6.15).

7.1.31 Building 6 was considered to offer low potential for use by roosting bats.

**Plate A6.14. Northeast elevation of B6 in foreground with the farmhouse (B11) in background**



**Plate A6.15. Disused blackbird nest in B6**



Buildings 7 & 8

*General description and bat roost potential*

- 7.1.32 Buildings 7 & 8 comprise open-sided timber framed outbuildings with gently sloping corrugated galvanized steel sheet roofs. These structures display negligible bat roost potential (Plate A6.16).

**Plate A6.16. Building 7 is located on right of image with B8 on left**



Building 9

*General description and bat roost potential*

- 7.1.33 Building 9 comprises a semi-circular profile outbuilding constructed with corrugated

galvanized metal sheet with timber doors and wood cladding on the ends. This structure was considered to offer negligible potential for use by roosting bats.

**Plate A6.17. Building 9**



**Building 10**

*General description*

- 7.1.34 Building 10 comprises the brick-built L-shaped two-storey farmhouse with stone-slate covered pitched roofs with stone gable copings (Plates A6.14 & A6.18). This structure will not be altered as a result of the proposed development and consequently was not subject to a detailed inspection. It was however clear this building offered numerous potential roost locations in association with the stone roof slates and this building was considered likely to offer a moderate-high level of bat roost potential.

**Plate A6.18. East corner of B10**



### Building 11

#### *General description*

- 7.1.35 Building 11 (Plate A6.19) comprises a brick-built single-storey garage with a pitched artificial stone-slate covered roof. This structure is linked to the farmhouse and will be retained unaltered within the development. This structure was not considered to display more than a low level of bat roost potential overall.

#### **Plate A6.19. Building 11**



## Appendix 7. Nocturnal Survey Findings by Building

### Weather during nocturnal surveys

#### 14<sup>th</sup> August 2020 – dusk emergence

- 7.1.36 Sunset was at 20:31 and the temperature at the beginning of monitoring was 18°C, with a light northeast wind (Beaufort Scale Force 3), no rain and 80% cloud. The temperature dropped to 17°C by the end of the survey whilst other weather conditions remained the same.

#### 18<sup>th</sup> August 2020 – dawn return

- 7.1.37 Sunrise was at 05:50 and the temperature at the beginning of monitoring was 14°C. It was calm with 30% cloud and no rain. Cloud cover increased to 80% during the survey whilst other weather conditions remained the same.

#### 27<sup>th</sup> August 2020 – dawn return

- 7.1.38 Sunrise was at 06:06 and the temperature at the beginning of monitoring was 13°C. It was again calm with 80% cloud and no rain. Weather conditions remained the same throughout the survey.

#### 31<sup>st</sup> August 2020 – dusk emergence

- 7.1.39 Sunset was at 19:57 and the temperature at the beginning of monitoring was 14°C, with a very light southerly wind (Beaufort Scale Force 1), no rain and 20% cloud. The temperature dropped to 13°C by the end of the survey, with cloud cover decreasing to 5%. Other weather conditions remaining the same throughout the survey.

#### 17<sup>th</sup> September 2020 – dusk emergence

- 7.1.40 Sunset was at 19:16 and the temperature at the beginning of monitoring was 15°C, with a light easterly wind (Force 2), no rain and 30% cloud. The temperature dropped to 13°C during the survey with cloud cover dropping to 10% and other weather conditions remaining the same.

### Survey observations by building

#### Building 1

#### *14<sup>th</sup> August 2020 - dusk emergence*

- 7.1.41 Between 20:53 (22 minutes after sunset) and 21:16 (45 minutes after sunset) a total of 19 brown long-eared bats emerged from the roost in B1. A total of seven bats exited the southeast elevation via four different access points, with 12 bats exiting via the open fronted section of the northwest elevation, having accessed this area via one of the two large holes in the internal wall within the two-storey section of B1. No other bats emerged from, or returned to, this building during the survey. Emerging brown long-eared bats typically commuted off-site in the direction of Silkstone Fall Wood.

- 7.1.42 The first bat recorded comprised a noctule which was heard passing over the site at

20:33. A common pipistrelle bat was also recorded commuting north past B1s southeast elevation at 20:41. Intermittent soprano pipistrelle activity was also recorded during the survey together with a probable Natterer's bat pass at 21:36 and a pass by an unidentified *Myotis* bat species at 21:58

**Plate A7.1. Brown long-eared bat access points used on southeast elevation of B1 on 14<sup>th</sup> August 2020**



17<sup>th</sup> September 2020 – dusk emergence

- 7.1.43 At 19:40 (24 minutes after sunset) a common pipistrelle was recorded emerging from the apex of the northeast gable of B1 (Plate A7.2). This was followed by three brown long-eared bats, which emerged from the open-fronted northwest elevation between 19:50 (34 minutes after sunset) and 19:57 (41 minutes after sunset) (Plate A7.3).
- 7.1.44 Common pipistrelles were recorded intermittently during this survey together with probable whiskered bat passes at 20:08 and 20:11.

**Plate A7.2. Common pipistrelle roost location in northeast gable**



**Plate A7.3. Brown long-eared bat exiting B1 on 17<sup>th</sup> September 2020**



#### Building 2

*14<sup>th</sup> August 2020 - dusk emergence*

- 7.1.45 No bats were recorded emerging from or returning to B2 during this survey.
- 7.1.46 The first bat recorded comprised a common pipistrelle, seen commuting past the northeast elevation at 20:36 (five minutes after sunset). Thereafter common pipistrelles were recorded intermittently during the survey. A soprano pipistrelle was recorded to the west of the barn at 21:06, with several passes by an unidentified *Myotis* species recorded between 20:58 and 21:58.

*27<sup>th</sup> August 2020 – dawn return*

- 7.1.47 No bats were recorded roosting during this survey.
- 7.1.48 The last bat recorded comprised a common pipistrelle, recorded feeding in the courtyard until 05:44 (24 minutes before sunrise), at which time it disappeared from view. Brown long-eared bats and common pipistrelle were recorded by both surveyors intermittently during the survey with the last brown long-eared bat observation at 05:33. The only other species recorded comprised a pass by an unidentified *Myotis* species, which flew over the roof at 05:22.

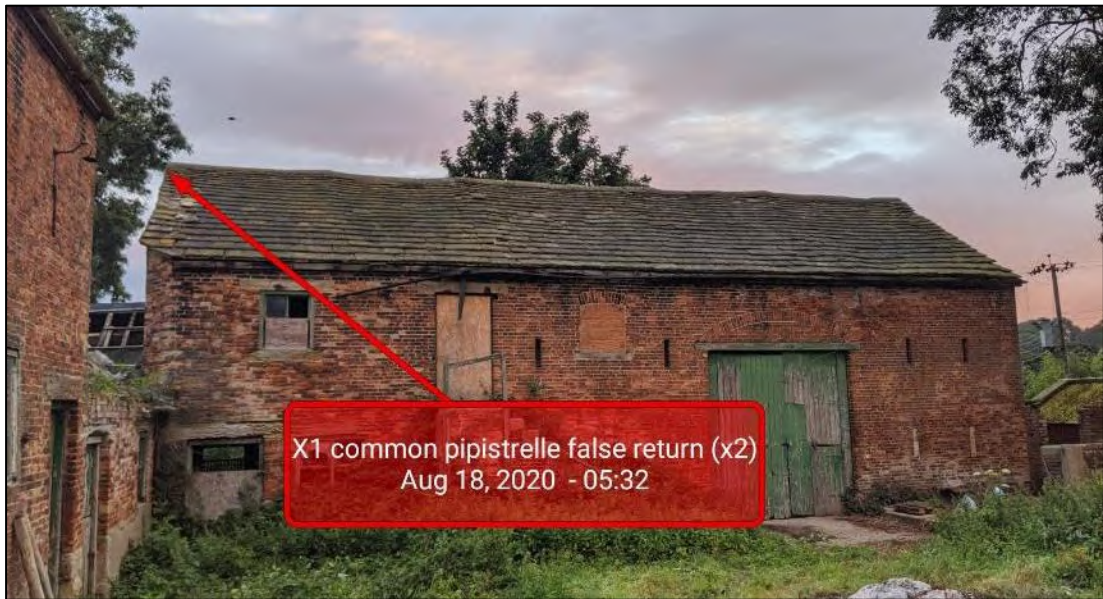
#### Building 3

*18<sup>th</sup> August 2020 – dawn return*

- 7.1.49 No bats were recorded actively roosting in B3 during the survey, however, at 05:32 (18 minutes before sunrise) a common pipistrelle false-returned against the verge on the northwest gable of B3. During false-returns a bat flies up-to and often touches the access point of a roost location known to the bat. This behaviour often precedes roosting but sometimes the bat roosts elsewhere.

- 7.1.50 Common pipistrelle and brown long-eared bat activity were heard regularly by both surveyors during the survey with the last brown long-eared bat heard at 05:14 and the last common pipistrelle comprising the false-returning bat. The only other species recorded comprised a Natterer's bat heard by the surveyor located south of the barn at 04:43.

**Plate A7.4. Location against which common pipistrelle false returned on 18<sup>th</sup> August 2020**



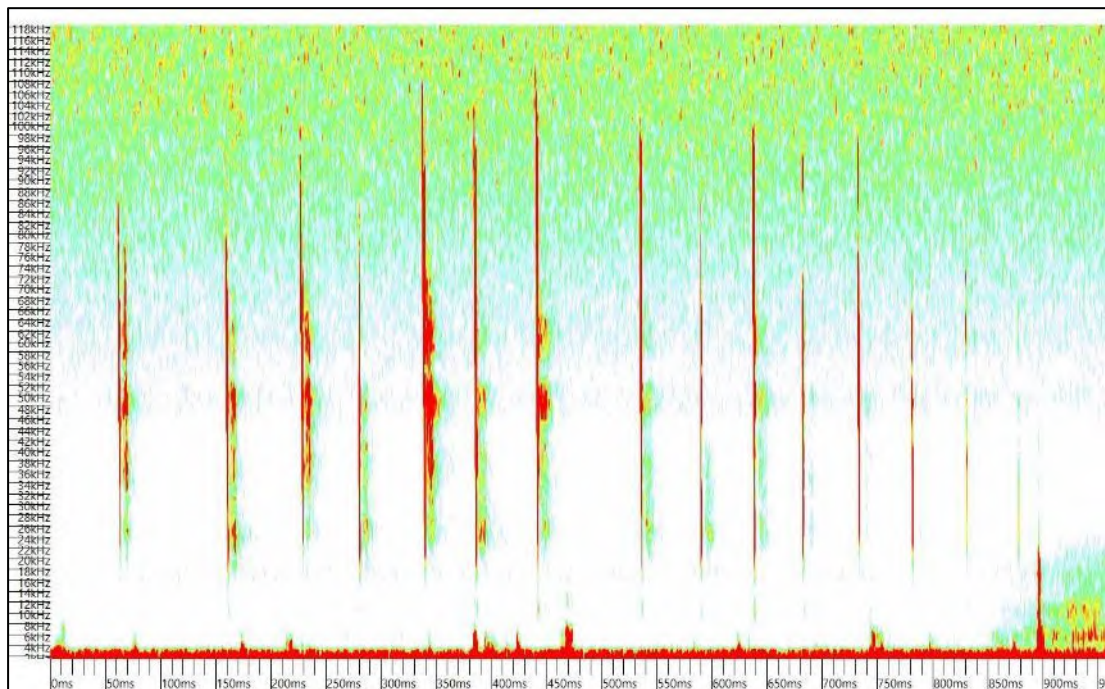
*31<sup>st</sup> August 2020 – dusk emergence*

- 7.1.51 At 20:20 (23 minutes after sunset) a common pipistrelle was recorded emerging from a roost between stone slates on the southwest pitch. This was followed by the emergence of a bat from which no echolocation call was recorded, also from the southwest pitch, at 20:29. The second bat was also thought to be a pipistrelle. At 20:41 (44 minutes after sunset) a *Myotis* bat was heard feeding in B3, followed by the recording of a Natterer's bat (see Figure A7.1) passing the surveyor north of B3. The exact roost location is unknown, however, this Natterer's bat is considered to have emerged from a roost within B3.
- 7.1.52 The first bat recorded comprised the emerging common pipistrelle. Intermittent common pipistrelle activity was recorded during the survey, together with a soprano pipistrelle pass to the north of the barn at 20:24 and a Leisler's bat *Nyctalus leisleri* pass at 20:57.

Plate A7.5. Pipistrelle roost locations recorded from B3 on 31<sup>st</sup> August 2020



Figure A7.1. Sonogram of Natterer's bat recorded on 31<sup>st</sup> August 2020



## Building 6

27th August 2020 – dawn return

7.1.53 No bats roosting activity was recorded in association with B6 during this survey.

7.1.54 The last bat recorded comprised a common pipistrelle, recorded feeding in the courtyard until 05:44 (24 minutes before sunrise), at which time it disappeared from view. Brown long-eared bats and common pipistrelle were recorded by both surveyors intermittently during the survey with the last brown long-eared bat observation at 05:33.

The only other species recorded comprised a pass by an unidentified *Myotis* species, which flew over the roof at 05:22.

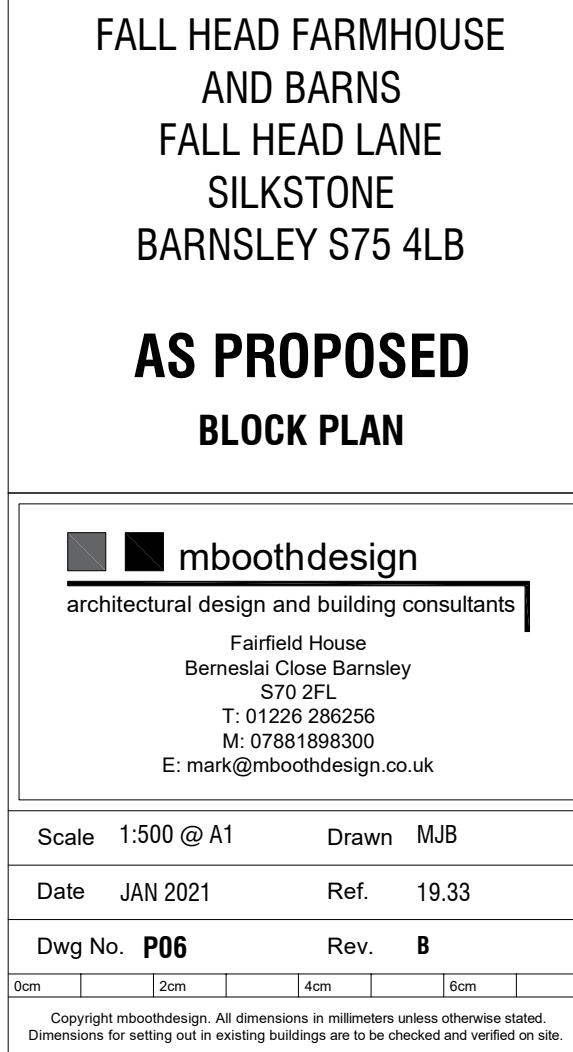
Ash trees at TN1 and TN2

*18<sup>th</sup> August 2020 – dawn return*

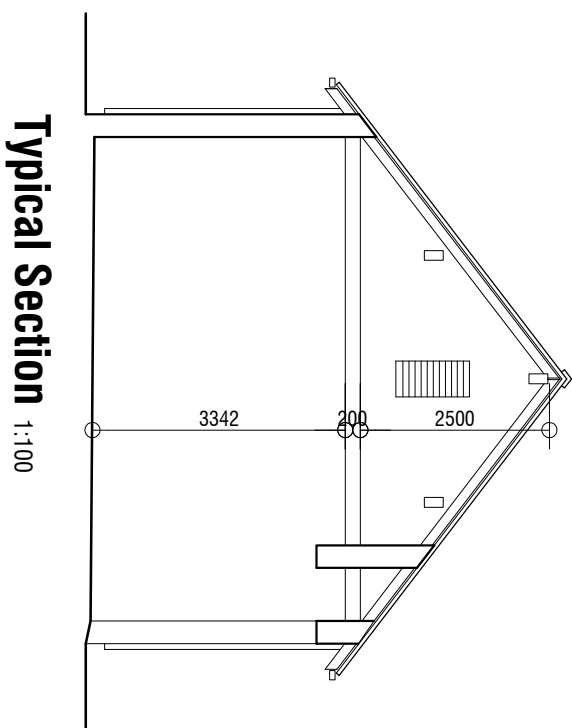
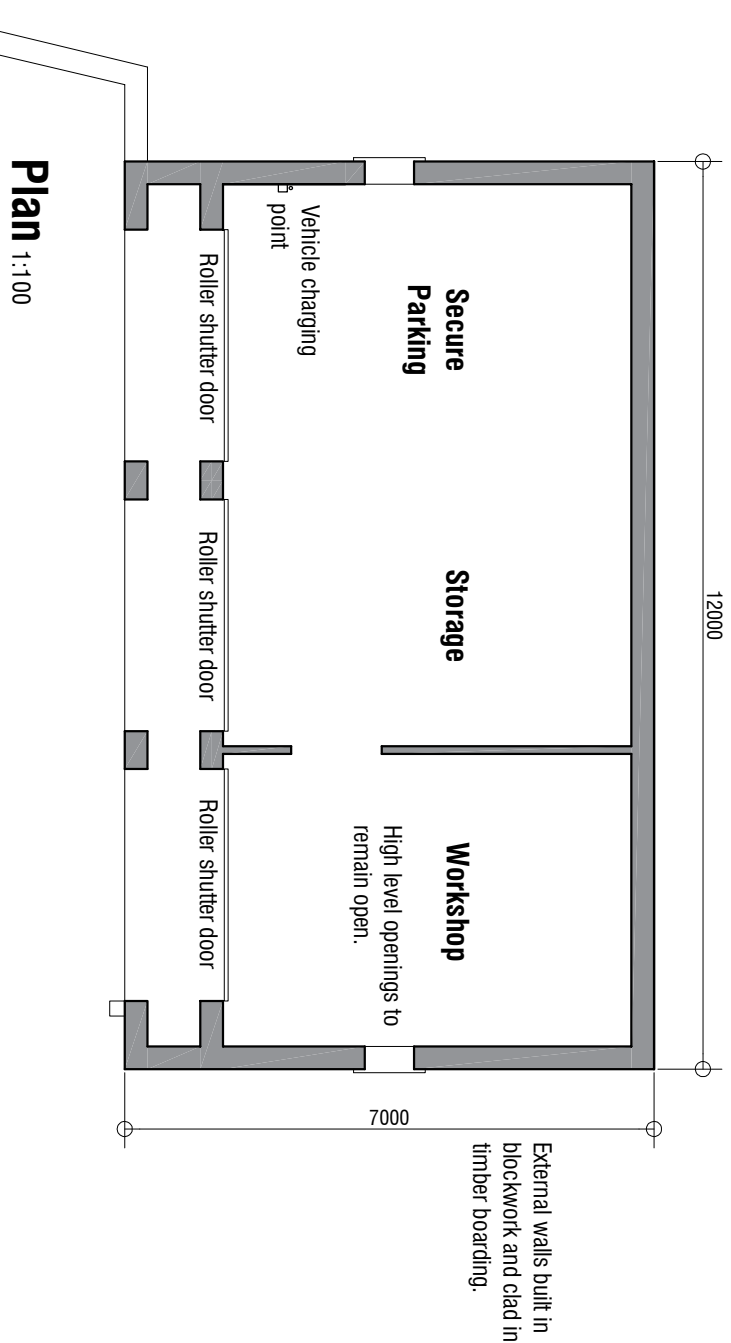
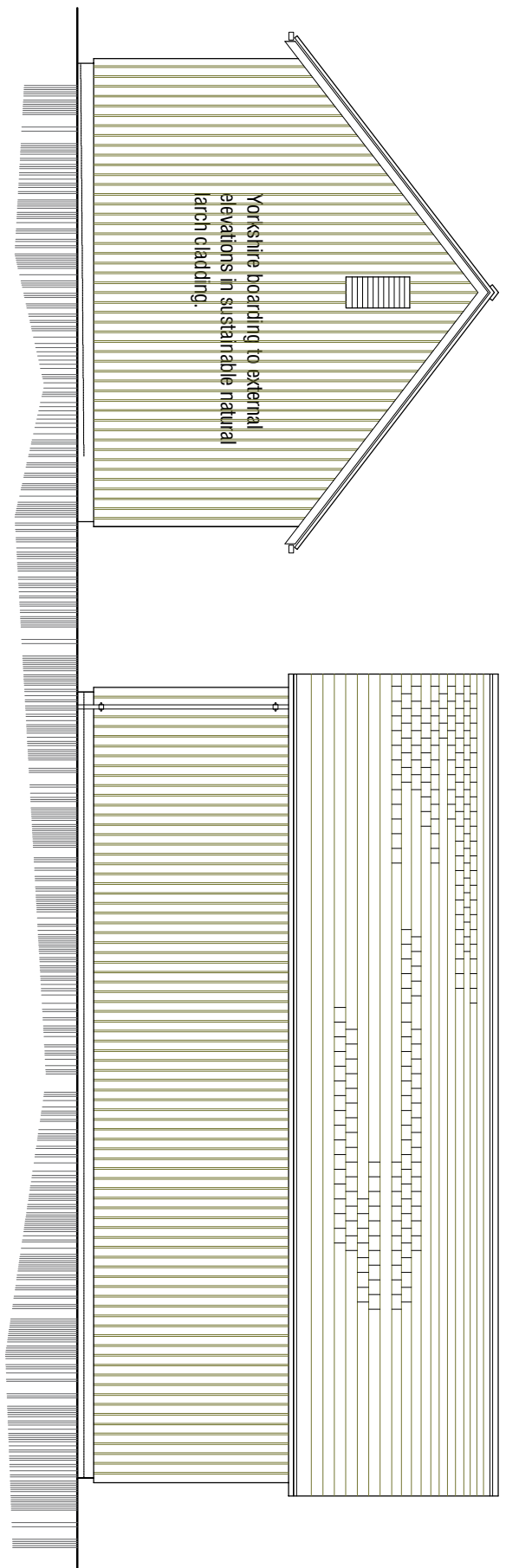
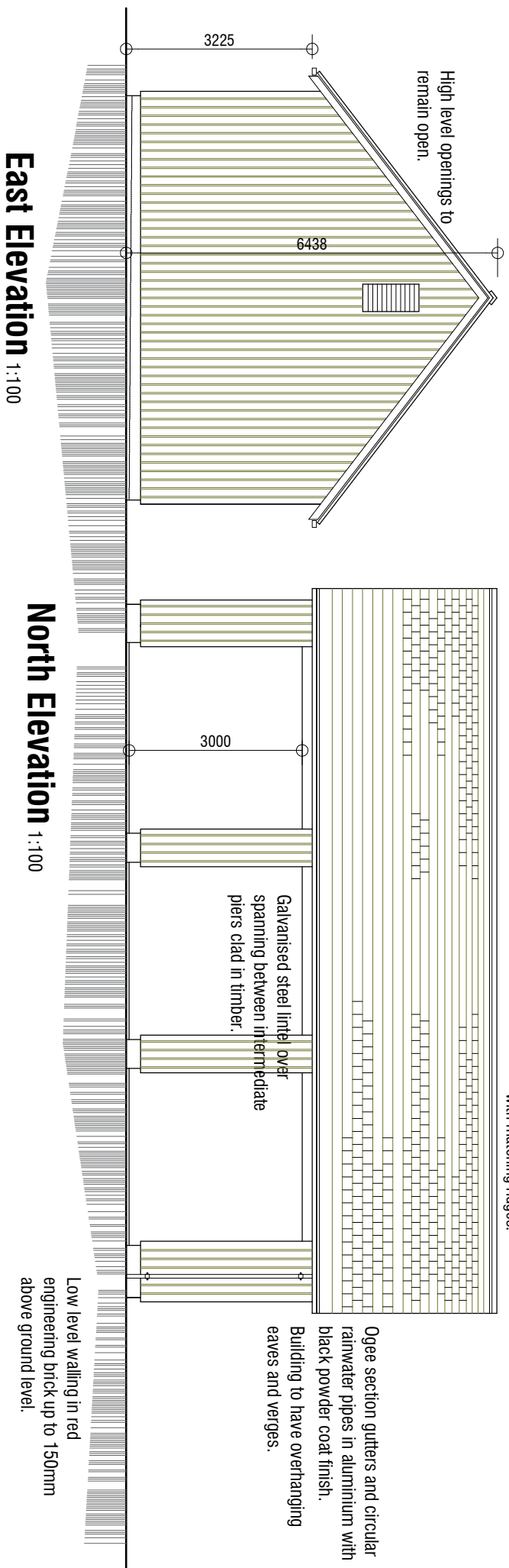
- 7.1.55 No bat roosting activity was recorded in association with the ash trees at TN1 and TN2 during this survey.
- 7.1.56 Common pipistrelle and brown long-eared bat activity was heard regularly by both surveyors during the survey with the last brown long-eared bat heard at 05:14 and the last common pipistrelle comprised the false-returning bat at B3. The only other species recorded comprised a Natterer's bat heard by the surveyor located south of the barn at 04:43.

## **Appendix 8. Proposal Plans**





## Outbuilding



## Bin Store

