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Tyrer Ecological Consultants Ltd, Formby Business Centre, 42 Duke Street, Formby, L37 4AT

Dusk Survey Results

July 2021

Barn & Stables at Back Moss Farm

Back Moss Lane

Burscough

L40 4BD

SD44931318



Barn & Stables at Back Moss Farm, Back Moss Lane, Burscough, L40 4BD Dusk Survey Results

Document Title	Dusk Survey Results
Prepared for	NRE Surveyors Ltd
Prepared by	Tyrer Ecological Consultants Ltd

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1.0 Background and Introduction

1.1 As part of a proposed planning application in relation to an existing barn and stables at Back Moss Farm, Burscough, Tyrer Ecological Consultants Ltd conducted a daytime assessment in relation to bats and breeding birds during October 2019. As part of this survey a Preliminary Roost Assessment (PRA) was carried out, which concluded the following (Figure 1.1):

Bats: Inspection of the subject buildings contained within the application site revealed an abundance of Potential Roost Features (PRFs) across both structures. Further to identified PRFs at both the barn and stables, scattered small tortoiseshell (*Aglais urticae*) and peacock (*A. io*) wings were located through the upper floor of the barn which may be attributed to the feeding remains of bats, notably including brown long-eared (*Plecotus auritus*).

Both the barn and stables are categorised to possess 'moderate' roost suitability in line with Bat Conservation Trust (BCT) guidelines; this classification concurs with that provided by the Bat Roost Trigger Index (see Appendix III). *Consequently, it is recommended that two dusk and/or dawn surveys are undertaken at both properties in line with existing BCT guidance in the period May-August/September (as below).*

Figure 1.1 - Extract from *Inspection & Assessment in Relation to Bats & Breeding Birds (Tyrer Ecological Consultants Ltd., April 2020)*

1.2 Development proposals for the site involve the conversion of the existing buildings for residential use along with some minor vegetation clearance.

1.3 Tyrer Ecological Consultants Ltd were therefore re-commissioned by NRE Surveyors Ltd to undertake the further bat surveys recommended in the daytime survey; the surveys (two dusk emergence surveys) were carried out in May and June 2021 in accordance with current Bat Conservation Trust (BCT) Guidelines during the active season of bats (see Figure 1.2).

Table 7.1 Recommended timings for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result).		
Low roost suitability	Moderate roost suitability	High roost suitability
May to August (structures) No further surveys required (trees)	May to September ^a with at least one of surveys between May and August ^b	May to September ^a with at least two of surveys between May and August ^b

^a September surveys are both weather- and location-dependent. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season.

^b Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example, a more accurate count of a maternity colony is required but it is likely that the colony will soon disperse). If there is potential for a maternity colony then consideration should be given to detectability. A survey on 31 August followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime.

Figure 1.2 - Extract from *Bat Conservation Trust – Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016)*

1.4 The results, conclusions and recommendations following the surveys, including any indicative mitigation to inform an application to Natural England for a European protected species mitigation licence (EPSML), where necessary, will be supplied within this report.

1.5 This report should be read, understood and presented to the local authority as an additional document to Appendix I (see Contents page).

1.6 In accordance with *Biodiversity Net Gain: Good practice principles for development (CIEEM et al, 2019)*, measures have been recommended proportionate to anticipated impacts to ensure that the proposed development results in a biodiversity net gain.

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2.0 Bats - Legislation & Policy

2.1 All British bats and their ****roosts**¹ are afforded protection under Schedule 5 of the Wildlife & Countryside Act (1981) (as amended) and are listed in Schedule 2 of The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579). When dealing with cases where a European Protected Species (EPS) (all UK bats) may be affected, a planning authority is a competent authority within the meaning of the Regulation 7 of the Regulations, that has a statutory duty as the local authority to have due regard to the provisions of the Regulations in the exercise of its functions.

2.2 Use of Buildings by Bats

- a) Summer breeding roost (May-August)
- b) Hibernation roost (October-March)
- c) Transitional or temporary roost (Mainly spring/summer months)

Roost selection is often closely correlated to suitable foraging habitat within a reasonable commuting distance from the roost and different sites are used depending upon insect densities and abundance, climatic conditions can also affect their ability to successfully forage. All British bats are insectivorous.

Policy

2.3 The National Planning Policy Framework (NPPF) has replaced the Planning Policy Guidelines (PPG's). In relation to wildlife, PPG 9 was one of the documents to which Planning Authorities referred to, particularly where a specially protected species is or may be present and will be affected by a development for which a Planning application seeks consent. The aims of the NPPF, in relation to species and habitats, are that it places a clear responsibility on Local Planning Authorities to conserve and enhance biodiversity and to encourage on the consideration that should be given to Protected Species where they may be affected by development.

Paragraph 175 of the National Policy Planning Framework (as revised in 2019) stipulates:

“if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused”.

... whilst Paragraph 174 states:

“To protect and enhance biodiversity and geodiversity, plans should... promote the conservation, restoration and enhancement 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.”

¹ ******The term roost is generically referred to as a place that bat/s use for the any of the above reasons, however it should be noted that under the Conservation of Habitats and Species Regulations (2019) (EU Exit) (Regulation 43 (d)) the term roost is not used but refers to “a *breeding site or resting place of such an animal*” and is afforded legal protection. The roost, breeding site or resting place of bats, which ever terminology is used is legally protected whether or not bats are in occupation.

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- 2.4 The Office of the Deputy Prime Minister (ODPM) Circular 06/2005 provides administrative guidance on the application of the law in relation to planning and nature conservation:

“It is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before planning permission is granted, otherwise all relevant material considerations may not have been addressed in making the decision.”

- 2.5 This is supported by a guide to good practice entitled ‘Planning for Biodiversity and Geological Conservation: Building in Biodiversity’ in which paragraphs 5.34 and 5.35 identify that species such as bats are highly dependent upon built structures for survival and that roosts can be easily incorporated into existing and new developments to benefit these species.

- 2.6 The West Lancashire Local Plan supports this in Policy EN2 – Preserving and Enhancing West Lancashire’s Natural Environment, which states:

“Where there is reason to suspect that there may be priority species, or their habitat, on or close to a proposed development site, planning applications should be accompanied by a survey assessing the presence of such species and, where appropriate, making provision for their needs.”

3.0 Bats in Lancashire

- 3.1 Up to eleven bat species have been recorded in Lancashire, many of which use built structures and trees for roosting. A variety of building types and features are utilised by bat species at different times of year ranging from occupied residential dwellings to disused barns and bridges. The most frequently encountered species is the common pipistrelle bat (*Pipistrellus pipistrellus*); its abundant status in Lancashire is mirrored throughout the UK.

4.0 Survey Methods

- 4.1 Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016) edition states:-

“The guidelines do not aim to either override or replace knowledge and experience. It is accepted that departures from the guidelines (e.g. either decreasing or increasing the number of surveys carried out or using alternative methods) are often appropriate. The guidance should be interpreted and adapted on a case-by-case basis according to site-specific factors and the professional judgement of an experienced ecologist. Where examples are used in the guidelines, they are descriptive rather than prescriptive.”

Relative to the above the survey protocol has been determined using the collective and long standing experience of Tyrer Ecological Consultants Ltd and knowledge of the specific nature of the site.

Survey Protocol

- 4.2 The timing of the surveys took place in May-June thus within the main active period of bats, at a time when maternity colonies have formed / returned to summer roosts and bats are in a highly active and social stage.

In accordance with Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016), it is specified that:

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“The bat active period is generally considered to be between April and October inclusive”, though the period of May - August is the optimal most productive period that Natural England accept bat surveys and grant European Protected Species Mitigation licences (EPSML).

When considering survey protocol the decisions about whether dusk or dawn surveys are selected are based on the extensive experience of the Tyrer Ecological Consultants Ltd, the nature of the building and species that can be anticipated as being present either at the property or in the locality and how complex a building is relative to observations.

In this case the bat roost potential that exists at Back Moss Farm presents no problems for dusk observations; if a building is complex, or observations were restricted, or species that are difficult to detect at dusk are suspected then dawn surveys would be conducted. At Back Moss Farm there are no visual constraints and to date there is no evidence to suggest the presence of such species.

It should also be noted that at dawn temperatures are usually lower than at dusk as a result bat activity can, in some locations, be less frequent. Additionally, where singular/small numbers of bats are present and there are no survey constraints then dawn surveys are of no more value than dusk surveys; singular bats can and do return to a roost before dawn and as a result a dawn survey would not record them anyway. Dawn surveys are more productive when “back tracking” bat to a roost from foraging grounds.

Survey protocol should not be determined by parties who are 1) not familiar with the site 2) do not have a sufficient level or experience in relation to the undertaking of dusk/dawn bat surveys.

- 4.3 The number of surveys and surveyors was adequate relative to the roost potential that was identified on attendance of the site i.e. ‘Moderate’, and requiring three surveyors to accurately monitor potential roost features (PRF’s) on the buildings at any one time.
- 4.4 Surveyors were strategically positioned so that all elevations with bat roost potential, as described in the daytime report, could be observed without limitations. The surveys were aided with Anabat electronic bat detectors that enable the locating and recording of the high frequency calls that are emitted by bats; echolocation calls were analysed the next day using Analook computer software to verify field observations.

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5.0 Results

Two dusk emergence surveys were undertaken on the 28th May 2021 and 23rd June 2021 by three surveyors at any one occasion. Surveyor credentials have been given within Table 5.1. Tables 5.2 and 5.3, alongside Figure 5.1 and 5.2 document the results of the dusk surveys, whilst Figure 5.3 provides a visual aid of emergence location.

Table 5.1 - Surveyor Credentials

Surveyor(s)	Experience	Surveyor Credentials
Dr. R. King MCIEEM	14 years	Seasonal Consultant at Tyrer Ecological Consultants Ltd. MCIEEM. Accredited agent on the Class 2 Natural England bat license of Mrs K Wildling (CLS-14227)
Mr. M. Smith	6 years	An experienced bat surveyor with Tyrer Ecological Consultants Ltd
Dr. T. Doherty-Bone BSc MSc DIC PhD ACIEEM	12 years	A highly experienced freelance Ecologist working as a sub-contractor for Tyrer Ecological Consultants Ltd
Ms. A. Weir	6 years	A seasonal ecological consultant with experience of undertaking professional bat surveys
Mr. M. Mulholland	21 years	An experienced seasonal ecological consultant with experience of undertaking professional bat surveys

Table 5.2 – Survey dates, times and weather conditions

Times of Survey	Date	Weather Conditions
Dusk survey 2105 - 2255	28 th May 2021	Sunset: 2125: Dry, Light Breeze, 70% cloud cover Start temp: 14.5 °C End temp: 13 °C
Dusk survey 2125 - 2315	23 rd June 2021	Sunset: 2145: Light rain until sunset then dry, Light Air, 100% cloud cover Start temp: 12 °C End temp: 12 °C

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Table 5.3 – Dusk Survey Results

Dusk Survey	Time	Activity
28/05/2021	2105 - 2255	<p>Summary: No bat emergence for the duration of survey.</p> <p>2203-2207 hrs: a Common Pipistrelle (CP) entered the site from the north before commuting up and down the lane to the west of the site.</p> <p>2210-2211 hrs: a CP commuted south along the lane before returning to the north.</p> <p>2217 hrs: 2 x CP commuted north before splitting to the north-east and north-west.</p> <p>2219 hrs: a <i>Myotis sp.</i> was recorded but not observed.</p> <p>2224 hrs: a CP was recorded but not observed.</p> <p>Activity comprised of commuting by a maximum of two CP and one <i>Myotis sp.</i> at a time.</p>
23/06/2021	2125 - 2315	<p>Summary: One Common Pipistrelle bat emerged from NW aspect at the ridge</p> <p>2152 hrs: a CP was recorded but not observed.</p> <p>2207 hrs: a Noctule was recorded but not observed.</p> <p>2208 hrs: a CP was recorded but not observed.</p> <p>2222 hrs: a CP commuted in from the south to forage around the south-east of the site before commuting north along the lane.</p> <p>2230 hrs: a CP emerged from the north-west facing central gable ridge of the barn and commuted north-west.</p> <p>2233 hrs: a CP commuted in from the south to forage around the south-east of the site.</p> <p>Activity comprised of commuting and foraging by one CP at a time.</p>

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Dusk Survey 1 – 28/05/2021






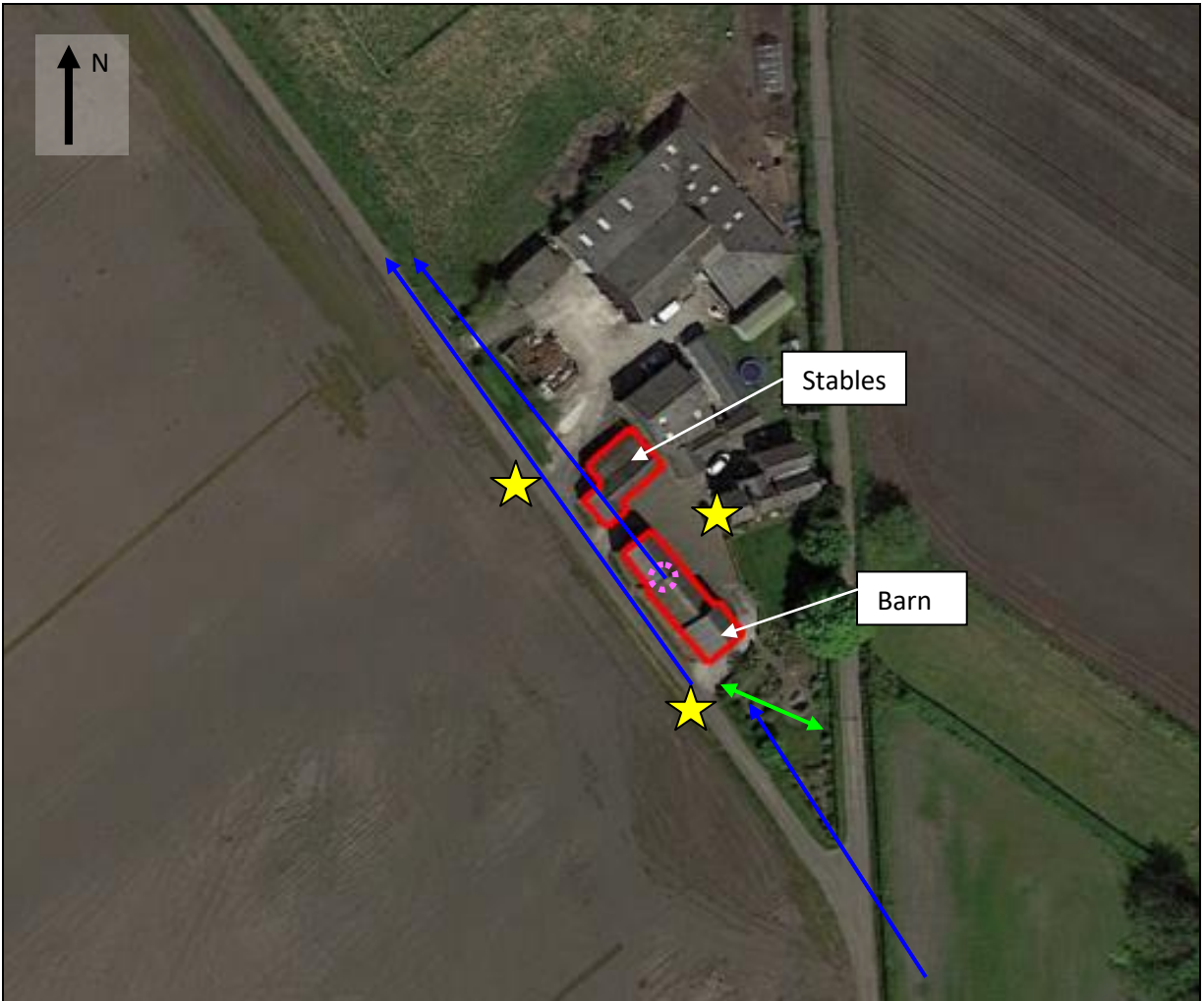
Key			
	Site Boundary		Foraging activity
	Surveyor Positions		Commuting activity
	Directional compass		

Figure 5.1 - Visual Aid - Dusk Survey 1 Results with Key

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Dusk Survey 2 – 23/06/2021


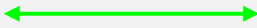




Key			
	Site Boundary		Foraging activity
	Surveyor Positions		Commuting activity
	Directional compass		Emergence locations

Figure 5.2 - Visual Aid - Dusk Survey 2 Results with Key

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Figure 5.3 - *Visual Aid* - Emergence location at the central north-west gable ridge of the barn, from which a singular Common Pipistrelle emerged during the second dusk survey, from a gap at the gable apex.

6.0 Survey Conclusions & Recommendations

- 6.1 The survey results gathered by Tyrer Ecological Consultants Ltd conclude that the barn at Back Moss Farm is being used by one Common Pipistrelle (*Pipistrellus pipistrellus*) bats for roosting purposes. Based upon the evidence, the building is host to a 'Day roost' for the named species in low/singular numbers, with a single bat emerging from the central north-west facing gable apex during the second dusk survey. It is further concluded that use of the stables at Back Moss Farm by bats was absent.
- 6.2 Bat Conservation Trust - Bat Surveys for Professional Ecologists: Good Practice Guidelines, 3rd ed. (2016) describes a 'Day roost' as:
- "a place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer".*
- 6.3 The destruction/modification/damage of a bat roost will therefore need to be addressed from both a conservation and legal perspective along with the application of appropriate mitigation. A European Protected Species Mitigation Licence (EPSML) will be required to legally destroy a place that is actively used for breeding, rest or shelter (roost) by bats, however, before a licence can be applied for all planning issues need to be resolved.
- 6.4 In order that the LPA can implement its obligations under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579), appropriate and proportionate mitigation will need to accompany the planning application which will demonstrate that the "*favourable conservation*" of the species concerned can be maintained.
- 6.5 Installation of new lighting as part of a development scheme that exceeds current levels may have a negative impact upon foraging/commuting bats confirmed as present in the vicinity, particularly if increased light spillage occurs in areas currently free from illumination such as illumination of boundary features. There are several measures that can be used to offset impacts upon bats, where lighting is unavoidable; these include, however are not limited to, the light source used and luminaire design, and accessories to direct light at its intended target. Numerous software programmes are currently available which can be used inform lighting plans, demonstrating how lighting decisions will illuminate a site. Refer to the Bat Conservation Lighting Guidelines for further strategic information if applicable.

7.0 Indicative Mitigation

- 7.1 From the evidence gained during the dusk surveys, the use of the barn at Back Moss Farm by bats is considered to be of 'low' level significance relatable to Common Pipistrelle bats and their current status (as according to - English Nature: Bat Mitigation Guidelines 2004); the proposed mitigation is proportionate to that use. However, if at any time that assessment is revised to a higher level, then the mitigation will also be accordingly revised.
- 7.2 The following procedures and mitigation recommendations are designed to allow the Local Planning Authority (LPA), in association with their ecological advisers, to determine a Planning Application where a European Protected Species has been identified and will be affected by the work for which the Planning Application seeks consent.

In addition Local Planning Authorities in accordance with the obligations placed upon them by way of their duties under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579) have to take into consideration the presence of a

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European Protected species (EPS) before determination of an application where it/they have been identified.

- 7.3 The LPA need to consider the mitigation in relation to the potential success of a Natural England licence application and/or if in their opinion the mitigation is considered as being appropriate, or if it is over and above what is required; if they determine that the mitigation is appropriate then a Planning Condition should be attached requiring the roost provision to be implemented.

If the LPA consider that the mitigation is over what is necessary but require “enhancement” as part of their Local Biodiversity/Net-Gain Planning Policies this should be included in the terms of Consent. The acting bat ecologist deems the proposed new roost creation as appropriate and not over and above what is required.

- 7.4 **Notwithstanding that Planning Consent is granted or equally if the work is undertaken outside of the planning system, whereby projects that do not require planning consent may affect bats or their roost, including disturbance, it does not absolve the applicant, site owner, developer or any other party involved with the work from ensuring that an application is made for a Natural England development licence, to legally undertake work that will affect bat(s) or their roost(s).**

If work is undertaken without a licence and bat(s) or their roost(s) is/are affected then a breach of current wildlife legislation will occur for which penalties are severe.

- 7.5 Under Regulation 53(1) and 56(3)(a) of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579), a licence is required prior to disturbing bats or destroying/damaging or obstructing any place that is used by bats as a resting place or breeding site. The licence is issued by the EPS Licensing Team of Natural England.

Summary of Mitigation

- 7.6 The conversion of the barn and stables at Back Moss Farm for residential use is the key component of the applicant’s plans for the site; however it is acknowledged that the presence of roosting bats needs to be addressed from both a legal and conservation perspective.

The mitigation proposals outlined in this report are seen to be the most productive way forward that will retain long term roosting opportunities for bats.


- 7.7 No foraging habitat will be lost as a result of the proposals. Existing foraging habitat in the form of nearby trees will mean all proposed new roost(s) will not be at any further distance from valuable foraging areas of the site.

- 7.8 To ensure that bats are not left without a roost while the work takes place one Schwegler 2F bat box (or suitable equivalent) will be mounted on a tree in proximity to the survey area. The box will act as a receptor should bats have to be captured and relocated during the work schedule (See Figure 7.1).

The receptor bat box will act as a receiver box for if bats have to be captured by hand and relocated to it by the ecologist during the work schedule; it will be retained permanently post-development to provide a permanent roost opportunity for bats.

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Figure 7 - Proposed location of receptor roost [] (Google Earth, 2020), and 2F Schwegler Bat box (overlaid)

Assigned Ecological Clerk of Works - EcOW

7.9 At the pre-commencement stage a suitably qualified Ecologist is to undertake induction 'toolbox talk' on possible bat presence and present/discuss document features taken from the license i.e. License, Method Statement, Mitigation Figures and Work Schedule to be kept on site for the duration of the work.

Prior to any work being undertaken the presence/absence bats as far as is possible will be established by undertaking detailed investigation of the areas at which bats have been observed using the building; typically at the central north-west facing gable ridge of the barn. The ecologist will supervise careful dismantling of all places that will be removed as part of the proposed work which have been identified as offering roost access or roost potential at the ecologist discretion. In addition wherever opportunities for bats exist in other parts of the building the supervised dismantling will extend to these areas with strategies for safely removing bat(s).

All dismantling of roost features will be undertaken during favourable weather conditions.

An increase in external lighting is expected during the conversion; should additional lighting be installed it must be directed away from any bat roost access points, flight paths and foraging areas.

Mitigation proposed is subject to the approval of the Natural England EPS team; all proposed roost provisions outlined hereafter will be dedicated for bats and permanent.

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7.10 Work undertaken by the Ecologist

Capture/Exclusion: Once an EPSML licence is in place the contractor will provide a safe means of access to allow the ecologist to investigate the confirmed roost area for bat presence at the barn at Back Moss Farm.

In addition wherever opportunities for bats exist in other parts of the building the supervised dismantling will extend to these areas at the discretion of the ecologist in attendance. In the event of bat(s) being present, it/they will be removed, placed in a secure box with soft tissue and immediately transferred into the receptor bat box that will have previously been erected on a tree nearby as indicated in Figure 7.1. Once it has been established by the ecologist that bat(s) are absent the building works will continue to completion.

In the unlikely event that bats are found outside of supervision time, then as legal requirement and conditions of the granted licence work will immediately cease and the ecologist contacted for further advice; contractors must not touch, handle or in any way cause bats to move.

7.11 Work undertaken by the Contractor

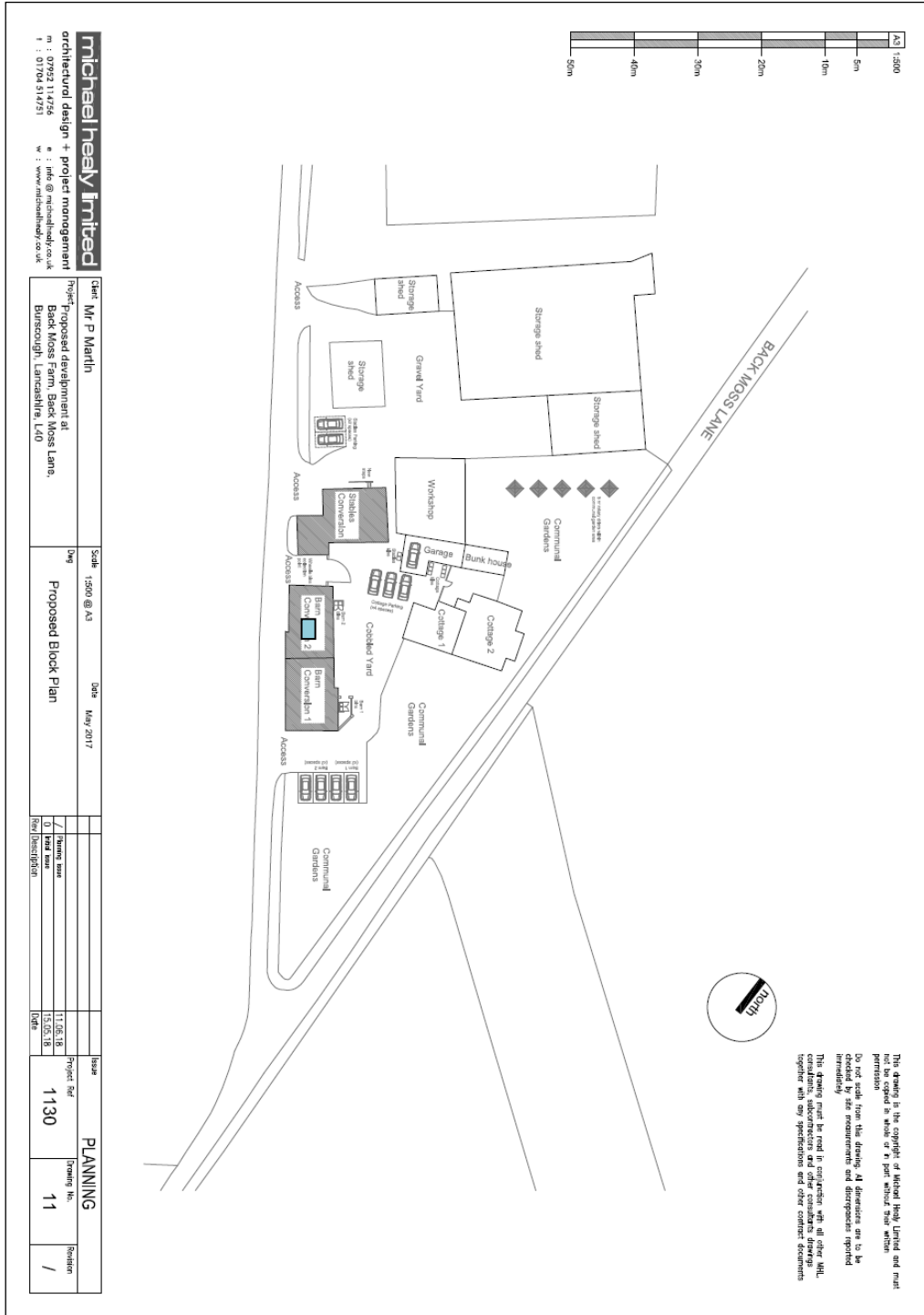
A number of potential roost features were identified at Back Moss Farm, including the gap at the central north-west facing gable apex from which a single Common Pipistrelle emerged; new roost provision is therefore recommended to be built into the design of the barn conversion:


- New roosting provision will be re-created in the form of one access points for bats at the roof verge/or wall plate (as permitted via the design of the development) of the central north-west facing gable elevation of the converted building; the access point will permit ingress to areas of underfelt to be instated below the roof cover for bats. The gap will be 25mm long by 50mm wide; to create the access point plastic pipes will/can be used initially, as illustrated overleaf, which will be removed once the verge/wall plate has been rendered and roofing slates or tiles fitted. The access point can be covered over with fascia/barge boards if necessary, though it must be ensured that bats can freely access the gaps,
- As part of this roost creation process it is imperative that traditional bitumen 1F roofing felt will be used as the chosen **local** underfelt/roof lining as opposed to any breathable roofing membrane (BRM). Modern breathable roofing membranes (BRM) entrap bats through wear and tear in the synthetic polymers used to protect the breathable membrane causing bats harm, injury and death. Where bitumen 1F felt is not the chosen roof lining for the building, an area of the felt may be instated in a 1m² area around the access points; however, this must be separated from the rest of the roof space using timber roofing batons to prevent bats moving out of this area.

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See Figures below for illustrative aids.



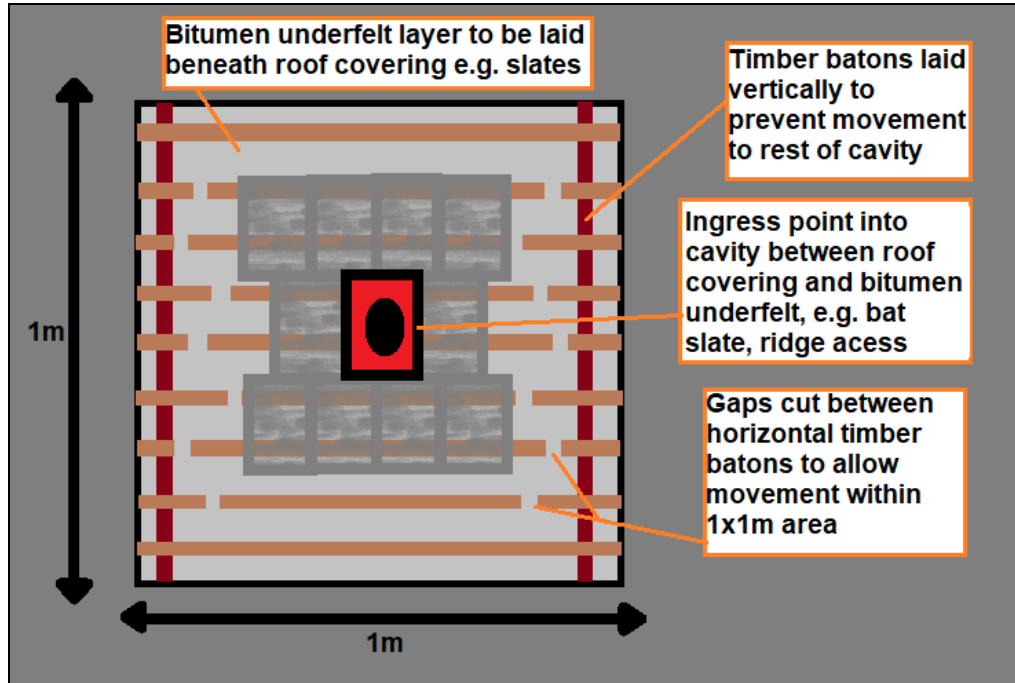
Proposed location of new roost provisions []

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See Figures below for illustrative aids.



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Breathable Roofing Membranes (BRMs) can trap the feet of bats, resulting in death or injury. It is therefore essential that any ingress points lead to areas lined with traditional bitumen 1F underfelt which is bat safe. It is also essential that there is no access to areas lined with BRM from the ingress point; therefore sections of timber baton must be laid vertically between the horizontal roofing batons, effectively preventing movement between areas.

This area of Bitumen 1F underfelt should be incorporated during the roofing of the barn, directly adjacent to the barge board/fascia access.



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8.0 References

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Barn & Stables at Back Moss Farm, Back Moss Lane, Burscough, L40 4BD
Dusk Survey Results

Appendix I: *Inspection & Assessment in Relation to Bats & Breeding Birds* (Tyrrer Ecological Consultants Ltd, April 2020)