



Gibbons Farm, Battisford, Suffolk

Biodiversity Enhancement Strategy & Lighting Design Scheme

Client: Mr P Watson

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1.0 INTRODUCTION

Instruction

1.1 This report has been prepared by Liz Lord following instruction by Mr P Watson to address conditions 5 and 6 of planning permission DC/22/03948 relating to Gibbons Farm Barn, Battisford, Suffolk IP14 2HJ. Permission has been granted for the conversion of a barn and ancillary building to create a single residential dwelling.

1.2 Condition 5 of DC/22/03948 states:

"Prior to first occupation of the the (sic) hereby approved development, a Biodiversity Enhancement Strategy for protected and Priority species shall be submitted to and approved, in writing, by the local planning authority. The content of the Biodiversity Enhancement Strategy shall include the following:

- a) Purpose and conservation objectives for the proposed enhancement measures;*
- b) detailed designs or product descriptions to achieve stated objectives;*
- c) locations, orientations, and heights of proposed enhancement measures by appropriate maps and plans;*
- d) persons responsible for implementing the enhancement measures;*
- e) details of initial aftercare and long-term maintenance (where relevant).*

The works shall be implemented in accordance with the approved details prior to occupation and shall be retained in that manner thereafter.

Reason - To enhance protected and Priority Species & habitats and allow the LPA to discharge its duties under the NPPF 2021 and s40 of the NERC Act 2006 (Priority habitats & species)."

1.3 Condition 6 of DC/22/03948 states:

"A lighting design scheme for biodiversity shall be submitted to and approved in writing by the local planning authority. The scheme shall identify those features on site that are particularly sensitive for bats and that are likely to cause disturbance along important routes used for foraging; and show how and where external lighting will be installed (through the provision of appropriate technical specifications) so that it can be clearly demonstrated that areas to be lit will not disturb or prevent bats using their territory.

All external lighting shall be installed in accordance with the specifications and locations set out in the scheme and maintained thereafter in accordance with the scheme. Under no circumstances should any other external lighting be installed without prior consent from the local planning authority.

Reason - To allow the LPA to discharge its duties under the Conservation of Habitats and Species Regulations 2017 (as amended), the Wildlife & Countryside Act 1981 as amended and s40 of the NERC Act 2006 (Priority habitats & species)."



Relevant Documents

- 1.4 This document is based upon the permissions granted for the site, the results of the Ecological Impact Assessment report dated 16th June 2022, and the provisions agreed as part of granted bat mitigation licence number 2023-63766-EPS-MIT.



Fig 1: Aerial plan, with approximate site boundary outlined in red. Aerial photograph sourced from Google Earth Pro, image dated 22/4/2021



2.0 AIMS AND OBJECTIVES

- 2.1 The aim of the enhancement measures is to increase the value of the site for protected and priority species, in a way which is appropriate to the scale and nature of the use of the site and which relates to the recommendations of the Ecological Impact Assessment report dated 16th June 2022.
- 2.2 Surveys carried out in May and June 2022 confirmed the presence of two roosting summer roosting soprano pipistrelles *Pipistrellus pygmaeus*, a single summer roosting common pipistrelles *P. pipistrellus*, and one summer roosting barbastelle bat *Barbastella barbastellus*. Mitigation for these bat roosts, and those previously recorded during earlier surveys in 2016/2017, has been agreed as part of bat mitigation licence 2023-63766-EPS-MIT, and as such are legally binding and cannot be altered. The mitigation features are simply listed for completeness in this document.
- 2.3 The target species specific to this site and specific to DC/22/03948 will be house sparrow *Passer domesticus*, a Priority species; and common garden birds such as wren *Troglodytes troglodytes* and robin *Erithacus rubecula*.

Conservation Objectives

- 2.4 The conservation objectives will be to:
1. Increase the value of the site to nesting house sparrows;
 2. Increase the value of the site to nesting robin and wren; and
 3. Maintain the value of the site for roosting bats.



3.0 ENHANCEMENT MEASURES

- 3.1 A range of species can benefit from the provision of artificial nest and roost boxes. House sparrows, wren and robin will readily use such boxes, including those associated with human dwellings. Bats will also use artificial roost features, and have been recorded using a wide range of box types.
- 3.2 The number and type of boxes to be installed are detailed below. For locations, specifications and suppliers of boxes / roost features refer to Appendices 1 and 2.

Bird Boxes

- 3.3 **2 no. Estella double house sparrow boxes** will be fixed to the northern elevation of the existing bungalow, at eave height. The boxes will result in a minor enhancement of the site for house sparrows.
- 3.4 **2 no. Vivara Pro woodstone Alicante nest boxes** will be installed in the trees and shrubs to the south east of the buildings, fixed with a strap where necessary. The boxes will face between north and east, and be located at a **height of 1-2m**. These boxes will result in a minor enhancement of the site for wrens and robins.

Bat Roost Features

- 3.5 **2 no. Vivara Pro bat tubes** will be built into the wall of the converted barn, with one on the southern gable end and one on the northern gable end. These will provide replacement and enhanced roosting opportunities for pipistrelle bats.
- 3.6 **4 no. raised ridge tiles and 4 no. raised roof tiles** will be provided across the roof of the barn to provide replacement roosting opportunities for pipistrelle bats.
- 3.7 **3 no. Vincent Pro wooden bat boxes** will be provided on site, with two fixed to an existing mature garden tree, and one to the southern gable end of the barn, to provide replacement roosting opportunities specifically for barbastelle bats. Those fixed to the tree will be positioned at least 3m high, with a clear 1-2m drop beneath the box entrance.
- 3.8 **1 no. wooden Kent bat box** will be fixed to an existing mature garden tree, at least 3m high with a clear 1-2m drop beneath the box entrance, to provide replacement roosting opportunities for pipistrelle bats.
- 3.9 The Kent bat box and two of the Vincent Pro bat boxes aim to provide replacement roosting opportunities for a range of crevice dwelling bat species whilst conversion works take place, and in the long term will result in a minor enhancement of the site for bats.



Implementation

- 3.10 Mr P Watson will be responsible for the purchase, installation and implementation of all of the features detailed above, with Liz Lord overseeing the installation of the bat roost features. The bat roost features are a legal requirement as part of mitigation licence number 2023-63766-EPS-MIT.

Management

- 3.11 The bird boxes are unlikely to require any on-going management, and have been positioned to avoid potential conflict with home owners. The purchasers will be informed that where a build-up of old nesting material can be seen from the bird boxes, this should be removed outside of the bird nesting season (October to January inclusive).
- 3.12 All of the bat roost features are self-cleaning, and will not require any management.



4.0 LIGHTING SCHEME

Landscape Context

4.1 The site lies close to the bottom of a valley, which supports a tributary of the River Gipping, and is lined with trees and small but well connected areas of woodland. The barn and bungalow are in close proximity to the larger Gibbon Farm House which stands offsite to the south east, along with two small associated outbuildings. All of the buildings are surrounded by amenity grassland and hard standing to the south, east and west, with arable fields offsite to the north. The wider landscape is dominated by arable fields of varying size, wide hedgerows, lines of trees, pasture, small areas of woodland and scattered village settlements.

Predicted Effects

4.2 Due to a relative abundance of mature hedgerow and tree lined boundaries across the surrounding landscape, the land immediately surrounding the buildings is unlikely to be of significant importance to local bat populations for the purposes of foraging and commuting. The results of the 2022 dusk emergence surveys showed that bat activity on site was generally low, and that the site was used by small numbers of foraging and commuting common and soprano pipistrelle bats, and an occasional leisler's bat. Individual barbastelle bats are likely to be using the connective landscape features (hedge to north and mature trees to south) to commute in and out of the main barn on occasion.

Lighting Scheme

4.3 Two external porch lights already exist on the southern façade of the bungalow, and these will be removed. A motion sensitive security light is present on the south eastern corner of the main barn, at eave height; and a small porch style light is present at c.2m height in the centre of the eastern wall. Both features will be removed and replaced with two new pairs of porch lights – one pair on either side of the southern doorway, and one pair on either side of the eastern doorway. As a result, the development will not result in any increase in the number of external lighting features.

4.4 The plans provided in Appendix 3 show the locations of the external lighting features.

4.5 The lights will be positioned at heights of 2.5m or less.

4.6 The proposed light designs are pictured overleaf, and will direct light to ground level only with a top canopy cover / closure to prevent upward light spill. The lights will be fitted with warm white (<3000K) LEDs no greater than 6 watts. Should the designs overleaf be unavailable, a similar porch light meeting these specifications will be used.





Fig. 2: Proposed porch light design – Philips Buzzard myGarden – Black to be fitted with max 5W E27 warm white (2700K) LED bulb from lights.co.uk (item no. 7531955)



Fig. 3: Proposed porch light design – Wickham Outdoor Wall Light, Black. To be fitted with max 5W ES warm white (2700K) LED bulb from johnlewis.co.uk (product code 70270356)



Fig. 4: Proposed porch light design – Swinford Porch Lantern - Black. To be fitted with max 6W warm white (2700K) LED screw bulb from lighting-direct.co.uk (item code 27073)

Conclusions

- 4.7 The two pairs of porch lights will be fixed externally to the building walls, at heights of no greater than 2.5m. The limited number of light fixings, the top canopy cover / closed top and the positioning of the lights at a low height will maintain a dark nocturnal environment in the immediate vicinity of the northern adjoining hedgerow, trees to the south and all bat mitigation features.



4.8 There will be no high level lighting, no up-lighting and no security lights. No habitat or roost features will be illuminated by the lighting scheme, and no adverse impacts upon roosting, foraging or commuting bats are predicted. The use of warm white LED bulbs aims to minimise attraction to insects, to prevent insects migrating away from hedges and trees at night.



Appendix 1:
Bird Box Locations







Google Earth

Above: aerial photograph showing red line boundary and locations of house sparrow boxes and hedge / tree mounted boxes. Photograph sourced from Google Earth Pro

KEY

-  2 no. Estella sparrow boxes
-  1 no. Alicante box



Woodstone Alicante Nest Box

Made of long lasting woodstone; can be fixed with a nail, screw or narrow tree strap

Available from CJ Wildlife

Dimensions 22.5 x 15 x 26cm



Woodstone Estella House Sparrow Box

Made of long lasting woodstone; can be built-in or fixed externally

Available from CJ Wildlife

Dimensions 29 x 16 x 21 cm, weight 6kg

TITLE: Enhancement Features

SITE: Gibbons Farm

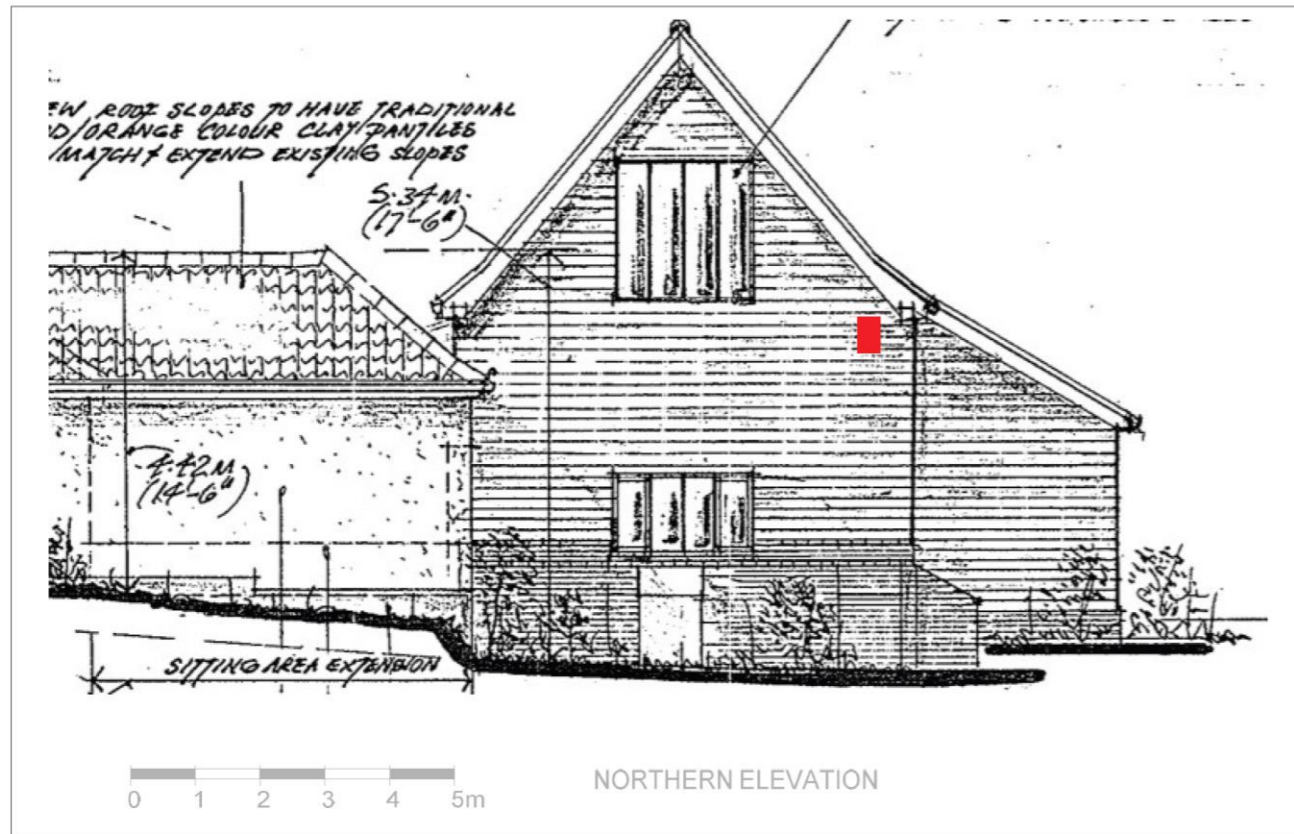
DATE: 08/06/23

Dwg: 1810BEL

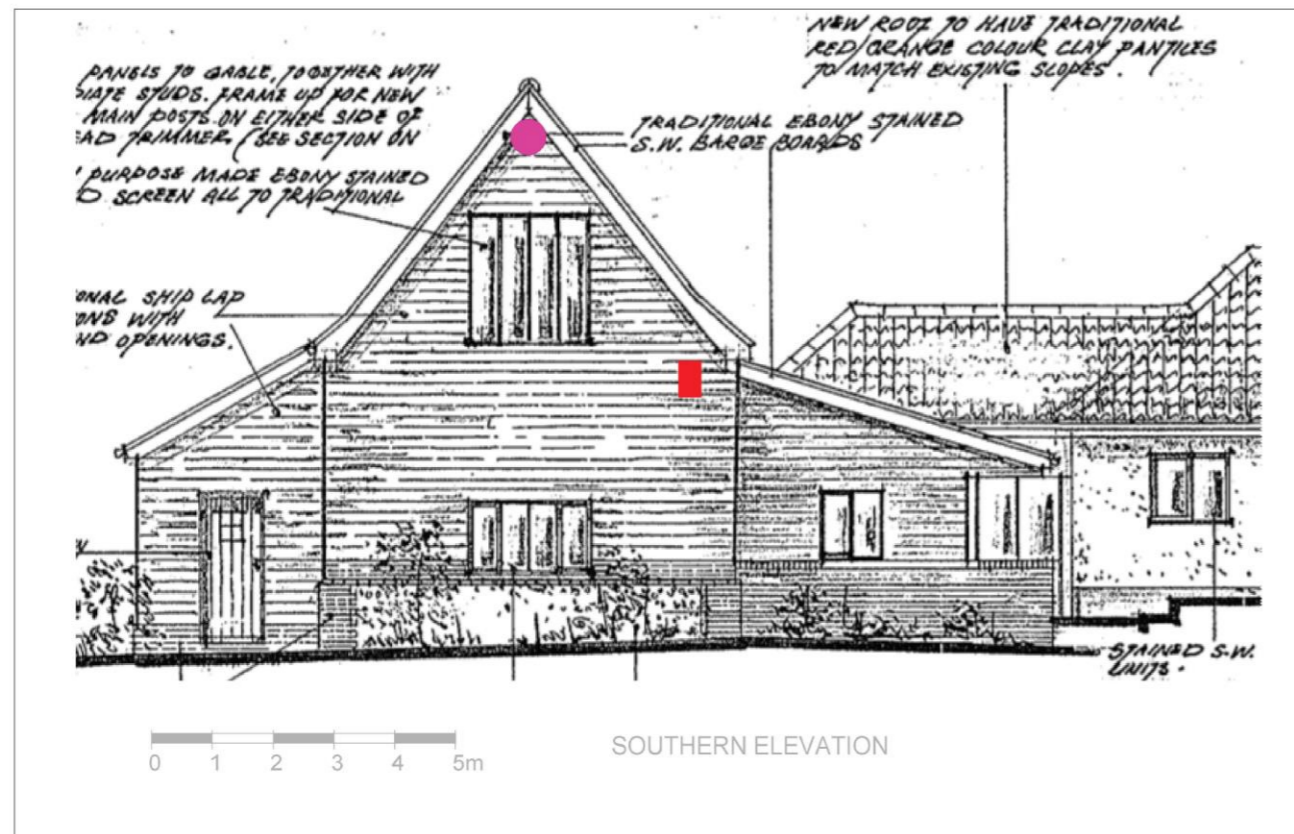
Rev: -

Appendix 2:
Bat Roost Feature Locations





ABOVE: Proposed northern elevation showing location of built-in Vivara Pro bat tube. To be covered with a weatherboarding finish



ABOVE: Proposed southern elevation showing location of built-in Vivara Pro bat tube & externally fitted Vincent Pro bat box. Bat tube to be covered with a weatherboarding finish

BELOW: Layout / footprint of converted building highlighted yellow, with proposed locations of 2 x built in Vivara Pro bat boxes, 4 x raised ridge tiles, 1 x Kent bat box, 4 x lifted / wedged tiles and 3 x Vincent Pro bat boxes

Entire roof - highlighted yellow - to be relaid with existing pantiles, and lined throughout with Type 1 re-inforced bitumen felt. This will naturally provide further small crevice roosting opportunities for individual bats. Where insufficient crevices result, 4 x tiles will be lifted artificially with a lead wedge or similar to create four roosting crevices



Vivara Pro Bat Tube



Vincent Pro Bat Box



Gap beneath raised clay ridge tile



KEY

- 1 no. raised ridge tile
- 1 no. gap beneath relaid file - natural or created with small lead wedge (or similar)
- 1 no. wooden Kent bat box fixed to offsite tree
- 1 no. wooden Vincent Pro bat box (3 no. total - 2 no. fixed to offsite tree, 1 no. fixed to barn gable apex)
- 1 no. Vivara Pro build-in bat tube (Dimensions 210mm x 500mm x 77mm)

TITLE: E3 - Mitigation Layout & Elevations

SITE: Gibbons Farm Barn

CLIENT: Mr P Watson

DATE: 24.04.23

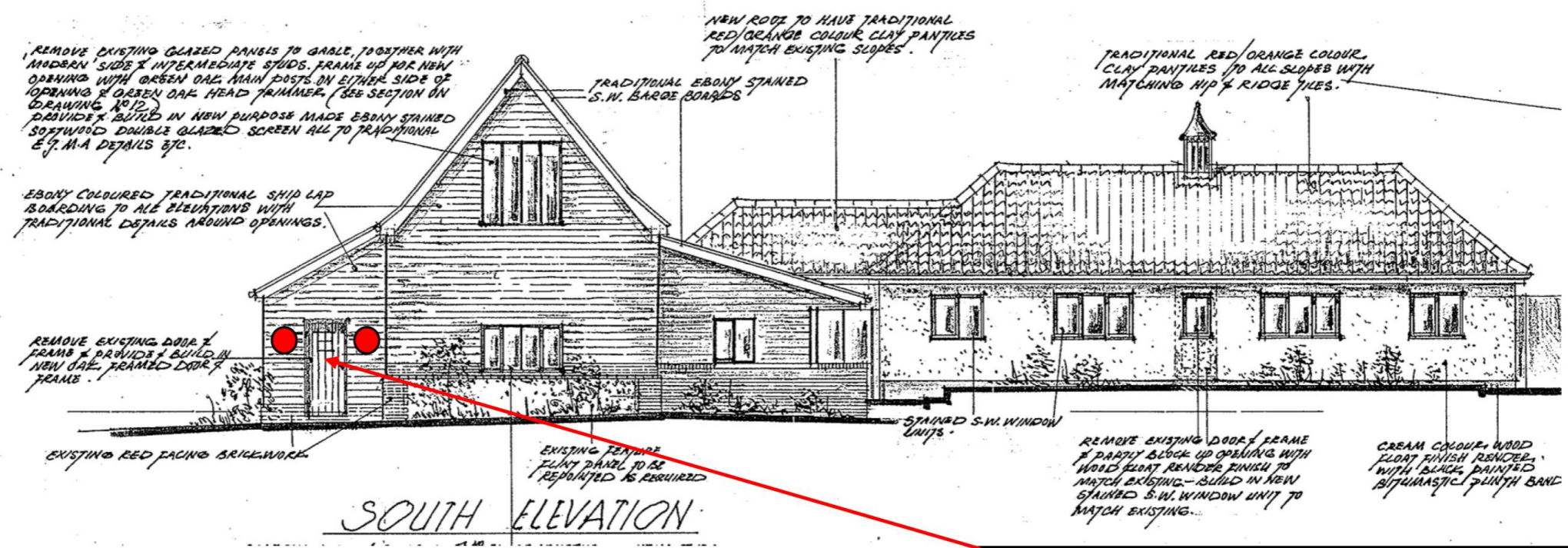
DRAWN: Liz Lord DWG NO. E3

SCALE: see dwg

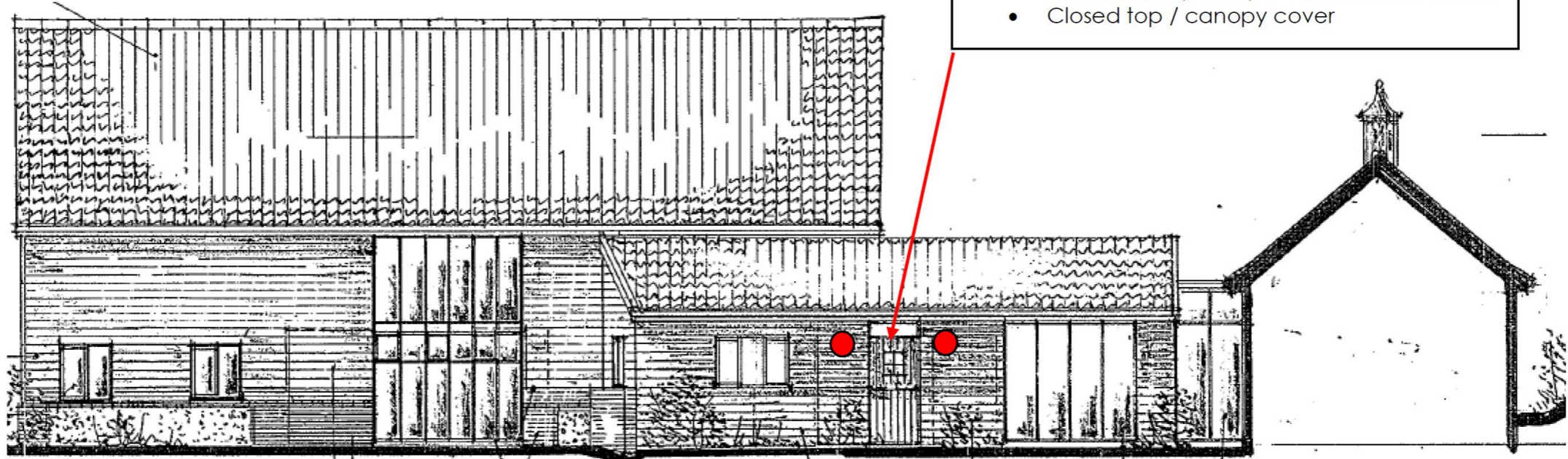
Figure E3: Mitigation Layout & Elevations - Gibbons Farm Barn, Hascot Hill, Battisford, Stowmarket, Suffolk IP14 2HJ

Appendix 3:
Lighting Locations





- 4 no. new porch lights** ●
- No more than 2.5m high
 - Warm white (2700K) LED bulbs, max 6 watts
 - Closed top / canopy cover



EAST ELEVATION

REMOVE LARGE METAL DOOR OVER DOOR UNIT TOGETHER WITH STEEL BEAM & MODERN STUD WALL ABOVE - PROVIDE & FIX NEW KILN DRIED 8" x 8" (200x200) E.G. 6" (150x150) OAK POSTS & INFILL STUDS & EXTEND BRICK PLINTH WITH ENHANCED RED FACINGS ONE MORTAR (SEE DRAWING N°12)

PROVIDE & FIX NEW PURPOSE MADE EBONY COLOUR STAINED S.W. DOUBLE GLAZED SCREEN FULL HEIGHT TO U/S. OF EAVES.

EXISTING WALLS TO BARN ANNEX TO WITH 150x50mm IMPREG. S.W. STUDS EXTERNALLY WITH 12mm EXTERIOR OR THREE VAPOUR PERMEABLE LAYER, IMPREG. S.W. BATTENS & TRADITIONAL BOARDING.

PROVIDE & FIX 4 EBONY COLOUR DOUBLE GLAZED

TITLE: Lighting Features
SITE: Gibbons Farm
DATE: 08/06/23
Dwg: 1810LDS
Rev: -



Liz Lord Ecology

