

**BADNAM COTTAGE
HIGH STREET, BURSLEDON, SO31 8DJ**

**BAT & BARN OWL SURVEY
ECOLOGICAL MITIGATION & ENHANCEMENT**

FEBRUARY 2024

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1.0 INTRODUCTION

Background

Aluco Ecology Ltd was commissioned to carry out a Bat Survey of the property Badnam Cottage, High Street, Bursledon, SO31 8DJ, Grid Reference SU484092 / SU4848709296 by the Property Owner. A bat survey is an investigation of a site for bat use, the presence or potential for bat roosts and any impacts to use from a proposed development, a replacement house.

Given the scope of works, works to replace the dwelling house on hard standing and mostly on existing building footprint. This primarily comprised of a Bat and bird assessment. No other protected species or habitats are thought to be present or effected by the works as this comprises existing built footprint, hard standing and small area of garden lawn.

In this case, further bat emergence survey was completed as actual and ‘further potential for roosting’ was recorded. Given the findings from the survey to date, it is therefore considered likely that roosting will be affected by the proposals.

The proposed scheme at Badnum Cottage is predicted to impact (by Roost loss) by works to replace the house by non-breeding spring / summer / autumn day roosts of Common Pipistrelle (1) (estimated population in any given year) occur in relation to the proposed scheme and survey to date.

Mitigation and enhancement will be through timing works to minimise disturbance, and 2 x 2fr concealed roost units or similar will be built into the new walls of the new house. All activities with potential to disturb bats will be under the supervision of a licensed bat worker following the method statement agreed and (EPS) European Protected Species Licence.

Woodstone bird nest boxes will be incorporated into the scheme proposals including a sparrow terrace along options for further biodiversity enhancements.

Legislation and Policy

All native species of bat and their roosts are afforded full legal protection in the UK. As such the outcomes of this Assessment will be tested against relevant legislation and policy; namely the Conservation of Habitats & Species Regulations 2017 (as amended) in relation to European protected species (Bats), Wildlife & Countryside Act 1981 (as amended) and Countryside & Rights of Way Act (CROW) 2000.

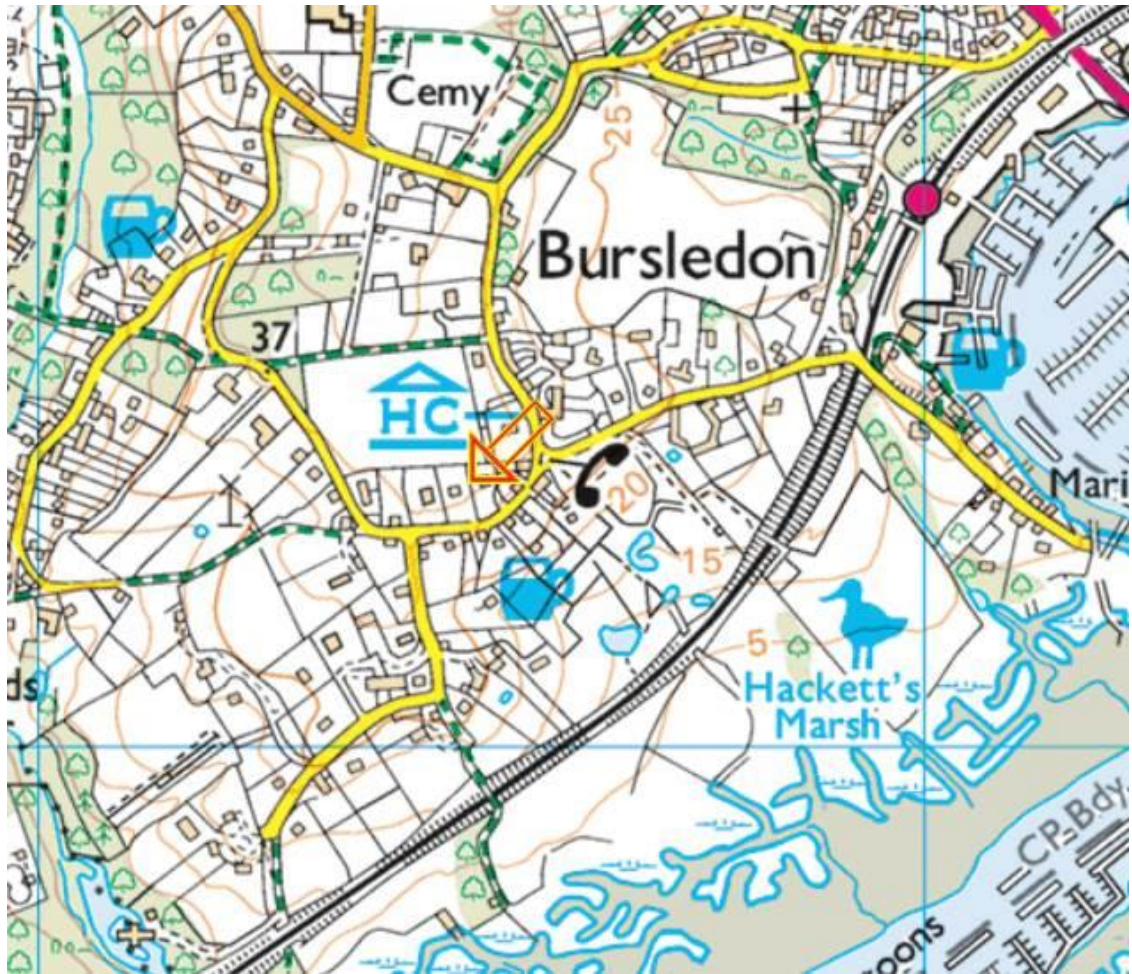
Consideration should also be given to Environment Act 2021. A core element of this is Biodiversity Net gain through planned development. Local Planning Authorities are beginning to adopt the principals of demonstrated 'net gain' in all planning decisions.

Outline of the Scheme and Site Location

Badnam Cottage is accessed off of Bursledon High Street and is set back over 30m from the road. In addition to the Bungalow, two garages and an outbuilding/annexe are located on the site.

Badnam Cottage is located in the village of Old Bursledon on the River Hamble in Hampshire, it is within the designated conservation area within Eastleigh Borough Council local authority. Badnam Cottage is a /bungalow located on a generous plot. currently a 4 bed dwelling, originally built in the 1930s, extended in more recent times however the dormers were added earlier. Some parts of the existing building are of poor building fabric and would not comply with modern regulations.

The proposals aim to create an enhanced modern family home. The proposal seeks to retain the current residential status of the site and to demolish the existing and introduce a new purpose-built dwelling as a one for one replacement approach.. (see **Figures 1-5**).



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Figure 1a Location Plan

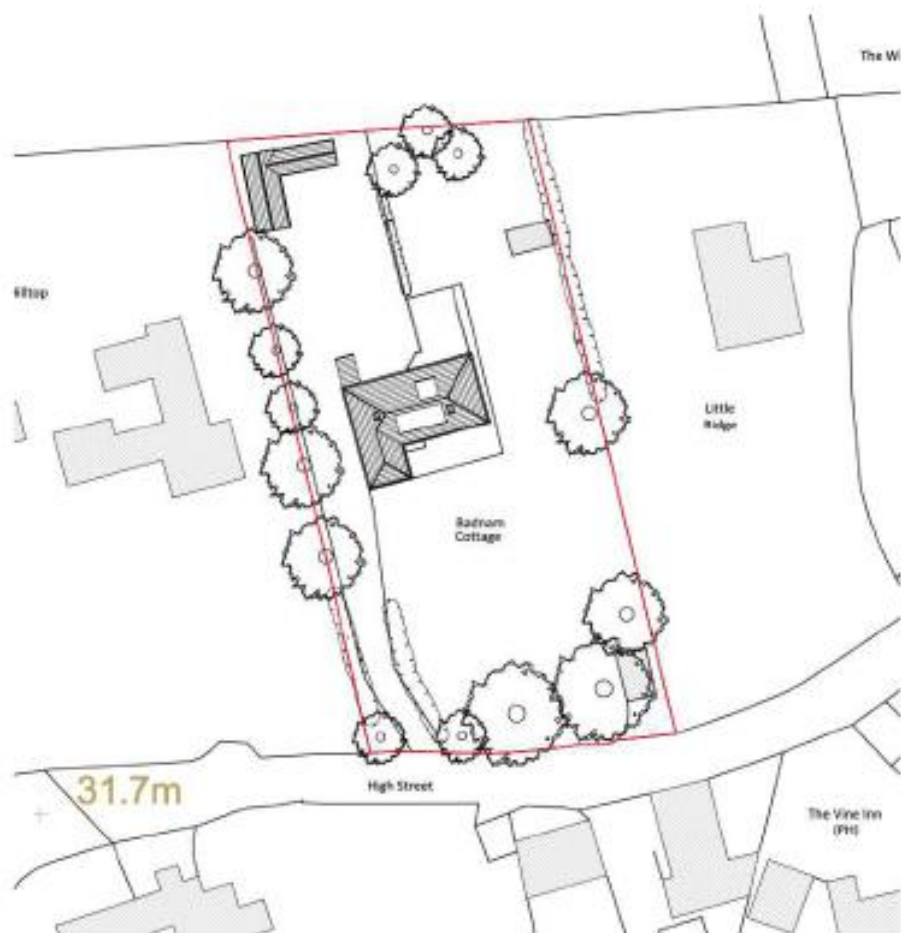


Figure 1b Location / Site Plan

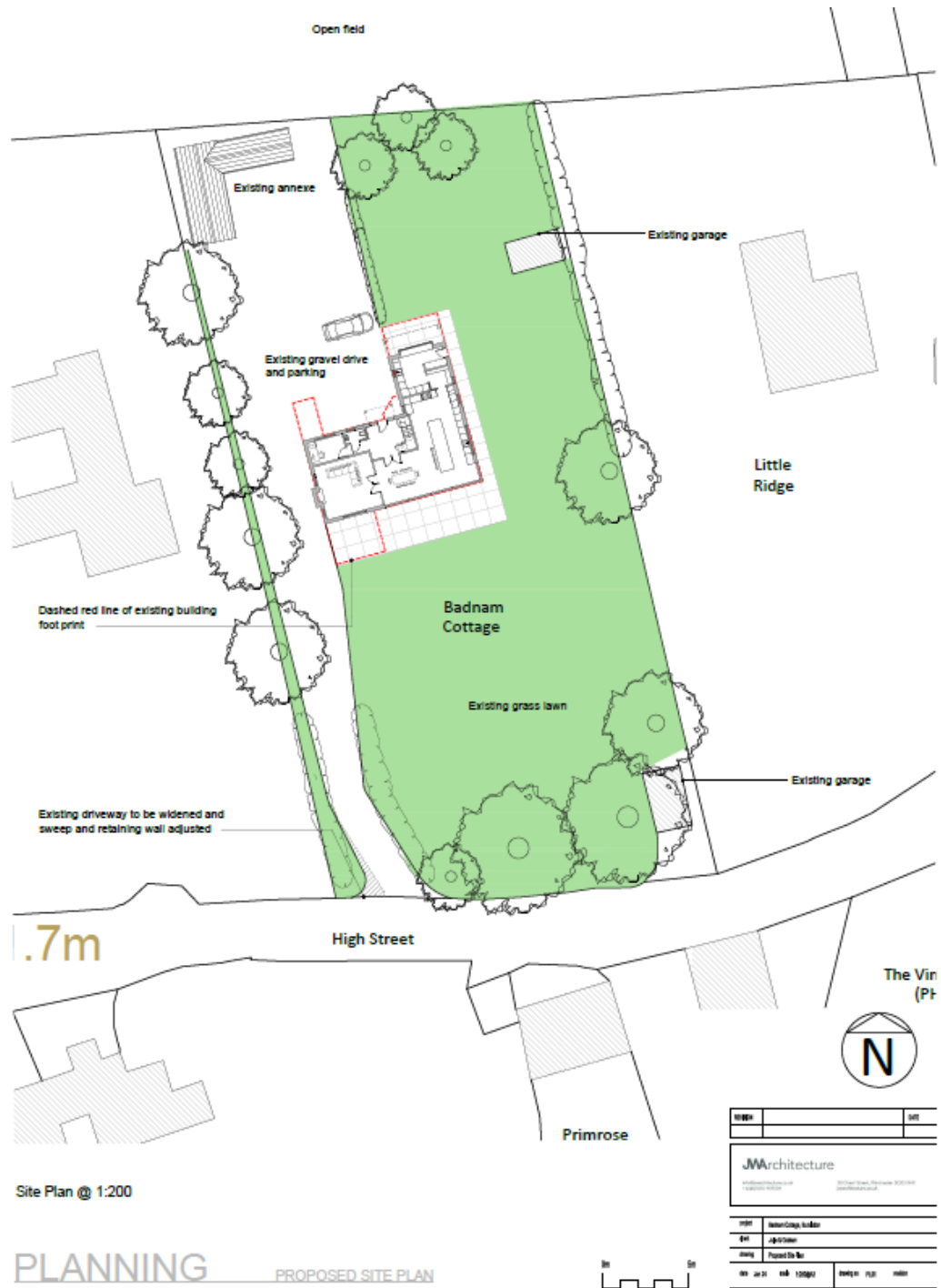
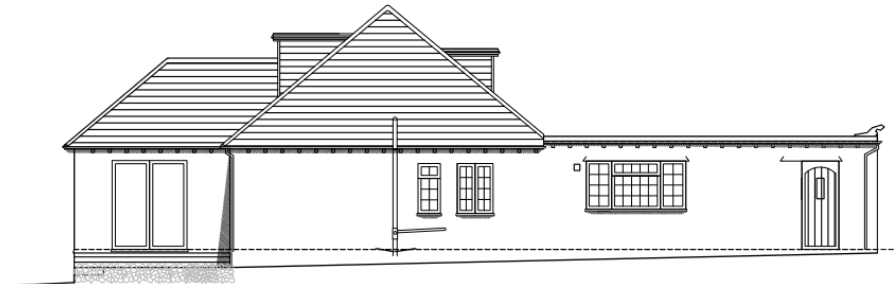


Figure 2a Proposed Site Plan



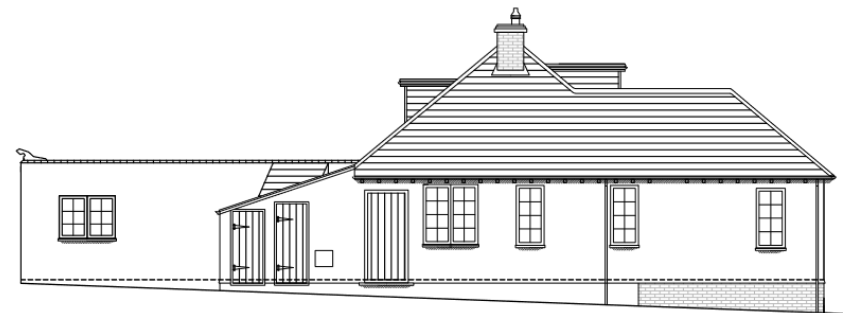
South Elevation



East Elevation



North Elevation



West Elevation

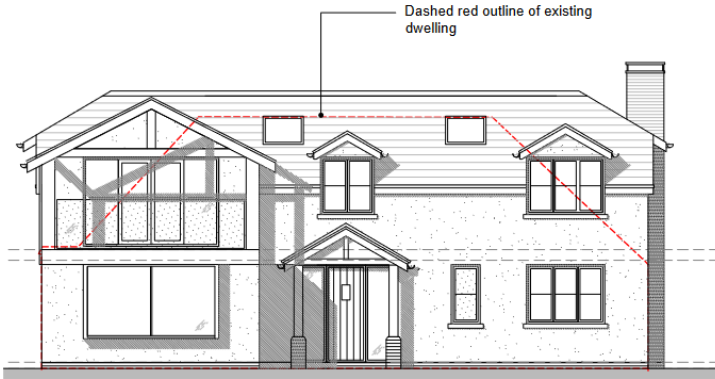
PLANNING

EXISTING ELEVATIONS



ADDRESS		DATE
		
1440 West 14th Avenue, Suite 202 (416) 593-1038 ext. 20		
337 West Beaver Creek Road Richmond Hill, Ontario L4B 1M2 (905) 882-1111 ext. 20		
JMA ARCHITECTURE		
PROJECT	Bachman College, Burlington	
CLIENT	Graham & Jule	
DESIGN	Exterior Elevations	
DATE	JAN 24, 2008	DRAWING NO. PL-04 PROJECT NO. 080107

Figure 3b Existing Elevations



Front Elevation



Side Elevation

- proposed material:
- a. Light coloured through colour render system
 - b. Grey casement windows and French doors and screens
 - c. Grey aluminium sliding doors
 - d. Slate tiles
 - e. Oak timber framing and porch
 - f. Stone cills
 - g. Grey brick work to chimney



Rear Elevation



Side Elevation

PLANNING

PROPOSED ELEVATIONS



REVISION	DATE
JMA Architecture 114 Bedford Square, London, W1B 3AY 020 7637 1000	
31 Upper Street, W10 4EJ (W10) jma@jma.co.uk	
PROJECT	Badnam Cottage, London
CLIENT	Ordnance Survey
DRAWING	Proposed Elevations
DATE	2024 Jan 24
BY	KRM
CHECKED BY	PLB
REVISION	001

Figure 3b Proposed Elevations / Plans

2.0 SURVEY METHODOLOGY

Methodology

The aim of this bat Survey is to evaluate the potential suitability of the proposed development site in relation to bat use and bat roosts using the Bat Survey Guidelines (Bat Conservation Trust, 2016/23), which provide guidance on assessing and evaluating development sites and features for bat roost potential. The potential for structures to support roosting or breeding bats is evaluated under the protocol for the visual internal and external inspection (with the categories; Negligible, Low, Moderate, High or Confirmed Roost).

Survey to assess the site for bats and bat roosts was carried out in May-July 2023. This involved a survey for any roosting bats or signs that could indicate the use of the building by bats and for potential roost sites and roost access points. Anthony Blunden MCIEEM CEnv (Natural England Licence number 2015-10884-CLS-CLS), principal ecologist of Aluco Ecology with over fifteen years of survey experience, conducted the survey and reporting. As roosting bats were recorded, the daytime bat survey was updated and supplemented by two emergence survey during May-July 2023 applying the methodology described by the Bat Conservation Trust survey guidelines (2016/23), with Gareth Knass LLb (Hons) MSc MCIEEM, Graham Long FLS and Joshua Blunden assisting with emergence surveys for building coverage.

3.0 SURVEY RESULTS

Data search

A data search has returned some information from local European Protected Species (EPS) licence applications. These include bat roosts in buildings affected by development works 438m south west with non-breeding day roosts of Common Pipistrelle, 470m north west with non-breeding day roosts of Common Pipistrelle, 680m west with non-breeding day roosts of Common Pipistrelle and 1000m north west with non-breeding day roosts of Common Pipistrelle.

Inspection Results

There are four buildings on the site, The House, two Garage buildings and an Ancillary. The site is gently sloping south and adjacent to a range of well-spaced residential houses in a rural area. See **Photos 1 to 4** of the site. There is no formal roof void as upper floor used as accommodation. Low narrow 'Side Bunker' voids exist around the dwelling spaces. No external or internal evidence of bats was recorded within these. Suitable roosting gaps were located within the property roof tiles, dormer and roof structure (see **Photos 5-12**).

Emergence / Activity Survey

The daytime bat survey was then supplemented by emergence survey applying the standard methodology using the Bat survey guidelines (Bat Conservation Trust, 2016). Results are included in **Table 1, Figure 4** below.

Bat survey recorded roosting use of the house by Common Pipistrelle (1-2). Noctule Bat and Soprano Pipistrelle were all recorded foraging / commuting over the site during survey work. There was no recorded use of the garages and annex.



Photo 1/2 Badnum Cottage (North and south aspect), Current bat roost locations.



Photo 3/4 Badnum Cottage (east & west aspect).



Photo 5/6 Badnum Cottage roof details



Photo 7/8 Potential roost features , no evidence of use recorded to date.



Photo 9/10 Roof void areas . No. Dropping evidence recorded.



Photo 11/12 Ancillary – moderate potential , no recorded use to date, building retained.



Photo 13/14Garage Road side, no recorded use to date.



Photo 15 Modern Garage , no recorded use to date, building retained.

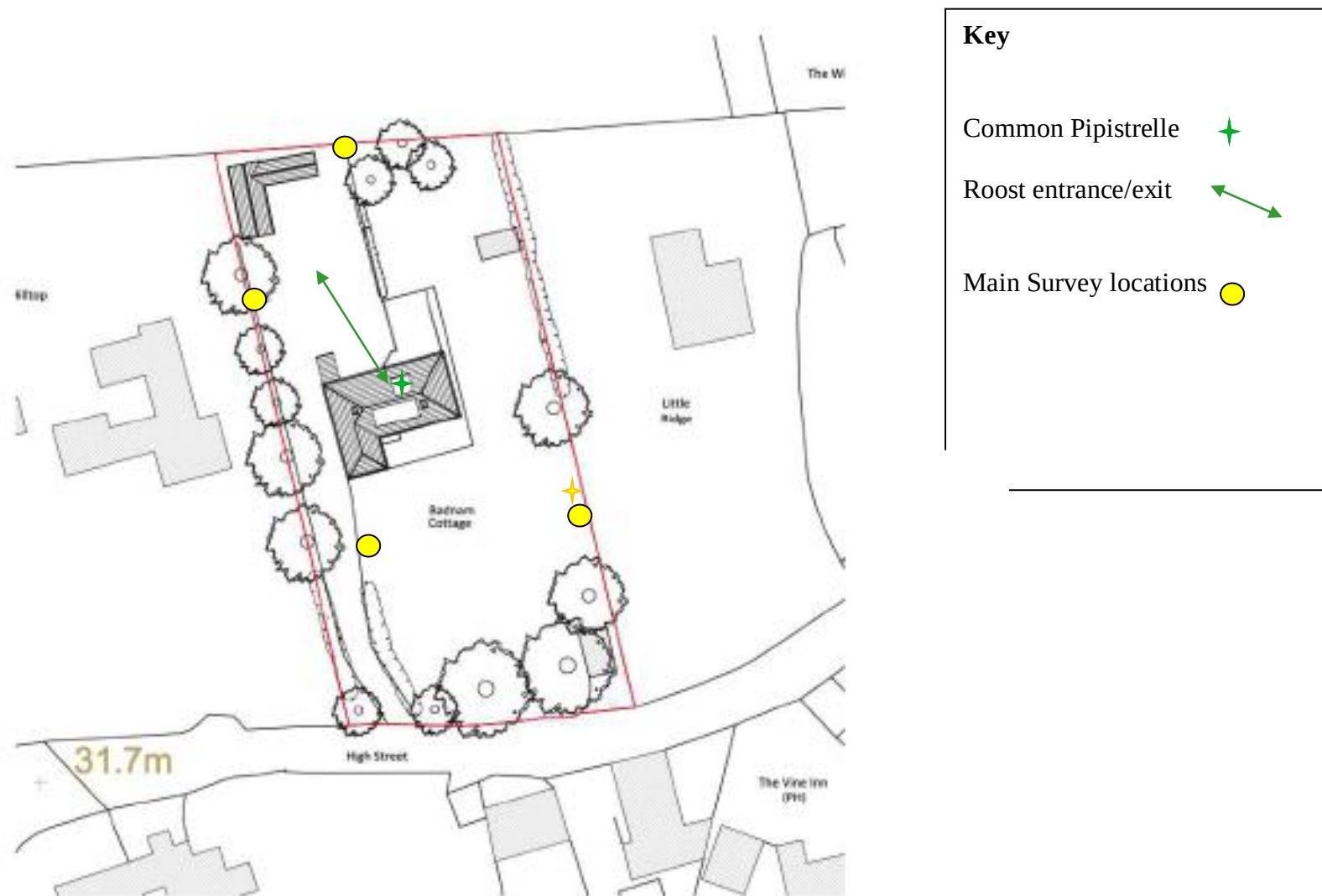
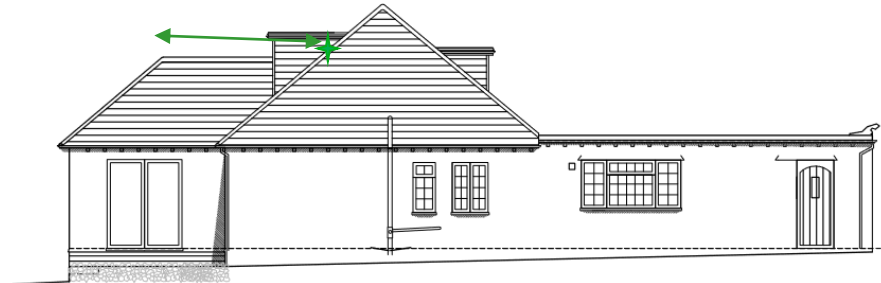


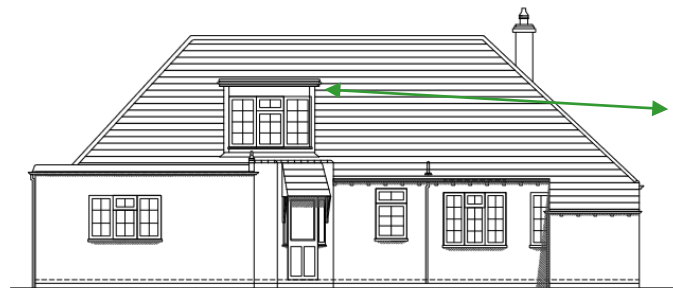
Figure 4a Survey Results



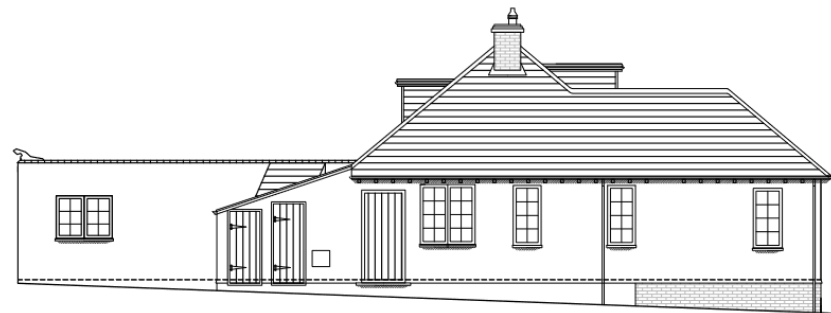
South Elevation



East Elevation



North Elevation



West Elevation

REVISION	DATE

Key

Roost Locations

Common Pipistrelle

Roost entrance/exit



PLANNING

EXISTING ELEVATIONS

Figure 4b Survey Results

Table 1: Bat Survey Results

Date	Survey	Weather	Results Summary
07/06/2023	External Inspection Internal Inspection		A survey of the dwelling identified no internal / external. Suitable cladding and tile crevice gaps. hanging tile gaps on ancillary.
07/06/2023	Emergence Survey	Cloud 0/8	front garden 21:33 PP c garden
		Wind NE2	21:37 P? SxH over next door roof to west
		Temp 18-16c	22:01 PP F by house
		Precip Nil	Rear 21:33 PP E Domer then south down along driveway 21:36 NN High over 21:44,48,54x2,58 PP F Garden 22:01 PP F along driveway 22:02 PP F regular thereafter Summary of Emergence 1x PP
05/07/2023	Emergence Survey	Cloud 3/8	Rear
		Wind SW1	PP 21.41 -21.52 F next door
		Temp 16-15c	PP 21.48 C from ne to sw
		Precip nil	PP 21.54 F garden PP 21.55 F PP 21.58 F PP 21.59 from w to garden PP 22.05 F PP 22.11 F garden PP 22.13 C along back of garden front 22:10 PP F 22:11 PP F Summary No recorded of Emergence
19/07/2023	Emergence Survey	Cloud 0/8	Rear
		Wind SW1	21:30 PP next door prob E Hanging tiles
		Temp 18-17c	21:34 PP
		Precip nil	21:46 PP driveway 21:49 PP F 21:50 PP C from north to south 21:52 PS F 21:58 PA C up driveway from road 21:59 PP F 22:00 PP F 22:07 PP F 22:10 PP F

			Front 21:49 PP F garden 22:10 PP F garden Summary No recorded of Emergence
To Complete	Pre - works update survey		To Complete -licence requirement of update within 3 months of application.
Key: PP = Common Pipistrelle, PS = Soprano Pipistrelle, NN = Noctule, ES=Serotine PA =Brown Long-eared, My =Myotis Species, MyM = Whiskered Bat F = foraging; C = commuting; HxS = heard but not seen; SxH = seen but not heard; E = emergence; R-E = Re-entry			

Summary Interpretation for Bats & Constraints to survey

The buildings have been evaluated using the Potential Suitability of Proposed Development Sites for Bats (including Buildings & Trees) methodology as per the Bat Survey guidelines (2016/23). The house was initially evaluated as 'Moderate Potential' and subsequently confirmed as containing bat roosts. The further on site buildings although not affected by the scheme, The Ancillary was initially evaluated as 'Moderate Potential' with no confirmed roosting from survey to date, although significant potential does exist within the clay tile and hanging tile structure. The two Garage buildings as Negligible with no confirmed roosting from survey to date.

Bat survey recorded roosting use of the house by Common Pipistrelle (1). Noctule Bat and Soprano Pipistrelle were recorded foraging / commuting over the site during survey work in non-breeding day roosts.

Given the findings from the survey to date, it is therefore considered likely that roosting will be partially affected by the proposals. In summary, surveys to date indicates roost loss to day roosts of Common Pipistrelle (1-2). (Estimated population in any given year) occur in relation to the proposed scheme. There was no evidence of larger roosts being present, with the ancillary and garages being retained.

Further emergence survey could be completed but based on the current survey and building / potential roost impacts information further survey is considered unlikely to provide much further information.

The survey was carried out during a window of time in June-July 2023 and therefore the survey has provided a window of time of the sites use. Since bats regularly move between different roost sites, particularly to satisfy their varying requirements at different times of the year and weather conditions.

External building dropping evidence can be washed and blown away during periods of wet weather and during the late autumn winter period, but during warm weather in summer can remain for long periods.

Due to these survey limitations an assessment using professional judgement has been used to interpret the findings with a precautionary approach to the assessment of the bat population utilising the building and to carrying out the proposed work. Timing a survey to co-inside with the peak bats presence in the building is not always possible or practical.

4.0 MITIGATION FOR BATS

The proposed scheme at Badnum Cottage is predicted to impact by habitat loss, by removal and replacement of house, of a non-breeding transitional summer / autumn roost of Common Pipistrelle (1) (No. estimated population in any given year occur in relation to the proposed scheme. See **Figures 4**.

Summary of the mitigation strategy

In order to minimise impact on local bat populations and bat roosting opportunities, the following measures are proposed to be implemented:

- All activities with potential to disturb bats will be under the supervision of a licensed bat worker following the method statement agreed and (EPS) European Protected Species Licence.
- Prior to starting works a Schwegler Bat roosting box (1x 1FF) (**Figure 5**) will be installed within a nearby tree within the garden to provide alternative roosting during the works and to increase local roosting opportunity.
- Prior to starting works all contractors will be briefed by the bat worker to ensure that they are aware of the presence of bats, their legal protection and procedures should a bat be found at any stage of the building work, all building workers must be made aware that there is a bat roost and informed that bats may be present.
- Prior to starting works a Pre-works inspection survey will be undertaken to ascertain / check levels of bat activity / roosting locations have not changed from that outlined in this report. Any significant change will require reassessment of the methodology.
- Bats are very vulnerable to disturbance during hibernation, late pregnancy, and while dependent young that are unable to fly are in the roosts. All works associated with the development that may disturb bats (roof strip) will be undertaken at a time of year when bats are more tolerant of disturbance and outside of potential breeding and hibernation periods (When average temperature above 7c, best periods are March-April and /or September-October);
- 1 x 2fr concealed Roost units will be built into the new walls of the replacement building (see **Figure 5**).
- All roost sites should not be illuminated by any site lighting during construction and operation. Please refer to Institution of Lighting Professionals, Guidance Note GN08/23 Bats and artificial lighting in the UK for further information. Luminaires be low level and directional to light essential walkways and doorways etc only and should feature a peak

wavelength of >550 nm with red / warm light spectrum to avoid the component of light most disturbing to Bats

The mitigation proposal is based on allowing access to roosting opportunities within the house (see **Figure 5**

The property owners will instruct a suitably qualified bat ecologist to undertake a post-development survey to ensure roosts are functional. This will be carried out between June and August and will consist of external inspection of the bat roosting areas. All Bat records will also be submitted to the local Biological Records Centre.

The owners of Badnum Cottage will be responsible for ensuring that the monitoring is completed and to inform any future owners or tenants of the property of the bat roosts within buildings and garden. The owners are to pass on the information contained within this document which provides information on the location of the bat roosts in the building. The owners are aware that they are required to contact the statutory Nature Conservation Adviser (Natural England) for advice prior to any activity which may affect or disturb the bat roosts.

Following the Bat Mitigation Guidelines (2023), considering the scale of site level impacts, the scale of impact to the roosting bats is, based on current survey, considered to be 'site' (irregular transitional/day roost / smaller roost of commoner species) with key roosting areas retained and roosting opportunity being incorporated in the scheme design. The procedure and mitigation provided is precautionary with the overall residual impact on the population of bats in the local area should therefore be neutral.

5.0 POTENTIAL FOR OTHER PROTECTED SPECIES

Breeding Birds

There was no evidence of Barn Owls or other notable species utilising the current dwelling house out buildings. All Wild birds and their nests are protected from intentional harm by the provisions of the Wildlife and Countryside Act 1981 (as amended). Therefore, any vegetation and building clearance associated with the development will be required to be carried out sensitively to ensure that bird nests are not impacted by any works being carried out when birds are not breeding (the main bird nesting period is March-Aug inclusive) or after thorough checking by a suitably experienced ecologist. The mitigation proposed will ensure that legal and policy provisions relating to protected species will be met.



1x Sparrow Terrace Bird box within the garden should be fixed ideally 1.8> metres from the ground. Preferably site the box in shade with the entrance hole between north and east. This avoids the worst of the weather and prevents the box and its inhabitants becoming overheated in sunny weather. It is not so critical if they are located in dense vegetation.

Other Protected Species and habitats

No other protected species or habitats are predicted to be subject to an impact as a result of the replacement building on this site. Consideration should be given to incorporating local origin native planting.

- Planting of native deciduous trees and shrubs as part of garden landscaping;
- Wildlife friendly planting (ie pollinator friendly species) to be created in landscaping borders and meadow areas;
- The following web pages provide suggestions on planting to attract bats and pollinators:
 - <https://www.wildaboutgardens.org.uk/sites/default/files/2022-03/WAG16%20Bats%20updated%202022%20WEB.pdf>
 - Stars of the Night guide to attract bats into your garden <https://www.rhs.org.uk/science/conservation-biodiversity/wildlife/plants-for-pollinators>

6.0 CONCLUSIONS AND RECOMMENDATIONS

Compliance with legislation

On the basis of the survey undertaken and presence of bat roosts, with bats listed on Schedule 2 of the Habitats Regulations 2017, the following tests must be met:

- *that there is no satisfactory alternative, and*
- *that the action authorized will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.*
- *that the action is required in preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;*

Comment:

In relation to Conservation of Habitats & Species Regulations 2017) the following conclusions are made:

- The current building is not suited to the owner's needs in terms of use, design and layout.
- The proposed actions will provide an economic benefit from the construction and process of the works.
- The proposed actions will not be detrimental to the bat populations. The method statement will ensure that the method and timing of works will minimise the impact to the bat populations on site.
- Bat roosts will be lost as a result of the proposals. Non-breeding day roost of Common Pipistrelle (1)
- Bat roosts impacted by the proposals will be replaced where lost. Mitigation to replace existing roost and further bat roost provision through enhancement will be provided. The roost is a non-breeding day roost of Common Pipistrelle (1) of lower conservation significance.
- Where required the works will be carried out under European Protected Species (EPS) Licence and ecological supervision. See www.gov.uk/guidance/bats-protection-surveys-and-licences for further information.

The mitigation and monitoring detailed within this report and the Method Statement may be subject to a planning condition.

Mitigation and Enhancement.

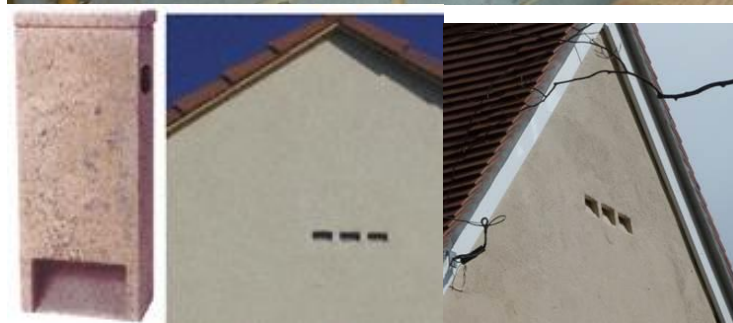
Roosts opportunity incorporated into the scheme. This will include a Schwegler 1ff roosting unit within the garden. with 2x 2fr roost units inbuilt see **Figure 5)**

Figure 5a**Schwegler 1FF**

The 1FF has an opening at the bottom, allowing droppings to fall out, it does not need cleaning and is therefore especially suitable for hanging in inaccessible places such as steep slopes and house walls. Depending on their individual temperature requirements, the animals can choose between the cooler wood-concrete or the warmer wooden panel

**Schwegler Bat Roost Unit 2FR**

Dimensions:
height 47.5
x width 20 x
depth 12.5
cm,
Entrance:
width 15 x
height 2 cm,
Weight: ca.
9,8 kg



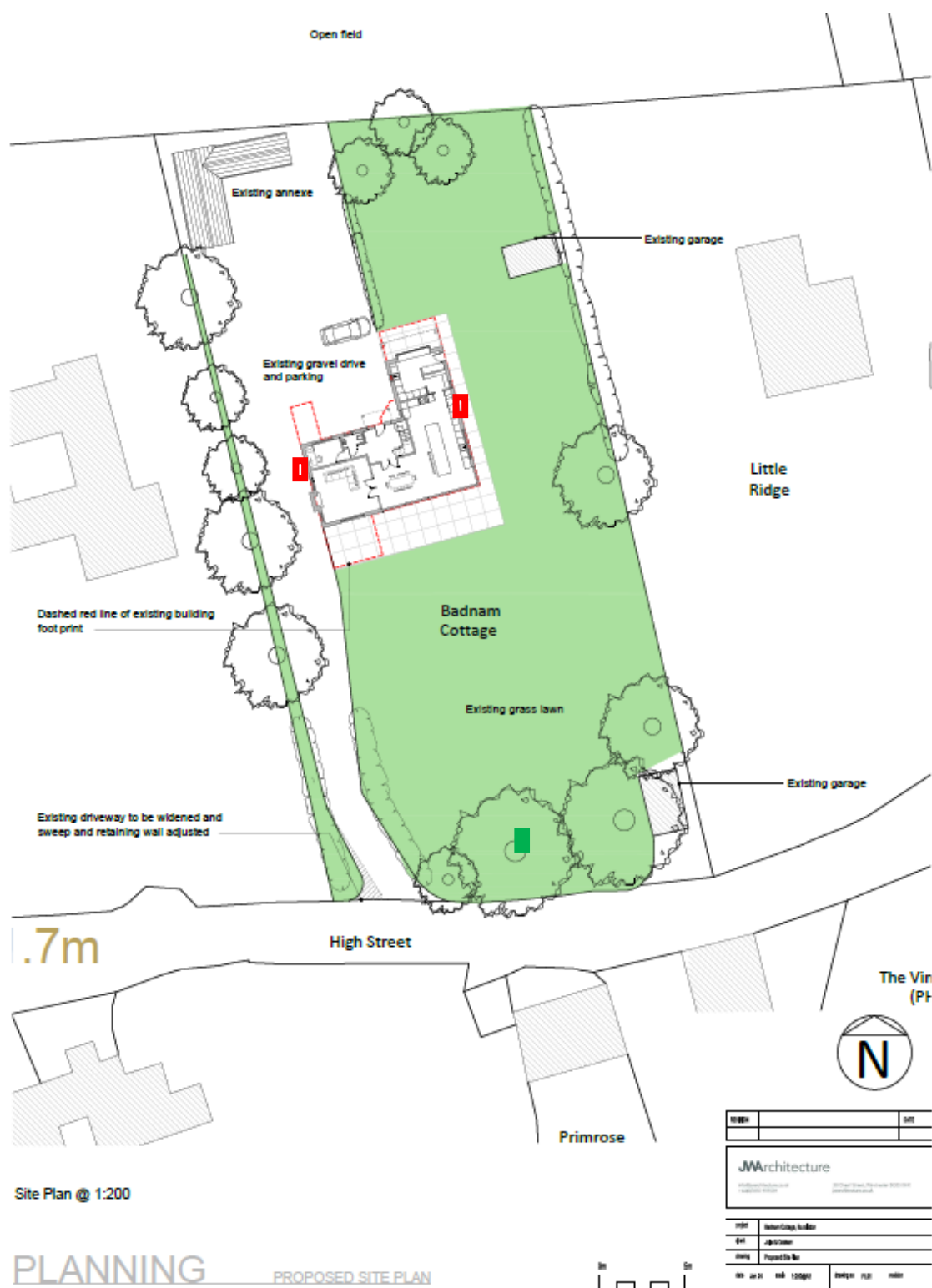
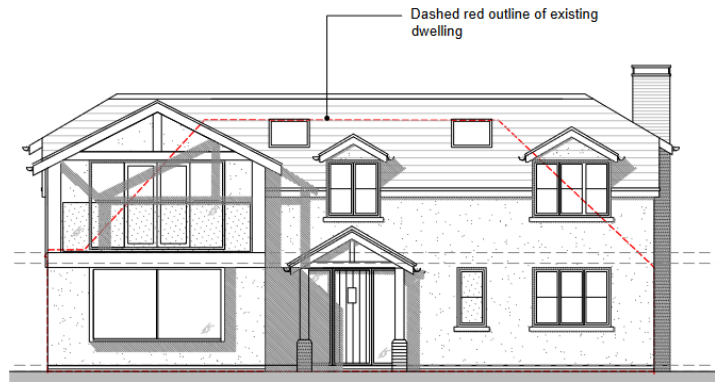


Figure 5b Mitigation / enhancement 2fr Roost Unit ■ **1ff Roost unit** ■



Front Elevation



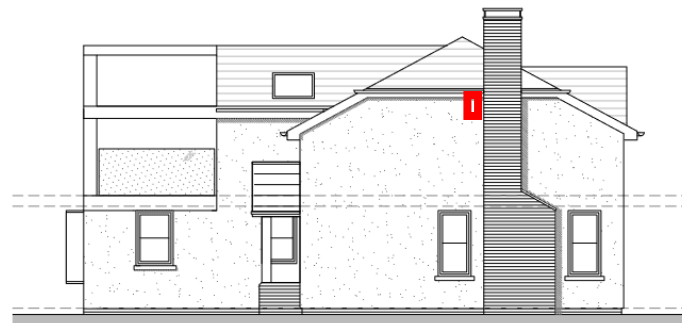
Side Elevation

proposed material:

- a. Light coloured through colour render system
- b. Grey casement windows and French doors and screens
- c. Grey aluminium sliding doors
- d. Slate tiles
- e. Oak timber framing and porch
- f. Stone cills
- g. Grey brick work to chimney



Rear Elevation



Side Elevation

PLANNING

PROPOSED ELEVATIONS



REVISION	DATE
JWA rchitecture 144 Kingsway, London, W1C 0LE 020 7424 1000 jwa@jwa.co.uk	
PROJECT	Badnam Cottage, Bat Survey
CLIENT	City of London
DESIGNER	Proposed Elevations
DATE	2024-01-24
SCALE	1:100
BY	PLD
REVISED BY	PLD

Figure 5b Mitigation / enhancement

2fr Roost Unit



REFERENCES

Bat Conservation Trust (BCT) 2016 Bat Surveys Good Practice Guidelines

BCT & ILP (2023) Guidance Note GN08/23 Bats and Artificial Lighting in the UK, Bats and the Built Environment Series

Collins, J. (ed) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines. 4th edition. Bat Conservation Trust. London

Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Chartered Institute of Ecology and Environmental Management, Ampfield.

Report Author
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Aluco Ecology Ltd