

Ecological Appraisal and Impact Assessment **at**

Althrey Hall Farm Barns

Bangor on Dee

Wrexham LL13 0DA

Grid Ref. SJ 3788 4417

On 15th March, 12th May, 27th June and 10th July 2019

Version 3: 15th November 2019
Ref: ALT150319

Survey by:
Susan Worsfold BSc ACIEEM
Lyngarth,
Ellesmere Road,
St. Martins,
Oswestry,
Shropshire
SY11 3HT

01691 772310
or 07752 105600
s.worsfold@hotmail.co.uk

Requested by:
Blueprint Architectural Services
Office 3K4,
Redwither Business Tower,
Wrexham.
LL13 9XT

Tel: 01978 356500
www.blueprintarchitectural.com

Contents

Section	Title	Page
1	Summary	3
2	Introduction	4
3	Methodology	4
3.1	Scope	4
3.2	Desk Study	5
3.3	Field Survey	5
4	Baseline Ecological Conditions/Results	6
4.1	Designated Sites	6
4.2	Habitats	6
4.3	Species and Species Groups	6
5	Description of the Development	7
6	Assessment of Effects and Mitigation Measures	7
7	Compensation	8
8	Enhancement Recommendations	8
9	Ecological Constraints	8
10	Monitoring	8
11	Conclusions	8
12	Bibliography	9
13	Appendices	10
13.1	Activity Surveys	10
13.2	Survey Conditions	13
13.3	OS Location Map	14
13.4	Magic Map Showing Designated Sites	14
13.5	Aerial Photograph	15
13.6	Ground floor Plan as Existing	16
13.7	Elevations as Existing	17
13.8	Proposed Plan	18
13.9	Proposed Bat Loft	19
13.10	Photographs	20
13.11	Legislation Relating to Bats	25
13.12	Legislation Relating to Birds	26

1. Summary

The purpose of the report is to assess the potential ecological impacts of a proposed development and advise on any mitigation measures to comply with local planning policy and government legislation.

The proposed scheme entails conversion of the buildings to dwellings with associated gardens and garages.

The building and adjacent land were examined to establish the presence of or evidence of use by protected species of animals. A visual inspection was carried out to assess the potential or actual use by bats, of the interior and exterior of the building. One pre-dawn survey and two dusk emergence surveys were carried out.

The development will entail the loss of nesting sites for swallows. Work on barn 1 and rooms F and H of barn 2 where swallows were nesting should be done between the end of August and the beginning of April to avoid nesting times for these birds.

If any birds should gain access to the building and begin building nests during the development, then the work in that area must stop until the young have left the nests.

A box suitable for little owls should be installed on the converted building at the north gable end.

There is not considered to be any threat to the conservation status of bats but there is potentially some danger of harm to individuals as the building was being used intermittently by bats. Parts of the buildings have been used as feeding perches for bats. However, with appropriate mitigation and enhancement the risks and effects can be reduced to an acceptable level.

One of the garages will be adapted for use as a bat loft and bat boxes will be installed on the converted building.

Any destructive work or filling of crevices should take place between during the months of October, November, March and April to minimise the risk of disturbing bats. If outside these times a licensed bat worker should perform an inspection prior to work commencing to ensure no bats are present.

If bats are found at any stage of the development then work in that area must stop and a licensed bat worker contacted for advice.

A lighting plan should be designed in accordance with the Bat Conservation Trust guidelines.

There is not considered to be any significant impact on any protected species or habitat as long as the recommended mitigation and compensation measures are followed.

Should work not proceed on any section of the building within 12 months of approval then repeat bat surveys will be completed and submitted to the LPA.

2. Introduction

Susan Worsfold is an experienced wildlife surveyor, licensed bat worker and voluntary bat roost visitor. Registration number CLS0895 2015-12555-CLS-CLS (CL15 Bat Roost Visitor Level 1) and registration number CLS 0895 2015-12556-CLS-CLS (CL18 Bat Survey Level 2) (Natural England) and 72725:OTH:CSAB:2016 (Natural Resources Wales);

Licensed great crested newt worker, registration number 2015-8194-CLS-CLS (NE) and 72936-OTH-SA:2016 (NRW)

This report was commissioned by Amanda Shebab, the owner of the property and Blueprint Architectural Services, Wrexham.

The site, at Althrey Hall Farm Barns, Bangor on Dee, comprises two barns, one of which is one storey and the other, larger barn is two storeys in an L shaped complex. Surrounding land was also briefly assessed. The proposed scheme entails renovation and conversion of the building to dwellings with associated gardens and garages.

The purpose of the report is to identify and address any significant ecological effects which are likely to occur as a result of the proposed development. This is necessary to comply with local planning policy and government legislation and avoid any offence being committed. Also, to describe any compensation, mitigation and enhancement measures which should be taken.

3. Methodology

3.1. Scope of the Assessment

The report fulfils the instruction for a bat roost and nesting bird assessment, while also briefly assessing use or potential use by any rare, threatened, endemic and non-native invasive species which might be associated with such a site in accordance with:

The Conservation of Habitats and Species Regulations 2017 and listed in:

Schedule 2. European protected species of animals

Schedule 5. European protected species of plants

The protection of Badgers Act 1992

Protected species which might be associated with such a site include bats, owls and other breeding birds. The area around the site might be used by badgers, dormice, amphibians and reptiles, and might contain protected plant species.

3.2. Desk Study

Wrexham Planning Portal was consulted for a review of previous ecological surveys carried out in the area for the past ten years. No rare or threatened species were identified nearby. Magic Maps was consulted for the presence of designated sites and protected habitats.

3.3. Field Survey

The buildings and surrounding land were examined to establish the presence of or evidence of use by protected species of animals. A risk assessment was made before entering. A visual inspection was carried out to assess the potential or actual use by bats and birds, of the interior and exterior of the buildings. They were searched systematically for any signs of bats, including droppings, rub marks and urine stains at entrances to roosts and insect remains, such as moth or butterfly wings. Crevices were checked where possible.

Powerful lamps (LED Lenser P14 and H14) were used for examination of interiors and under eaves. Binoculars were used to examine parts which were not otherwise accessible. Photographs were taken of all areas.

A visual assessment of the building and immediate surroundings was carried out on 15th March 2019 by Susan Worsfold BSc (Hons) ACIEEM.

A pre-dawn survey of the building was carried out on 27th June 2019 by Susan Worsfold (SW), Hannah Williams (HW), Joy Miles PhD (JM) and James Thomas (JT) and Tom Miles (TM). HW is an experienced assistant while JM, TM and JT are in training. A dusk emergence survey was carried out on 12th May by SW, HW, JM, and JT. A dusk emergence survey was carried out on 10th July 2019 by SW, HW, JM and Michael Miles (MM) who is in training. These were done in accordance with *Bat surveys for professional ecologists: Good Practice Guidelines (3rd Edn)* (Collins 2016).

Survey times and conditions are given in Appendix 13.2. There were no limitations identified.

Frequency division detectors were used to record any bat sounds in and around the building for later analysis on the computer. These were Anabat SD1, Echo Meter EM3, Anabat Express and Anabat II.

4. Baseline Ecological Conditions/Results

4.1 Designated Sites

The nearest designated site is Afon Dyfrdwy (River Dee) (Site of Special Scientific Interest) and River Dee and Bala Lake / Afon Dyfrdwy a Llyn Tegid (Special Area of Conservation) 90 m west.

4.2 Habitats

Site: The site is in a rural location 5.5 km north west of the nearest town, Wrexham. The buildings were in varying states of repair. The walls are of brick with no cavity. Exteriors were unlined, some interiors were painted or plastered. Roofs were pitched corrugated steel, unlined, with timber rafter and purlin frame. Barn 1 was one storey with a small open loft space. There was damage to the roofs in several places, with large gaps present especially in Barn 1. Most of the windows were missing or broken or unglazed. Doors were of wood with gaps around frames. Some were missing. There were verge boards at some gable ends but no soffits.

Adjacent land: The river is 90 m west. There is a large area of mixed woodland 500 m south east. The nearest pond is 30 m east and there are six more ponds within 500 m. There are few hedgerows surrounding the site and the land is mainly pastoral and arable and the racecourse is 150 m north.

4.3 Species and Species Groups

Plants

Very little vegetation is to be affected, there were only a very few successional species including grasses, dandelion (*Taraxicum officianale*), dock (*Rumex* sp.) Bramble (*Rubus fruticosus*) and nettle (*Urtica dioica*) near the building which will be removed.

Amphibians and Reptiles

None seen during the survey. There was some shelter and a little foraging potential on site. There was a pond 30 m from the site.

Birds

Swallow nests in rooms F and H, not occupied at the time of the visits but appear fairly recent. There was evidence of a little owl using the building as one was seen to enter room D with prey, also pellets were found in room D and we were told that a little owl chick had been found grounded but moved to safety.

Bats

The site is being used by foraging and commuting bats and parts of the buildings are being used intermittently as feeding perches. No droppings were found in the buildings. Four species altogether were identified during the surveys (Appendix 13.1)

Badgers

There were no badger setts, tracks or latrines found on the site or within 30 m of the site. However we were told of a dead badger being found in one of the buildings.

Dormice

No evidence of dormice was found and the site was not favourable for use by them.

5. Description of the Development

The proposed scheme entails renovation and conversion of the buildings to dwellings and associated garages and gardens. The roofs will be removed and replaced. Gaps in brickwork will be filled and walls repaired where necessary. The existing access from the road will be retained but will branch out around the buildings to provide access to the rear. There will be some planting of hedgerows at the north, south and east boundaries.

6. Assessment of Effects and Mitigation Measures

Designated Sites:

It is not considered that the development will have any significant impact on any nearby designated sites due to the small scale of the development and distance from the sites. However, no powerful lights should be directed towards the river to avoid any disturbance of commuting species.

Habitats:

No priority habitat is affected by the proposal. The loss of vegetation will have a very low impact on some invertebrate species.

Species:

Birds

The development will entail the loss of nesting sites for swallows. Work on barn 1 and rooms F and H of barn 2 where swallows were nesting should be done between the end of August and the beginning of April to avoid nesting times for these birds.

If birds should gain access to the building to be demolished or the new houses, and begin building nests during the work, then the work in that area must stop until the young have left the nests.

Bats

There is not considered to be any threat to the conservation status of bats but there is potentially some danger of harm to individuals as the building was being used intermittently by bats. However, with appropriate mitigation the risks can be reduced to an acceptable level.

Any destructive work or filling of crevices should take place between during the months of October, November, March and April to minimise the risk of disturbing bats. If outside these times a licensed bat worker should perform an inspection prior to work commencing to ensure no bats are present.

If bats are found at any stage of the development then work in that area must stop and a licensed bat worker contacted for advice.

A lighting plan should be designed in accordance with the Bat Conservation Trust guidelines: http://www.bats.org.uk/pages/bats_and_lighting.html

Details of exact locations of lights are yet to be decided but external lighting will be kept to the minimum needed for security purposes, particularly at the south side of the building where bats were seen foraging near the trees between barn 1 and the neighbouring house to the south. No lighting should be directed towards this area. All luminaires should lack UV elements when manufactured.

Metal halide, fluorescent sources should not be used. LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability. A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component. Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).

Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill. Only luminaires with an upward light ratio of 0% and with good optical control should be used – See ILP Guidance for the Reduction of Obtrusive Light. Luminaires should always be mounted on the horizontal, ie no upward tilt. Any external security lighting should be set on motion-sensors and short (1min) timers. As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. (BCT 2018)

Residual Effects

No significant residual effects anticipated if mitigation and enhancement measures are followed.

7. Compensation

Birds: Eight swallow nests - H110mm x W250mm x D140mm. The nests should be placed in an open outbuilding or under the eaves of the converted building.

8. Enhancement Recommendations

Bats: Two bat boxes e.g. Schwegler 1FF to be fitted externally to the converted building, at the east, west, north and south gable ends. Further information is given in the bat box information pack available at <http://www.bats.org.uk/index.php>.

One of the garages will be available for use by all species of bat. 2 access tiles will be needed at the ridge and pitch of the roof of the garage, and an access panel e.g. Schwegler 1FE. The lining will be bitumastic hessian type 1F. See appendix 13.9.

A box suitable for little owls to be installed on the converted building at the north gable end.

Two woodcrete nests suitable for small birds such as robin, blackbird, tit species and sparrow to be incorporated into the building.

House Sparrow Terrace - Wooden (or woodcrete) nest box with 3 sub-divisions to support 3 nesting pairs. To be placed under the eaves of buildings or incorporated into walls. Entrance holes: 32mm diameter. Dimensions: H310 x W370 x D185mm. Also suitable for tits, redstarts and spotted flycatchers. Place at least 2 m from the ground. Other designs of nest boxes may also be suitable.

Hedgerows to be planted with at least three native species as shown in appendix 13.8.

9. Ecological Constraints

None identified

10. Monitoring

None recommended

11. Conclusions

If the recommended mitigation, compensation and enhancement measures are taken the overall ecological impacts of the proposed development will be low.

Should work not proceed on any section of the building within 12 months of approval then repeat bat surveys will be completed and submitted to the LPA.

12. Bibliography

Bat Conservation Trust available at: <http://www.bats.org.uk>

Bats and Artificial Lighting in the UK (2018) The Bat Conservation Trust, London.

Collins J. (Ed) (2016) *Bat surveys for professional ecologists: Good Practice Guidelines (3rd Edn)*. The Bat Conservation Trust, London

Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora available at: jncc.defra.gov.uk

Google Maps available at: <https://maps.google.com/maps>

Magic Maps available at: <http://magic.defra.gov.uk>

Mitchell-Jones, A. J. and McLeish, A. P. (2004) *Bat Worker's Manual*, Peterborough: Joint Nature Conservation Committee

Natural Resources Wales available at: <https://naturalresources.wales/?lang=en>

Wrexham Planning Portal available at:
<http://planning.wrexham.gov.uk/Planning/lg/GFPlanningSearch.page>

UK BAP Priority Habitats available at: jncc.defra.gov.uk

Wildlife and Habitat Conservation available at: <https://www.gov.uk/topic/environmental-management/wildlife-habitat-conservation>

Appendix 13.1: Activity Surveys

12th May 2019

Number of observers: 4

Observer 1: Susan Worsfold (SW); equipment: EM3; Station: south end of site

Observer 2: Hannah Miles (HM); equipment: Anabat SD1; Station: west end of site

Observer 3: Joy Williams (JW); equipment: EM3; Station: east end of site

Observer 4: James (CT); equipment: Anabat SD1; Station: north end of site

Internal equipment: Song Meter SMZC Room I. Anabat II Room A. Anabat Express Room K. Anabat II Room M.

Bat species seen and/or recorded:

First bat:

Soprano pipistrelle (*Pipistrellus pygmaeus*)

Time: 21.02; *Location:* SW station

Subsequently: Occasionally, all external stations until 22.31 and once in room I.

Other species:

Common pipistrelle (*Pipistrellus pipistrellus*)

Time: 21.10; *Location:* SW station

Subsequently: Frequently, all stations until 22.58

Bats were seen foraging near the barns at all stations between 21.21 and 22.02. Bats were seen to fly in and out of windows and holes in the roof occasionally.

27th June 2019

Number of observers: 5

Observer 1: Susan Worsfold (SW); equipment: EM3; Station: south end of site

Observer 2: Hannah Miles (HM); equipment: Anabat SD1; Station: west end of site

Observer 3: Joy Williams (JW); equipment: EM3; Station: north west end of site

Observer 4: James (CT); equipment: Anabat SD1; Station: north end of site

Observer 5: Tom Miles (TM); equipment: Anabat SD1; Station: east end of site

Internal equipment: Song Meter SMZC Room A. Anabat II Room J. Anabat Express Room L. Anabat II Room M.

Bat species seen and/or recorded:

First bat:

Soprano pipistrelle (*Pipistrellus pygmaeus*)

Time: 03.32; *Location:* TM station

Subsequently: Occasionally, TM and J stations until 03.40 at J station

Other species:

Long Eared bat, presumed brown long eared (*Plecotus auritus*)

Time: 03.39; *Location:* TM station

Subsequently: Occasionally, TM and J stations until 03.49 at TM station

Common pipistrelle (*Pipistrellus pipistrellus*)

Time: 03.41; *Location:* JW station

Subsequently: Occasionally, JW, SW, HM, TM stations and rooms A and M until 03.58 at TM station.

No bat calls were recorded in Rooms J or L.

Bats were seen at all stations between 03.33 and 03.54. Some were seen to enter and leave both barns occasionally.

10th July 2019

Number of observers: 4

Observer 1: Susan Worsfold (SW); equipment: EM3; Station: south end of site

Observer 2: Hannah Miles (HM); equipment: Anabat SD1; Station: west end of site

Observer 3: Joy Williams (JW); equipment: EM3; Station: east end of site

Observer 4: Michael Miles (MM); equipment: Anabat SD1; Station: north end of site

Internal equipment: Song Meter SMZC Room A. Anabat II Room K. Anabat Express Room I. Anabat II Room M. Anabat II Room L.

Bat species seen and/or recorded:

First bat:

Noctule (*Nyctalus noctula*)

Time: 21.42; *Location:* JW station

Subsequently: Fairly frequently, all external stations until 22.43

Other species:

Common pipistrelle (*Pipistrellus pipistrellus*)

Time: 21.58; *Location:* JW station

Subsequently: Fairly frequently, all external stations and rooms until 23.06, room L.

Soprano pipistrelle (*Pipistrellus pygmaeus*)

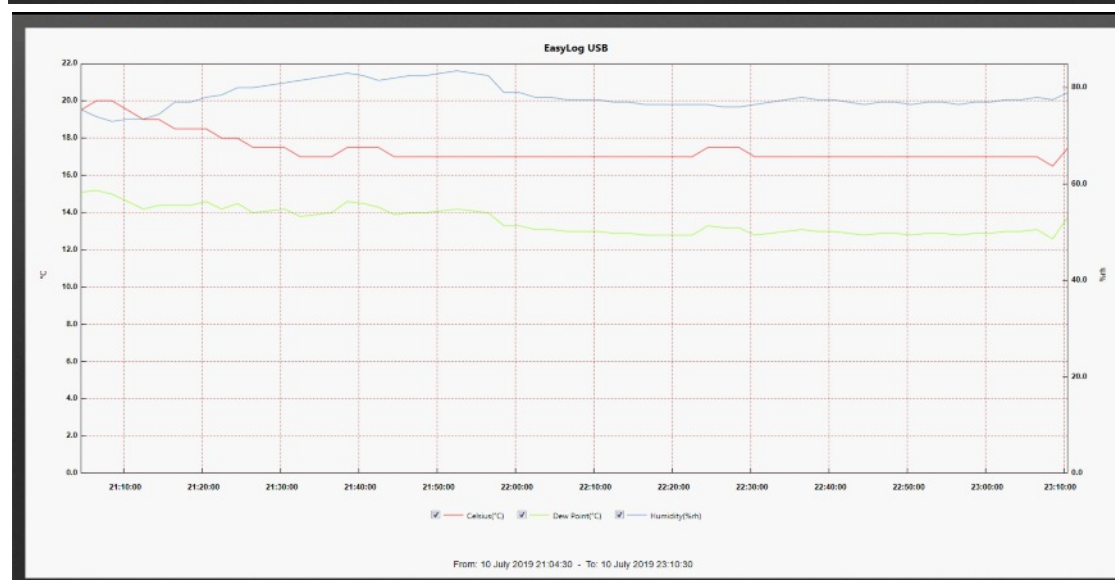
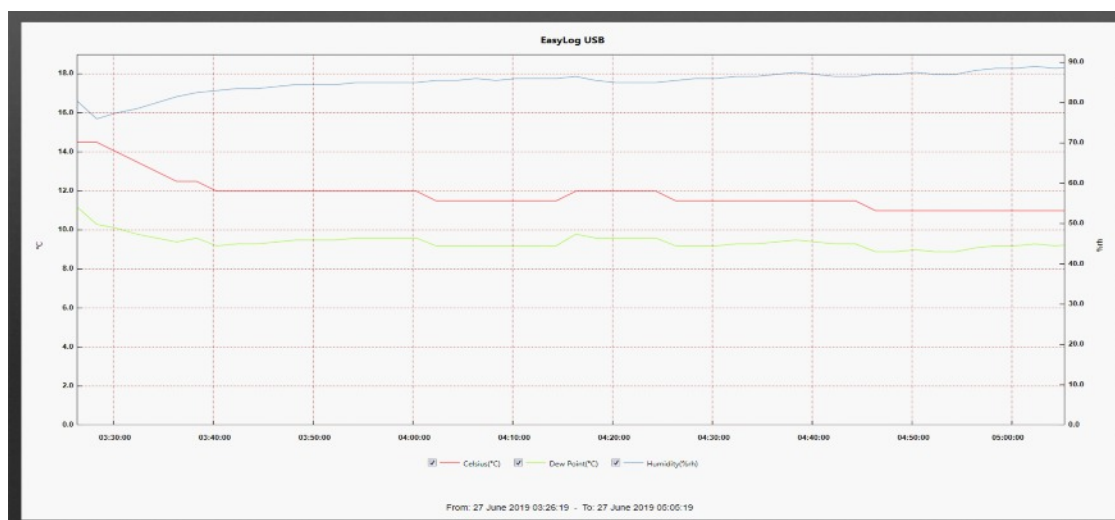
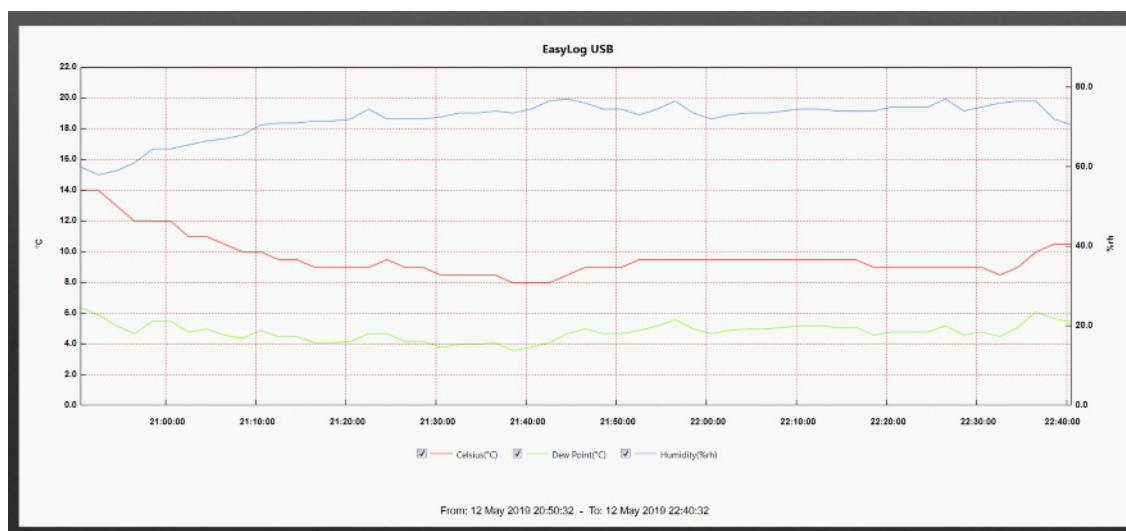
Time: 21.12; *Location:* MM station

Subsequently: Occasionally, MM station until 22.39

Bats were seen foraging near the barns at all stations and in and out of room D between 22.27.

Appendix 13.2: Survey Conditions

Date	Sunset/ Sunrise	Start Time	End Time	Temp. Start °C	Relative Humidity Start %	Temp. End °C	Relative Humidity End %	Cloud %	Wind 0-6
12/5/19	20:58	20:30	22:35	12	60	9	76	10-10	0-0
27/6/19	04:48	03:00	05:00	11	86	9	84	20-10	1-0
10/7/19	21:35	21:15	23:00	12	74	16	77	100-0	0-0



Appendix 13.3: OS Location Map



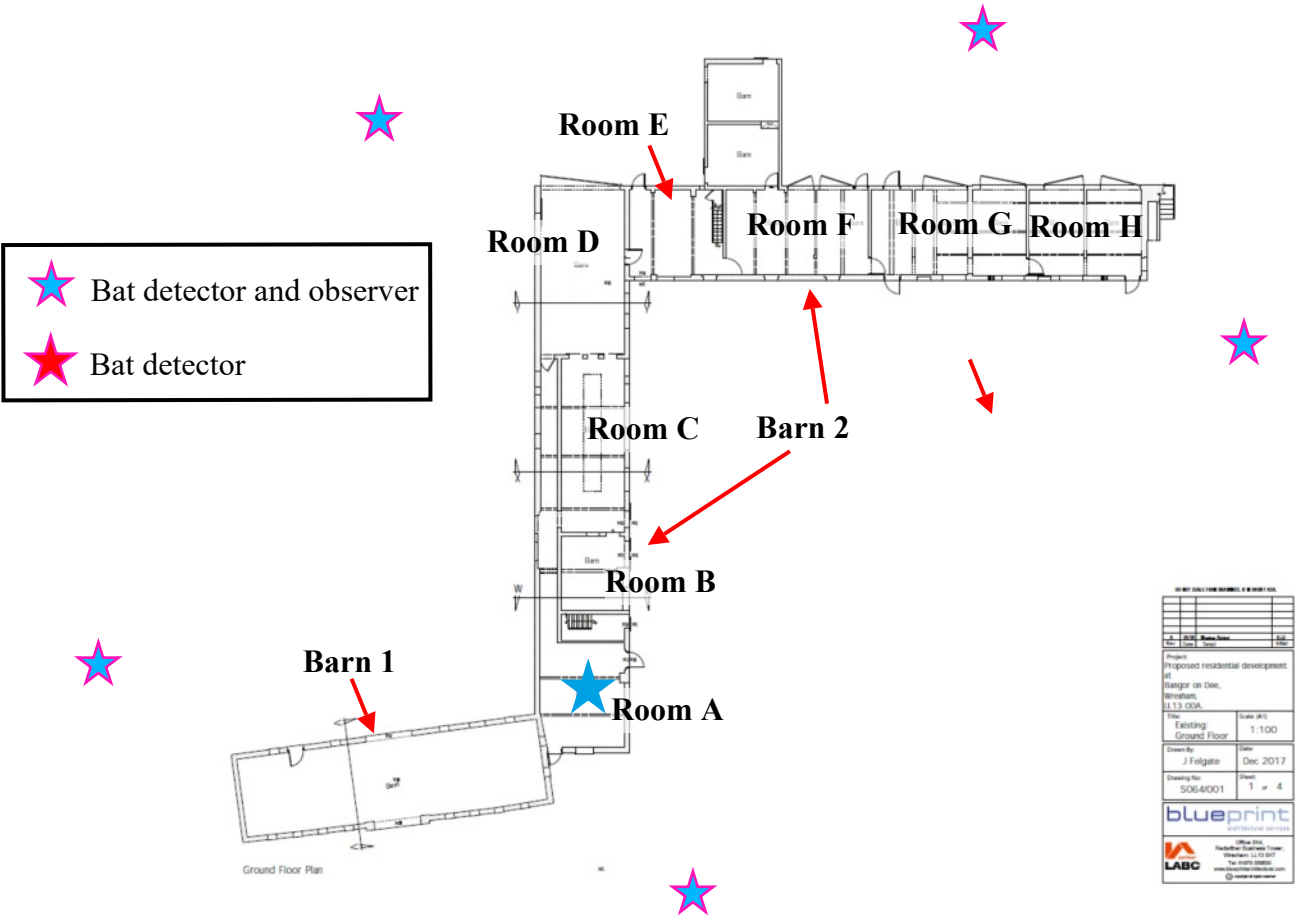
Appendix 13.4: Magic Map with Designated Sites



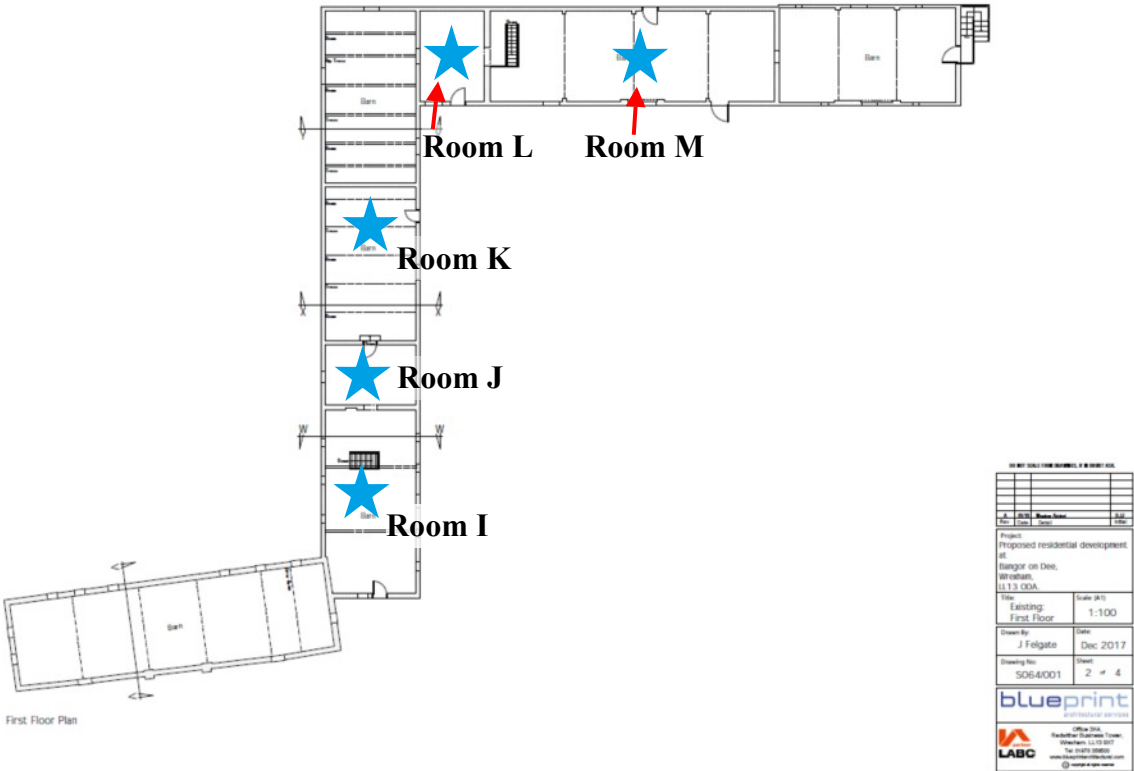
Appendix 13.5: Aerial Photograph



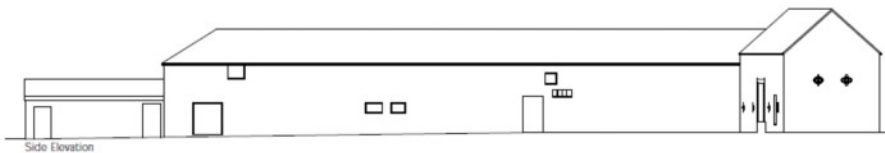
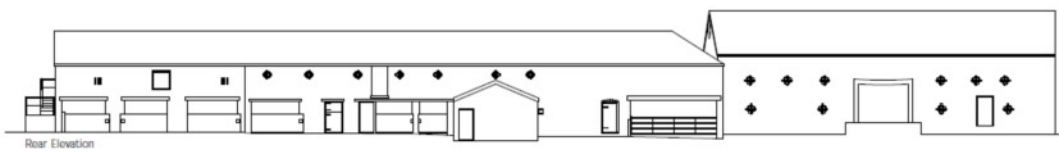
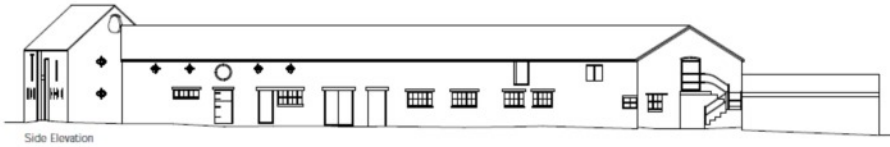
Appendix 13.6: Ground Floor Plan: Existing Showing Positions of Observers and Bat Detectors



First Floor Plan: Existing Showing Positions of Bat Detectors



Appendix 13.7: Elevations: Existing



DO NOT SCALE FROM DRAWING, IT IS MEANT TO	
Project	Proposed residential development
Location	Winger on Dee, Wrexham, LL13 0DA
Title	Existing Elevations
Scale (A1)	1:100
Drawn By	J Felgate
Date	Dec 2017
Drawing No.	S064/001
Sheet	4 of 4
blueprint architectural services	
LABC Office 214, Eddisbury, Eddisbury, Wrexham, LL13 0BT Tel: 01928 500000 www.labc.co.uk	

Appendix 13.8: Site Plan: Proposed

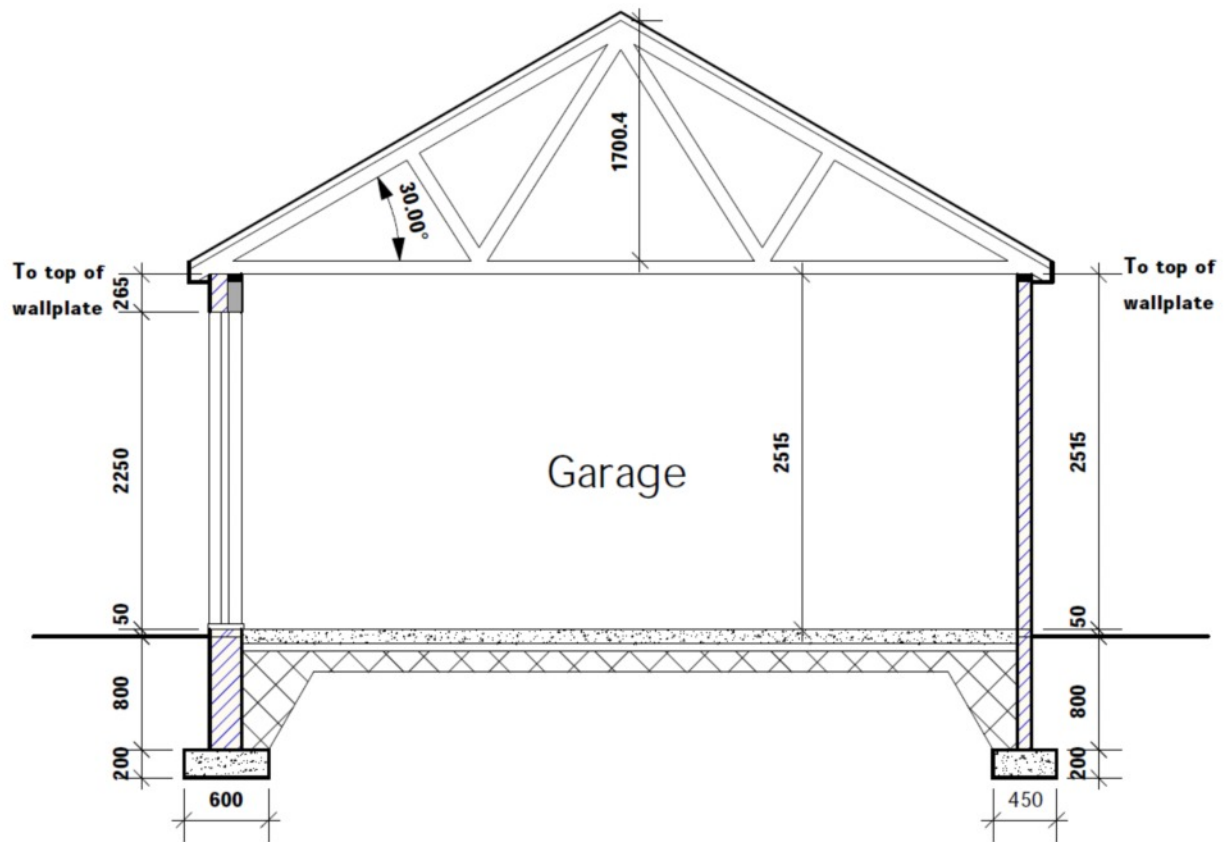


Rev	Date	Detail	Initials
Project: Proposed residential development at Bangor on Dee, Wrexham, LL13 0DA.			
Title: Site Plan		Scale: (A3) 1:500	
Drawn By: E Jackson		Date: Jan 2018	
Drawing No: S043/005		Sheet: 1 of 1	

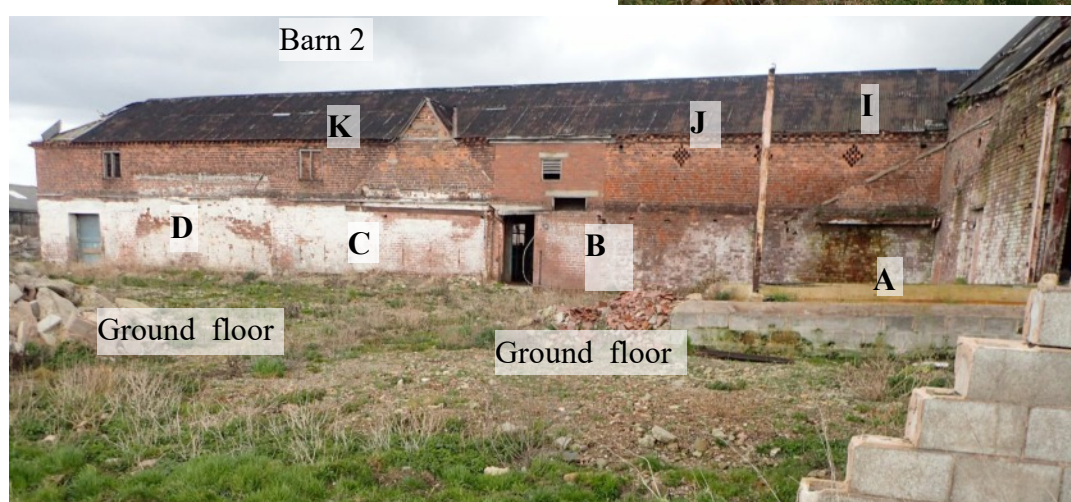
	
	
Office 3K4, Redwither Business Tower, Wrexham, LL13 9RT. Tel: 01978 366500 www.blueprintarchitectural.com	



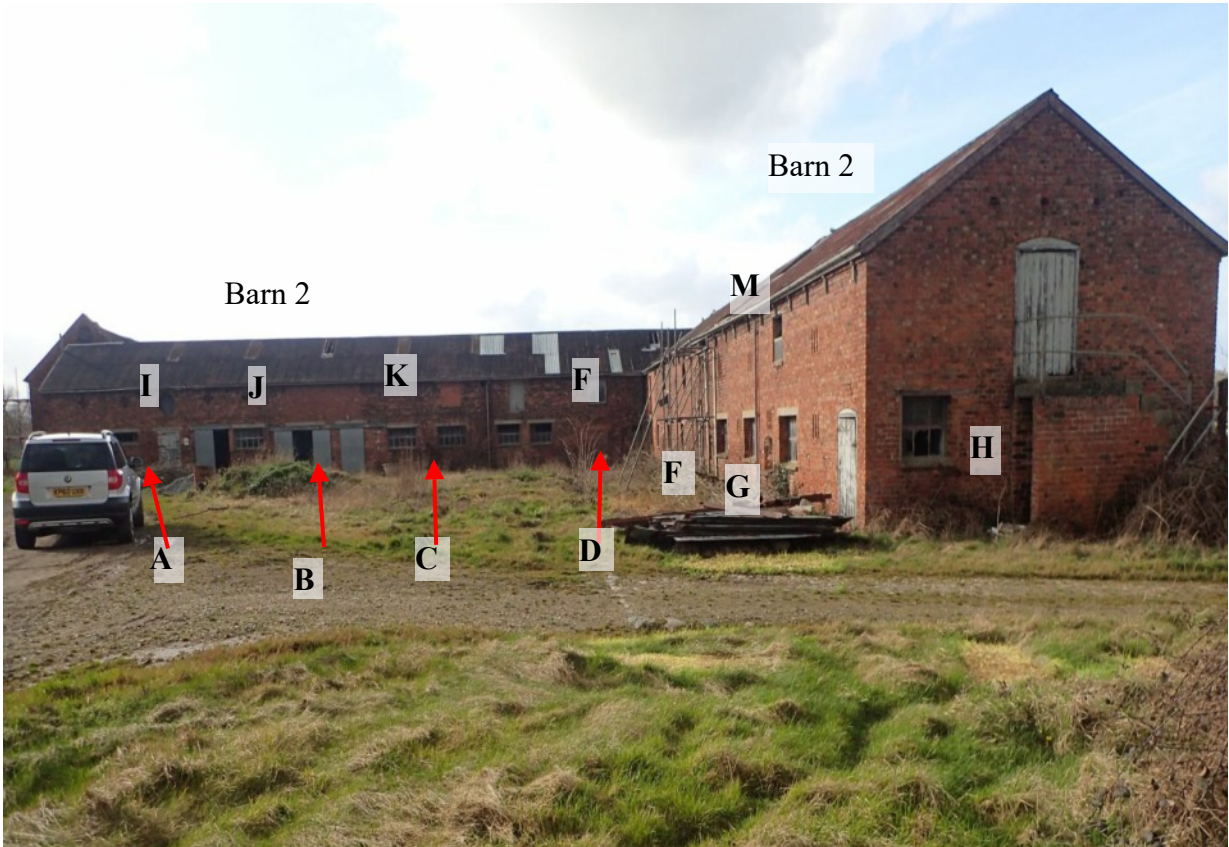
Appendix 13.9: Proposed Bat Loft in Garage



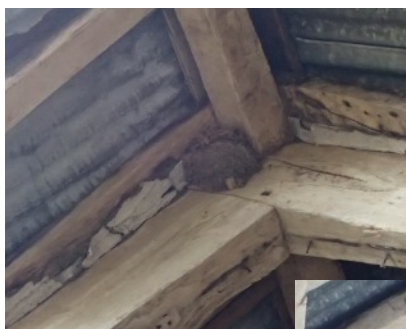
Appendix 13.10: Photographs of the Exterior



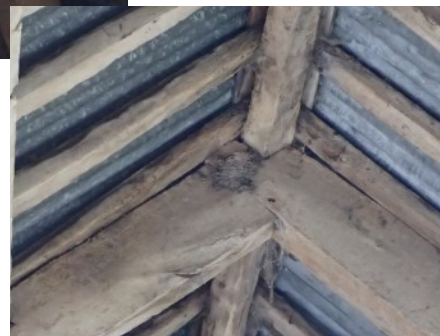
Appendix 13.10: Photographs of the Exterior



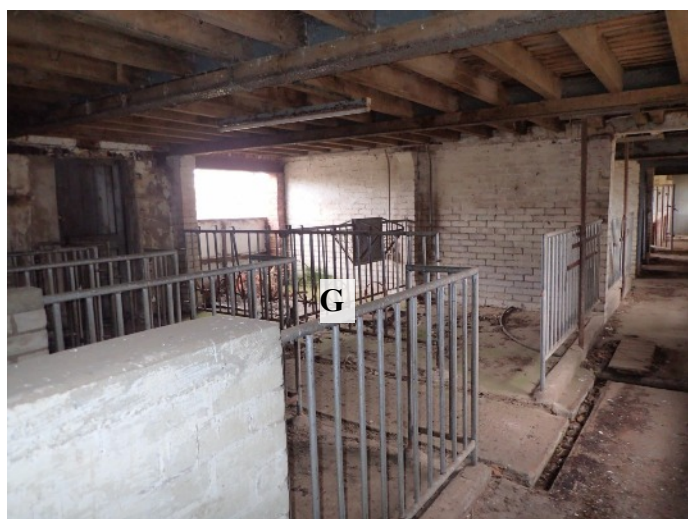
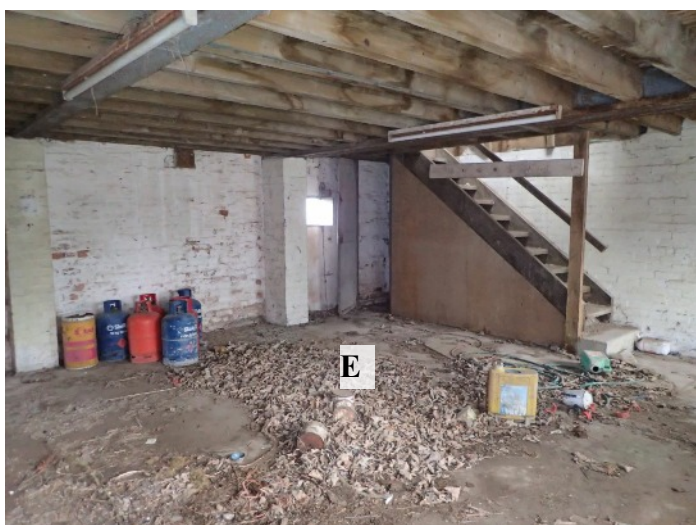
Appendix 13.10: Photographs of the Interior



**Swallow nests
in barn 1**



Appendix 13.10: Photographs of the Interior



Appendix 13.10: Photographs of the Interior



Appendix 13.11: Legislation Relating to Bats

All bat species, their breeding sites and resting places are fully protected by law - they're European protected species.

You may be able to get a licence from Natural England if you can't avoid disturbing them or damaging their habitats, or if you want to survey or conserve them.

What you must not do

You're breaking the law if you do certain things including:

- deliberately capture, injure or kill bats
- damage or destroy a breeding or resting place
- obstruct access to their resting or sheltering places
- possess, sell, control or transport live or dead bats, or parts of them
- intentionally or recklessly disturb a bat while it's in a structure or place of shelter or protection

Either or both of the following could happen if you're found guilty of any offences:

- you could be sent to prison for up to 6 months
- you could get an unlimited fine

Activities that can harm bats

Activities that can affect bats include:

- renovating, converting or demolishing a building
- cutting down or removing branches from a mature tree
- repairing or replacing a roof
- repointing brickwork
- insulating or converting a loft
- installing lighting in a roost, or outside if it lights up the entrance to the roost
- removing 'commuting habitats' like hedgerows, watercourses or woodland
- changing or removing bats' foraging areas
- using insecticides or treating timber

In many cases you should be able to avoid harming the bats or damaging or blocking access to their habitats.

A bat survey will show what type, how many and how the bats are using the building or area so you can plan to avoid harming them.

If you can't avoid harming bats or their habitats, you can apply for a mitigation licence from Natural England or Natural Resources Wales.

Appendix 13.12: Legislation Relating to Birds

All wild bird species, their eggs and nests are protected by law. You must always try to avoid harming birds or to use measures which do not kill or injure them before considering taking harmful action.

In most cases you should be able to avoid harming wild birds by:

- timing your work to avoid the breeding season
- using a range of methods that deter but don't harm them

In exceptional cases the law allows certain exemptions to permit legal activities (such as a development with planning permission) and where avoiding harm isn't possible.

What you must not do:

You're breaking the law if you:

- intentionally kill, injure or take wild birds
- intentionally take, damage or destroy a wild bird's nest while it's being used or built
- intentionally take or destroy a wild bird's egg
- possess, control or transport live or dead wild birds, or parts of them, or their eggs
- sell wild birds or put them on display for sale
- use prohibited methods to kill or take wild birds

Some birds, known as 'schedule 1 birds', eg barn owls, have extra legal protection. For these bird species it's also an offence to do the following, either intentionally or by not taking enough care:

- disturb them while they're nesting, building a nest, in or near a nest that contains their young
- disturb their dependent young

You could get an unlimited fine and up to 6 months in prison for each offence if you're found guilty.

Activities that can harm birds

These activities can affect wild birds, particularly during breeding season:

- trimming or cutting trees, bushes, hedges and rough vegetation
- renovating, converting or demolishing a building
- creating disturbance, eg noise, lighting and vibration
- taking actions to prevent problems, eg shooting birds or removing nests

When you can get a licence

There are no licensing purposes to permit development or construction but there are ways you can continue development or construction when birds are present. These activities should rely upon the legal exemptions. You must make sure that you can comply fully with the terms of the exemption so that you don't break the law.

You can apply for a licence from Natural England or Natural Resources Wales in certain circumstances and for certain problems.

Licences are available for disturbing or harming birds for a limited number of reasons that include:

- preserve public health and safety
- preserve air safety
- do work for science, education or research
- prevent damage to crops or animal feed
- conserve plants and animals (including other wild birds)
- prevent damage to fisheries
- take part in photography, falconry, keeping or breeding birds