Ecological Impact Assessment at

Horsley Lodge,

Marford,

Wrexham LL12 8YD

Grid Ref. SJ 3631 5538

On 10th July, 24th and 28th August and

8th September 2023

Report completed 24th April 2024
Ref: HOR100723

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1. Summary

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

The proposed scheme involves the addition of dormers and conversion of the loft space to living accommodation, demolition of the garage and garden room and construction of a new garage which will adjoin the house.

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 and birds, of the exterior and interior of the building. Two dusk emergence surveys were carried out.

If any birds should gain access to the building and begin constructing nests during the development, then the work in that area must stop until the young have left the nests. The hedgerow should not be removed between March and September to avoid destruction of any nests.
There should be no impact on bats, but if any are found during the work then a licensed bat worker must be contacted for advice before work can continue.

Bat and bird boxes will be fitted and new hedgerows and trees planted to provide Net Biodiversity Benefit.

If the recommended mitigation and enhancement measures are taken for all other species there should be a net gain in biodiversity and no net loss of nesting sites, nor any danger of harm to any species.

2. Introduction

Susan Worsfold BSc (Hons) ACIEEM 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 S086005/1 (Natural Resources Wales);
Licensed great crested newt worker, registration number 2016-19947-CLS-CLS (NE) and S086057/1 (NRW)
This report was commissioned by Flint Architecture.
The site comprises a dwelling and garage surrounded by hard standing and short vegetation with some shrubs and trees.
The proposed scheme involves the addition of dormers and conversion of the loft space to living accommodation, demolition of the garage and garden room and construction of a new garage which will adjoin the house.
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 incorporates a bat roost and nesting bird assessment, while also searching for 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, reptiles and amphibians, badgers and birds.
Two dusk emergence surveys was carried out on the house and one on the dwelling, in accordance with *Bat surveys for professional ecologists: Good Practice Guidelines (3rd Edn)* (Collins 2016); UK Bat Mitigation Guidelines (Reason, P.F. and Wray, S. 2023) and the Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys (*Bat Conservation Trust, May 2022*)

3.2. Desk Study

Wrexham Planning Portal was consulted for a review of previous ecological surveys carried out in the area. Magic Maps was consulted for the presence of designated sites and protected habitats.

3.3. Field Survey

The house and garage 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, of the exterior and interior 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 H14 and P7) were used for examination under eaves. Binoculars were used to examine parts which were not otherwise accessible. Photographs were taken of all areas and those of relevance are shown in the appendices.

The preliminary survey was carried out on 10th July 2023 by Susan Worsfold.

Dusk emergence surveys was carried out on 24th and 28th August and 8th September 2023 by Susan Worsfold, Craig Thomas, an experienced assistant, and David Thomas, who is in training. Frequency division detectors were used to record any bat sounds around the building for later analysis on the computer. These were Peersonic RPA3 and Echo Meter EM3.
The whole building was in view of the observers for the duration of the survey and infrared night vision aids (NVAs) were used alongside observers or to provide extra detail on areas of interest. These were Nightfox Red and Nightfox Whisker night vision goggles, mounted on tripods, with Nightfox XB5 IR torches. Footage from these was examined after light had deteriorated to a point where observers could no longer rely on their vision, and also to reinforce certainty about potential emergences noted by observers.

4. Baseline Ecological Conditions/Results

4.1 Designated Sites

The nearest designated site is Marford Quarry (SSSI) 530 m west.

4.2 Habitats

Site: Village location, on the outskirts. The house is surrounded by short vegetation on all sides, with some shrubs and trees. The south east side of the garage is adjacent to a field.
House: Currently in use as a dwelling, one storey with a large loft space. Walls were of brick, doors and windows were intact. The roof was of tile, pitched, lined with bitumastic felt. It was in a good state of repair but with some small gaps. There were soffits and verge boards at the gable ends.
Garage: Brick and breeze block with a tile roof, lined with wood. Doors and windows were intact.
Adjacent land: There are no ponds with 250 m according to maps. There is a large area of woodland 60 m south and there is a good network of hedgerows surrounding the site.

4.3 Species and Species Groups

Birds
No bird nests were found in the buildings and no birds were seen to be using the buildings.

Bats
The house was considered to have moderate potential for use by bats, and the garage had low potential. No bat droppings were found in the loft or garage. There was no evidence of use by bats in either building. No bats were seen to emerge from the house or garage.

Reptiles and Amphibians
None seen on site. There are no ponds with 250 m. There is some foraging potential but no shelter on site suitable for use by reptiles and amphibians.

5. Description of the Development

The proposed scheme involves the addition of dormers and conversion of the loft space to living accommodation, demolition of the garage and garden room and construction of a new garage which will adjoin the house. This will involve intrusive work to the roof and walls, including installation of roof lights. There will be some loss of domestic garden vegetation and short grass in the adjoining field to allow for a patio area and turning area. An approximately 40 m section of hedgerow will be removed to allow for access. A sycamore tree will be removed on arboricultural grounds.

6. Assessment of Effects and Mitigation Measures

Designated Sites:
It is not considered that the proposal will have any significant impact on any designated sites due to the small scale of the development and distance from the sites.
Habitats:
No priority habitat is affected by the proposal. General precautions should be taken during removal of vegetation to avoid harm to any small mammals, reptiles or amphibians which might be foraging.

Species:

Birds
There should be no impact on birds as long as none gain access to the buildings and begin constructing nests while work is in progress. If this happens, work in that area must stop until the young have left the nests. The hedgerow should not be removed between March and September to avoid destruction of any nests.

Bats
.There should be no impact on bats, but if any are found during the work then a licensed bat worker must be contacted for advice before work can continue.

Residual Effects
No significant residual effects anticipated..

7. Compensation

N/A.

8. Net Biodiversity Benefit

Bats: One integrated crevice dwelling bat box to be incorporated into the new build at the south east end.
Birds: One woodcrete nest suitable for small birds such as robin, blackbird, tit species and sparrow to be fitted at the north west side:
House Sparrow Terrace - Wooden (or woodcrete) nest box with 3 sub-divisions to support 3 nesting pairs. To be placed under the eaves. 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.
Approximately 81 m of mixed native species hedgerow will be planted at the new access and also at the north east corner, see page 15. This will comprise at least four native species, for example hawthorn, holly, hazel, blackthorn, field maple, oak. Four native semi-mature trees will also be planted near the new access, such as oak, rowan, beech, hornbeam, cherry.

9. Ecological Constraints

None identified.

10. Monitoring

N/A.

11. Conclusions

There should be no danger of harm to any species and a net gain in biodiversity as long as the mitigation measures and enhancements are carried out.

12. Bibliography

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

BCT and ILP Guidance Note 8 Bats and Artificial Lighting available at: https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

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

English Nature (2001) *Great Crested Newt Mitigation Guidelines* Peterborough: English Nature

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

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

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

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

Appendix 13.1: Emergence Survey

Survey Conditions

Date	Sunset/ Sunrise	Start Time	End Time	Temp. Start °C	Temp. End °C	Cloud %	Wind 0-6	Rain
24/8/23	20:20	20:05	21:50	16	10	5	0	None
28/8/23	20:14	20:00	21:45	17	16	100	0	None
8/9/23	19:45	19:30	21:15	22	17	0	0	None

24/8/23

Observer or area	*Equipment*
Susan Worsfold (SW) west side	Peersonic RPA3 + Nightfox Red NVA
Craig Thomas (CT) east corner	Peersonic RPA3 + Nightfox Red NVA
David Thomas (DT) north east corner	Echo Meter EM3+ + Nightfox Red NVA + Nightfox Whisker NVA

Bats recorded:

Common pipistrelle (*Pipistrellus pipistrellus*)
Soprano pipistrelle (*Pipistrellus pygmaeus*)
Noctule (*Nyctalus noctula*)

Observations:

The first bat to be seen was at 20.28, at CT station, at first thought to have come from the roof area but on NVA footage examination was identified arriving from the north. Bats were subsequently observed passing and foraging at all stations, fairly frequently, until the end of the survey. No bats were seen to emerge from the building.

28/8/23

Observer or area	*Equipment*
Susan Worsfold (SW) north east corner	Peersonic RPA3 + Nightfox Red NVA
Craig Thomas (CT) south west corner	Peersonic RPA3 + Nightfox Red NVA

Bats recorded:

Common pipistrelle (*Pipistrellus pipistrellus*)
Soprano pipistrelle (*Pipistrellus pygmaeus*)
Noctule (*Nyctalus noctula*)
Myotis (*Myotis* sp.)

Observations:

The first bat to be seen was at 20.24, at CT station, arriving from the north east, and again at 20.47. This bat was also seen at SW station. No other activity was seen at either station. A bat was heard at 20.32 at SW station which was later identified on NVA footage as having arrived from the east. No bats were seen to emerge from the building.

8/9/23

Observer or area	*Equipment*
Susan Worsfold (SW) west side	Peersonic RPA3 + Nightfox Red NVA
Craig Thomas (CT) east corner	Peersonic RPA3 + Nightfox Red NVA
David Thomas (DT) north east corner	Echo Meter EM3+ + Nightfox Red NVA + Nightfox Whisker NVA

Bats recorded:

Common pipistrelle (*Pipistrellus pipistrellus*)
Soprano pipistrelle (*Pipistrellus pygmaeus*)
Noctule (*Nyctalus noctula*)
Myotis (*Myotis* sp.)
Lesser Horseshoe (*Rhinolophus hipposideros*)

Observations:

The first bat seen was at 20.01 at SW and DT stations, to the north and east. There was subsequent occasional foraging, mainly at the west of the house. No bats were seen to emerge from the building.

Appendix 13.2: Aerial Photograph Showing Position of Observers

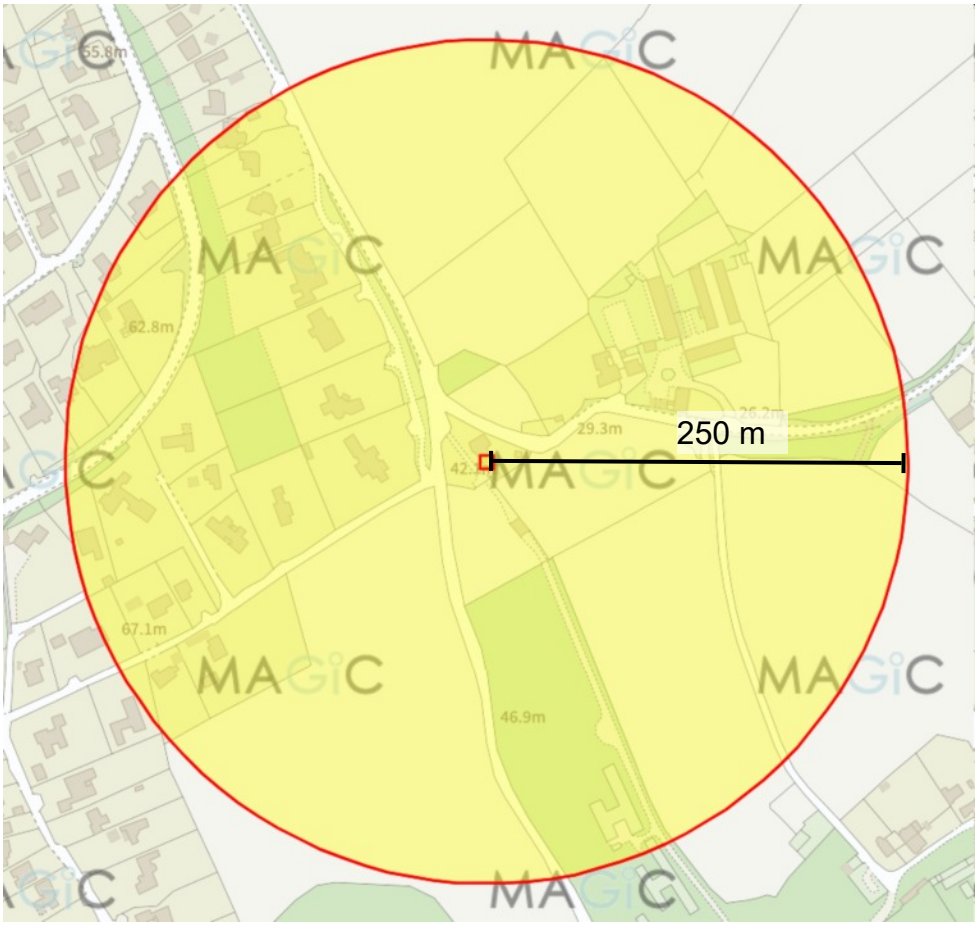


N

Bat detector, NVA and observer



Appendix 13.3: Designated Sites and Zones of Influence

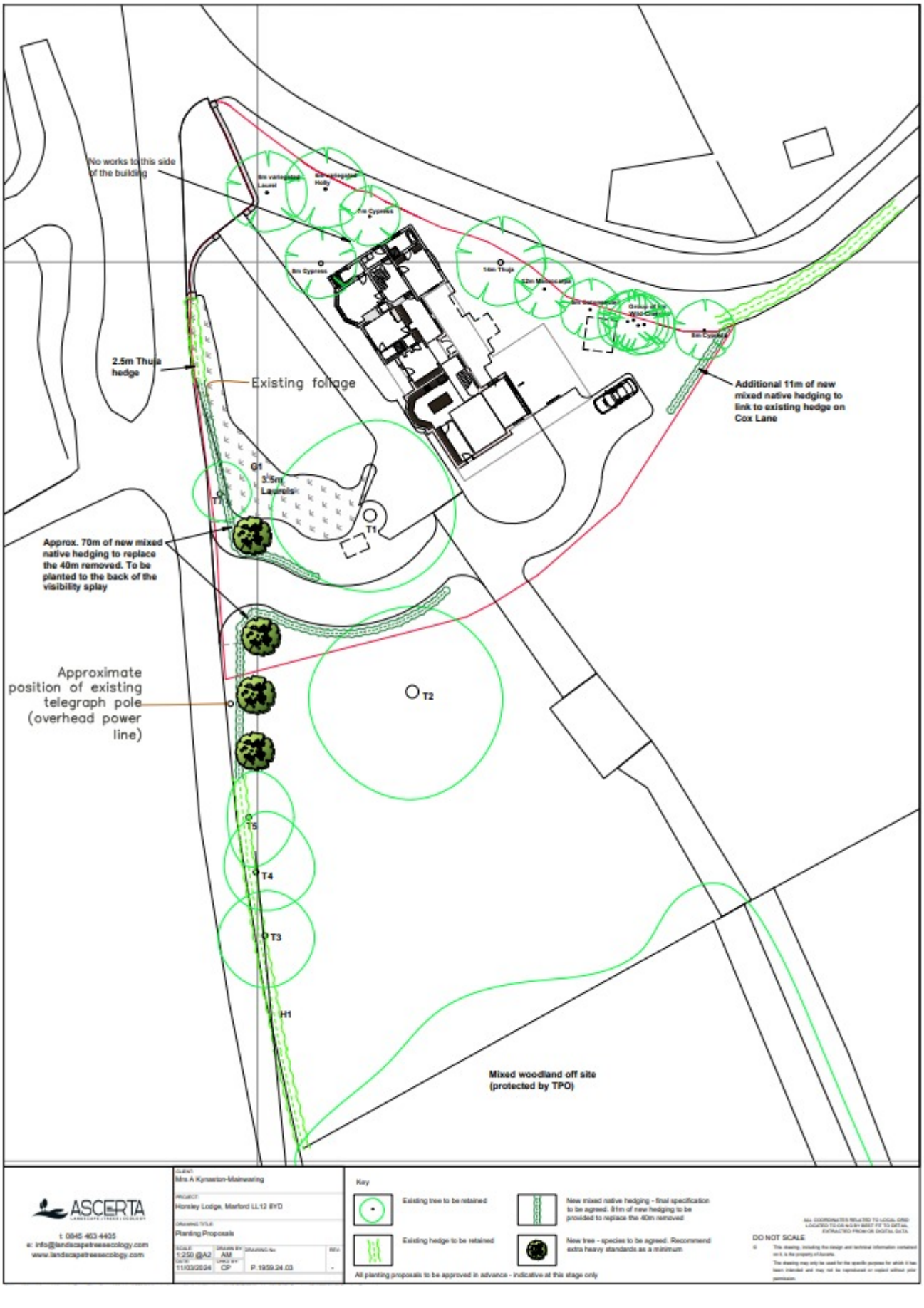


Appendix 13.4: Site Plans as Existing and Proposed

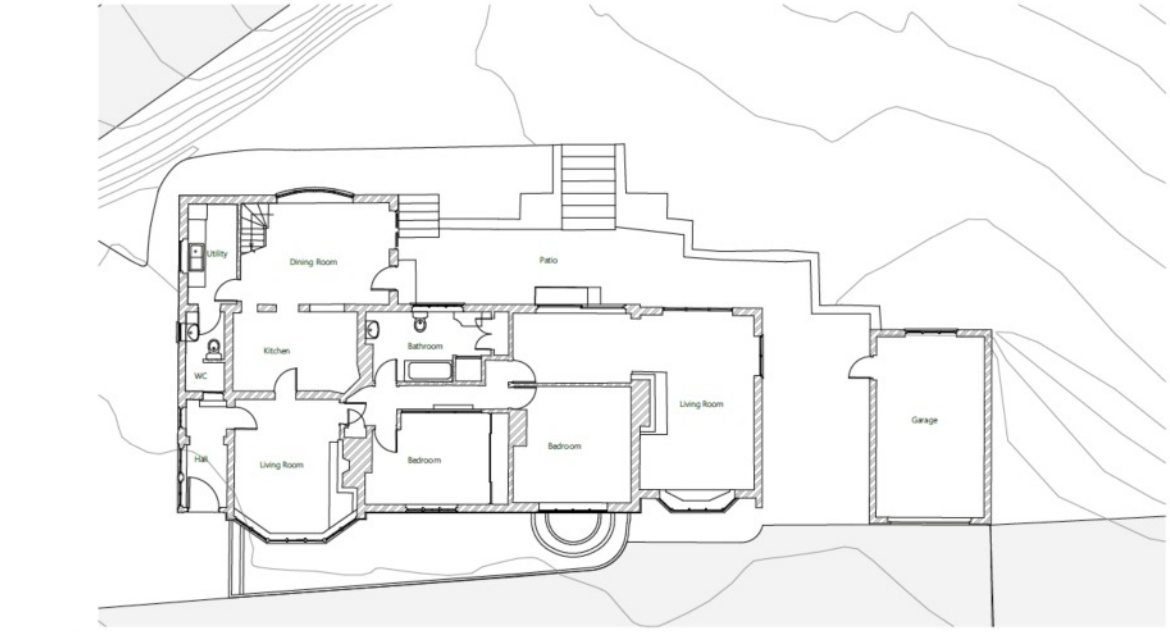




Appendix 13.4: Landscape Plan

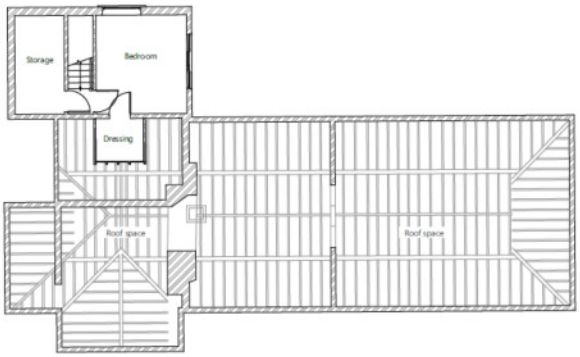


Appendix 13.4: Existing Floor Plans



PL05 Rev 01 Planning Application **Ground Floor Plan - Existing** 15 April 2024
2304 **Horsley Lodge** Marford, Wrexham 1:200, 1:100_A3

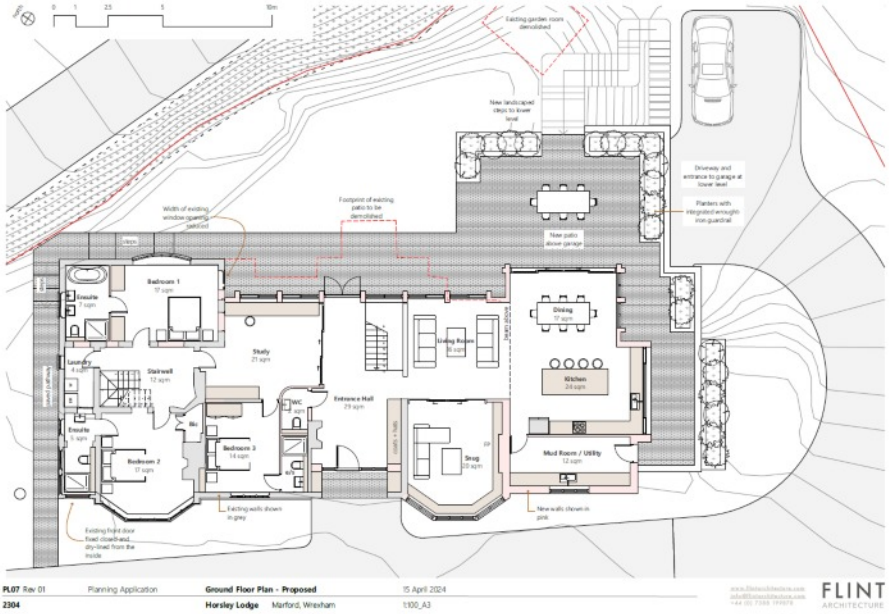
FLINT ARCHITECTURE

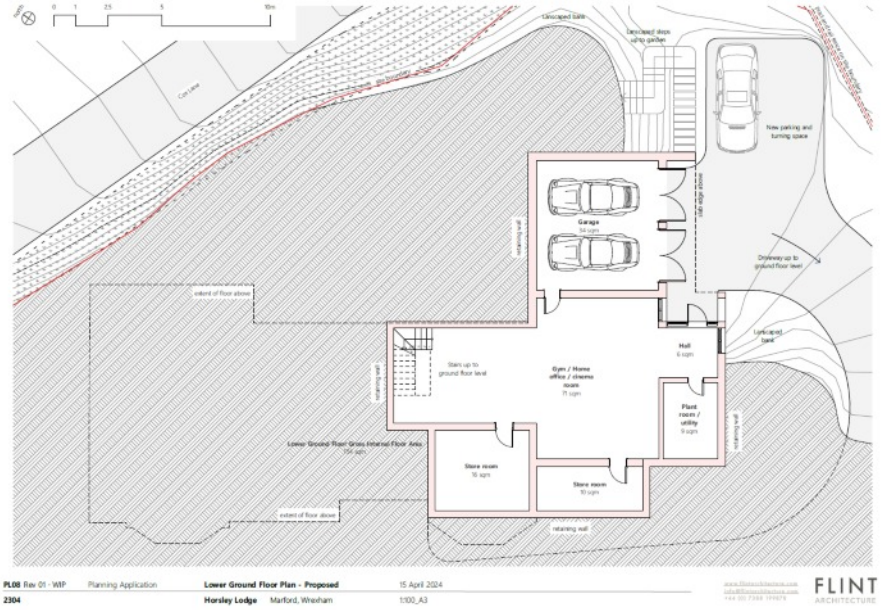


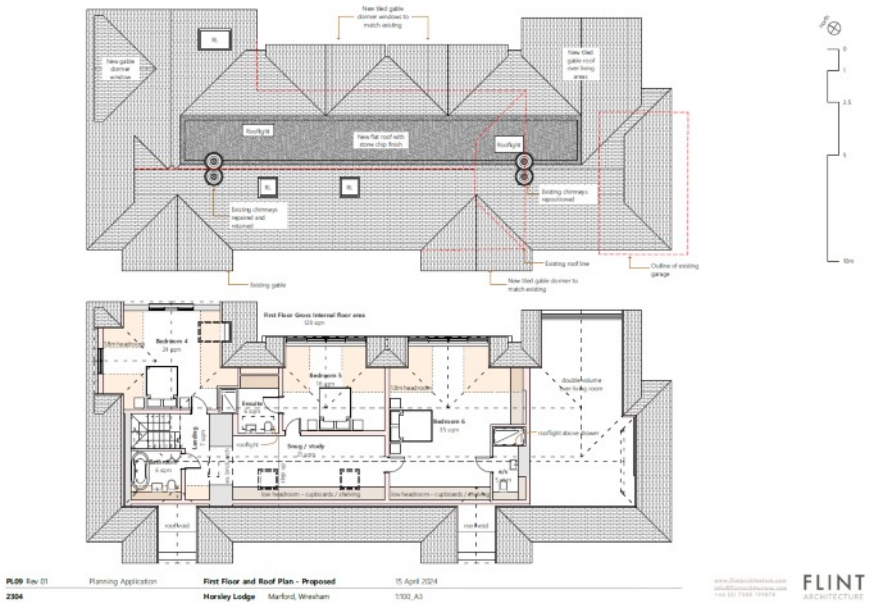
PL06 Rev 01 - WIP Planning Application **First Floor Plan - Existing** 15 April 2024
2304 **Horsley Lodge** Marford, Wrexham 1:200, 1:100_A3

FLINT ARCHITECTURE

Appendix 13.4: Proposed Floor Plans







Appendix 13.5: Photographs













Appendix 13.5: Photographs















Appendix 13.5: Photographs (Nightfox NVAs)







Appendix 13.5: Photographs (Nightfox NVAs)





Appendix 13.6: Legislation Relating to Bats

All species of bats in the UK are European Protected Species (EPS). It is against the law to damage or destroy a bat's breeding site or resting place (known as a roost), or deliberately to capture, kill, injure or disturb a bat

Bats are the only mammals which can fly. They are warm blooded, they suckle their babies and are intelligent, social animals. British bats feed only on insects, of which they consume vast numbers to sustain their energetic lifestyles. A pipistrelle bat can eat up to 3000 midges in a single night!

We have 12 species of bat breeding in Wales. Many of these have suffered severe declines, not just in Britain but throughout Europe.

All British bat species are protected under the Conservation of Habitats and Species Regulations 2017, known as the 'Habitats Regulations'. Bats have a unique relationship with humans, sometimes sharing our homes for part of the year. For this reason, Natural Resources Wales (NRW) deals with many hundreds of bat enquiries each year from householders.

Under the Habitats Regulations, it is an offence if you:

deliberately capture, injure or kill any wild animal of an EPS
deliberately disturb wild animals of any such species
damage or destroy a breeding site or resting place of such an animal
Disturbance includes, but is not limited to, any disturbance which is likely:

1. to impair their ability –
to survive, to breed or reproduce, or to rear or nurture their young, or
in the case of animals of a hibernating or migratory species, to hibernate or migrate; or

2. to affect significantly the local distribution or abundance of the species to which they belong.

Defra and the Welsh Government will publish a joint guidance document on the interpretation of the offences relating to disturbance, and to damage and destruction of breeding sites and resting places.

There are other offences relating to possession, transport and sale.

NRW issues licences under Regulation 55 of the Habitats Regulations to allow you to work within the law.

If you are a householder and have concerns about bats at your property (other than queries related to planning applications or a development), contact the NRW Enquiry Line for advice, telephone 0300 065 3000

Appendix 13.7: Legislation Relating to Birds

All wild birds, their nests and eggs are protected. It is an offence to intentionally:

- kill, injure or take any wild bird,
- take, damage or destroy the nest of a Golden Eagle, White-tailed Eagle or Osprey (even if disused),
- take, damage or destroy the nest of any wild bird whilst it is in use or being built,
- take, damage or destroy an egg or any wild bird,
- possess any live or dead wild bird or the egg of any wild bird, or any derivative

Many rare birds are listed on Schedule 1, which makes it an offence to intentionally or recklessly:

- disturb a Schedule 1 bird while it is building a nest or is in, on or near a nest containing eggs or young; or
- disturb dependent young of such a bird

Natural Resources Wales (NRW) issues licences for specific purposes, so that you can undertake legitimate work without breaking the law. See ‘Bird licensing’ for more information.