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Planning Services
Babergh and Mid Suffolk District Councils
Endeavour House
8 Russell Road
Ipswich
IP1 2BX

22nd January 2024

Dear Sirs,

Preliminary Bat Tree Roost Assessment – DC/23/04847-56 Westhall, Stradbroke, Eye, Suffolk, IP21 5HP

I am writing in connection with the above application and the recent request for a preliminary bat roost assessment of a single storey structure at the above property and in connection with a planning application DC/23/04847 for the demolition of existing extension and construction of a new larger rear extension. A preliminary bat roost assessment was undertaken by Eco-Check on the 16th January 2023. Due to the structure being well sealed and with no PRF's evident and with no signs of any ecological constraints I am providing the following details in the absence of a full PRA report which is not deemed necessary on this occasion.

Preliminary Roost Assessment (PRA)

The aim of the survey was to assess the building and specifically the structure to be demolished to ascertain any evidence of bat activity and/or roosts and the potential of the building to be used by bats. A licensed bat ecologist (James Hodson- Natural England Level 2 Bat Survey License 2017-30927-CLS-CLS) undertook a PRA of the existing extension as detailed on the survey plan (Appendix 1) on the 16th January 2024 in accordance with best practice guidance (Collins, 2023, 4 Ed). The objectives of survey were to:

- Determine the presence or likely absence of bats;
- Locate any bat roosts and determine the species (where possible);
- Estimate the size of the roost (i.e. small / moderate / large);
- Identify access / egress points to and from potential / confirmed roosts;
- Assess potential flight paths to and from potential / confirmed roosts in terms of the arrangement of current vegetation and lighting layout; and,
- Determine the status and seasonal usage of any bat roosts present.

The survey comprises a systematic search of the exterior of the building to identify potential roosts and access points, and to locate any evidence of bats such as live or dead specimens, droppings, urine splashes, fur-oil staining and/or squeaking noises. The survey also included the ground surrounding Potential Roost Features (PRFs), particularly beneath potential access points, and structural features such as fascia boards, soffits, eaves, wall tops and other areas that may be used by bats. Any potential features were inspected from a ladder using an endoscope (Ridgid CA-150).

Bat Roost Category

Table 1.0 - Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape (Adapted from table 4.1 pp. 35 in Collins, 2016)

Suitability.	Description of Roosting habitats.	Description of Commuting and Foraging habitats.
Negligible	Negligible habitat features on-site likely to be used by roosting bats.	Negligible habitat features on-site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation.) A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Medium	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High .	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree- lined watercourses and grazed parkland. Site is close to and connected to known roosts.

Birds

On-site habitats were assessed for their potential to support breeding (nesting) birds. All bird species observed during the field surveys were recorded. A search was made of the proposed working area to confirm if any evidence of nesting birds could be found.

Field Survey Results

The extension to be demolished is of red brick construction with a single skin wall and lacking a wall cavity. There are uPVC doors and windows in the south and east elevations which are well sealed to the brickwork. The pointing is in good condition and no cracks, holes or other cavities were present. The building has a mono-pitch flat roof consisting of bitumen felt tacked over a softwood timber frame. Internally there was an opening which allowed me to see a narrow void beneath the roof. The structure is joined to the house with further bitumen felt and lead flashing which is also well sealed. The proposed works will not impact the roof of the dwelling itself and the proposed extension extends north across a small area of amenity lawn.

Figure 1- East and south elevations (left), north elevation (right)

Figure 2- Internal view of extension (left) and void beneath the flat roof (right)

PRA: A detailed search of the exterior of the existing extension found no evidence of bat use and no PRF's or points of access. A search of the wall tops and roof frame timbers did not find any urine stains, bat droppings or other evidence of bat roosts. The external fascias are well sealed to the brickwork. The roof is intact and there is no evidence of damage to the bitumen lining which could otherwise have provided a potential access point.

The building is subject to regular disturbance and lacks sufficient access, protection and/or appropriate thermal conditions to be used on a regular basis or by larger

numbers of bats (i.e., unlikely to be suitable for maternity or hibernation). The building is therefore assessed as having **Negligible** probability of bat interest due to the lack of any evidence of bat roosts (with the exception general lack of potential roost features (PRFs) and suboptimal roosting conditions. On the basis of the findings, no further surveys are deemed necessary.

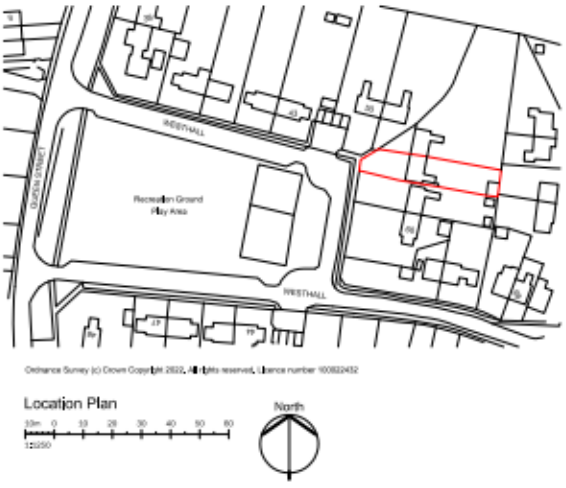
The nesting bird survey found no evidence of any nests and there is a general lack of trees/hedges/shrubs etc within or close to the proposed working areas such that nesting birds are unlikely to be impacted during works. In order to secure a biodiversity net gain, it is recommended that a minimum of 1 bird box and 1 bat box are installed within the curtilage, either to a suitable tree or to the main house. (See Appendix 2)

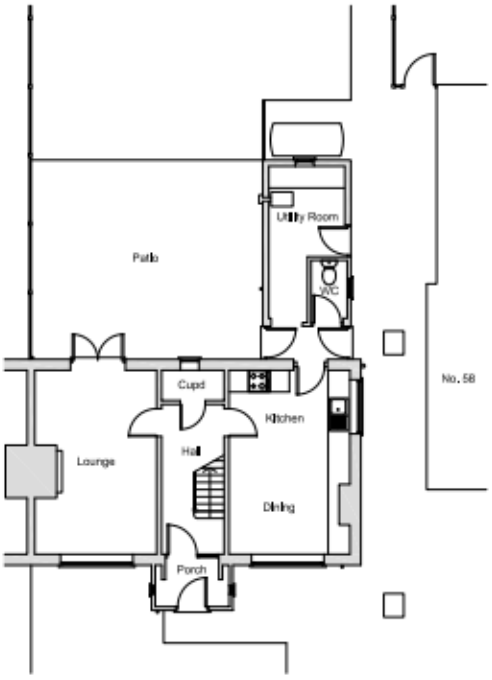
I trust this clarifies your query with regards to the bat roosting potential of the building to be removed and any evidence of nesting birds. No other ecological constraints were recorded.

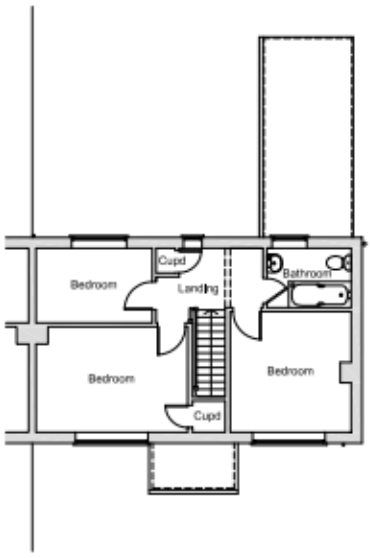
Yours Sincerely

James Hodson MSc BSc (hons)
Natural England Level 2 Bat Licence
(2017-30927-CLS-CLS)

APPENDIX 1

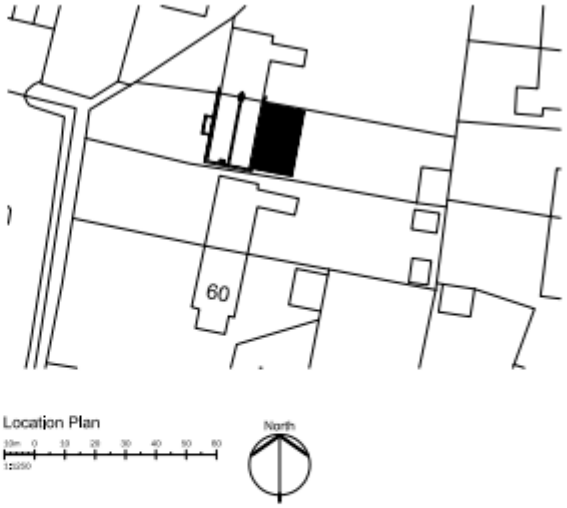


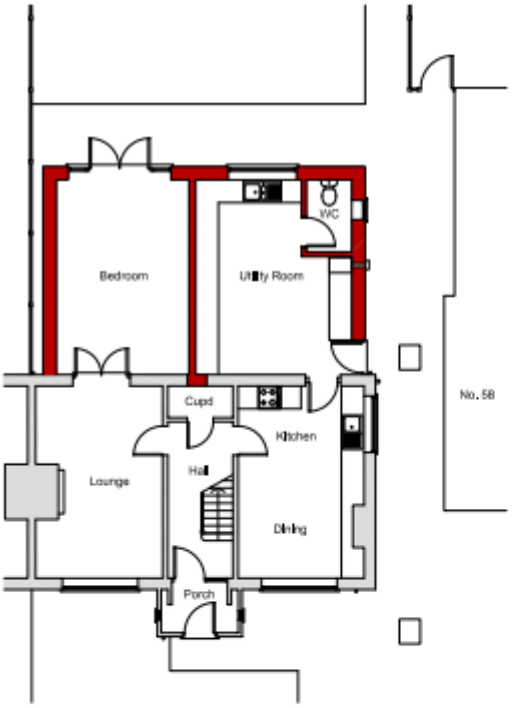


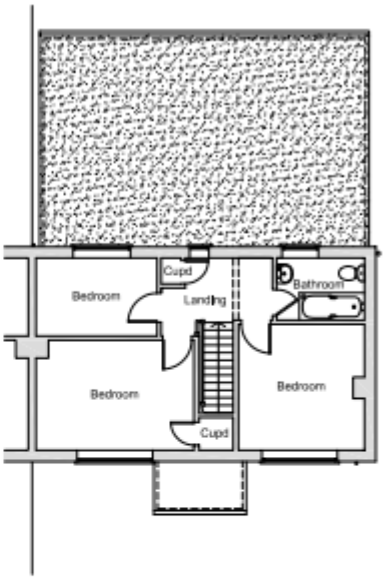


Roger Adcock
Architectural Design Ltd.
Glenny Palmer.
56 Westhall, Stradbroke, Eye, Suffolk, IP21 5HP.
Existing Plans.
1:100 & 1:1250.
2207 -01.

Site Location and Existing Layout







Roger Adcock
Architectural Design Ltd.

Glenny Palmer.
56 Westhall, Stradbroke, Eye,
Suffolk. IP21 5HP.
Proposed Plans.
1:100 & 1:500.
2207 - 03c.

Proposed Layout

APPENDIX 2

Eco-Roost Bat Brick https://www.eco-roost.co.uk/product-page/horizontal-bat-brick	
Eco-Roost Double Chamber Bat Box https://www.eco-roost.co.uk/product-page/kent-hibernation-rect	
Eco-Roost Double Kent Box https://www.eco-roost.co.uk/product-page/kent-style-rect-large	
Eco-Roost 28mm, 32mm and Open fronted bird boxes https://www.eco-roost.co.uk/copy-of-bat-bricks	

Bat Conservation Trust

Artificial lighting and wildlife

Interim Guidance: Recommendations to help minimise the impact artificial lighting

Wherever human habitation spreads, so does artificial lighting. This increase in lighting has been shown to have an adverse effect on our native wildlife, particularly on those species that have evolved to be active during the hours of darkness. Consequently, development needs to carefully consider what lighting is necessary and reduce any unnecessary lighting, both temporally and spatially. When the impacts on different species groups are reviewed, the solutions proposed have commonalities that form the basis of good practice. These are outlined in the following document.

Overview of impacts

Invertebrates

Artificial light significantly disrupts natural patterns of light and dark, disturbing invertebrate feeding, breeding and movement, which may reduce and fragment populations. Some invertebrates, such as moths, are attracted to artificial lights at night. It is estimated that as many as a third of flying insects that are attracted to external lights will die as a result of their encounter.[1] Insects can become disoriented and exhausted making them more susceptible to predation. In addition, the polarisation of light by shiny surfaces attracts insects, particularly egg laying females away from water. Reflected light has the potential to attract pollinators and impact on their populations, predators and pollination rates. Many invertebrates natural rhythms depend upon day-night and seasonal and lunar changes which can be adversely affected by artificial lighting levels.

It is not always easy to disentangle the effects of lighting on moths from other impacts of urbanisation. However, it is known that UV and green and blue light, which have short wavelengths and high frequencies, are seen by most insects and are highly attractive to them. Where a light source has a UV component, male moths in particular will be drawn to it. Most light-induced changes in physiology and behaviour are likely to be detrimental. They discern it to be 'light', so they do not fly to feed or mate.[2]

Birds

There are several aspects of changes to bird behaviour to take into account. The phenomenon of robins and other birds singing by the light of a street light or other external lighting installations is well known, and research has shown that singing did not have a significant effect on the bird's body mass regulation. However, it was felt that the continual lack of sleep was likely to be detrimental to the birds' survival and could disrupt the long-term circadian rhythm that dictates the onset of the breeding season[3]. Many species of bird migrate at night and there are well-documented cases of the mass mortality of nocturnal migrating birds as they strike tall lit buildings. Other UK bird species that are particularly sensitive to artificial lighting are long-eared owls, black-tailed godwit and stone curlew.[4]

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[1] Bruce-White C and Shardlow M (2011) A Review of the Impact of Artificial Light on Invertebrates - See more at: http://www.buglife.org.uk/advice-and-publications/publications/campaigns-and-reports/review-impact-artificial-light#sthash.s7GPA1vL.dpuf

[2] As above

[3] Pollard A. (2009) Visual constraints on bird behaviour. University of Cardiff

[4] Rodriguez A., Garcia A.M., Cervera F. and Palacios V. (2006) Landscape and anti-predation determinants of nest site selection, nest distribution and productivity in Mediterranean population of Long-eared Owls, *Asio otus. Ibis, 148(1), pp. 133-145*

Mammals

A number of our British mammals are nocturnal and have adapted their lifestyle so that they are active in the dark in order to avoid predators. Artificial illumination of the areas in which these mammals are active and foraging is likely to be disturbing to their normal activities and their foraging areas could be lost in this way. It is thought that the most pronounced effect is likely to be on small mammals due to their need to avoid predators. However, this in itself has a knock-on effect on those predators.

The detrimental effect of artificial lighting is most clearly seen in bats. Our resident bat species have all suffered dramatic reductions in their numbers in the past century. Light falling on a bat roost exit point, regardless of species, will at least delay bats from emerging, which shortens the amount of time available to them for foraging. As the main peak of nocturnal insect abundance occurs at and soon after dusk, a delay in emergence means this vital time for feeding is missed. At worst, the bats may feel compelled to abandon the roost. Bats are faithful to their roosts over many years and disturbance of this sort can have a significant effect on the future of the colony. It is likely to be deemed a breach of the national and European legislation that protects British bats and their roosts.

In addition to causing disturbance to bats at the roost, artificial lighting can also affect the feeding behaviour of bats and their use of commuting routes. There are two aspects to this: one is the attraction that short wave length light (UV and blue light) has to a range of insects; the other is the presence of lit conditions.

As mentioned, many night-flying species of insect are attracted to lamps that emit short wavelength component. Studies have shown that, although noctules, serotines, pipistrelle and Leisler's bats, take advantage of the concentration of insects around white street lights as a source of prey, this behaviour is not true for all bat species. The slower flying, broad-winged species, such as long-eared bats, barbastelle, greater and lesser horseshoe bats and the *Myotis* species (which include Brandt's, whiskered, Daubenton's, Natterer's and Bechstein's bats) generally avoid external lights.

Lighting can be particularly harmful if it illuminates important foraging habitats such as river corridors, woodland edges and hedgerows used by bats. Studies have shown that continuous lighting along roads creates barriers which some bat species cannot cross[5]. It is also known that insects are attracted to lit areas from further afield. This could result in adjacent habitats supporting reduced numbers of insects, causing a further impact on the ability of light-avoiding bats to feed.

These are just a few examples of the effects of artificial lighting on British wildlife, with migratory fish, amphibians, some flowering plants, a number of bird species, glow worms and a range of other invertebrates all exhibiting changes in their behaviour as a result of this unnatural lighting.

Recommendations

Survey and Planning

The potential impacts of obtrusive light on wildlife should be a routine consideration in the Environmental Impact Assessment (EIA) process[6]. Risks should be eliminated or minimised wherever possible. Some locations are particularly sensitive to obtrusive light and lighting schemes in these areas should be carefully planned.

In August 2013, Planning Minister Nick Boles launched the new National Online Planning Guidance Resource aimed at providing clearer protection for our natural and historic environment. The guidance looks at when lighting pollution concerns should be considered and is covered within one of the on line planning practice

[5] Stone E. L., Jones G and Harriss (2009) Street lighting disturbs commuting bats. Current Biology, 19, pp 1-5
[6] See also: Institution of Lighting Professionals – Professional Lighting Guide (PLG 04) Guidance on undertaking lighting environmental impact assessments)

guides[7]. The guide provides an overview for planners with links to documents that aim to give planners an overview of the subject through the following discussion points:

1. When is obtrusive light / light pollution relevant to planning?
2. What factors should be considered when assessing whether a development proposal might have implications for obtrusive lighting / light pollution?
3. What factors are relevant when considering where light shines?
4. What factors are relevant when considering how much the light shines?
5. What factors are relevant when considering possible ecological impact?

This can help planners reach the right design through the setting of appropriate conditions relating to performance and mitigation measures at the planning stage.

The Institution of Lighting Professionals (ILP) recommends that Local Planning Authorities specify internationally recognised environmental zones for exterior lighting control within their Development Plans[8]. In instances lacking classification, it may be necessary to request a Baseline Lighting Assessment/Survey conducted by a Lighting Professional in order to inform the classification of areas, particularly for large-scale schemes and major infrastructure projects.

When assessing or commissioning projects that include the installation of lighting schemes, particularly those subject the EIA process, the following should be considered and relayed to applicants:

- ***Ecological consultants should confirm the presence of any sensitive fauna and flora,*** advising the lighting designers of bat routes and roosts and other areas of importance in order to ensure that reports correspond with each other.
- ***Ecological consultants should consider the need for quantitative lighting measurements.*** In some instances it may be necessary for further lighting measurements to be taken. For example, outside an important bat roost. These should follow best practice guidance from the ILP and would ideally be conducted by a Lighting Professional.
- ***Where appropriate, professional lighting designers should be consulted*** to design and model appropriate installations that achieve the task but mitigate the impacts. This should be done at the earliest opportunity. Early decisions can play a key role in mitigating the impact from lighting.
- ***Reports submitted should outline the impacts of lighting in relation to ecology,*** making clear reference to the ecological findings, highlighting any sensitive areas and detail proposed mitigation. Consideration should also be given to internal lighting where appropriate.
- **Post –installation checks and sign off upon commissioning should be carried out** by the lighting designer to ensure that the lighting installation has been installed in accordance with the design, that predictions were accurate and mitigation methods have been successful.

Principles and design considerations

Do not

- ***provide excessive lighting.*** Use only the minimum amount of light needed for the task.
- ***directly illuminate bat roosts*** or important areas for nesting birds

Avoid

- ***installing lighting in ecologically sensitive areas*** such as: near ponds, lakes, rivers, areas of high conservation value; sites supporting particularly light-sensitive species of conservation significance (e.g. glow worms, rare moths, slow-flying bats) and habitat used by protected species.
- ***using reflective surfaces under lights.***

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[7] http://planningguidance.planningportal.gov.uk/blog/guidance/light-pollution/when-is-light-pollution-relevant-to-planning/

[8] Institution of Lighting Professionals (2011) Guidance Notes for the Reduction of Obtrusive Light GN01:2011.