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## **Preliminary Bat Roost Assessment**

of

**Nissen Building at Does Farm, Wallow Lane,  
Great Bricett, Suffolk, IP7 7BZ.**

<b>Survey Commissioned by:</b>	Wilkinson Planning Ltd.
<b>Project Number:</b>	REP22010
<b>Report issued:</b>	1 <sup>st</sup> May 2022
<b>Date of survey:</b>	6 <sup>th</sup> April 2022
<b>Surveyor:</b>	Odette Robson BSc (Hons) PhD MCIEEM

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REP22010	Preliminary Bat Roost Assessment of Nissen Building at Does Farm, Wallow Lane, Great Bricett, Suffolk, IP7 7BZ.	Final	1 <sup>st</sup> May 2022

### **Disclaimer**

*The findings detailed in this report are based on evidence from thorough survey, where every effort has been taken to provide an accurate assessment of the site at the time of the survey. No liability can be assumed for omissions or changes after the survey has taken place.*

*This report was instructed by Wilkinson Planning Ltd., and following the brief agreed. Robson Ecology has made every effort to meet the client's brief.*

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*Where roosting bats are recorded, a Protected Species Licence may be required: Natural England (the licensing authority in England) require data **from the most recent survey season**. Where a bat roost is not recorded, data will be valid for a maximum of 18 months from survey date.*

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## Summary

<b>Site:</b>	Nissen Building at Does Farm, Wallow Lane, Great Bricett, Suffolk, IP7 7BZ.
Grid Reference (taken from centre of site):	TL 03176 49405
Report Commissioned by:	Wilkinson Planning Ltd.
Date of Survey:	6 <sup>th</sup> April 2022

	Impacts	Recommendations
Bats	Construction Phase Impact (roosting bats).	No evidence of bats having used the Nissen building. Negligible risk of roosting bats due to construction materials, and a lack of potential roosting features/opportunities, internally and externally. <b>No further survey or precautions required.</b>
	Operational Phase Impact (commuting and foraging bats).	Negligible impact to commuting or foraging bats: No foraging habitat will be lost, or flight lines interrupted, through proposals. <b>Sensitive external lighting must be implemented around the converted building and access track</b> to retain dark corridors around the site boundary, adjacent buildings and trees.
Birds	Nesting bird potential.	Nissen building not suitable for nesting barn owls but could be used by smaller nesting birds. Renovation and conversion works to the structure should be carried out outside the nesting bird season (March to August inclusive) or following a survey for nesting birds carried out immediately prior to start of works. If active nests are recorded, there will be a delay in that part of the site (including an exclusion zone surrounding the nest) until all young birds have fledged and left the area.
Additional enhancement	Consider further enhancement of the site by locating bat and bird boxes in trees close to the structure.	

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# 1 Introduction

## 1.1 Background

Robson Ecology Ltd was commissioned by Wilkinson Planning Ltd., to undertake a Bat Roost Assessment of a Nissen building at Does Farm, Great Bricett, to inform a planning application and legal obligations with regards conversion of the structure into a single dwelling.

## 1.2 Legislation

Bats are strictly protected under European and UK legislation (Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, and the Wildlife and Countryside Act, 1981). Four UK species are also listed under Annex II of the Habitats Directive.

Seven species are *Species of Principal Importance in England* (SPIE) - formerly UK Biodiversity Action Plan Priority (BAP): Barbastelle *Barbastella barbastellus*, noctule *Nyctalus noctula*, brown long-eared *Plecotus auritus*, soprano pipistrelle *Pipistrellus pygmaeus*, greater horseshoe *Rhinolophus ferrumequinum*, lesser horseshoe *Rhinolophus hipposideros* and Bechstein's bat *Myotis bechsteinii*.

Nesting birds are protected under the Wildlife and Countryside Act, with some species (such as barn owl) afforded a higher level of protection when breeding under Schedule 1 of the Act.

## 1.3 Aims and Objectives

The survey was required to:

- Identify the presence, or potential presence, of any bats or birds using the structure;
- assess the potential impact of the proposals on bats or birds;
- make recommendations for further surveys to inform any mitigation and/or a protected species licence application (if required);
- detail any precautions required to protect bats and birds from impact, and/or mitigation, compensation or timing constraints, where necessary.

## 1.4 Site Context and Proposals

The site lies 1.1km to the south-east of the village of Nedging-Tye and approximately 1.3km to the south-west of Great Bricett. Hadleigh (Suffolk), 5.7km to the south, is the nearest town

Formally part of the working farm, the Nissen building was used for storage at the time of the survey. The structure is proposed for *in situ* renovation and conversion to a single dwelling. The existing access will be used, from the road (Wallow Lane) to the north east.

Land immediately to the east and south of the building was managed, horse-grazed pasture; to the west was bare ground associated with poultry; and to the north, short-mown amenity grass.

The surrounding landscape is rural farmland, predominantly arable, with scattered small woodlands, the nearest of which is Park Wood, approximately 1km to the north-west. There are no known significant, large water bodies in the immediate area.

## 2 Survey Methodology

### 2.1 Site Survey

The site survey was undertaken by Odette Robson BSc (Hons) PhD MCIEEM, a full member of the Chartered Institute of Ecology & Environmental Management (MCIEEM), subject to the CIEEM Professional Code of Conduct and licensed by Natural England to survey for bats (WML-CL18; Level 2).

During the survey, on 6<sup>th</sup> April 2022, the temperature was 9-11°C; the wind at Beaufort Scale 3-4, 100% cloud cover and excellent visibility.

The survey was undertaken in accordance with *Bat Surveys for Professional Ecologists: Best Practice Guidelines* (Collins, 2016). The Nissen building was assessed externally and internally, using binoculars, high-powered torch, ladder and a borescope inspection camera (Ridgid CA300) to enable investigation of deeper cavities, where necessary. Accessible cracks, holes, crevices and other potential bat roosting features were thoroughly inspected for bats themselves, or for signs (e.g., staining, droppings, scratch marks) of past bat presence.

Aerial photographs, available maps and survey of the area outside the immediate site boundary (where access was available) was used to identify any bat habitat in the wider landscape which could be impacted by proposals. The likely impact of the change of use (operational phase) to bats using the surrounding area (foraging and/or commuting) was also assessed.

A visual survey of suitable bird nesting or foraging habitat was carried out, to determine if the structure would be used by WCA Schedule 1 birds, Birds of Conservation Concern (BoCC), Species of Principal Importance in England (SPIE), Suffolk BAP species, or other common and widespread nesting birds.

### 2.2 Historic Bat Records/Desk Study

A datasearch was requested from Suffolk Biodiversity Information Service (SBIS). Records of all bat species within a 2km radius of the site were provided on 1<sup>st</sup> April 2022.

A 2km radius search for statutory designated sites was conducted using "MAGIC", the Multi-Agency Geographic Information system for the Countryside. The search radius was extended to the Zone of Influence (Zoi) for European designated sites: Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites, where the potential risk of impact to the qualifying features (species or habitats) of these sites may extend over a wider area.

### **3 Results**

#### **3.1 Desk Study**

The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZ); Consultation with Natural England is required for large infrastructure or aviation projects, oil/gas/mineral extraction, and/or development projects affecting air pollution or water supply. Consultation is not required for a single dwelling/conversion project of the type proposed.

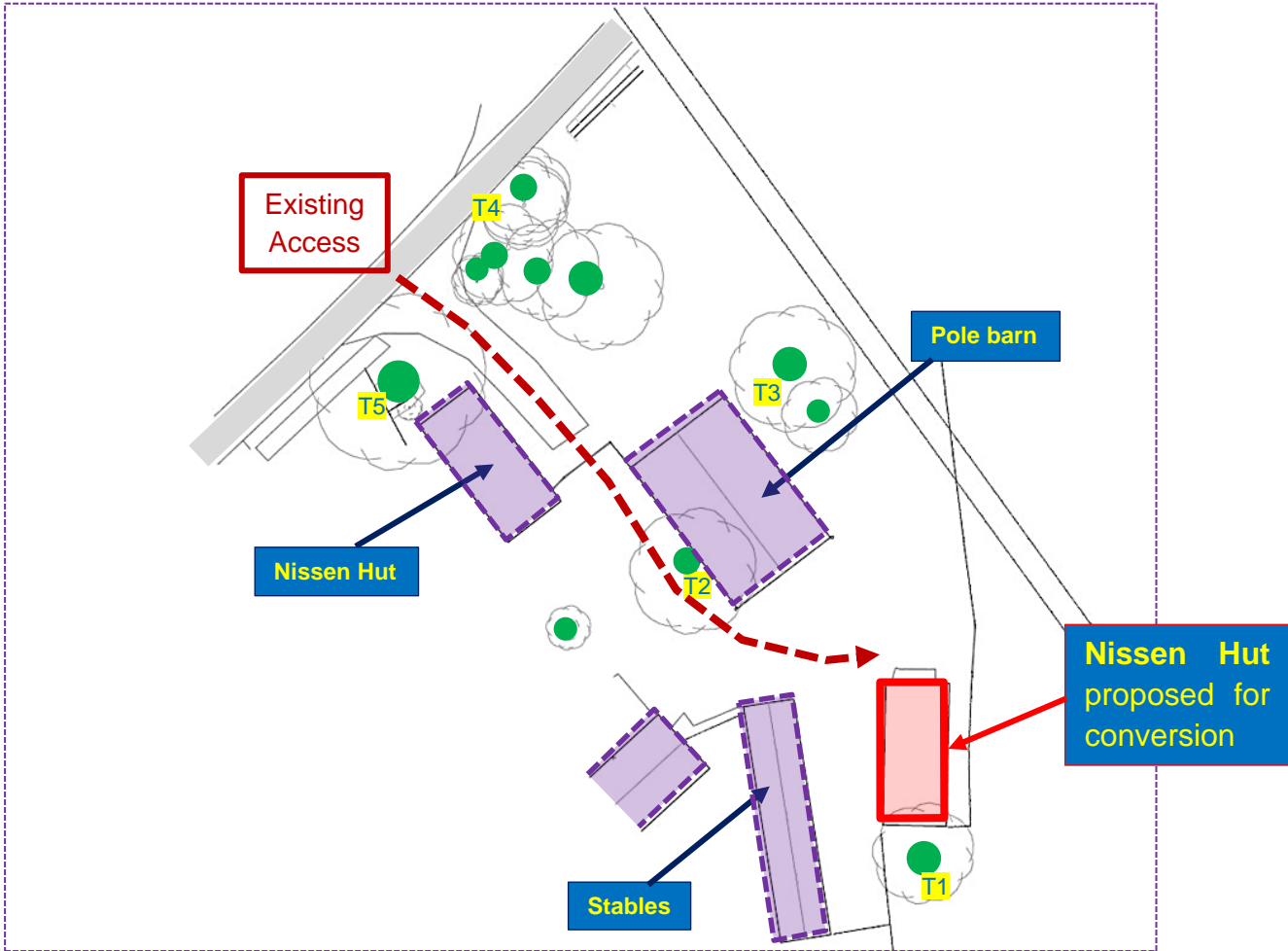
The nearest statutory designated biodiversity site lies approximately 2km to the north-east (Tollemache Hall Grove – part of Middle Wood, Often Site of Special Scientific Interest - SSSI).

The nearest European protected site is the Stour and Orwell Estuary, over 15km to the south-east the site and beyond the 13km Zone of Impact. The site does not lie within the Zone of Influence of any European designated sites and therefore, there should be no requirement to make a financial contribution to the Recreational Avoidance Disturbance and Mitigation (RAMs) strategy.

#### **3.2 Suffolk Biodiversity Information Service**

Suffolk Biodiversity Information Service provided a 2km dataserach (bats only) on 1<sup>st</sup> April 2022. Five records, with dates ranging from 2001 to 2017, were provided: Two common pipistrelle and three brown long-eared bat records. The nearest was approximately 1km to the north-west of the site (a brown long-eared bat recorded hibernating inside Nedging-with-Naughton Village Hall, in 2017).

Figure 3.1: Location of building in relation to the wider site, and tree numbering





### 3.3 Site Survey Results

The Nissen structure, which is proposed for conversion, and buildings/trees adjacent to the access track were surveyed for potential to support bats, nesting birds and other potential protected species issues.

**Table 3.1:** Site assessment.

<b>Site and Building Descriptions</b>	
<b>Nissen Shelter</b>	
<p>A steel-framed Nissen shelter clad in double-layer corrugated tin sheets with metal panels at each end. The structure was largely intact, with some degradation of the inner corrugated sheets but largely water-tight. No voids or internal lining/membranes.</p> <p>Light levels internally were relatively high due to windows at the southern end, and a mono-pitched dormer-window on the eastern and western elevations. Access was at the northern end (pedestrian door).</p> <p>No evidence of bat droppings was recorded on the concrete floor or stored furniture. Internal thermal conditions were not suitable for hibernation.</p> <p>Negligible bat roosting potential due to lack of suitable crevices, roosting opportunities, and unsuitable construction materials: No further surveys or precautions required.</p>	
 <p style="text-align: center; background-color: blue; color: yellow; padding: 2px;"><b>Eastern elevation – north-facing end</b></p>	 <p style="text-align: center; background-color: blue; color: yellow; padding: 2px;"><b>Western elevation</b></p>
<b>Nesting bird evidence and suitability</b>	
<p>No ledges suitable for nesting/roosting barn owls were present internally, and free-flight into the structure for larger birds (such as owls) was not possible due to the well-sealed nature of the structure. Disused nests were not recorded internally however, there were opportunities internally for smaller nesting birds that use buildings.</p>	

### Curtilage/Garden



Proposed garden area is short-mown lawn grass dominated by common amenity grass species. A tree group (T3) included mature Horse Chestnut *Aesculus hippocastanum* and Hazel *Corylus avellana*, with ruderal ground cover (bare earth and Nettle *Urtica dioica*). Surrounded by a hedge to north and west, predominantly Blackthorn *Prunus spinosa*. A fence to the eastern boundary separated the site from horse-grazed pasture.

### Access Track



Existing vehicular access track from the road (to the north-west of the Nissen building), past another Nissen hut, pole barn and stables, to the northern end of the Nissen building.



### Other structures at the site

Other buildings adjacent to the site included a pole barn, Nissen hut, and stables/outbuildings:



Pole barn adjacent to access track and to the north-west of the Nissen building. Open-sides, steel frame, corrugated-sheet roof and upper gables, and no voids or lining.

Negligible bat roosting potential and no barn owl nesting opportunities/ledges.



Former stables housing poultry/fowl at the time of the survey (due to bird-flu housing order). Corrugated tin sheet roof (double-pitched) with no internal lining. Light and drafty internally.

Weather-boarded walls were intact and sealed.

Negligible bat roosting potential.



Nissen Hut adjacent to site entrance and road.

**Trees**



**T1**

Sub-mature Ash *Fraxinus excelsior* tree directly adjacent to the southern end of the Nissen structure: Multi-stemmed and intact with no cracks, crevices, internal rot-seams, or other potential roosting features. Well-sealed pruning cuts.

Negligible bat roosting potential.



**T2**

Semi-mature, self-sown Ash tree adjacent to access track and pole barn: Multi-stemmed and intact with no cracks, crevice, or other potential roosting features. A low bird box (west-facing) was no used at the time of the survey.

Negligible bat roosting potential.





**T3**

Group of mature trees to the north of the access track and adjacent to the road:

Ash, Hawthorn *Crataegus monogyna*, Field Maple *Acer campestre*, and Blackthorn.

These trees would not be impacted by proposed change of use and barn-conversion.



**T4**

Mature Ash tree to the south-west of the access track and adjacent to the road: Ivy-clad, with aerial deadwood and high woodpecker holes:

High bat roosting potential but will not be directly impacted by proposed change of use and conversion.

### 3.4 Suitability of Nissen Structure for Roosting and Further Surveys

An assessment was made under the criteria detailed in current Best Practice Guidelines (Collins, 2016). The Nissen structure lacked potential roost features and had negligible potential to support roosting bats due to lack of roosting opportunities/crevices. No further surveys or precautions are recommended.

### 3.5 Foraging and Commuting Bats

Foraging and commuting bats could move through, or around, the site, particularly along the wooded road boundary. Mature trees could be used by foraging bats. No significant trees or

foraging habitat would be lost as a result of the barn conversion. Sensitive lighting must be implemented to ensure that dark corridors are retained, and any bats using the site can continue to move through the local landscape.

### **3.6 Nesting Birds**

Nesting birds and their eggs are protected under the Wildlife & Countryside Act 1981.

Timing of works, or a pre-start precautionary nesting bird survey would ensure compliance with legal obligations with regards nesting birds: The main breeding season is between March and August inclusive. Should any works be proposed during the bird breeding season, a nesting bird survey should be undertaken to confirm presence/absence of nests immediately prior to works being undertaken. If nests are identified, there may be a delay to the start of the work until all young birds have fledged.

Between September and February (inclusive), a nesting bird survey would not be required if standard due-diligence and a cautious approach is adopted by contractors.

### **3.7 Limitations and Assumptions**

The baseline conditions reported and assessed in this document represent those identified during a single site survey, on the 6<sup>th</sup> April 2022. A reasonable assessment of buildings can be made during a single survey however, seasonal variations cannot be observed. The survey provides an overview of the likelihood of presence of roosting bats and birds, limited by the transient use of roosting opportunities by bats, and the short-lived nature of some signs (such as droppings). Where no evidence was found, this does not mean that bats do not use the buildings at some stage of the life-cycle. Further surveys are only recommended if there is a significant likelihood that bats may be present and impacted by the proposed development, based on the suitability of the buildings, surrounding habitat, and any direct evidence.

All areas of the site/barns were accessible on the day of the survey and no specific constraints to the survey were noted.

## **4 Key Recommendations and Precautions**

### **4.1 Roosting Bats**

No further surveys or licences are recommended to inform the planning application, or to comply with wildlife legislation.

#### **4.1.1 Lighting**

External lighting at the site must be minimized to encourage bats to use the site, both during the construction, and operational, phases. Guidance from the Institute of Lighting Professionals and the Bat Conservation Trust (IPL 2018; ILE 2012, BCT 2009) has been used to inform the following considerations:

- The garden boundaries will be maintained as dark corridors: No lighting will be directed towards existing boundary hedges and mature trees.
- LED luminaires will be used where possible (No UV elements: Metal halide, fluorescent sources will not be used).
- A warm white spectrum (ideally <2700Kelvin) will be used to reduce the blue light component.

- Peak wavelengths higher than 550nm will be used 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.
- Specialist bollard or/and low-level downward directional luminaires to retain darkness must be used on the access track (if necessary, and where this is feasible and meets safety standards).
- Only luminaires with an upward light ratio of 0% and with good optical control will be used (See ILP 2011).
- Luminaires will be mounted on the horizontal to avoid upward tilt.
- Any external security lighting will be set on PIR motion-sensors sensitive to large moving objects only, and short (<1 minute) timers.
- All external lighting will be kept to the minimal feasible level and be directed downward: Baffles, hoods or louvres will be used to reduce light spill and direct it only to where needed.
- Lighting will be appropriately directed to avoid illuminating the boundary vegetation, and mitigation/enhancement habitat boxes (on the trees).
- Construction work will not be carried out at night, or within half an hour of dawn or dusk.

The areas which should be retained as dark corridors are shown in Appendix B.

## **4.2 Nesting Birds**

The structure does not have potential to support nesting WCA Schedule 1 birds, such as barn owls. Smaller nesting birds could use the structure in low numbers.

A nesting bird survey of the Nissen structure should be carried out immediately prior to start of works, if this is within the nesting bird season, to check for active bird nests, and avoid infringing legislation which protects all nesting birds (WCA 1981). If nesting birds are identified, then works to that part of the building (including an exclusion zone – the extent of which would be advised by the project ecologist), until all young birds had fledged and left the nesting area.

If works start outside the main nesting period (end of August to end of February), then a survey is not necessary, if contractors adopt a precautionary approach.

## **4.3 Additional Enhancements**

The addition of bat and bird boxes on adjacent trees within the curtilage of the new dwelling, would enhance the value of the site for wildlife, as encouraged through the NPPF (MHCLG, 2021), and to help achieve Suffolk BAP targets.

### **4.3.1 Bat Boxes**

Woodcrete boxes (which are more durable and long-lasting than wooden alternatives) should be installed at least 5m above the ground and facing south-east, south or south-west (three per tree), to receive sun for part of the day, with open flight access to the boxes.

### **4.3.2 Bird Boxes**

A sparrow terrace (or three separate sparrow boxes with 32mm holes, located close together for this colonial nesting species) could be provided on the pole-barn or adjacent trees. Boxes should be installed at least 3m above the ground and should avoid direct sunlight (not directly south-facing), prevailing wind and be out of reach of cats and other predators.

Song thrushes and spotted flycatchers use open-fronted nest-boxes: The Schwegler 2H open-fronted nest boxes, or other boxes to approved BTO-standards, should be installed in retained garden trees, such as the Hazel in the proposed garden to the north of the Nissen structure. Suggested locations for the bird and bat boxes are shown in Appendix B.

## 5 Conclusion

It is likely that the project can proceed with minimal impact on bats, birds or other protected species, if a sensitive lighting strategy is implemented to avoid external light directed at mature trees adjacent to the access to the site.

There is scope to further enhance the site for bats and birds through incorporation of the roosting and nesting boxes detailed in Appendix A, in line with planning objectives for positive gain for biodiversity through development.

## 6 References

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UK BAP from URL <http://jncc.defra.gov.uk/page-5717>

MAGIC (accessed 1<sup>st</sup> April 2022): Designated site data downloaded from URL <http://www.magic.gov.uk/html>



## 7 Appendix A: Habitat Box Specification

<p><b>Schwegler 2F Bat Box</b></p>  <p>Multi-purpose bat box for pipistrelles – tree-mounted. Manufactured from long-lasting Woodcrete, a blend of wood, concrete and clay which will not rot, leak, crack or warp, and will last for at least 20 - 25 years.</p>	<p><b>Schwegler 2FN Bat Box</b></p>  <p>The 2FN bat box is for bigger bats (e.g., noctule, brown long-eared) and should be sited in trees and is best positioned at a height of between 3 to 6 metres.</p>
<p><b>Schwegler 2H Open-fronted Bird Box</b></p>  <p>Designed to be hung so that the entrance is to one side (at an angle of 90° to the tree). The front panel can be removed for cleaning.</p> <p>2-4m high.</p>	<p><b>Schwegler 1B Sparrow Box</b></p>  <p>Schwegler materials provide precisely the right thermal properties for both chick-rearing and winter roosting.</p> <p>Fully waterproof, Schwegler bird box requires no maintenance. Site the boxes as high as possible on building/structure.</p>
<p><b>Schwegler 1SP Sparrow Terrace</b></p> <p>This terrace provides nesting opportunities for three families. Made of wood-concrete mix, this terrace is durable, breathable and will last many decades. The terrace can be fixed on to the surface of a suitable wall or incorporated into the wall. Place the terrace two metres or more above the ground or install directly into the wall. Cleaning is advisable but not necessary. The front panel can be removed by turning the screw hook.</p>	

## 8 Appendix B: Biodiversity Enhancement Plan and Lighting Strategy for Wildlife

