

Preliminary Ecological Appraisal

Little Boats Hall, Laxfield

25 April 2023



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SUMMARY

- HCI Ltd. has been commissioned to carry out a Preliminary Ecological Appraisal for a proposed development at Little Boats Hall, Badingham Road, Laxfield, Suffolk, IP13 8HU (grid reference: TM 30964 71160).
- This report outlines the habitat features on site, the likelihood of protected species being present and any potential effects of the proposed development on such species.
- The ecology report is required in support of a planning application for the demolition of the existing dwelling and the construction of a replacement dwelling with garage.
- The survey and assessment were completed by independent, qualified and experienced ecologists with Natural England survey licences for the relevant protected species.
- The findings of the assessment are that the habitats on the site are of **low** ecological value and that there are no significant ecological constraints that would prevent the proposed works.
- **Further surveys/licences are required for great crested newts and bats prior to works commencing to inform an ecological impact assessment and appropriate mitigation strategy, or for great crested newts to offset any adverse impacts via financial contributions.**
- **If proposed plans change to affect trees with bat roosting potential, further surveys are required prior to works commencing to inform an ecological impact assessment of the site and an appropriate mitigation strategy.**
- If the following mitigation and enhancements are incorporated into the proposed layout, there will be a net gain for biodiversity, as is encouraged by the National Planning Policy Framework.

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
Protected sites	No statutory and three non-statutory protected sites within 2km.	No significant impacts on protected sites and their qualifying features.	None required.
Protected habitats and habitats subject to conservation designations	Modified grassland, scrub and ruderal vegetation to be removed as part of the development. No Priority Habitats will be affected.	Low scale of habitat loss predicted for wildlife.	<u>Mitigation</u> Existing hedgerows and trees will be retained where possible. Soft landscaping scheme to include the planting of new native species-rich hedgerows and trees around the site. Construction work to be carried out in accordance with BSI (2012), BS 5837:2012, to protect trees and their root protection areas.
Bats	Moderate bat roosting potential in building one (house).	Potential destruction of bat roost if present in building one.	<u>Further surveys required</u> At least two activity surveys to be undertaken on building one (house)

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
	<p>Moderate bat roosting potential in tree one located on site.</p> <p>Low bat roost potential in tree two located on site.</p> <p>Low value commuting and foraging habitat on site.</p>	<p>Potential disturbance of bat roosts if present in trees.</p> <p>Low scale loss and potential light disturbance of commuting and foraging habitats on site.</p>	<p>between May-September, with one conducted between May-August.</p> <p>At least two hibernation surveys to be undertaken on building one (house) between December-February.</p> <p>The outcome of the surveys will inform a detailed mitigation strategy and whether an EPS Mitigation Licence will be required from Natural England.</p> <p><u>Mitigation</u></p> <p>If proposed works change to affect tree with moderate bat roosting potential, further bat surveys will be conducted.</p> <p>If proposed works change to affect tree with low bat roosting potential, a soft-fell approach will be adopted.</p> <p>Any lighting schemes will comply with Bat Conservation Trust and CIE 150:2003 guidance.</p>
Breeding birds	<p>Nesting habitats for scrub, tree and building nesting birds present on site.</p> <p>Potential house sparrow nest on site.</p> <p>No suitable barn owl foraging habitat on site.</p>	<p>Low scale loss of nesting habitat on site.</p> <p>Potential disturbance to breeding birds.</p>	<p><u>Mitigation</u></p> <p>Works to any scrub, trees and buildings on site to be conducted outside bird nesting season or under watching brief of ecologist if during nesting season.</p> <p><u>Enhancement</u></p> <p>Installation of one integrated swift box, one integrated sparrow terrace and one small bird box on new buildings and trees.</p>
Great crested newts	<p>Habitat on site predominately unsuitable but small areas of suitable habitats present.</p> <p>Six ponds within 250m of the site. Pond six assessed as average suitability. Ponds 1-5 not accessed for assessment.</p> <p>Site falls within Green risk zone for district level licensing.</p> <p>13 GCN records within 2km.</p>	<p>Potential harm to GCN if present on site during works.</p> <p>Loss of GCN terrestrial habitat not considered significant to a local population of GCN, if present.</p> <p>No impacts on potential GCN aquatic habitat.</p>	<p><u>Further steps required</u></p> <p>This can be in the form of either:</p> <ul style="list-style-type: none"> • Further GCN surveys (presence/likely absence surveys conducted between mid-March and mid-June, or eDNA surveys conducted between mid-April and June). The outcome of the surveys will inform a detailed mitigation strategy and whether an EPS Mitigation Licence will be required from Natural England. • Applying to join a District Level Licensing scheme to determine the required level of financial contribution to GCN mitigation, which can be completed at any time of year.
Water voles and otters	<p>Unsuitable habitat onsite but suboptimal ditch adjacent to southeast.</p>	<p>No loss of potential water vole or otter habitat.</p>	<p><u>Precautionary mitigation</u></p> <p>A 6m no-work buffer zone to be applied from the top of the bank using temporary barrier netting.</p>

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
	Two water vole and one otter records within 2km.		If proposed works change to incorporate this area, further water vole surveys will be conducted prior to works commencing to inform a detailed mitigation strategy.
Reptiles	Habitats on site predominately unsuitable. Two reptile records within 2km.	Reptiles unlikely to be found on site due to small quantities of suitable habitats present. No impacts predicted.	<u>Precautionary mitigation</u> Cut and maintain vegetation short (maximum height of 10cm) on and around the site until the start of works.
Badgers	No badger signs on site, but habitat suitable for badger foraging and commuting. No badger records within 2km.	No impacts predicted.	None required.
Hazel dormice	Habitats on site suboptimal, but ecologically separated from nearby woodland. No dormouse records within 2km.	No impacts predicted.	None required.
Other animals	N/A	Potential harm to animals.	<u>Mitigation</u> If fencing is required, this will be porous and provide openings for hedgehogs. Rough sawn planks will be placed inside any open excavations. Construction materials will be stored off the ground on pallets and waste materials in skips.

1. METHOD

- 1.1. A walkover of the site was conducted on 12th April by Lucy Reed and Miranda Proctor – independent, qualified and experienced ecologists. Survey conditions were as follows: 11°C, 6mph wind, sunny intervals and dry.
- 1.2. All survey methods were carried out in accordance with the most up to date good practice guidance for the relevant protected species. Please refer to Appendix A for the full methodology and species breakdown.
- 1.3. The habitats on and directly adjacent the site were considered unsuitable for the following protected species, with no evidence or signs of use observed. No further surveys or mitigation for these species are detailed in this report:
 - White-clawed crayfish *Austropotamobius pallipes*
 - Natterjack toad *Epidalea calamita*

2. SITE CONTEXT

Location

- 2.1. The general location of the site is shown in Figure 1 below.
- 2.2. The site is situated on the south-eastern edge of the village of Laxfield, with the A12 located approximately 10km east. The closest town is Halesworth located approximately 9km northeast of the site.
- 2.3. The site is enclosed by the B1117 to the west, residential dwellings to the south, grassland to the east and an arable field to the north. The wider surroundings are comprised of a mixture of residential dwellings, agricultural buildings and arable fields lined with mature trees and hedgerows.



Figure 1

Satellite image of site surroundings, site indicated by red line.

Image © Google, date accessed 14/04/23

3. DESCRIPTION OF THE DEVELOPMENT

- 3.1. The proposals are for the application for the demolition of the existing dwelling and the construction of a replacement dwelling with garage. Please refer to Appendix I for the proposed plans.

4. PROTECTED SITES

Statutory

- 4.1. There are no statutory protected sites located within 2km.
- 4.2. The proposed development falls outside of all Sites of Special Scientific Interest (“SSSI”) Impact Risk Zones relating to rural residential developments.

Non-statutory

- 4.3. There are three non-statutory protected sites located within 2km – 10 County Wildlife Sites (“CWS”). Please refer to Appendix C for the full citations.
 - i. Laxfield Wood CWS, approximately 1.15km southwest.

“Laxfield Wood is situated in an intensively farmed landscape, to the south of the village of Laxfield. It is of considerable age and is therefore listed in English Nature’s Ancient Woodland Inventory.”
 - ii. Laxfield Meadows CWS, approximately 1.6km northwest.

“This grassland is bordered by a public footpath along the northern margin and slopes gently down to the River Blyth on the western boundary. Lowland meadow is a priority habitat. The meadow is underlain by Boulder Clay. This unimproved grassland which is enclosed mostly by dense native hedgerow supports a species-rich plant community.”
 - iii. Ubbeston Wood CWS, approximately 1.8km northeast.

“Ubbeston Wood is the only ancient wood in the parish and one of four medieval woods in eastern England to adjoin a river. It has all the features of a classic medieval wood; a strong sinuous bank and ditch boundary, a number of old hornbeam pollards on the south-eastern side and it also supports a number of plants characteristic of ancient woodland.”

5. HABITATS

Desktop review

- 5.1. Priority Habitats to occur within 2km (identified using MAGIC – managed by Natural England), include Lowland Meadows and Deciduous Woodland. The closest of which, is Deciduous Woodland located approximately 450m southeast of the site.

Field study

- 5.2. The habitats on the site are of **low** ecological value, being mainly modified grassland managed as lawn and hedgerows (Priority Habitat) on the site peripheries.
- 5.3. There are no Priority Habitats, as listed under the NERC Act 2006 Section 41 Habitats of Principal Importance found on site.
- 5.4. Figure 2 provides a map of the habitats present on the site. NERC Act 2006 Section 41 habitats have been identified where relevant. A full list of plant species recorded on site is attached in Appendix E.

Modified grassland (UK Habitat Classification g4; secondary codes: 11 scattered trees, 17 ruderal/ephemeral, 64 mown, 117 dry, 191 ditch, 330 scrub & 1150 flowerbed)

- 5.5. The site is predominantly comprised of modified grassland managed as lawn. Species present include: cock's-foot *Dactylis glomerata*, perennial ryegrass *Lolium perenne*, creeping cinquefoil *Potentilla repens*, ragwort *Senecio jacobaea*, dove's-foot cranesbill *Geranium molle*, daisy *Bellis perennis*, curled dock *Rumex crispus*, creeping buttercup *Ranunculus repens*, groundsel *Senecio vulgaris*, red dead-nettle *Lamium purpureum*, dandelion *Taraxacum officinale*, nettle *Urtica dioica*, white clover *Trifolium repens*, yarrow *Achillea millefolium*, violet *Viola sp.* and germander speedwell *Veronica chamaedrys*. A flowerbed containing daffodils *Narcissus sp.* is present in the southwest of the site.
- 5.6. A dry ditch runs diagonally across the northern half of the site and is encroached by sedges *Carex sp.* and great willowherb *Epilobium hirsutum*.
- 5.7. Several apple *Malus domestica* and cherry *Prunus sp.* trees feature in the northwest and southeast corners of the site. The area to the southeast also contains ruderal vegetation dominated by nettles.
- 5.8. A small area of bramble *Rubus fruticosus* scrub is present to the northeast of the building onsite.

Artificial unvegetated, unsealed surface (UK Habitat Classification u1c; secondary codes: 11 scattered trees, 17 ruderal/ephemera & 73 bare ground)

- 5.9. An area of ground to the north of the site has undergone some clearance and is now a mixture of bare ground and ruderal/ephemeral vegetation. Vegetation includes: cleavers *Galium aparine*, lords and ladies *Arum maculatum*, curled dock, ground elder *Aegopodium podagraria*, nettle and cock's-foot.
- 5.10. An English oak *Quercus robur* and an ash *Fraxinus excelsior* trees feature along the northern boundary of the site.

Other native hedgerows (UK Habitat Classification h2a6; secondary codes: 117 dry & 191 ditch)

- 5.11. The site features species-poor hedgerows along the southern and western boundaries of the site. Species include: bramble, hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, dogwood *Cornus sanguinea*, English oak, field maple *Acer campestre*, elder *Sambucus nigra* and ivy *Hedera helix*. The hedgerow along the northern boundary also features a dry ditch which is vegetated with greater willowherb, nettle and cleavers.
- 5.12. These hedgerows are not classified as Priority Habitat being <20m in length.

Buildings (UK Habitat Classification u1b5)

- 5.13. A house is present onsite. Please refer to the bat section detailed below for further information.

Other developed land (UK Habitat Classification u1b6)

- 5.14. The site features an areas of concrete and compacted gravel hardstanding across the site, with encroaching ruderal vegetation.

Built linear features (UK Habitat Classification u1e; secondary code: 69 fence)

- 5.15. A timber post and rail fence is present along the northern and eastern boundaries of the site.

Target note	Comments
A	Recently managed wet ditch located off site to the southeast.

Table 1, target notes.





Photo 1, looking south across the modified grassland managed as lawn to the west of the site.



Photo 2, looking southeast along the existing hardstanding access track to the north of the site.



Photo 3, looking southeast along the dry ditch which runs diagonally across the site.



Photo 4, looking northwest at the northern hedgerow and dry ditch.



Photo 5, looking southwest from the northeast corner of the site.



Photo 6, looking southwest at the area of ruderal and scattered trees in the southeast corner of the site.



Photo 7, looking west at the small area of scrub to the northeast of the house onsite.



Photo 8, recently managed wet ditch (offsite) to the southeast of the site (TN-A).

6. PROTECTED AND NOTABLE SPECIES

Desktop review

Data search

- 6.1. The biodiversity data search within 2km of the site indicated 526 records from 116 species.
- 6.2. Records of note within 2km and relevant to the proposed development works are:
 - 20 barn owl *Tyto alba* records, with the most recent from 2020.
 - 10 skylark *Alauda arvensis* records, with the most recent from 2021.
 - 19 swift *Apus apus* records, with the most recent from 2022.
 - 13 GCN *Triturus cristatus* records, with the most recent from 2016. The closest record is located approximately 0.5km east.
 - Two reptile records, with the most recent from 2011. The closest record is located approximately 1.9km northwest. Species include: grass snake *Natrix Helvetica*.
 - One otter *Lutra lutra* record from 2010 located approximately 1.3km north.
 - Two water vole *Arvicola amphibius* records, with the most recent from 2022. The closest record is located approximately 1.7km northwest.
 - Nine hedgehog *Erinaceus europaeus* records, with the most recent from 2019.
 - 17 bat records, with the most recent from 2016, including common pipistrelles *Pipistrellus pipistrellus*, soprano pipistrelles *Pipistrellus pygmaeus*, brown long-eared *Plecotus auritus*, noctules *Nyctalus noctula* and other unidentified bat species.

Protected species licences

- 6.3. A 2km search on <http://www.magic.gov.uk/> indicated no records of granted European Protected Species ("EPS") Mitigation Licences.

Bats

- 6.4. There is one building and two trees with bat roosting potential located on site, as indicated in Figure 3 and photos 9-19.



The House - Building one

- 6.5. The house is a brick construction with a pitched, concrete interlocking tiled roof. Extensions are present to the north and east constructed from brick and plaster. The northern extension features a pitched, concrete interlocking tiled roof whilst the eastern extension has a single pitched, corrugated asbestos roof. There are several gaps along the ridge, at the gable ends, around the chimney and around the dormer windows which provide suitable roosting and access opportunities for bats.
- 6.6. The house features a mixture of timber and asbestos soffits and fascias, which are loose and contain several holes that provide suitable access/roosting opportunities for bats. There are PVC windows, many of which contain gaps allowing access into the house and/or roosting opportunities for crevice dwelling bats.

- 6.7. Internally, the upper level of the house comprises of rooms which have been plastered with small roof voids above. The northern extension roof void is inaccessible. Although the main house roof void is inaccessible, it is partly visible from gaps around the chimney. The void is approximately 1.25m to the ridge, features modern sawn timbers and is lined with bitumen felt.
- 6.8. Despite having previously been living quarters, gaps around the windows and around the chimneys allow possible access into the space by bats and a small number of bat droppings consistent in size, appearance, and structure with pipistrelle sp. *Pipistrellus sp.* and brown long-eared were scattered throughout.
- 6.9. The house is assessed as **moderate** summer and **low** hibernation roost suitability for bats due to its location, roosting features and signs of bats.



Photo 9, north and east aspects of the building, looking southwest.



Photo 10, north and west aspects of the building, looking southeast.

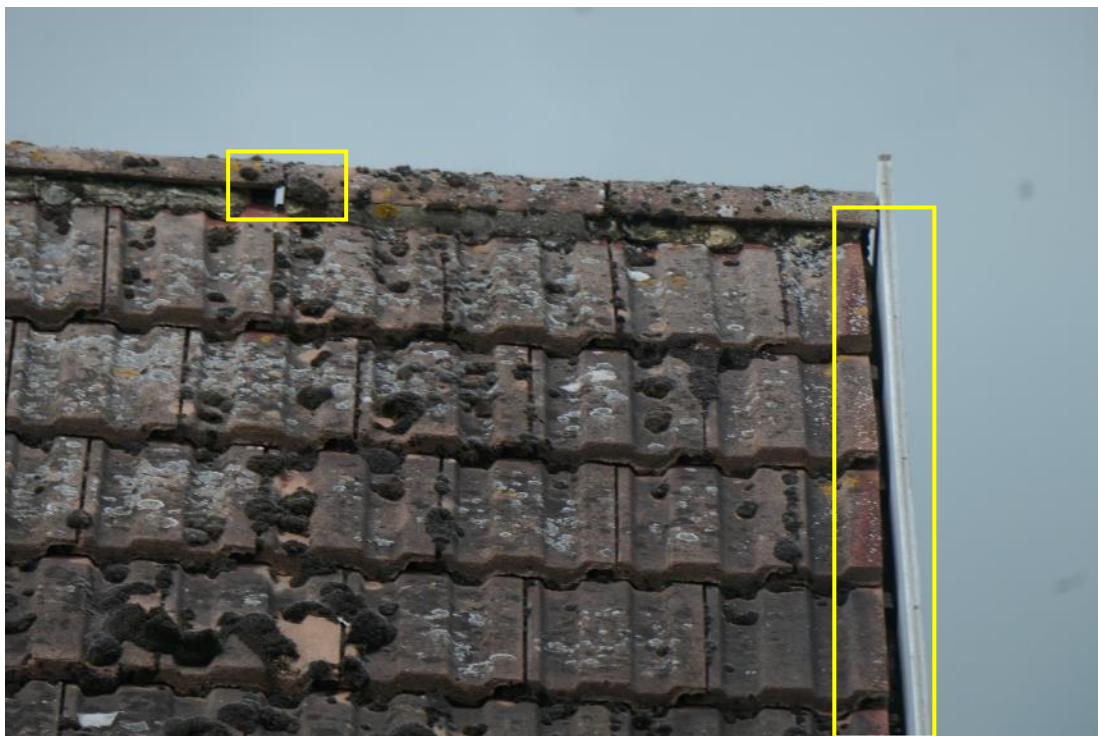


Photo 11, example of gaps along the ridge and at the gable end, looking west at the northern gable.



Photo 12, example of holes in the soffits of the building.



Photo 13, example of gaps around the chimney.



Photo 14, example of gaps around dormer windows.



Photo 15, internal view of the upper level of the northern extension.



Photo 15, example of a bat dropping observed in the upper level of the house.



Photo 16, internal view of the upper level of the main house.



Photo 17, gaps around chimney which allow access into the main loft space from the living areas.

Trees

- 6.10. The trees around the site boundary were assessed for bat roosting potential.
- 6.11. A total of two trees on or adjacent the site were assessed as having **low** to **moderate** roost suitability for bats based on their location, age and suitable features (Table 2, Figure 3).
- 6.12. The remaining trees are assessed as **negligible** bat roosting potential, due to their age and/or lack of features.

Tree No.	Tree species	What3words	Bat roosting potential	Potential roosting features
1	Apple	Spruced. large. dote	Moderate	Cavity in trunk.
2	English oak	camp. promotion. snippet	Low	Ivy cover.

Table 2, trees with bat roosting potential.



Photo 18, tree one with cavity in trunk.



Photo 19, tree two with ivy cover.

Foraging and commuting links

- 6.13. The site itself provides **low** value foraging habitat for bats along the boundary hedgerows.
- 6.14. The landscape immediately adjacent to the site is considered of **low** value for foraging and commuting bats, with linked gardens and hedgerows providing links to the wider landscape.

Birds

- 6.15. Birds in the UK are classified into three categories of conservation importance - red, amber and green. Factors such as global threat level, population decline, breeding population decline and contraction of breeding range are taken into account to determine classification.
- 6.16. The following bird species were observed during the site visit:

Red listed:

House sparrow	<i>Passer domesticus</i>
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Amber listed:

Woodpigeon	<i>Columba palumbus</i>
Wren	<i>Troglodytes troglodytes</i>

Green listed:

Blackbird	<i>Turdus merula</i>
Blue tit	<i>Cyanistes caeruleus</i>
Great tit	<i>Parus major</i>
Robin	<i>Erithacus rubecula</i>

- 6.17. The site provides suitable nesting habitats for hedgerow, tree and building nesting species. A house sparrow was seen entering behind the loose fascia on the southern gable of the house indicating the possible presence of a nest.
- 6.18. The site provides potential breeding habitat for the following Red listed species: house sparrow.
- 6.19. The site provides potential breeding habitat for the following Amber listed species: woodpigeon and wren.
- 6.20. No signs of barn owl were found on the site and no foraging habitat is present.

Great crested newts

- 6.21. There are no ponds within the survey site and six further ponds/ditches within 250m, which for the size of the development and nature of terrestrial habitat on the site, is a sufficient distance

to consider for assessment (Figure 4). GCN are most likely to occupy good quality terrestrial habitat within 250m of a breeding pond (English Nature, 2001).

- 6.22. The terrestrial habitats on the site are considered predominantly unsuitable for GCN, consisting of modified grassland managed as lawn with some small areas of suitable ruderal vegetation, scrub, hedgerows and dry ditches.
- 6.23. Terrestrial habitats adjacent the site include a mixture of unsuitable (residential dwellings with associated gardens and hardstanding, managed/grazed grassland and arable) and suitable (hedgerows and ditches) GCN foraging, commuting and hibernating habitats.
- 6.24. Ponds 1-5 were not assessed in detail, as authorised access to the ponds was not available.
- 6.25. Ponds 1-3 were assessed in June 2022 by Liz Lord Ecology as part of a planning application for a nearby site and were assessed as **‘below average’** to **‘excellent’** suitability for breeding GCN. Pond 3 is known to be stocked with fish and therefore is unsuitable for breeding GCN.
- 6.26. Pond/ditch 6 was assessed as **‘average’** suitability for breeding GCN.

The site falls within the Green risk zone for GCN district level licensing, which is classified as *“containing sparsely distributed GCN and are less likely to contain important pathways of connecting habitat for this species”* (Natural England, 2021).

Pond	1*	2*	3*	4-5	6
Geographic location	Zone A	Zone A	Zone A	Authorised access unavailable	Zone A
	1.00	1.00	1.00		1.00
Pond surface area (m ²)	1,305m ²	200m ²	36m ²		500m ²
	0.90	0.40	0.07		1.00
Desiccation rate	Never	Sometimes	Rarely		Sometimes
	0.90	0.50	1.00		0.50
Water quality/ invert density	Good	Good	Good		Poor
	1.00	1.00	1.00		0.33
Shoreline shade (%)	10%	10%	75%		50%
	1.00	1.00	0.70		1.00
Waterfowl impacts	Minor	Absent	Absent		Absent
	0.67	1.00	1.00		1.00
Fish impacts	Major	Absent	Possible		Absent
	0.01	1.00	0.67		1.00
Ponds within 1km	5.1	5.1	5.1		13+
	1.00	1.00	1.00		1.00
Terrestrial habitat quality	Moderate	Good	Good	Poor	
	0.67	1.00	1.00	0.33	
Macrophyte cover (%)	30%	35%	15%	0%	
	0.61	0.66	0.46	0.30	
HSI Score	Below average	Excellent	Average	Average	
	0.54	0.80	0.66	0.66	

Table 3, HSI score for ponds within 250m of the proposed site. * HSI score taken from Liz Lord Ecology (2022).



Photo 20, pond/ditch six, looking east.

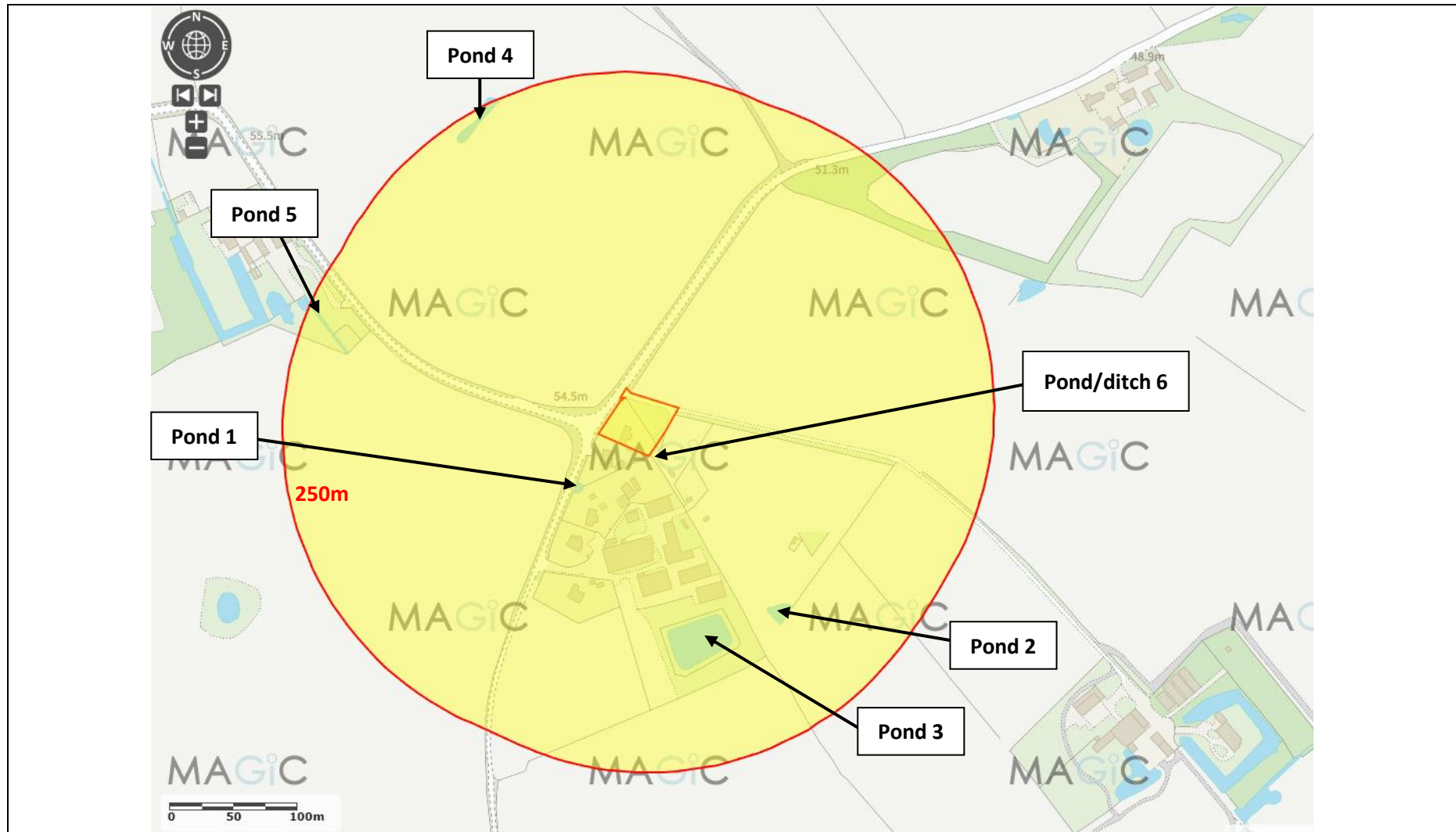


Figure 4
Ponds within 250m of the proposed site.
Image © MAGiC, date accessed 17/04/23

Water voles and otters

- 6.27. The ditches onsite are not considered suitable for water vole and otters due to being dry for the majority of the year. The ditch (pond six) adjacent to the site is considered suboptimal for water voles and otter with steep earth banks, but contains limited marginal or aquatic vegetation.

Reptiles

- 6.28. The habitats on the site are considered predominantly unsuitable for reptiles, consisting of modified grassland managed as lawn with small areas of suboptimal ruderal vegetation and scrub.
- 6.29. Habitats located on the site boundaries including the base of the hedgerows and the dry ditches could be used as commuting habitats by reptiles if they were present in the area.
- 6.30. Terrestrial habitats adjacent the site are predominately unsuitable for reptiles consisting of, arable fields, managed grassland and residential dwellings with associated gardens and hardstanding.

Badgers

- 6.31. No signs of badger presence were found on or near the site, although the habitats on site are considered suitable for badger foraging and commuting.
- 6.32. Habitats within the local vicinity include arable fields and hedgerows providing suitable habitats for badger setts, foraging and commuting.

Dormice

- 6.33. The hedgerows on the site are considered suboptimal for hazel dormice.
- 6.34. The closest deciduous woodland (identified using MAGIC) is 450m southeast of the site, greater than a hazel dormouse home range ($\approx 70\text{m}$, Bright *et al.*, 2006).

7. DISCUSSION AND CONCLUSIONS

Protected sites

- 7.1. The development footprint falls outside all identified protected sites (statutory and non-statutory). There are no statutory protected sites and three non-statutory protected sites located within 2km of the site.
- The closest non-statutory protected site (Laxfield Wood CWS), is located approximately 1.15km southwest of the site and designated for its ancient woodland.
- 7.2. The proposed development falls outside of any SSSI Impact Risk Zones relating to rural residential developments.
- 7.3. The proposed development is expected to have no effects on statutory or non-statutory protected sites or their qualifying features, owing to its relatively small scale, distance to protected sites and limited predicted impacts beyond the area of works.

Habitats

- 7.4. The proposed works will require the clearance of predominantly modified grassland managed as lawn, with some small areas of scrub and ruderal vegetation.
- 7.5. As a precautionary measure, the following mitigation will be implemented to avoid impacts on habitats from the proposed works:
- i. Hedgerows and trees onsite will be retained where possible.
 - ii. A soft landscaping scheme to include the planting of new native species-rich (≥ 5 species), hedgerows and trees around the site (see Appendix H for suggested species).
 - iii. Construction works carried out in accordance with British Standards Institution (2012), BS 5837:2012, Trees in relation to design, demolition and construction – recommendations, to protect trees which are to be retained and their root protection areas.

Bats

- 7.6. The proposed works will require the demolition of the building on site, which has the potential to materially modify or destroy potential bat roosting locations, if present.
- 7.7. The following surveys/mitigation are required to determine if any bat species are present, the nature of their use of the building(s) and any roosting locations:

- i. At least two bat activity survey to be conducted on building one (the house) between May and September. Please note, at least one survey must be conducted between May and August.
 - ii. At least two bat hibernation surveys to be conducted on the building one (the house) between December and February.
 - iii. If bats are found to be present and roosting within the building, further activity surveys and a European Protected Species Mitigation Licence may be required for the development.
 - iv. If proposed works change to incorporate the tree with moderate bat roosting potential on the site, further bat surveys will be conducted prior to work commencing, to assess it's potential use by bats.
 - v. If proposed works change to incorporate the tree with low bat roosting potential, a soft-fell approach will be adopted. This is where the tree limbs are cut, slowly lowered to the ground and left overnight with roosting features pointing upwards, to allow any roosting bats the opportunity to disperse. If a bat is found, works must cease immediately and a suitably licensed ecologist sought to advise on appropriate mitigation
 - vi. Any lighting schemes will follow guidance from the Bat Conservation Trust and CIE 150:2003. Warm-white (long wavelength) lights with UV filters will be fitted as close to the ground as possible. Lighting units will be angled below 70° and equipped with movement sensors, baffles, hoods, louvres and horizontal cut off units at 90°.
- 7.8. The outcomes of further activity surveys will inform the detailed recommended mitigation for bats. We consider that the proposed development will be able to accommodate this in the form of alternative roosting opportunities, as required.
- 7.9. Building Regulations state that the energy efficiency of buildings must be improved where possible and that contractors must assess the condensation risk within the roof space and make appropriate provisions in line with BS 5250:2011. This British Standard states that both High Resistance (bitumen type 1F) and Low Resistance (non-bitumen coated roofing membranes (NBCRM)) underlays are acceptable as long as appropriate ventilation is provided. As NBCRM are proven to entangle bats through regular contact, which also compromises the integrity of the membrane, the Bat Conservation Trust recommend only NBCRM that have passed the snagging propensity test (must be supplied/installed with the necessary certification) or traditional type 1F bitumen are used.

Birds

- 7.10. The proposed works are expected to result in a low scale loss of bird nesting habitat through the demolition of the building and clearance of vegetation.
- 7.11. Any works affecting bird nesting habitat such as management of scrub, hedgerows, trees or buildings would ideally need to be conducted outside the main nesting season, which lasts from March to August. If work is planned during the bird nesting season, then a precautionary check of all habitats will be conducted by a qualified ecologist immediately prior to starting any work. If any nesting birds are found, an appropriate protection zone from the nest will be required and will be maintained until the young have fledged.
- 7.12. As enhancements, the following will be implemented:
- i. One integrated swift box on the new dwelling (Swift Block – Appendix F).
 - ii. One integrated sparrow terrace on the new dwelling or garage building (1SP Schwegler Sparrow Terrace – Appendix F).
 - iii. One small bird box on a suitable tree onsite (Schwegler 1B or 2H Nest Box – Appendix F).
- 7.13. Natural England and Local Planning Authorities (“LPA”) have recognised a significant decline in swift populations across the country, and are actively endorsing integrated swift boxes to provide a net gain in biodiversity, as is encouraged by NPPF 2021.

Great crested newts

- 7.14. The proposed works are expected to result in a low scale loss of terrestrial habitats with aquatic habitats unaffected.
- 7.15. The site is predominately unsuitable for GCN comprising of modified grassland managed as lawn but there are some small areas of suitable habitat onsite including ruderal vegetation, scrub, dry ditches and hedgerows.
- 7.16. Taking a worst-case scenario of 0.1-0.5ha of land being lost or damaged <100m of a breeding pond (ponds one and six), the risk assessment calculation (set out in the GCN method statement template provided by Natural England) indicates an “*offence likely*”.
- 7.17. Taking a second worst-case scenario 0.1-0.5ha of land being lost or damaged between 100-250m of a breeding pond (ponds 2-5) the risk assessment calculation (set out in the GCN method statement template provided by Natural England) indicates an “*offence highly unlikely*”.
- 7.18. If GCN are present in ponds one and six, the proposed development has the potential to negatively impacts GCN which may use the site for shelter, foraging and commuting.
- 7.19. Further steps are required to inform the planning application. This can be in the form of the following methods:

- i. Further GCN surveys:
 - a. eDNA surveys on ponds one and six (can only be conducted between mid-April and June).
 - b. Presence/likely absence surveys on ponds within 250m of the site which contain sufficient levels of water during the GCN breeding season (can only be conducted between mid-March and mid-June). Please note, a number of visits are required in the peak season (mid-April to mid-May).
 - c. The outcomes of the presence/likely absence or eDNA surveys will inform a detailed mitigation strategy for GCN and whether a district level license or EPS Mitigation Licence will be required from Natural England for the proposed development to proceed.
- ii. Apply to join a district level licensing (“DLL”) scheme (can be completed all year round). Please note, all ponds will be assumed to contain GCN unless presence/likely absence surveys or eDNA tests have confirmed likely absence.

Water voles and otters

- 7.20. Although the ditch (pond 6) adjacent to the site is considered suboptimal for water voles and otters, no burrows, holts or signs of use were observed, and the ditch will be unaffected by proposed works.
- 7.21. As a precautionary measure, the following mitigation will be implemented to avoid impacts on water voles and otters from the proposed works:
 - i. A 6m no-work buffer zone (includes vegetation clearance) to be applied from the top of the bank using temporary barrier netting, to protect potential water vole burrows and prevent pollution/run-off from entering the watercourse. This area will be marked using a temporary barrier netting.
 - iii. If proposed works change to incorporate this area, further water vole surveys will be conducted prior to work commencing to inform a detailed mitigation strategy.
- 7.22. After these precautionary mitigation measures, we predict no impact on water voles or otters from the development plans. We consider that a European Protected Species Mitigation Licence will not be required, and no further surveys are necessary.

Reptiles

- 7.23. The proposed works are expected to result in a low scale loss of reptile habitat through the clearance of scrub and ruderal vegetation.
- 7.24. Although suitable reptile habitats are present on site, they are in small quantities and would be unable to support a population in isolation. As a precautionary measure, the following mitigation will be implemented to avoid impacts on reptiles from the proposed works:
- i. Vegetation on site will be cut and maintained short (maximum height of 10cm) until the start of works, to discourage animals from using these areas.
- 7.25. After these precautionary mitigation measures, we predict no impact on reptiles as a result of the development plans, and no further surveys are necessary.

Badgers

- 7.26. No impacts are expected on badger setts from the proposed development and no mitigation is required.

Dormice

- 7.27. No impacts are expected on this species from the proposed development and no mitigation is required.

Other animals

- 7.28. The surrounding habitat of the site is considered suitable for hedgehogs. To maintain potential hedgehog routes within the site and between the site and further habitats, any fencing installed will be porous and provide access openings for hedgehogs (see Appendix G for examples).

General mitigation to protect wildlife during the construction period are as follows:

- Any excavations will have a rough sawn plank placed inside to act as a ramp to allow any animals that have fallen in to escape. The excavations will be checked each morning works are scheduled for, to remove any animals trapped.
- Construction materials will be stored off the ground on pallets and waste materials in skips, to prevent providing shelter for animals and subsequent harm when materials are moved.

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Appendix A

Methods

Desktop Review

A desktop review of published data, such as records of protected sites and species, OS maps and satellite images has been carried out. A data search was carried out with the Suffolk Biodiversity Information Service ("SBIS").

A field survey visit was conducted to confirm the findings of the desktop review and to record habitats and species located on site.

Equipment available for use during the survey were binoculars, ladders, torches, endoscope and a digital camera.

Habitats

The habitats on site have been defined using the UK Habitat Classification (Butcher *et al.*, 2020). Natural Environment and Rural Communities (NERC) Act (2006) habitats listed under section 41 have been identified where appropriate.

Bats

An assessment of the habitats on and surrounding the site for bat interest was made, in accordance with latest bat survey guidelines (Collins, 2016).

The building(s) on site was assessed for its potential to support roosting bats and involved a thorough internal and external search of all suitable cavities, holes and crevices. All suitable areas, including objects, ledges and floors were inspected for the following signs:

- Bat droppings
- Stains around roosting places and entrance points
- Urine marks
- Prey remains
- Areas devoid of cobwebs
- Live or dead bats
- Suitable cracks and crevices for bats to enter

In exposed conditions, the signs of bat usage such as droppings and urine marks can be obliterated by heavy rain.

An evaluation system was applied to the building(s) using the following criteria:

- **Negligible roost suitability for bats.** These buildings have no potential roosting features for bats, or very few or minor features in an isolated or unsuitable location such that the presence of a bat roost is considered highly unlikely. Such buildings usually fall into two main types: generally, well maintained without cracks and crevices, no gaps between bargeboard or soffit and wall, or without an attic space; or those which contain some or all of the above features, but are both draughty and thick in cobwebs

or contain strong odours such as solvents, diesel etc. It must be borne in mind that a building from this latter group can become suitable for bats following refurbishment. This often happens to houses once the attic space has been cleaned and under-felted prior to timber treatment. When no suitable habitats for bats are found, no further surveys or European Protected Species (“EPS”) mitigation licence are required.

- **Low roost suitability for bats.** Buildings in this category have one or more potential roost sites that could be used by individual bat opportunistically. These buildings do not however provide suitable conditions (such as space, shelter, temperature, humidity, or light and noise disturbance) to be used on a regular basis by a large number of bats. Structures with low roost suitability for bats will require **one dusk emergence or one dawn re-entry survey** conducted between May and August to assess their current use by bats.
- **Moderate roost suitability for bats.** These buildings contain one or more potential roosting sites which could be regularly used by bats owing to their size, shelter, protection and conditions. These buildings are however unlikely to support a roost of high conservation status (maternity roost or hibernation roost). Structures with moderate roost suitability for bats will require two surveys, **one dusk emergence and one dawn re-entry survey** conducted between May and September with at least one of the surveys undertaken between May and August, to assess their current use by bats.
- **High roost suitability for bats.** This group includes buildings with one or more potential roost sites which are obviously suitable for use by a larger number of bats on a regular basis and potentially for longer periods of time owing to their size, shelter, protection and conditions. These buildings may support a roost of high conservation status (maternity roost or hibernation roost) and will require three activity surveys to assess their current use by bats. The surveys should include at least **one dusk emergence and** at least **one dawn re-entry survey** (the third survey can either be at dusk or dawn) and should be conducted between May and September with at least two of surveys undertaken between May and August.

Trees on and around the site were assessed for their suitability to support roosting bats. The assessment involved a ground level inspection of the exterior of the trees to search for features offering roosting potential to bats such as split limbs, woodpecker holes, cavities, lifted bark and dense thick-stemmed ivy.

An evaluation system was applied to the trees using the following criteria:

- **Negligible roost suitability for bats.** Trees unlikely to be used by roosting bats.
- **Low roost suitability for bats.** A tree of sufficient size and age to contain Potential Roosting Features (“PRFs”), but with none seen from the ground or features seen with only very limited roosting potential.
- **Moderate roost suitability for bats.** A 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.

- **High roost suitability for bats.** A 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 and surrounding habitat.

The habitats on and around the site were assessed for their commuting and foraging potential for bats. An evaluation system was applied to the commuting and foraging potential using the following criteria.

- **Negligible commuting and foraging potential for bats.** Habitat features unlikely to be used by commuting or foraging bats.
- **Low commuting and foraging potential for bats.** Habitats that could be used by a small number of commuting or foraging bats such as, a gappy hedgerow, unvegetated stream or lone trees, but are isolated and not well connected to the surrounding landscape.
- **Moderate commuting and foraging potential for bats.** Habitats that are continuous and connected to the wider landscape such as, lines of trees, scrub, linked back gardens, grasslands and water features.
- **High commuting and foraging potential for bats.** Habitats that are continuous and connected to the wider landscape such as, river valleys, watercourses, hedgerows, lines of trees, deciduous woodland, and grazed parkland. These habitats are likely to be used regularly by commuting or foraging bats and are likely to be close to, or connected to, known roosts.

Birds

The site and its surrounding habitats were assessed for their potential to support breeding birds. Bird nesting habitat could include grassland, hedgerows, scrub, trees and buildings.

Bird species noted during the site visit were recorded. Trees, buildings and grassland were checked for use by barn owls, swifts and skylarks.

Great crested newts

Habitats on and near the site were assessed for their suitability for great crested newts ("GCN").

Water features on and near the site were assessed for their suitability for occupation by GCN, according to a Habitat Suitability Index ("HSI"). The HSI is a theoretical index of a waterbody's suitability to support a breeding population of GCN and is calculated from a series of ten variables recorded on site, as detailed in Table 4.

Indices	Name	Description
SI1	Geographic Location	Lowland England or upland England, Scotland and Wales
SI2	Pond area	To the nearest 50m ²
SI3	Permanence	Number of years' pond dry out of ten
SI4	Water quality	Measured by invertebrate diversity
SI5	Shade	Percentage shading of pond edge at least 1m from shore
SI6	Fowl	Level of waterfowl use
SI7	Fish	Level of fish population
SI8	Pond count	Number of ponds within 1km divided by 3.14
SI9	Terrestrial habitat	Quality of surrounding terrestrial habitat
SI10	Macrophytes	Percentage extent of macrophyte cover on pond surface

Table 4, HSI indices.

The HSI score is the geometric mean of the ten suitability indices calculated:

$$HSI = (SI1 \times SI2 \times SI3 \times SI4 \times SI5 \times SI6 \times SI7 \times SI8 \times SI9 \times SI10)^{1/10}$$

Once calculated, the HSI score for a waterbody can be categorised as follows:

Excellent (>0.8)

Good (0.7 – 0.79)

Average (0.6 – 0.69)

Below Average (0.5 – 0.59)

Water voles, otters and white-clawed crayfish

Water features on and adjacent to the site were assessed for use by water vole, otter and white-clawed crayfish. Otters in England typically use areas of fresh water and streams and ditches for moving between habitats. Otter holts are usually located underneath tree roots, in tunnels. Field signs of presence include spraints on prominent features such as bridges, tree bases or boulders, and footprints.

Water voles inhabit burrows in the banks of ponds, ditches, streams and rivers. Field signs include droppings left in latrine spots, burrow entrances or feeding remains.

White-clawed crayfish inhabit streams and rivers with a moderate flow rate, and lakes. Clear, well-oxygenated water is preferred. Typical habitat features include crevices in rocks, gaps between stones, submerged plants and tree roots.

Reptiles

The habitats on the site and within the proposed area of works were assessed for suitability for reptiles.

Reptiles rely on conditions that allow them to maintain their body temperature through basking. They require access to direct sunlight, shelter from the elements, sufficiently large populations of prey species and hibernation sites.

Reptiles typically favour a habitat mosaic with a diverse vegetation structure, which could include grassland, scrub and woodland.

Badgers

An inspection of all habitats with the potential to support badger *Meles meles* sett construction and foraging activities on the application site was undertaken. Any incidental observations of badger signs were also recorded. The survey comprised searching for evidence of badger activity in the form of setts, droppings, pathways, snuffle holes, hair and footprints.

Dormice

Dormice habitats include deciduous woodland, hedgerows and scrub. Dormice are found mainly in the south of England, including Kent and Sussex, with sporadic populations elsewhere. An assessment of the suitability of site habitats for occupation by dormice was made.

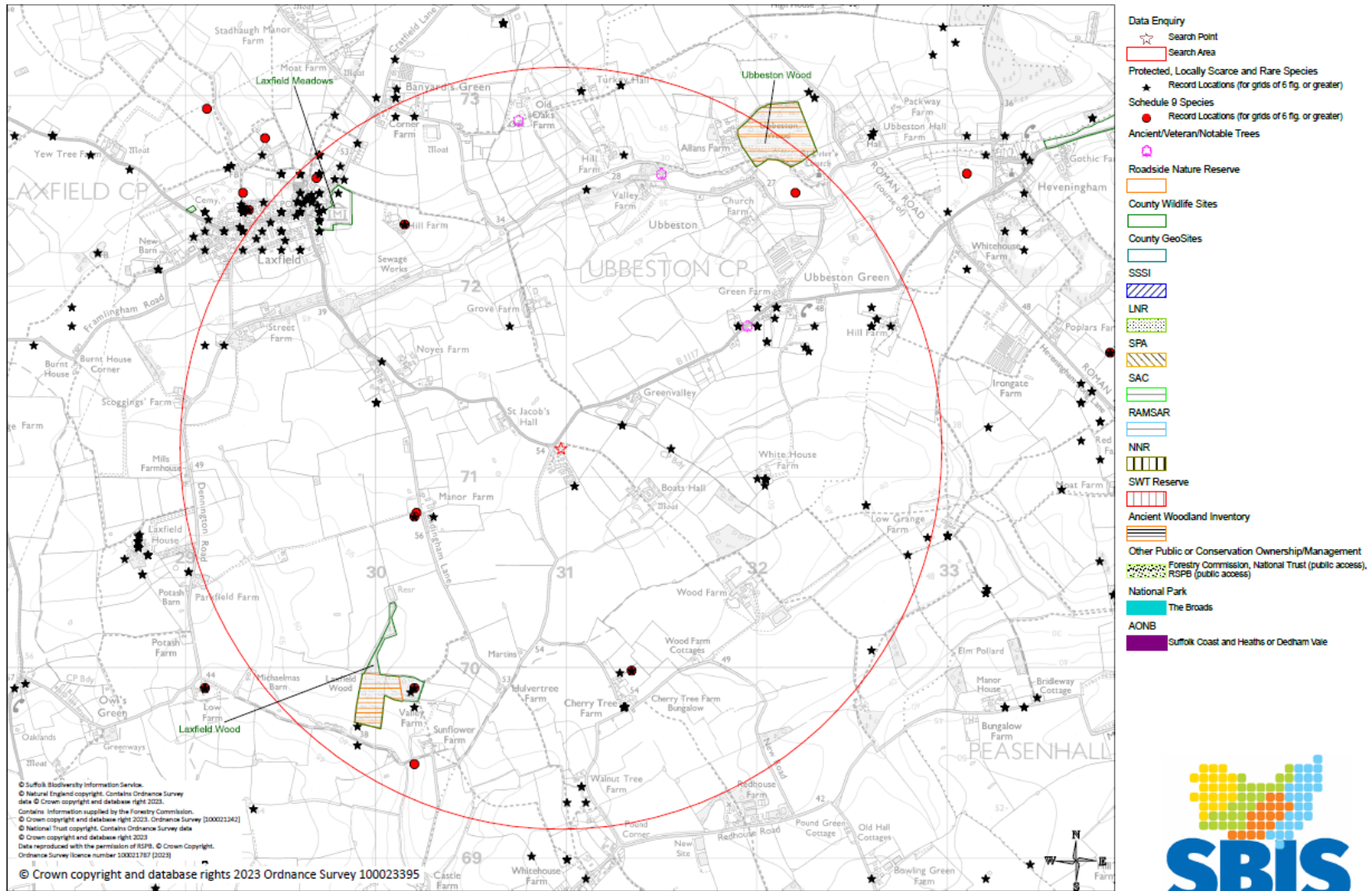
Other protected species

Particular regard was made to the nature of the proposed development and the potential of impact upon any other protected species, species which are nationally or locally scarce, or species subject to other conservation designations such as Red Data Book or Priority S41 species, from the development work, should these be present in the area.

Constraints

The field survey was conducted outside of the optimal survey period for flowering plants. Although the habitats recorded on site are unlikely to change to those described in this report, flora biodiversity is likely to be under recorded.

Appendix B
Map of protected sites within 2km



Greenlight (Little Boats Hall, Laxfield TM30969 71158) 2km Data Enquiry



Date: 13/03/2023 | Drawn by: Andy Mercer

Appendix C Protected sites citations

County Wildlife Sites citations

CWS Number	Site Name	RNR Number	Parish	District	NGR	DESCRIPTION	Area Ha
Mid Suffolk 97	LAXFIELD MEADOWS	0	LAXFIELD	Mid Suffolk	TM297724	This grassland is bordered by a public footpath along the northern margin and slopes gently down to the River Blyth on the western boundary. Lowland meadow is a priority habitat. The meadow is underlain by Boulder Clay. This unimproved grassland which is enclosed mostly by dense native hedgerow supports a species-rich plant community. Indicator species previously recorded include ox-eye daisy, quaking-grass, cowslip and pepper saxifrage. The site is notable for a large population of adder's-tongue fern.	2.70
Mid Suffolk 98	LAXFIELD WOOD	0	LAXFIELD	Mid Suffolk	TM300698	Laxfield Wood is situated in an intensively farmed landscape, to the south of the village of Laxfield. It is of considerable age and is therefore listed in English Nature's Ancient Woodland Inventory. A number of banks and ditches which cross the wood are thought to be medieval in origin. A large proportion of the wood has a coppice with standards structure. The main tree species are ash, hornbeam, field maple, oak and hazel with ash as the dominant species throughout most of the wood. In addition horse chestnut, and some shrubs have been planted as	7.22

						<p>ornamental trees as cover for game. There are only a few oak standards present, possibly indicating the widespread felling during the First and Second World Wars. The ground flora is typical of a semi-natural woodland on clay in this part of Suffolk. Most of the herb layer is dominated by dog's mercury with large patches of nettle also present. Primrose, early-purple orchid and bugle are colourful additions in the Spring. The wood is in a largely neglected condition. The southern section was probably coppiced about thirty to forty years ago and the remainder has not been coppiced for about one hundred years. Management proposals to increase the production of coppiced timber and to improve the wildlife value of the wood have been provided by Suffolk County Council.</p>	
Suffolk Coastal 174	UBBESTON WOOD	0	UBBESTON	East Suffolk	TM321729	<p>Ubbeston Wood is the only ancient wood in the parish and one of four medieval woods in eastern England to adjoin a river. It has all the features of a classic medieval wood; a strong sinuous bank and ditch boundary, a number of old hornbeam pollards on the south-eastern side and it also supports a number of plants characteristic of ancient woodland. A notable example is thin- spiked wood sedge, a rare plant in Suffolk which grows here on the woodland rides. Ubbeston Wood is basically a hornbeam wood although ash, field maple and hazel communities are found in areas of poor drainage. It has not been coppiced for many years, but the storm of 1987 uprooted a number of mature trees, thereby creating open glades.</p>	9.88

Appendix D Legislation

European Protected Species

The Ramsar Convention (1971) on Wetlands of International Importance especially as Waterfowl Habitat seeks to promote the conservation and wise use of wetlands, particularly those which support internationally significant numbers of water birds. This is achieved through the designation of Ramsar Sites.

The European Community Council Directive on the Conservation of Wild Birds (79/409/EEC) sets out general rules for the conservation of all naturally occurring wild birds, their nests, eggs and habitats. It requires member states to designate Special Protection Areas (SPAs) for protection of certain species.

The main piece of legislation relating to nature conservation in Great Britain is **The Wildlife and Countryside Act 1981 (as amended)**. This Act is supplemented by provision in **The Countryside and Rights of Way (CROW) Act 2000** and **The Natural Environment and Rural Communities Act 2006 (in England and Wales)**. This act provides varying degrees of protection for the listed species of flora and fauna, including comprehensive protection of wild birds, their nests and eggs.

The Countryside and Rights of Way Act 2000 strengthens the protection given to SSSIs. It revises the procedures for the notification of SSSIs and for the consenting of operations which may damage the special interest of a SSSI. Local authorities have a duty to take steps, consistent with the proper exercise of their functions, to further the conservation and enhancement of SSSIs. The act also strengthens the existing provisions of the Wildlife and Countryside Act 1981 for the enforcement of wildlife legislation, including a new offence of "recklessly" destroying or damaging the habitats of certain protected species.

UK wildlife is also protected under **The Conservation (Natural Habitats &c.) Regulations 1994** (which were issued under the European Communities Act 1972), through inclusion on Schedule 2. In 2017, these Regulations, together with subsequent amendments, were consolidated into **The Conservation of Habitats and Species Regulations 2017**.

The Regulations provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites. The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 5. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

The Protection of Badgers Act 1992 consolidates previous badger legislation by providing comprehensive protection for badgers and their setts, with a requirement that any authorised sett disturbance or destruction be carried out under licence.

The Hedgerows Regulations 1997 aim to protect important hedgerows in the countryside. They make it illegal to remove most countryside hedges without first notifying the local planning authority, and provide protection for 'important hedgerows'.

County Wildlife Site is a non-statutory designation used to identify high quality wildlife habitats in a county context. Local Authorities have a responsibility as part of their planning function to take account of sites of substantial nature conservation value and to consider them alongside other material planning considerations. The location of County Wildlife Sites will be included in Local Plans and Development Documents.

National Planning Policy - National Planning Policy Framework (NPPF)

Section 15 of the National Planning Policy Framework 2021 (NPPF): Conserving and enhancing the natural environment states that 'planning policies and decisions should contribute to and enhance the natural and local environment by ... minimising impacts on and providing net gains for biodiversity.'

Office of The Deputy Prime Minister ("ODPM") Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their impact within the planning system.

Paragraph 98 of Circular 06/2005 states that 'the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat'.

Implications of legislation and policies

Without this ecological assessment, the potential developer would be unable to demonstrate due diligence in his responsibilities. Furthermore, the local planning authority would not have been provided with sufficient information for a planning decision to be made. This could result in non-determination or refusal of the application.

With legal responsibilities and planning implications, it is essential that any ecological assessment of a potential development site, including the area of this report, must determine the possible presence or absence of any protected species as part of any planning development consideration.

Where mitigation or compensation measures are required to ensure that no significant impacts will result on biodiversity from the development, the proposed measures may be secured through planning conditions or by EPS Mitigation Licences from Natural England.

Bats

All bat species in Britain are protected under the Wildlife and Countryside Act 1981 through inclusion on Schedule 5. They are also protected under the Conservation (Natural Habitats &c.) Regulations 1994 (which were issued under the European Communities Act 1972), through inclusion on Schedule 2. On 30th November 2017, these Regulations, together with subsequent amendments, were consolidated into the Conservation of Habitats and Species Regulations 2017.

European protected animal species (“EPS”) and their breeding sites or resting places are protected under Regulation 42. It is an offence for anyone to deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs. It is an offence to damage or destroy a breeding or resting place of such an animal. It is also an offence to have in one's possession or control, any live or dead European protected species.

The threshold above which a person will commit the offence of deliberately disturbing a wild animal of a European protected species has been raised. A person will commit an offence only if he deliberately disturbs such animals in a way as to be likely significantly to affect (a) the ability of any significant groups of animals of that species to survive, breed, or rear or nurture their young, or (b) the local distribution of abundance of that species. The existing offences under the Wildlife and Countryside Act (1981) as amended which cover obstruction of places used for shelter or protection (for example, a bat roost), disturbance and sale still apply to European protected species.

This legislation provides defences so that necessary operations may be carried out in places used by bats, provided the appropriate Statutory Nature Conservation Organisation (in England this is Natural England) is notified and allowed a reasonable time to advise on whether the proposed operation should be carried out and, if so, the approach to be used. The UK is a signatory to the Agreement on the Conservation of Bats in Europe, set up under the Bonn Convention. The Fundamental Obligations of Article III of this Agreement require the protection of all bats and their habitats, including the identification and protection from damage or disturbance of important feeding areas for bats.

Barn Owls

The Habitats Regulations (1994), as amended, states that a person commits an offence in the case of Barn Owl only if this species is disturbed in the breeding season. This applies equally to all those bird species listed under Schedule 1.

Breeding Birds

It is an offence to kill, injure or take any wild bird; take, damage or destroy the nest of any wild bird while that nest is in use or being built (even of "pest" species); take or destroy the eggs of any wild bird.

Great Crested Newts

Great crested newts are protected under both English and European law. It is an offence to kill, injure, disturb or take great crested newts or to damage or destroy their places of shelter, whether the animals are present or not.

Water Vole

The water vole received limited legal protection in April 1998 through its inclusion in Schedule 5 of the Wildlife & Countryside Act 1981 (as amended) for some offences. Legal protection makes it an offence to:

- intentionally kill, injure or take (capture) a water vole;

- possess or control a dead or live water vole, or any part of a water vole;
- intentionally or recklessly damage or destroy access to any structure or place which water voles use for shelter or protection or disturb Water Voles while they are using such a place;
- sell, offer for sale or advertise for sale live or dead Water Voles

Water voles, their breeding sites and resting places are protected by law. In most cases, work can be planned to avoid harming water voles. If works cannot avoid disturbing them or damaging their habitats, you may be able to get a licence from Natural England.

Otters

Otters are protected under Section 9 of the Wildlife and Countryside Act 1981 (as amended) and revised by the Countryside and Rights of Way Act 2004, making it an offence to:

- intentionally kill, injure or take an otter;
- possess or control any (live or dead) otter, or any part of or anything derived from an otter;
- intentionally or recklessly damage or destroy or obstruct access to any structure or place used for shelter or protection by an otter;
- intentionally or recklessly disturb an otter while it is occupying a structure or place for that purpose;
- to sell, offer for sale, possess or transport for the purpose of sale any (live or dead) otter or part or derivative of an otter;
- to advertise for buying and selling such things.

Furthermore, otters are included on Schedule 2 of the Conservation (Habitats &c.) Regulations (1994), making it an offence to:

- deliberately to capture or kill a wild animal of a European protected species;
- deliberately to disturb any such animal;
- deliberately to take or destroy the eggs of such an animal; or
- damage or destroy a breeding site or resting place of such an animal.

Otters are also listed as a priority species on the UK and Biodiversity Action Plans.

White-Clawed Crayfish

This crayfish is listed under Annex II of the habitats directive and areas are designated as Special Areas of Conservation to protect this species. Outside of this a licence is required to capture this species. It is listed as a priority species under the Biodiversity Action Plan and is a Species of Principal Importance under section 41 of the NERC Act 2006.

Reptiles

Reptiles such as common lizard, slowworm, grass snake or adder are protected under Section 9 of the Wildlife & Countryside Act (1981) as amended. The legislation makes it illegal to deliberately or recklessly kill or injure

any native reptile. This protection therefore requires that reasonable effort be made to avoid harm to reptiles during developments on land occupied by reptiles.

Badger

The Wildlife and Countryside Act (1981) and its subsequent amendment in 1985 made it an offence to take, kill, injure or ill-treat a badger. The badger gained further protection under the auspices of The Protection of Badgers Act (1992) which consolidates all former protective legislation in relation to badgers, except their inclusion on Schedule 6 of the Wildlife and Countryside Act 1981.

Under the 1992 Act, the badger sett is protected against obstruction, destruction, and damage; furthermore, the animal's access to and from the sett must not be impeded. It should be noted that the concept/definition of the sett extends beyond the main sett to include annexe, subsidiary and outlying setts. However, although the badger and its sett are protected (including access to the sett), the wider habitat and foraging ground is not.

Dormice

Dormice are protected from being killed, injured, captured or disturbed and their resting and breeding places should not be damaged or destroyed.

Natural England Licensing - EPS Mitigation Licensing

Licences can be obtained from the Wildlife Management and Licensing Service at Natural England to allow certain activities that would otherwise constitute an offence, for the purposes of development (e.g. destruction of a bat roost, loss of great crested newt aquatic and terrestrial habitat, etc).

Appendix E

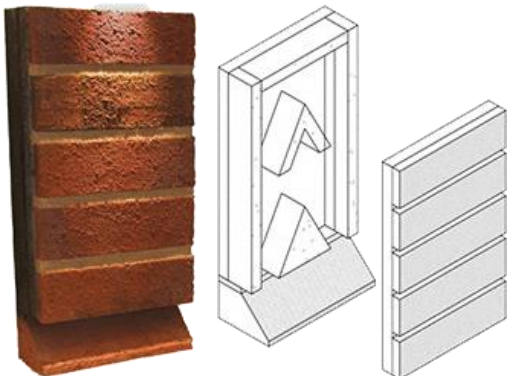



Plant species recorded on site

English name	Scientific name
Apple	<i>Malus sp.</i>
Ash	<i>Fraxinus excelsior</i>
Blackthorn	<i>Prunus spinosa</i>
Bramble	<i>Rubus fruticosus</i>
Bristly oxtongue	<i>Helminthotheca echioides</i>
Cherry	<i>Prunus sp.</i>
Cleavers	<i>Galium aparine</i>
Cock's-foot	<i>Dactylis glomerata</i>
Creeping buttercup	<i>Ranunculus repens</i>
Creeping cinquefoil	<i>Potentilla repens</i>
Curled dock	<i>Rumex crispus</i>
Daffodil	<i>Narcissus sp.</i>
Daisy	<i>Bellis perennis</i>
Dandelion	<i>Taraxacum officinale</i>
Dogwood	<i>Cornus sanguinea</i>
Dove's-foot cranesbill	<i>Geranium molle</i>
Elder	<i>Sambucus nigra</i>
English oak	<i>Quercus rubur</i>
Field maple	<i>Acer campestre</i>
Germander speedwell	<i>Veronica chamaedrys</i>
Great willowherb	<i>Epilobium hirsutum</i>
Ground elder	<i>Aegopodium podagraria</i>
Ground ivy	<i>Glechoma hederacea</i>
Groundsel	<i>Senecio vulgaris</i>
Hawthorn	<i>Crataegus monogyna</i>
Hogweed	<i>Heracleum spondylium</i>
Honeysuckle	<i>Lonicera sp.</i>
Ivy	<i>Hedera helix</i>
Lords and ladies	<i>Arum maculatum</i>
Nettle	<i>Urtica dioica</i>
Perennial ryegrass	<i>Lolium perenne</i>
Red dead-nettle	<i>Lamium purpureum</i>
Ragwort	<i>Jacobaea vulgaris</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Rose	<i>Rosa sp.</i>
Sedge	<i>Carex sp.</i>
Spear thistle	<i>Cirsium vulgare</i>
Violet	<i>Viola sp.</i>
White dead-nettle	<i>Lamium album</i>
White clover	<i>Trifolium repens</i>
Yarrow	<i>Achillea millefolium</i>

Appendix F

Examples of bat and bird boxes

(images sourced from www.nhbs.com, www.habibat.co.uk, www.manthorpe.co.uk and www.barnowltrust.org.uk)

<p style="text-align: center;">Integrated bat box Habibat Bat Box</p> 	<p style="text-align: center;">Integrated bat box Bat Block</p> 
<p style="text-align: center;">Standalone bat box 2F Schwegler Bat Box (General purpose)</p> 	<p style="text-align: center;">Standalone bat box 1FF Schwegler Bat Box with built-in wooden rear panel</p> 

Recommendations for installing bat boxes:

(Sourced from Bat Conservation Trust www.bct.org)

Ideally, several boxes should be put up facing in different directions to provide a range of conditions.

Locate boxes:

- Where bats are known to feed close to hedges and treelines (some bats use a treeline or hedgerow for navigation, putting boxes near these features may help the bats find the box).
- On trees: boxes should be placed on the trunk of a mature tree, where there is a clear flight line/accessible entrance.
- On buildings: boxes should be placed as close to the eaves as possible.
- As high as possible (ideally, at least 3 to 4m above the ground, where safe installation is possible).
- In sunny places, sheltered from strong winds (usually between south-west and south-east).

Make sure the boxes are secured.

Boxes can be installed on trees using adjustable ties to avoid damaging the trees. Otherwise, timber screw bolts or nails can be used. Aluminium alloy nails are less likely to damage saws and chipping machinery.

Bats need time to find and explore new homes, and it may be several months or even years before boxes have residents. Once bats find a place they want to live they can return over and over again. Droppings on the landing area, urine stains around the lower parts of the box and chittering noises from inside on warm afternoons and evenings are signs of occupation.

<p>Small bird nesting box 1B Schwegler Nest Box</p> 	<p>Small bird nesting box 2H Schwegler Robin Box</p> 
<p>Integrated swift box Swift Block</p> 	<p>Integrated swift box Manthorpe Swift Brick</p> 
<p>Integrated sparrow terrace 1SP Schwegler Sparrow Terrace</p> 	<p>Integrated sparrow terrace Terraced Sparrow Box</p> 
<p>Internal barn owl box</p> 	<p>External barn owl box</p> 

Recommendations for installing bird boxes:

(Sourced from British Trust for Ornithology www.bto.org, Manthorpe www.manthorpe.co.uk and Barn Owl Trust www.barnowltrust.org.uk)

The highest priority when siting a nest box must be to provide a safe and comfortable environment in which birds can nest successfully.

Tips for putting up a nest box:

- Boxes should be sited 1-3m from the ground, ideally on tree trunks but can be placed on the side of a shed or wall. Avoid areas where foliage obscures the entrance hole.
- Don't place boxes too close to another nest box of the same type, as this may promote aggressive behaviour between neighbours.
- Shelter your nest box from prevailing wind, rain and strong sunlight. The box should face between north and east, and angled vertically or slightly downwards to prevent rain entering.
- Make sure cats cannot get into the box.
- Keep nest box away from bird feeders.
- Use galvanized or stainless steel screws or nails. If fixing boxes to trees, galvanised wire can be used to tie the box to the trunk or hang it from a branch. Make sure to regularly inspect these fittings (every two or three years) to ensure the box remains securely attached.

Tips for putting up house sparrow terraces and swift bricks/boxes:

- Locate ≥ 5 m high on the gable wall of the property and above the level of the insulation zone.
- Where possible, install in locations that are unlikely to receive large amounts of direct sunlight during the hottest times of the day, ideal places include below the overhang of the verge and barge board.



Tips for putting up barn owl boxes:

- The box should be installed on a building or tree in open farmland, on an isolated hedgerow or along the edge of a woodland.
- Boxes should be sited at least 3m from the ground, with a clear flight-path for entry and exit.
- Where possible, install boxes facing suitable habitat and ideally away from the prevailing wind.
- Nest boxes should ideally be installed in pairs.

Appendix G

Examples of hedgehog friendly fencing

(images sourced from www.quercusfencing.com and www.jackson-fencing.co.uk)

<p>Quercus Fencing Hedgehog friendly oak woven fencing panels</p>  A photograph showing a hedgehog sitting on a wooden fence panel. The fence is made of horizontal wooden slats. There is a gap in the fence where the hedgehog is sitting, and it appears to be looking through it. The background shows green grass.	<p>Jacksons-Fencing Hedgehog friendly gravel board for use with slotted posts</p>  A photograph showing a close-up of a wooden gravel board. The board is made of horizontal wooden slats. There is a gap between the board and a vertical post. The ground in front of the board is covered with dry, brown leaves.
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Recommendations for installing hedgehog friendly fencing:

(Sourced from Hedgehog Street www.hedgehogstreet.org)

A hedgehog friendly fence should have a gap measuring at least 13cm by 13cm in the gravel board. These gaps allow any hedgehog to pass through but are too small for nearly all pets.

At least one hedgehog friendly fence panel should be located on each side of your garden, to provide unimpeded access.

Almost all fencing materials can be made hedgehog friendly, but may require DIY adaptations. Please note that some concrete gravel boards contain metal rods running along the length of the boards to provide strength and rigidity, and cannot be cut. To overcome this, a gap can be left between the gravel board and post to provide the required gap.

Appendix H

Native species suitable for planting and sowing

Plants should be obtained from specialist nurseries and preferably be of local genetic stock.

Key: (f) – fruit and berry species; (e) – evergreen species; (se) semi-evergreen species; (d) – deciduous species

Trees	
Alder (d)	<i>Alnus glutinosa</i>
Apples (f; d)	<i>Malus spp.</i> (local varieties)
Ash (d)	<i>Fraxinus excelsior</i>
Beech (d)	<i>Fagus sylvatica</i>
Bird cherry (f; d)	<i>Prunus padus</i>
Elder (f; d)	<i>Sambucus nigra</i>
Elm (d)	<i>Ulmus procera</i>
Field maple (d)	<i>Acer campestre</i>
Pedunculate oak (d)	<i>Quercus robur</i>
Rowan (f; d)	<i>Sorbus aucuparia</i>
Pears (f; d)	<i>Pyrus spp.</i>
Silver birch (d)	<i>Betula pendula</i>
Small-leaved lime (d)	<i>Tilia cordata</i>
White willow (d)	<i>Salix alba</i>
Wild cherry (f; d)	<i>Prunus avium</i>
Walnut (d)	<i>Juglans regia</i>

Shrubs	
Blackthorn (f; d)	<i>Prunus spinosa</i>
Buckthorn (f; d)	<i>Rhamnus catharticus</i>
Crab apple (f; d)	<i>Malus sylvestris</i>
Dog rose (f; d)	<i>Rosa canina</i>
Dogwood (f; d)	<i>Cornus sanguinea</i>
Field maple (d)	<i>Acer campestre</i>
Guelder-rose (f; d)	<i>Viburnum opulus</i>
Hawthorn (f; d)	<i>Crataegus monogyna</i>
Hazel (d)	<i>Corylus avellana</i>
Holly (e)	<i>Ilex aquifolium</i>
Honeysuckle (f; d)	<i>Lonicera periclymenum</i>
Spindle (f; d)	<i>Euonymus europaeus</i>
Wild privet (f; se)	<i>Ligustrum vulgare</i>
Yew (f; e)	<i>Taxus baccata</i>

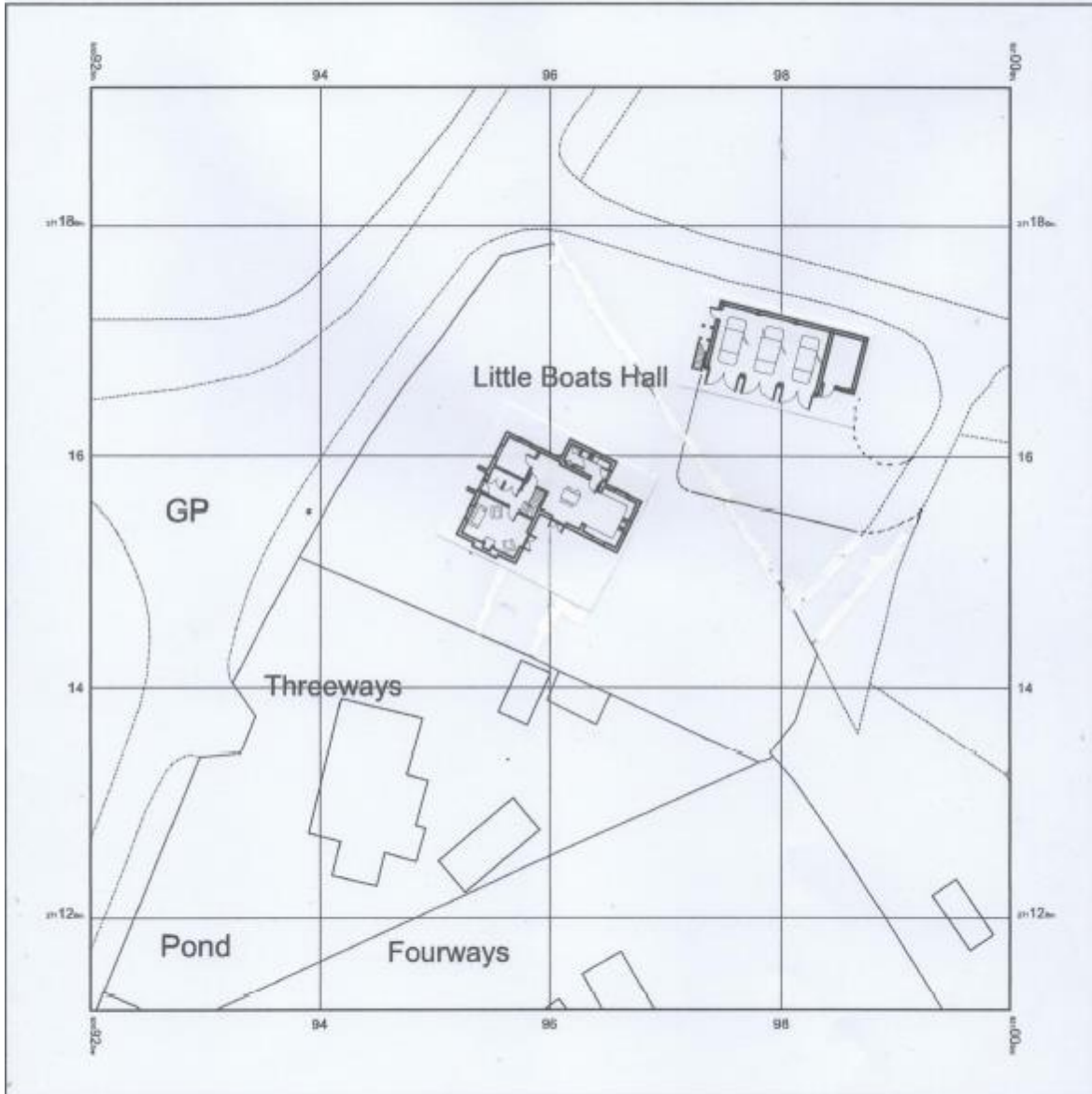
Flowering plants	
Bird's-foot trefoil	<i>Lotus corniculatus</i>
Black knapweed	<i>Centaurea nigra</i>
Common cat's-ear	<i>Hypochoeris radicata</i>
Common sorrel	<i>Rumex acetosa</i>
Common vetch	<i>Vicia sativa</i>
Cowslip	<i>Primula veris</i>
Field scabious	<i>Knautia arvensis</i>
Foxglove	<i>Digitalis purpurea</i>
Lady's bedstraw	<i>Galium verum</i>
Meadow buttercup	<i>Ranunculus acris</i>
Meadow vetchling	<i>Lathyrus pratensis</i>
Oxeye daisy	<i>Leucanthemum vulgare</i>
Primrose	<i>Primula vulgaris</i>
Red clover	<i>Trifolium pratense</i>
Selfheal	<i>Prunella vulgaris</i>
Sweet violet	<i>Viola odorata</i>
Wild daffodil	<i>Narcissus pseudonarcissus</i>
Yarrow	<i>Achillea millefolium</i>

Grasses	
Common bent	<i>Agrostis capillaris</i>
Crested dog's-tail	<i>Cynosurus cristatus</i>
Meadow fescue	<i>Festuca pratensis</i>
Red fescue	<i>Festuca rubra</i>
Rough meadow-grass	<i>Poa trivialis</i>
Small timothy	<i>Phleum bertolonii</i>
Smooth meadow-grass	<i>Poa pratensis</i>
Sweet vernal-grass	<i>Anthoxanthum odoratum</i>
Yellow oat-grass	<i>Trisetum flavescens</i>

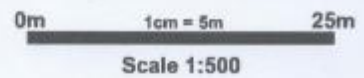
Appendix I Proposed plans

LITTLE BOATS HALL, BADINGHAM ROAD, LAXFIELD, SUFFOLK, IP13 8HU

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