HopkinsEcology

- Site: Land off Church Road, Woodton
- Work **Ecological Appraisal**
- Item:
- Client: ESCO Developments

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SUMMARY

Hopkins Ecology Ltd was appointed by Brown & Co on behalf of ESCO Developments to prepare preliminary ecological appraisal of a site off Church Road, Woodton. A residential scheme is proposed. The Site is ~3.1ha in area and comprises an arable field, with partial boundary hedgerows.

Within 2km there is one statutory site and five County Wildlife Site. The statutory site is a Site of Special Scientific Interest 1.95km to the east, and the nearest County Wildlife Site is 0.6km to the south and separated by the Woodton conurbation. Impacts on these sites are assessed as negligible, due to distance and the lack of public access.

The Site is a single arable field. There is a hedgerow along part of the east boundary, with this dating from no earlier than the mid-2000s. Along the other boundaries are grass verges and rear gardens run along the south and the southern part of the east boundary.

The only priority habitat is the hedgerow along the east boundary, which is a Hedgerow Habitat of Principal Importance.

Great crested newts are specifically scoped out on the basis that two marked ponds within 250m are either dry or effectively isolated by a road, housing and intervening habitat. Species scoped in as potentially present are bats (roosting and foraging), nesting birds, hedgehogs and widespread moths. These would be present as minor components of larger local populations.

The proposed scheme will mainly impact arable cropland with access using an existing field access and probably crossing a rank grass verge.

Construction phase impacts on nesting birds should be mitigated via timing works to avoid the nesting bird season. Works should also have regard for tree root protection zones.

The scheme design includes landscaping around much of the boundary and in the vicinity of the one tree with bat roost potential (a tree with low potential at the north-east corner). The landscaping should include native species within structural planting, offering resources relevant to local species. Other options within the scheme include bird and bat boxes and raised gates / access holes for hedgehogs to move across the completed scheme.

1. INTRODUCTION

BACKGROUND

1.1 Hopkins Ecology Ltd was appointed by Brown & Co on behalf of ESCO Developments to prepare a preliminary ecological appraisal of a site off Church Road, Woodton. A residential scheme is proposed. The Site is ~3.1ha in area and comprises an arable field, with partial boundary hedgerows.

SITE CONTEXT

1.2 The Site is located on the northern edge of the Woodton conurbation, roughly 7.5km southeast of Poringland. It is within the South Norfolk and High Suffolk Claylands National Character Area¹, which is characterised as an agricultural landscape on a *'high and predominantly flat clay plateau'*.

LEGISLATION AND PLANNING POLICY

- 1.3 The following key pieces of nature conservation legislation are relevant (with a more detailed description in Appendix 2):
 - The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations). The relevant provision here is the listing of great crested newts and all bats as European Protected Species, with strict protection of individuals and occupied habitat or roosts respectively.
 - The Wildlife and Countryside Act, 1981 (as amended). This affords varying level of protection to some species, such as full protection for bats, protection of the active nests of all birds, and also protection from injury for reptiles.
 - Natural Environment and Rural Communities Act 2006. This lists Habitats and Species of Principal Importance, which is reinforced by the National Planning Policy Framework (NPPF) (MCLG, 2019²). For these habitats and species, local planning authorities are required to promote the "protection and recovery" via planning and development control. Examples include hedgerows and the widespread reptiles, house sparrows and soprano pipistrelle and noctule bats.
 - 1.4 Although the NPPF has an overarching aim of minimising impacts to biodiversity, the majority of species of conservation concern are not specifically recognised by legislation or planning policy. The level of protection afforded to these is undefined and should be considered within this overall aim. Within this report such birds are referred to as Red and Amber-listed (birds) and others as rare or scarce. The collective term 'species of conservation concern' is used for protected species, Species of Principal Importance and those that are otherwise rare or scarce.
 - 1.5 Also referred to are the Hedgerow Regulations, which identify higher value hedgerows as Important Hedgerows according to a range of possible criteria. The ecological assessment has been prepared with reference to best practice guidance published by the Chartered Institute for Ecology and Environmental Management (CIEEM) and as detailed in British Standard 42020:2013 Biodiversity - Code of Practice for Biodiversity and Development.

¹ Natural England (2014) *Natural Character Area. South Norfolk and High Suffolk Claylands, 83.* Available from: http://publications.naturalengland.org.uk/publication/6106120561098752

² MCLG (2019) *National Planning Policy Framework*. Ministry for Communities and Local Government, London.

2. METHODS

PERSONNEL

2.1 This ecological assessment was prepared by Dr Graham Hopkins CEnv MCIEEM FRES, who holds full survey licences for great crested newts and bats with 15 years of consultancy experience.

DATA SEARCH

2.2 The desk study comprises a formal data search from the local records centre and review of relevant data and information from other sources (Table 1).

 Table 1. Overview of desk study data sources.

Source	Information	
Norfolk Biodiversity Information Service	Designated sites, species of conservation concern; 2km	
-	search radius.	
MAGIC (https://magic.defra.gov.uk/)	Additional information on statutory sites, habitats of	
	principal importance and wider countryside information.	
Local planning applications, manual	Recent survey data for protected species locally,	
map-based searching of the South	including negative data.	
Norfolk DC website		
Various literature and web-based	Information on local projects and initiatives of potential	
searches	relevance as well as some species-level data.	
Historic maps Norfolk	Aerial photographs from 1988 and 1946; OS maps from	
(http://www.historic-	1880s and earlier.	
maps.norfolk.gov.uk/)		

FIELD SURVEY

- 2.3 A scoping survey was undertaken on 06 May 2019. The description of habitats was based on the methods of JNCC (2010)³ and trees were surveyed from ground level for their potential suitability for roosting bats, looking for gaps, cracks and other voids (Collins, 2016⁴). Searches were also made for signs of badgers.
- 2.4 The locations of ponds locally were determined from OS maps and Google Earth.

GUIDANCE

2.5 The ecological assessment has been prepared with reference to best practice guidance published by the Chartered Institute for Ecology and Environmental Management (CIEEM) and as detailed in British Standard 42020:2013 Biodiversity - Code of Practice for Biodiversity and Development.

CONSTRAINTS

2.6 It is not thought that there are any significant constraints to this survey.

³ JNCC (2010) *Handbook for Phase 1 Habitat Surveys.* Joint Nature Conservation Committee, Peterborough.

⁴ Collins, J. (2016) *Bat Surveys for Professional Ecologists*. Bat Conservation Trust, London.

3. DESIGNATED SITES

OVERVIEW

3.1 The wider countryside has a low density of designated sites, which are distributed across the search radius (Figure 1).

Figure 1. Designated sites within 2km.



STATUTORY SITES

- 3.2 There is one statutory site within 2km:
 - Hedenham Woods Site of Special Scientific Interest (SSSI), 1.95km east. Ancient woodland with diverse ground flora.

NON-STATUTORY SITES

3.3 There are five County Wildlife Sites (CWSs) within 2km (Table 2).

Table 2. County Wildlife Sites within 2km.

Site (CWS reference)	Location	Description		
Fox Burrows (94)	0.6km south	Woodland and grassland.		
Beckett's Wood (2035)	1.2km north-west	Ancient and semi-natural woodland		
Lower Spring Wood (107)	1.1km north	Ancient and semi-natural woodland		
Spring Wood (109)	1.4km north	Ancient and semi-natural woodland		
Round Wood (108)	1.9km north	Ancient and semi-natural woodland		

GREEN INFRASTRUCTURE AND COUNTRYSIDE SCHEMES

- 3.4 Based on a review of local strategies and policies:
 - The Site is not close to B-Line (bee-line) for pollinating insects.
 - The Site is not close a local green infrastructure corridor (CBA, 2007⁵ ⁶).
 - The Site, in common with much of South Norfolk DC area, lies within the Norfolk Wildlife Trust's 'Claylands Living Landscape' project area⁷:

"The Claylands Living Landscape project aims to enhance the management of the area's wildlife habitats and expand its area of grassland and woodland – thereby creating a more joined-up ecological network – as well as to encourage the more sensitive management of farmland. To achieve this aim, (Norfolk Wildlife Trust) will be working closely with community groups and landowners in South Norfolk to raise wildlife awareness, as well as encouraging their active participation in conserving and enjoying the area's historic natural environment."

⁵ CBA (2007) Greater Norwich Development Partnership. Green Infrastructure Strategy. A Proposed Vision for Connecting People, Places and Nature. Available from: http://www.greaternorwichgrowth.org.uk/dmsdocument/201

⁶ http://www.greaternorwichgrowth.org.uk/dmsdocument/1590

⁷ https://www.norfolkwildlifetrust.org.uk/a-living-landscape/claylands

4. SITE DESCRIPTION

OVERVIEW

4.1 The Site comprises an arable field with partial boundary hedgerow (Figure 2) and was subdivided from the playing fields to the east by a boundary hedgerow planted no earlier than the mid-2000s. The soil is a 'slightly acid loamy and clayey soil with impeded drainage'.



SITE DESCRIPTION

- 4.2 The phase 1 habitats are as follows:
 - Arable. The field was under peas at the time of survey and cropped close to the limit of the adjacent field verges of permanent grass swards. Within the margins the herb flora was sparse and those noted were common fumitory *Fumaria officinalis*, poppy *Papaver rhoeas*, common speedwell *Veronica persica*, pineapple weed *Matricaria discoidea*, field pansy *Viola tricolor* and fat hen *Chenopodium album*.
 - Improved swards. Around the field boundary are verges of rank grassland and tall ruderals. This includes the northern and western boundaries where there are low banks along the lines of former hedgerows. The rank swards are dominated by false oat grass *Arrhenatherum elatius*, cock's foot *Dactylis glomerata* and sterile brome *Anisantha sterilis*. The ruderal component comprises Alexanders *Smyrnium olusatrum*, cow parsley *Anthriscus sylvestris*, nettle *Urtica dioica*, field bindweed *Convolvulus arvensis*, and cleavers *Galium aparine*. Other ruderals such as broad leaved dock *Rumex obtusifolius*, hogweed *Heracleum sphondylium* and creeping thistle *Cirsium arvense* are also present as occasional plants. Low growing herbs such as yarrow *Achillea millefolium* and dove's foot cranesbill *Geranium molle* are infrequent and only within areas where the sward is more sparse.

- Hedgerows. The hedgerow along the northern part of the eastern boundary is no older than the mid-2000s. The north-south section is ~1.5m in height and mainly hawthorn, with dog rose *Rosa canina*, apple *Malus* species and rowan *Sorbus aucuparia* as occasional components. At the southern end, a short east-west section forms more of a belt of planting ~3m wide and this is up to 3m tall mainly hawthorn, with hazel *Corylus avellana*, field maple *Acer campestre* and dogwood *Cornus sanguinea* as frequent components.
- 4.3 The garden boundaries along the southern boundary and the southern part of the eastern boundary are sections of fencing and hedging of various types, such as cherry laurel *Prunus laurocerasus*, pines *Pinus* species, and Russian vine *Fallopia baldschuanica*.
- 4.4 There are two boundary trees, both oaks *Quercus robur*, one young tree along the western boundary and a mature tree at the north-east corner.

5. SPECIES SURVEYS AND SCOPING

GREAT CRESTED NEWTS

- 5.1 The only records for great crested newts within 2km are >1km distant.
- 5.2 As shown on Figure 2, two ponds were identified from OS maps and Google Earth from within 250m. In relation to great crested newts they are scoped as follows:
 - Pond A, 115m north-east. This pond was wholly dry at the time of survey and it is thought unlikely that it is wet other than after moderate rainfall. It is considered to be unsuitable as breeding habitat.
 - Pond B, 209m north-east. This pond was not directly viewed, however it is scoped out on the basis that there are considered to be effective barriers to dispersal from it to the Site(in accordance with English Nature, 2001⁸):
 - It is towards the upper limit of the 250m distance taken as the upper limit for dispersal.
 - It is separated from the Site by the 'Bungay Road', the B1332. Even at night this is moderately busy and considered to be a moderately significant barrier to dispersal.
 - The pond itself is to the east of dwellings with associated walls, driveway and lawns, which would limit dispersal westwards.
 - West of the B1332 there is generally unsuitable habitat for dispersal with arable farmland and short amenity swards with only narrow hedgerows offering potential east-west movement corridors.
- 5.3 It is concluded that the likelihood of great crested newts being on Site is negligible irrespective of whether Pond B is utilised for breeding. Impacts are therefore assessed as being absent.

REPTILES

- 5.4 No reptile records were returned from within 2km.
- 5.5 The extent of potential reptile habitat is very limited, restricted to hedgerow bases and the verges, and these generally lack dense ground cover such as tussocks or fallen logs peripheral areas. Reptiles are concluded to be absent.

BATS

Data Search

- 5.6 Field records for a number of species are known from within 2km: barbastelle, serotine, Natterer's, Leisler's, noctule, common pipistrelle, soprano pipistrelle and brown long-eared. Most of the records are from the Norfolk Bat Survey⁹ project. There are no roost records from within 500m.
- 5.7 The tree at the north-eastern corner of the Site was assessed as having low but not negligible bat roost potential. It is an oak of moderate stature with a sparse ivy covering, but without visible significant potential roost features.

⁸ English Nature (2001) Great Crested Newt Mitigation Guidelines. English Nature, Peterborough.

⁹ http://www.batsurvey.org/

5.8 The field margins may be used by low numbers of foraging bats, but the main part of the Site is of negligible value for foraging bats.

SMALL MAMMALS

- 5.9 Small mammals are assessed as follows:
 - Badgers. There are no records of badgers within 2km and there is no evidence of badgers on the Site. They are considered to be absent.
 - Hedgehogs. Several records of hedgehogs were returned from across the search radius, including Woodton ~250m south. Hedgehogs may be present as part of larger local populations, foraging on Site and possibly using hedgerows and denser vegetation as shelter.
 - Brown hares are present locally but the Site is probably disturbed by local housing and unlikely to be used other than by transitory individuals. Brown hares are scoped out.

INVERTEBRATES

5.10 The only invertebrate records returned were of eight species of widespread moths that are afforded the status of Species of Principal Importance by virtue of recent declines while remaining widespread (Butterfly Conservation, 2007¹⁰). Specialist species are unlikely to be present, but the Site may support a small assemblage of widespread but declining moths.

¹⁰ Butterfly Conservation (2007) *Biodiversity Action Plan – Moths*. Available from: http://butterflyconservation.org/files/uk-bap-species-moths-research-only.pdf

6. DISCUSSION

EVALUATION

Habitats

- 6.1 The only Habitat of Principal Importance (cf Maddock, 2011¹¹) is:
 - Hedgerows. The length of hedgerow on the eastern boundary qualifies as the Hedgerow Habitat of Principal Importance. It is noted however that is no older than the mid-2000s. It is not an Important Hedgerow under the hedgerow Regulations.

Species

- 6.2 Most species of conservation are scoped out on the basis of the extent and condition of on-Site habitats. Great crested newts are considered absent on the basis that the only pond within 250m is effectively separated from the Site by the B1332 Bungay Road, housing and other intervening habitats. A second pond within 250m is likely to be wet only after heavy rains and is considered to be unsuitable for breeding.
- 6.3 The other species scoped in as present or potentially present are:
 - Bats, with one boundary tree having low roosting potential and low numbers of foraging bats likely to use the field boundaries.
 - Common and declining but widespread nesting birds.
 - Hedgehogs.
 - Invertebrates, comprising widespread but declining moths but with specialists probably absent.
- 6.4 All of the species scoped in as potentially present are likely to be present in low numbers, and as components of larger local populations.

IMPACTS

Designated Sites

6.5 The project Site itself is relatively distant from the nearest County Wildlife Sites (0.6km and separated by the Woodton conurbation) and the nearest statutory site is >1.5km distant. None of these sites are believed to have public access and it is thought recreational pressure would be negligible. Impacts on designated sites are assessed as being negligible.

Habitats

6.6 The scheme is for housing to be located on the arable area with access from the north across the grass verge and existing field access point (Figure 3). Greenspace is shown around much of the scheme boundary and in particular in the north-east adjacent to the tree with low bat roost potential.

¹¹ Maddock, A. (2011) *UK Biodiversity Action Plan Priority Habitat Descriptions*. Available from: http://jncc.defra.gov.uk/PDF/UKBAP_PriorityHabitatDesc-Rev2011.pdf

Figure 3. Scheme design.

Church Road, Woodton



NTD

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MITIGATION OF CONSTRUCTION IMPACTS

- 6.7 As recommendations during construction:
 - Nesting birds. Vegetation clearance should avoid the nesting bird season (of March to August) or otherwise be under a watching brief. This could include the main arable area and works directly impacting the verge vegetation.
 - Trees. Works in the vicinity of trees should have regard for root protection zones.

ENHANCEMENTS AND OPPORTUNITIES

- 6.8 A strategic context for enhancement measures is provided by the Site's location within the 'Claylands Living landscape'. The main enhancement opportunities are via Scheme landscaping, with key points being that:
 - For many species groups a key requirement is insect prey, for bats and also for the chicks and fledgling birds of many species. A range of plant types should be planted to provide a range of resources across the seasons from spring through summer and early autumn (insect prey) to late autumn and winter (fruit and berry producing species).
 - The widespread, declining moths are associated with a wide range of native shrubs and herbs. A diversity of native planting will be of benefit to these.
 - Other species will also benefit from soft landscaping, as foraging habitat and for shelter.
- 6.9 The following are suggested for inclusion within the landscaping scheme:

- Ornamental hedging should use native species suitable for formal hedging, mainly beech and hornbeam *Carpinus betulinus*.
- Where more natural hedging is required then woody species appropriate for hedgerow and structural planting are those typical of local hedgerows (Norfolk County Council, undated¹²), such as, field maple *Acer campestre*, oak and holly *llex aquifolium*, and occasional hazel *Corylus avellana*, crab apple *Malus sylvestris*, guelder rose *Viburnum opulus*, native privet *Ligustrum vulgare*, and buckthorn *Rhamnus cathartica*. Hawthorn and blackthorn *Prunus spinosa* are also typical of agricultural hedgerows, albeit they have large spines.
- Where smaller trees are required then appropriate species include field maple, silver birch, rowan, whitebeams *Sorbus* species, and fastigiate forms of hornbeam. If space allows then oak and beech are particularly valuable when planted as well-spaced specimen trees and allowed to develop open growth forms.
- Within areas of grassland a number of wildflower seed mixes are available from commercial suppliers for different contexts, including wetland planting (e.g. Emorsgate EM8 'meadow mixture for wetlands'), longer wildflower swards (e.g. EM4 'meadow mixture' and EM10 'tussock mixture') and flowering lawns for areas with more intensive use and management (e.g. EL1 'flowering lawn' mixture).
- Ornamental planting should use species of recognised wildlife value and avoid nonnative evergreens such evergreen honeysuckle and cherry laurel. Recommended planting for pollinators can be found on the Royal Horticultural Society website¹³.
- 6.10 Additional suggested measures include:
 - Bird boxes on buildings, with house sparrow 'terraces' and swift boxes being particularly suitable (Figure 4). Sparrow terraces should be out of direct sunlight and at least 2m above ground. Swift boxes need to be >5m above ground, on high open walls or under eaves.
 - Bat boxes can also be erected on buildings, either as externally-mounted boxes or as in-built 'tubes'. Bat boxes need to be high, and can face different aspects but away from direct sunlight and with ready access to trees or other cover.
 - The scheme should allow for the continued movements of hedgehogs, with any garden gates raised to allow them to pass under and holes within gravel boards to allow them to pass through ¹⁴.

¹² Norfolk County Council (undated) *Planting Hedges in Norfolk – Maintaining Regional Character*. NCC, Norwich.

¹³ https://www.rhs.org.uk/science/pdf/conservation-and-biodiversity/wildlife/plants-for-pollinators-garden-plants.pdf

¹⁴ https://www.jacksons-fencing.co.uk/News/outdoor-living/new-hedgehog-friendly-gravel-boards-winternews-topical-treats-and-more-6511.aspx

7. CONCLUSIONS

- 7.1 The only priority habitat is the hedgerow along the eastern boundary, which dates from no earlier than the mid-2000s but is a Hedgerow Habitat of Principal Importance.
- 7.2 Great crested newts are specifically scoped out on the basis that two marked ponds within 250m are either dry or effectively isolated by a road, housing and intervening habitat. Species scoped in as potentially present are bats (roosting and foraging), nesting birds, hedgehogs and widespread moths. These would be present as minor components of larger local populations.
- 7.3 The proposed scheme will mainly impact arable cropland with access using an existing field access and probably crossing a rank grass verge.
- 7.4 Construction phase impacts on nesting birds should be mitigated via timing works to avoid the nesting bird season. Works should also have regard for tree root protection zones.
- 7.5 The scheme design includes landscaping around much of the boundary and in the vicinity of the one tree with bat roost potential (a tree with low potential at the north-east corner). The landscaping should include native species within structural planting, offering resources relevant to local species. Other options within the scheme include bird and bat boxes, and raised gates / access holes for hedgehogs to move across the completed scheme.
- 7.6 Impacts on designated sites are assessed as negligible, due to distance and the absence of public access.

8. APPENDIX 1: PHOTOGRAPHS



Figure 4. North boundary verge.



Figure 5. East hedgerow, viewed from the north.

9. APPENDIX 2: LEGISLATION SUMMARY

Non-technical	account of	f relevant	legislation	and policies.
		1 Olo Valit	regionation	

Species	Legislation	Offence	Licensing
Bate:	Conservation of	Deliberately capture, injure or kill a	A Natural England (NE)
European	Habitate and	bat: deliberate disturbance of bats: or	licence in respect of
protected	Species	damage or destroy a breeding site or	development is required
species	Regulations 2010	resting place used by a bat. The	development is required.
species	(as amended)	protection of bat roosts is considered	
	Pog 11	to apply regardless of whether bats	
	iteg + i	are present 1	
Bate:	Wildlife and	Intentionally or recklessly obstruct	Licence from NE is required
National		access to any structure or place used	for surveys (scientific
notection	1081 (as	for shelter or protection or disturb a	purposes) that would involve
proteotion	amended) S 9	hat in such a place	disturbance of bats or entering
			a known or suspected roost
			site
Birds	Wildlife and	Intentionally kill, injure or take any	No licences are available to
Birde	Countryside Act	wild bird: intentionally take, damage	disturb any birds in regard to
	1981 (as	or destroy the nest of any wild bird	development.
	amended) S.1	while that nest is in use or being built.	
	,	Intentionally or recklessly disturb a	
		Schedule 1 species while it is building	
		a nest or is in, on or near a nest	
		containing eggs or young;	
		intentionally or recklessly disturb	
		dependent young of such a species	
		[e.g. kingfisher].	
Great	Conservation of	Deliberately capture, injure or kill a	Licences issued for
crested	Habitats and	great crested newt; deliberate	development by Natural
newt:	Species	disturbance of a great crested newt;	England.
European	Regulations 2010	deliberately take or destroy its eggs;	
protected	(as amended)	or damage or destroy a breeding site	
species	Reg 41	or resting place used by a great	
		crested newt.	
Great	Wildlife and	Intentionally or recklessly obstruct	A licence is required from
crested	Countryside Act	access to any structure or place used	Natural England for surveying
newt:	1981 (as	for shelter or protection or disturb it in	and handling.
National	amended) S.9	such a place.	
protection	Mildlife and		No licence is required
Adder,	vviluille and	rontile species	No licence is required.
			the potential of a site to
lizalu, glass	1901 S.9(1) and		support roptilos should be
worm	0.9(0)		undertaken
Scientific	Wildlife and	To carry out or permit to be carried	Owners occupiers public
Interest	Countryside Act	out any potentially damaging	bodies and statutory
(SSSI)	1981 (as	operation SSSIs are given protection	undertakers must give notice
	amended)	through policies in the Local	and obtain the appropriate
		Development Plan	consent under S 28 before
			undertaking operations likely
			to damage a SSSI. All public
			bodies to further the
			conservation and
			enhancement of SSSIs.

Species	Legislation	Offence	Licensing
County Wildlife Sites	There is no statutory designation for local sites.	Local sites are given protection through policies in the Local Development Plan.	Development proposals that would potentially affect a local site would need to provide a detailed justification for the work, an assessment of likely impacts, together with proposals for mitigation and restoration of habitats lost or damaged.