

Hopkins Ecology

Site: Land at Langley Road,
Chedgrave

Work Item: Ecological Appraisal

Client: ESCO Developments

Author: Dr GW Hopkins CEnv MCIEEM

Date: 29 May 2019

CONTENTS

SUMMARY	1
1. INTRODUCTION	2
2. METHODS	3
3. DESK STUDY	4
4. SITE DESCRIPTION	7
5. SCOPING FOR SPECIES OF CONSERVATION CONCERN	9
6. DISCUSSION	11
7. CONCLUSIONS	15
8. APPENDIX 1: PHOTOGRAPHS	16
9. APPENDIX 2: LEGISLATION SUMMARY	18

SUMMARY

Hopkins Ecology Ltd was appointed by Brown & Co on behalf of ESCO Developments to prepare a preliminary ecological appraisal of a parcel of land off Langley Road, Chedgrave. The Site comprises an arable field, currently under oil seed rape, and is ~5.4ha in area.

Within 2km is a single site that has multiple statutory designations at national, European and international levels, namely: Hardley Flood Site of Special Scientific Interest, a component site of The Broads Special Area of Conservation, Broadland Special Protection Area and Broadland Ramsar site. This is 1.2km south-east of the site and is separated from the Site by residential areas of Chedgrave and arable fields. There are also four County Wildlife Sites within 2km, with two sites alongside the River Chet downstream of Chedgrave and two to the north.

The Site comprises an arable field with partial boundary hedgerows. The hedgerows on the eastern and western boundaries qualify as Hedgerow Habitat of Principal Importance. A defunct hedgerow runs along the southern boundary and a line of mature standard oaks runs along the northern boundary. These mature oaks have moderate bat roost potential.

Most protected species are scoped out, other than nesting birds and the potential for roosting bats. Other species of conservation concern that may be present are some widespread but declining species that would be present as minor components of larger local populations.

The proposed scheme will mainly impact arable cropland with probably some removal of hedgerow vegetation for access.

The scheme design includes an area of landscaping along the northern boundary that would limit light spill and any disturbance of the trees with bat roost potential. Construction phase impacts on nesting birds should be mitigated via timing works to avoid the nesting bird season.

The scheme design 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.

Impacts on designated sites are considered to be negligible by virtue of distance. In the specific case of Hardley Flood Site of Special Scientific Interest, which is a component of The Broads SAC, Broadland SPA and Broadland Ramsar Site the potential pathways of impact are considered to be Recreational disturbance and Surface water run-off. These are screened out within a Habitats Regulations Assessment screening as follows:

- Recreational disturbance. The nearest international / European is not readily accessible from the Site and an existing promoted footpath runs alongside. Wet conditions limit wider public use of the designated site.
- Surface water run-off. The scheme is separated from the River Chet by the existing residential areas of Chedgrave and is probably 'upstream' of the marinas and boat yards on the river.

It is therefore concluded that the scheme will not impact the integrity of international / European sites.

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 parcel of Land off Langley Road, Chedgrave. The Site comprises an arable field, currently under oil seed rape, and is ~5.4ha in area.

SITE CONTEXT

- 1.2 The Site is within *The Broads National Character Area*¹, which is typified as having “*ecologically rich wetland habitats*” within the river valleys but with some areas of slightly higher terrain where broadleaved woodland is present as copses and plantation woodlands within an arable landscape.

LEGISLATION AND PLANNING POLICY

- 1.3 The following key pieces of nature conservation legislation are relevant to legally protected species (with a more detailed description in Appendix 2):
- The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations); and
 - The Wildlife and Countryside Act, 1981 (as amended).
- 1.4 Also, the National Planning Policy Framework (MfCLG, 2019²) requires local authorities to avoid and minimise impacts on biodiversity and, where possible, to provide net gains in biodiversity when making planning decisions. A substantial number of species are of conservation concern in the UK. A small number of these species are fully protected under the legislation listed above, but others in England are recognised as Species of Principal Importance under the Natural Environment and Rural Communities Act 2006 and reinforced by the National Planning Policy Framework. For these species local planning authorities are required to promote the “*protection and recovery*” via planning and development control. Examples include the widespread reptiles, house sparrows and soprano pipistrelle and noctule bats.
- 1.5 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 the overall aim of minimising impacts on biodiversity.

¹ Natural England (2014) *NCA Profile 80: The Broads*. Available from: <http://publications.naturalengland.org.uk/publication/11549064>

² MfCLG (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. He has over 15 years of consultancy experience and has worked on a number of major schemes in Norfolk.

DATA SEARCH

- 2.2 A data search for a 2km radius around the Site was commissioned from the Norfolk Biodiversity Information Service and also included a 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 (http://magic.defra.gov.uk/)	Additional information on statutory sites, habitats of principal importance and wider countryside information
Greater Norwich Area and South Norfolk DC planning policy documents	Information regarding local planning policies, in particular green infrastructure and site impacts
Local planning applications, manual map-based searching of the South Norfolk DC website	Recent survey data for protected species locally, including negative data
Various literature and web-based searches	Information on local projects and initiatives of potential relevance as well as some species-level data
Historic maps Norfolk (http://www.historic-maps.norfolk.gov.uk/)	Aerial photographs from 1988 and 1946; OS maps from 1880s

FIELD SURVEY

- 2.3 The walkover survey was on 11 May 2018. 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.

GUIDANCE

- 2.4 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

- 2.5 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.

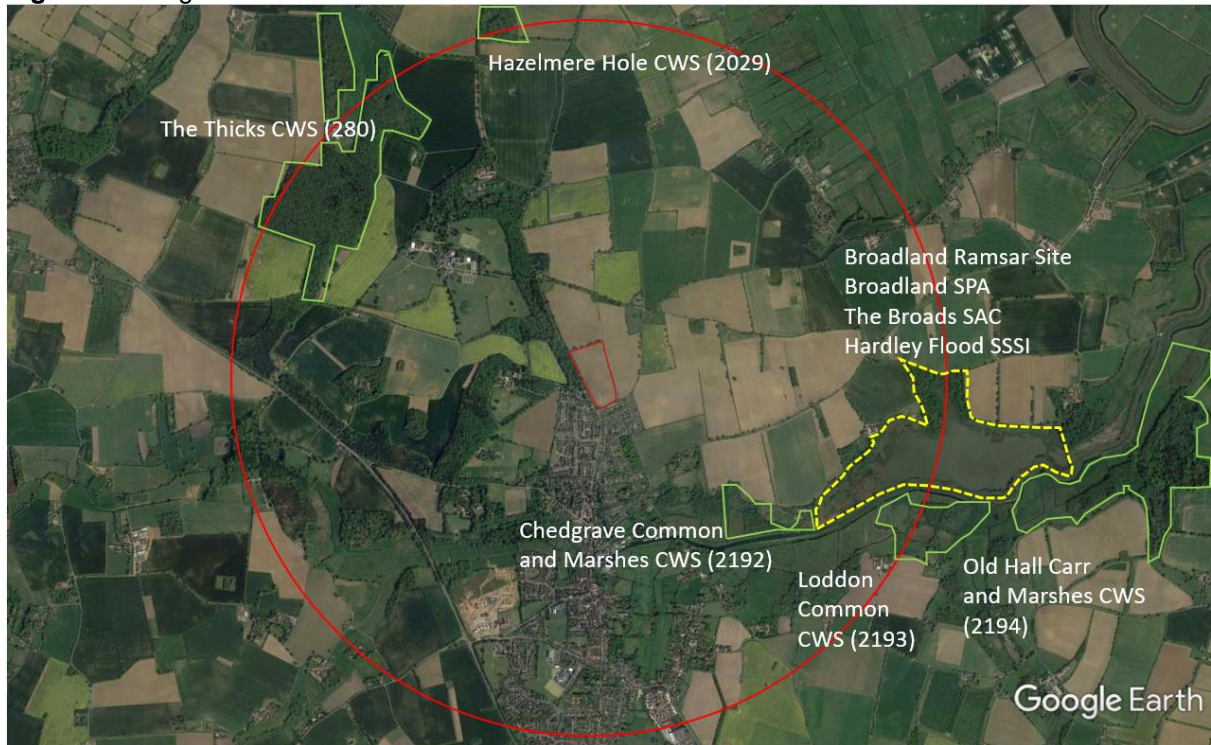
⁴ Collins, J. (2016) *Bat Surveys for Professional Ecologists*. Bat Conservation Trust, London.

3. DESK STUDY

OVERVIEW

3.1 The site is an arable field on the northern edge of the Chedgrave built area (Figure 1), with designated sites associated with both wetlands adjacent to the river and the wider countryside.

Figure 1. Designated sites within 2km.



STATUTORY SITES

3.2 Hardley Flood is the only statutory site within 2km, located 1.2km south-east, and this is designated as follows (Table 2):

- International: as a component site of the Broadland Ramsar site;
- European: as a component site of the Broadland Special Protection Area (SPA) and The Broads Special Area of Conservation (SAC); and
- National: Hardley Flood Site of Special Scientific Interest (SSSI).

Table 2. Statutory sites within 2km.

Level	Designation	Features
International	Broadland Ramsar site	<ul style="list-style-type: none"> • Wetland vegetation, fen orchid, a wetland snail and otters • Wintering wildfowl (one species of swan, three ducks and two geese) • Numerous rare and scarce plants and invertebrates
European	Broadland SPA	<ul style="list-style-type: none"> • Breeding bittern and marsh harrier • Wintering wildfowl (two swan species and three ducks) • Wintering hen harrier • Wintering ruff

Level	Designation	Features
	The Broads SAC	<ul style="list-style-type: none"> • Seven types of wetland vegetation • Fen orchid • Two species of aquatic/wetland snail • Otters
National	Hardley Flood Site of Special Scientific Interest	<ul style="list-style-type: none"> • Shallow lagoons with wetland vegetation and plants • Birds • Invertebrates

NON-STATUTORY SITES

3.3 There are four non-statutory County Wildlife Sites (CWS) within 2km (Table 3), two associated with the River Chet, downstream, and two in the 'wider countryside' to the north.

Table 3. County Wildlife Sites within 2km.

Zone	Name (and CWS reference)	Location	Description
River Chet and Valley	Chedgrave Common and Marshes (2192)	0.8km south-east,	Chedgrave Common and the adjacent grazing marshes
	Loddon Common & Heron House Marsh (2193)	1.5km south-east	Loddon Common and an area of species-rich grassland and species-poor swamp adjacent to the River Chet
Wider countryside	The Thicks (280)	1.3km north-west	A large ancient woodland site, now largely a plantation with conifers
	Hazelmere Hole (2029)	1.7km north	Ancient replanted woodland.

GREEN INFRASTRUCTURE

3.4 A green infrastructure network has been proposed for the Greater Norwich Area, with the policy requirements originating in the Joint Core Strategy⁵. The spatial vision for these corridors is informed by a Green Infrastructure Strategy (CBA, 2007⁶, updated 2011⁷) and associated studies (e.g. Green Networks: Norfolk Wildlife Trust, 2007⁸). The key feature relevant to this Site is that it lies on:

- A sub-regional green infrastructure corridor that runs along the East Norwich - The Broads - Great Yarmouth Corridor.

⁵ Greater Norwich Development Partnership (2014) *Joint Core Strategy for Broadland, Norwich and South Norfolk*. Available from: <http://www.greaternorwichgrowth.org.uk/planning/joint-core-strategy/>

⁶ 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>

⁷ <http://www.greaternorwichgrowth.org.uk/dmsdocument/1590>

⁸ Norfolk Wildlife Trust (2006) *Report of the Ecological Network Mapping Project for Norfolk*. Available from: http://www.norfolkbiodiversity.org/pdf/news/Final_report_of_indicative_map_July%202006.pdf

COUNTRYSIDE PROJECTS

3.5 The Site is not along a B-Line ('bee-line') but it does lie within a 'Living Landscape' as promoted by the Norfolk Wildlife Trust:

- Claylands Living Landscape⁹, which covers the entire South Norfolk DC area and has the following aspiration:

“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.”

⁹ <https://www.norfolkwildlifetrust.org.uk/a-living-landscape/claylands>

4. SITE DESCRIPTION

OVERVIEW

- 4.1 The Site is on the northern edge of Chedgrave and comprises of an arable field with partial boundary hedgerows (Figure 2). The natural soil type is a 'slightly acid loamy and clayey soil with impeded drainage'.

Figure 2. Habitat plan.



HABITATS

- 4.2 The habitats are described as follows:

- Hedgerows. There are three lengths of hedgerow, with the north boundary hedgerow having been removed to leave a line of trees only. The verges of the hedgerows are of a similar composition, being rank grass with tall ruderals. The grasses noted were sterile brome *Anisantha sterilis*, false oat grass *Arrhenatherum elatius*, cock's foot *Dactylis glomerata* and soft brome *Bromus hordeaceus*. The tall ruderals comprise nettle *Urtica dioica*, broad leaved dock *Rumex obtusifolius*, creeping thistle *Cirsium arvense*, mugwort *Artemisia vulgaris*, mallow *Malva sylvestris* and hogweed *Heracleum sphondylium*.
 - H1. This hedgerow runs along the western boundary to Langley Road. It is on a low bank and trimmed to ~1.5m. Its main component is wild plum *Prunus* species, with small-leaved elm *Ulmus minor* and ash *Fraxinus excelsior* as minor components, along with ivy *Hedera helix* and bramble *Rubus fruticosus* agg. Other species such as hawthorn *Crataegus monogyna* are not present. Along the northern section beech trees *Fagus sylvatica* have been planted these mainly being young but with also three large specimens. Along the verge a few grasses and herbs of lower stature are present: fescue *Festuca rubra*, squirrel tailed brome *Vulpia bromoides* and couch *Elymus repens* (grasses) and yarrow

Achillea millefolium, dandelion *Taraxacum* species, dove's foot cranesbill *Geranium molle* and hedge mustard *Sisymbrium officinale*.

- H2. This hedgerow runs along the eastern boundary of the field, as a continuous length for approximately half its southern length and a smaller section to the north. The hedgerow is trimmed to ~1.5m and is mainly wild plum, blackthorn *Prunus spinosa* and hawthorn, with field rose *Rosa arvensis* as an occasional component. Ivy and bramble are also occasional components.
- H3. This is a defunct hedgerow along the southern boundary to Snow's Lane and along the Site boundary it is on a half bank with the field raised above the level of the lane, with the height of the bank decreasing on moving eastwards. It is gappy and mainly comprises tall 3m+ small-leaved elm suckers including numerous dead stems. Field rose and field maple *Acer campestre* are also present as occasional components.
- Trees. Long the northern boundary is a line of mature standard oaks *Quercus robur* that appear to have formerly been part of a hedgerow which has been removed other than for one or two straggly hawthorn and blackthorn bushes. The trees have a light ivy covering and as discussed under 'bats' include features such as aerial dead wood and some minor cavities.
- Arable. The field was under oil seed rape at the time of survey. Along most of its boundary the crop was bordered by permanent field margins of rank grass and tall ruderals as described under hedgerows. In a few places the crop is patchy against the verges and here there is a sparse ruderal flora of annual herbs associated with light soils, mainly field pansy *Viola tricolor* and bugloss *Anchusa arvensis*, and also ubiquitous species such as groundsel *Senecio vulgaris*, pineapple weed *Matricaria discoidea*, parsley piert *Aphanes australis*, common speedwell *Veronica persica* scarlet pimpernel *Anagallis arvensis* and dove's foot cranesbill. No scarce or uncommon species were noted.

5. SCOPING FOR SPECIES OF CONSERVATION CONCERN

GREAT CRESTED NEWTS

- 5.1 No records of great crested newt were returned by the data search. There are no ponds marked on OS maps or visible on Google Earth within 250m of the Site. It is therefore concluded that great crested newts are absent locally and not utilising the Site as terrestrial habitat.

BATS

- 5.2 The data search returned records for barbastelle, serotine, Daubenton's, Natterer's, noctule, Leisler's, Nathusius' pipistrelle, common pipistrelle and brown long-eared. None of the records appear to be of roosts and many are from a Norfolk-wide recording project¹⁰ and waterways surveys.
- 5.3 The trees along the northern boundary have moderate bat roost potential, based on their moderate stature and the presence of aerial dead wood and some visible cavities. The wider Site is likely to be of lower value as foraging habitat, with low numbers of bats utilising the boundary hedgerows.

BREEDING BIRDS

- 5.4 Records for a wide diversity of birds were returned by the data search, including species of low relevance, such as osprey. The species potentially relevant are considered to be those of farmland and the wider countryside:
- Farmland species: turtle dove.
 - Wider countryside: spotted flycatcher and song thrush.
- 5.5 The boundary hedgerows are likely to be used for nesting by common and widespread species, but they are probably too sparse for the specialists that require dense scrub.

REPTILES

- 5.6 No reptile records were returned and it is thought very unlikely that reptiles are present due to the very limited extent and low quality of potential habitat (the rank swards), and their isolation from semi-natural areas. Reptiles are therefore scoped out.

MAMMALS

- 5.7 Small mammals are scoped as follows:
- Badgers. There was no evidence of badgers (although there is a historic road casualty record from ~500m west).
 - Hedgehogs are known from Chedgrave (within ~150m) and more widely within 2km. There is very little suitable permanent cover on Site but they may forage in the field boundary areas of rank grass swards.

INVERTEBRATES

- 5.8 Records for seven species of invertebrates were returned; two are not relevant (a vagrant moth and the wetland snail Desmoulin's whorl snail *Vertigo moulinsiana* [Gastropoda: Vertiginidae]). The other five are widespread but declining moths with the status of Species of

¹⁰ <http://www.batsurvey.org>

Principal Importance (Butterfly Conservation, 2007¹¹) that are associated with a range of foodplants and without particular habitat specificity. Specialist microhabitats associated with significant species or assemblages are considered absent (e.g. herb-rich arable margins). The dead wood on the trees may support a few saproxylic species but high quality dead wood types (e.g. heartwood decay) are absent.

- 5.9 It is concluded that rare or scarce species are unlikely to be present but that a small assemblage (one or two species) of widespread but declining moths may breed in the field boundary vegetation.

SUMMARY

- 5.10 In summary, the species of conservation concern considered likely or potentially present are restricted to widespread but declining species utilising the roadside verge and other boundary vegetation:

- Roosting and foraging bats;
- Nesting birds;
- Hedgehogs, foraging in field verge areas; and
- Widespread but declining moths.

¹¹ Butterfly Conservation (2007) *The UK Biodiversity Action Plan - Moths*. Available from: <https://butterfly-conservation.org/files/the-uk-biodiversity-action-plan.pdf>

6. DISCUSSION

EVALUATION

Habitats

- 6.1 The western and eastern boundary hedgerows (H1 and H2) are considered to qualify as Hedgerow Habitat of Principal Importance (following Maddock, 2011¹²). The defunct southern hedgerow (H3) does not qualify as it is too gappy. None of the hedgerows qualify as Important Hedgerows under the Hedgerow Regulations.

Species

- 6.2 Most of the species scoped in as potentially present will be components of larger local populations. The status of any bat roosts are not known, although the isolation of the trees along the northern boundary probably reduces the likelihood of their being used by many of the scarcer species.

RECOMMENDATIONS FOR FURTHER SURVEY

- 6.3 No further surveys are considered necessary to inform the assessment of the Site.

IMPACTS

Designated Sites

- 6.4 The scheme is small and relatively distant from designated sites, thus recreational impacts are unlikely. In the specific case of Hardley Flood, there is no footpath access across the landward routes, and the Wherryman's Way¹³ route which runs along the bank separating it from the River Chet is in poor repair¹⁴. Wet ground limits its wider public use.
- 6.5 The scheme will implement a surface water drainage strategy. However, in the context of the Broadland Ramsar Site, Broadland SPA and The Broads SAC it is not thought that this surface water strategy is required to mitigate impacts given that the Site is separated from the nearest watercourses by the existing residential areas of Chedgrave and several roads. Further, the Site is located upstream of where the River Chet flows east through Chedgrave itself, with its associated marinas and moorings¹⁵, and with Hardley Flood receiving water from the river as a spillway¹⁶. It is not thought that surface water discharge would be a potential pathway of impact on the integrity of Hardley Flood nor as a component site of The Broads SAC, Broadland SPA and Broadland Ramsar Site.
- 6.6 In terms of a Habitats Regulations Assessment screening it is concluded that there will not be impacts on the integrity of international / European sites via the following pathways:
- Recreational disturbance. The nearest international / European is not readily accessible from the Site and an existing promoted footpath runs alongside. Wet conditions limit wider public use of the designated site.

¹² Maddock, A. (2011) *UK BAP Priority Habitat Descriptions*. Available from: http://jncc.defra.gov.uk/PDF/UKBAP_PriorityHabitatDesc-Rev2010.pdf

¹³ https://www.ldwa.org.uk/ldp/members/show_path.php?path_name=Wherryman%27s+Way

¹⁴ <http://loddon.org.uk/loddonwp/the-future-of-wherrymans-way-at-hardley-flood-update/>

¹⁵ <http://www.broads-authority.gov.uk/boating/navigating-the-broads/water-depths/river-chet>

¹⁶ <https://www.south-norfolk.gov.uk/sites/default/files/Habitat%20Regulations%20Assessment%20.pdf>

- Surface water run-off. The scheme is separated from the River Chet by the existing residential areas of Chedgrave and is probably 'upstream' of the marinas and boat yards on the river.

6.7 It is concluded that the scheme will not impact designated sites and that in the specific case of The Broads SAC, Broadland SPA and Broadland Ramsar Site impacts on site integrity can be screened out with sufficient confidence.

On-Site

6.8 The scheme layout is shown below (Figure 3), with habitat impacts as follows:

- Construction will be mainly on arable cropland; and
- Access will be via an existing hedgerow breach but there may be some additional removal of hedgerow vegetation. This hedgerow is not an Important Hedgerow under the Hedgerow Regulations.

6.9 In terms of impacts the mature trees with bat roost potential, on the northern boundary, are buffered from development by soft landscaping areas and there is likely to be very little light spill or other disturbance of these trees.

Figure 3. Scheme layout.



MITIGATION

6.10 Appropriate mitigation for construction impacts are:

- Clearance of vegetation should be outside of the nesting bird season (March to August). This includes the roadside verge areas and the main field if it develops a sparse sward vegetation suitable for skylarks. Any clearance within this nesting period should be under a watching brief with pre-clearance inspection for nests.

ENHANCEMENTS

6.11 At a strategic level the proposed enhancements are relevant to a sub-regional green infrastructure corridor. Soft landscaping is the most appropriate key enhancement for the site, able to provide insect prey for bats and also for the chicks and fledgling birds of many species, such as house sparrows. Thus, a range of native plant types should be planted to provide a range of resources across the seasons from spring to autumn for insect prey, and also fruit and berry producing species in autumn.

6.12 As well as utilising appropriate soft landscaping in the areas of wider greenspace, the boundary hedgerows should be reinforced and infilled with suitable hedgerow species.

6.13 Structural planting within the scheme area and boundary planting should:

- Use mainly species be typical of local hedgerows (see Norfolk County Council, undated¹⁷) and appropriate species include: hawthorn, blackthorn, ash, maple, dogwood *Cornus sanguinea*, elm and hazel *Corylus avellana*, with lesser amounts of crab apple *Malus sylvestris*, hornbeam *Carpinus betulinus* and holly *Ilex aquifolium*, and scattered examples of native privet *Ligustrum vulgare*, oak, wild cherry *Prunus avium* and guelder rose *Viburnum opulus*. Species such as guelder rose and crab apple would offer good nectar sources of pollinating insects at times when other species are not in bloom.
- Where trees of high visual appeal and small stature are required within the developed areas then silver birch *Betula pendula* should be used in preference to non-native white birches; fastigate hornbeam, rowan *Sorbus aucuparia* and whitebeams *Sorbus* species are also appropriate species.
- Ornamental planting could use hornbeam or beech, which have benefits for wildlife and good ornamental characteristics.
- In general ornamental planting should include species that offer good blossom for pollinators and tend to avoid non-native evergreen shrubs such as the evergreen honeysuckle *Lonicera nitida* and similar species.

6.14 Additional measures could include:

- Bird boxes on buildings, such as:
 - House sparrow or 'terrace' boxes¹⁸. These should be on outbuildings at east 2m above ground.

¹⁷ Norfolk County Council (undated) *Planting Hedges in Norfolk – Maintaining Regional Character*. Available from:

<http://www.norfolkbiodiversity.org/pdf/reportsandpublications/HedgeBookletPROOF4.pdf>

¹⁸ <http://shopping.rspb.org.uk/rspb-sparrow-terrace-nest-box.html>

- Boxes for other hole-nesting species on buildings, with both 'small hole' and open front boxes. It is particularly important that open front boxes are screened by vegetation such as climbers.
- Bat boxes could be erected on buildings as either integral features or externally mounted boxes¹⁹.
- The scheme should allow for the continued movements of hedgehogs, with garden gates raised to allow them to pass under and / or holes within gravel boards to allow them to pass through²⁰. The holes need to be at least 15cm x 15cm.

¹⁹ https://www.arkwildlife.co.uk/Category/0/Wildlife_Habitats~Bat_Boxes.html

²⁰ <https://www.jacksons-fencing.co.uk/News/outdoor-living/new-hedgehog-friendly-gravel-boards-winter-news-topical-treats-and-more-6511.aspx>

7. CONCLUSIONS

- 7.1 The hedgerows qualify as Hedgerow Habitat of Principal Importance but no other priority habitats are present.
- 7.2 Most protected species are scoped out, other than nesting birds and roosting bats. Other species of conservation concern that may be present are some widespread but declining species that would be present as minor components of larger local populations.
- 7.3 The proposed scheme will mainly impact arable cropland with probably some removal of hedgerow vegetation for access.
- 7.4 The scheme design includes an area of landscaping along the northern boundary that would limit light spill and any disturbance of the trees with bat roost potential. Construction phase impacts on nesting birds should be mitigated via timing works to avoid the nesting bird season.
- 7.5 The scheme design 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 considered to be negligible by virtue of distance. In the specific case of Hardley Flood Site of Special Scientific Interest, which is a component of The Broads SAC, Broadland SPA and Broadland Ramsar Site the potential pathways of impact are considered to be Recreational disturbance and Surface water run-off. Both these pathways are screened out via a Habitats Regulations Assessment screening and it is concluded that there will not be impacts on the integrity of international / European sites.

8. APPENDIX 1: PHOTOGRAPHS



Figure 4.
The line of trees
along the north
boundary.



Figure 5.
View of the Site from
the south-east.



Figure 6.
The defunct
hedgerow along the
south boundary

9. APPENDIX 2: LEGISLATION SUMMARY

Non-technical account of relevant legislation and policies.

Species	Legislation	Offence	Licensing
Bats: European protected species	Conservation of Habitats and Species Regulations 2017 (as amended) Reg 41	Deliberately capture, injure or kill a bat; deliberate disturbance of bats; or damage or destroy a breeding site or resting place used by a bat. [The protection of bat roosts is considered to apply regardless of whether bats are present.]	A Natural England (NE) licence in respect of development is required.
Bats: National protection	Wildlife and Countryside Act 1981 (as amended) S.9	Intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb a bat in such a place.	Licence from NE is required for surveys (scientific purposes) that would involve disturbance of bats or entering a known or suspected roost site.
Birds	Wildlife and Countryside Act 1981 (as amended) S.1	Intentionally kill, injure or take any wild bird; intentionally take, damage or destroy the nest of any wild bird 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].	No licences are available to disturb any birds in regard to development.
Great crested newt: European protected species	Conservation of Habitats and Species Regulations 2010 (as amended) Reg 41	Deliberately capture, injure or kill a great crested newt; deliberate disturbance of a great crested newt; deliberately take or destroy its eggs; or damage or destroy a breeding site or resting place used by a great crested newt.	Licences issued for development by Natural England.
Great crested newt: National protection	Wildlife and Countryside Act 1981 (as amended) S.9	Intentionally or recklessly obstruct access to any structure or place used for shelter or protection or disturb it in such a place.	A licence is required from Natural England for surveying and handling.
Adder, common lizard, grass snake slow worm	Wildlife and Countryside Act 1981 S.9(1) and S.9(5)	Intentionally kill or injure any common reptile species.	No licence is required. However, an assessment for the potential of a site to support reptiles should be undertaken.
Scientific Interest (SSSI)	Wildlife and Countryside Act 1981 (as amended)	To carry out or permit to be carried out any potentially damaging operation. SSSIs are given protection through policies in the Local Development Plan.	Owners, occupiers, public bodies and statutory undertakers must give notice and obtain the appropriate 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.