
Preliminary Ecological Appraisal

Newtown Meadow, Worlingwoth

for

Victoria & Julian Uff

24 March 2023



Client

Victoria & Julian Uff

Planning authority

Mid Suffolk District Council

Time limit of reliance

Please note that the reported surveys were conducted on the date(s) stated in the report and that it represents site conditions at the time of the visit. The findings and recommended mitigation are based on these conditions. If site conditions change materially after the site survey, the original report cannot be relied upon and will need to be updated. Ecological reports and surveys can typically be relied on for 18 to 24 months from the date of survey.

Surveys supporting European Protected Species Mitigation Licence applications must be within the current or most recent survey season for bats (May to September), or within two survey seasons for great crested newts (March to June).


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<i>Signed disclosure</i>	
<i>The information, data, advice and opinions provided in this report which I have provided is true and has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. I confirm that the opinions expressed are my true and professional bona fide opinions.</i>	
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SUMMARY

- Greenlight Environmental Consultancy Ltd. has been commissioned to carry out a Preliminary Ecological Appraisal for a proposed development at Newtown Meadow, Fingal Street, Worlingworth, Suffolk, IP13 7HR (grid reference: TM 21540 68976).
- 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 conversion of the existing building to a residential dwelling.
- 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 for bats are required prior to works commencing to inform an ecological impact assessment of the site and an appropriate mitigation strategy. If proposed plans change to affect terrestrial habitats, further surveys/licences are required for great crested newts prior to works commencing to inform an ecological impact assessment and appropriate mitigation strategy, or to offset any adverse impacts via financial contributions.**
- 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	Site consists of a single outbuilding and little habitat clearance will be required. Survey area features modified grassland, scattered trees, scrub and hedgerows (Priority habitats), but will be retained under current proposals.	Low scale of habitat loss predicted for wildlife.	<u>Mitigation</u> Soft landscaping scheme to include the planting of new native species-rich hedgerows and trees between plots and 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	Low bat roosting potential in building one (outbuilding)	Potential destruction of bat roost if present within building one.	<u>Further surveys required</u> At least one activity survey to be undertaken on building one (outbuilding) between May-August.

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
	<p>Negligible bat roosting potential in buildings 2-4.</p> <p>Low - moderate bat roosting potential in 14 trees/groups located within the survey area.</p> <p>Negligible-moderate value commuting and foraging habitat on site/survey area respectively.</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>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 the tree with moderate bat roosting potential, further bat surveys will be conducted.</p> <p>If proposed works change to affect trees 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, hedgerow and building nesting birds present within the survey area.</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, hedgerows 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 and two small bird boxes installed on new building and trees respectively.</p>
Great crested newts	<p>Unsuitable terrestrial habitats on site but areas of suitable habitat within the survey area.</p> <p>One pond within the survey area and 14 ponds within 250m of the site, five assessed as poor to average suitability and the remaining ponds could not be accessed for detailed assessment.</p> <p>Site falls within Amber risk zone for district level licensing.</p> <p>Six GCN records within 2km.</p>	<p>Works to convert building one to have minimal impacts on potential habitat for GCN.</p> <p>Further works to the survey area have potential to impact GCN habitats.</p> <p>No impacts on potential GCN aquatic habitat.</p>	<p><u>Mitigation</u></p> <p>Works to convert building one (within red line boundary) to be undertaken under a method statement:</p> <ul style="list-style-type: none"> • Cut and maintain vegetation around the building short (maximum height of 10cm) until the start of works. • 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. • If GCN are discovered during the works, all work must cease immediately and an ecologist contacted for advice. <p><u>Further steps required</u></p> <p>If proposed works change to include works within the survey area (yellow line). Further steps may be required. 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

Protected habitats/species	Status	Potential effect	Recommended mitigation and enhancements
			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. <ul style="list-style-type: none"> 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.
Reptiles	Unsuitable terrestrial habitats on site but areas of suitable habitat within the survey area One reptile record within 2km.	Reptiles unlikely to be found on site/survey area 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	Hedgerows on site periphery suboptimal. Although connected to deciduous woodland nearby, the woodland is <0.3ha. No dormouse records within 2km.	Hedgerows on site to be retained. 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.

1. METHOD

- 1.1. A walkover of the site was conducted on 7th March 2023 by Lucy Reed and Daniel Howes – independent, qualified and experienced ecologists. Survey conditions were as follows: 5°C, 7mph wind, overcast 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:
 - Water vole *Arvicola amphibius*
 - Otter *Lutra lutra*
 - 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 to the northwest of the village of Worlingworth, Suffolk, with the A140 located approximately 9.8km west and the closest town of Framlingham 7.9km southeast.
- 2.3. The survey area is enclosed by grassland and agriculture/horticulture to the north and west, residential dwellings to the east and horse paddocks to the south. The wider surroundings are comprised of a mixture of residential dwellings and agricultural buildings, small blocks of woodland and arable fields lined with mature trees and hedgerows.



Figure 1

Satellite image of site surroundings, survey area indicated by yellow line and planning application boundary by red line.

Image © Google, date accessed 17/03/23

3. DESCRIPTION OF THE DEVELOPMENT

- 3.1. The proposals are for the conversion of the existing building onsite to create a single residential dwelling.

4. PROTECTED SITES

Statutory

- 4.1. There are no statutory protected sites located within 2km of the site.
- 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 – one County Wildlife Site (“CWS”) and two Roadside Nature Reserves (“RNR”). Please refer to Appendix C for the full citations.
 - i. RNR 193, approximately 0.9km northwest.
“Designated for Sulphur Clover.”
 - ii. RNR 199, approximately 1.7km north.
“Designated for Sulphur Clover.”
 - iii. Old Rectory Meadow CWS, approximately 1.9km north.
“This small County Wildlife Site meadow is situated to the south of the Old Rectory in the village of Athelington. The site is enclosed by hedges and scattered tall trees. The meadow supports a species-diverse flora including a number of species typically found in unimproved grassland on chalky boulder clay soils.”

5. HABITATS

Desktop review

- 5.1. Priority Habitats to occur within 2km (identified using MAGIC – managed by Natural England), include Good Quality Semi-Improved Grassland, Deciduous Woodland, Traditional Orchards and Woodpasture and Parkland BAP Priority Habitat. The closest of which, is Traditional Orchards located approximately 40m southeast of the site.

Field study

- 5.2. The habitats on the survey area are of **low** ecological value, being mainly modified grassland, hardstanding and buildings, and hedgerows (Priority Habitat) on the site peripheries.
- 5.3. Priority Habitats, as listed under the NERC Act 2006 Section 41 Habitats of Principal Importance found on the survey area include: Hedgerows.
- 5.4. Figure 2 provides a map of the habitats present on the site and the wider survey area. 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 code: 11 scattered trees, 66 frequently mown, 73 bare ground, 115 track, 117 dry & 191 ditch)

- 5.5. The survey area is predominantly comprised of areas of modified grassland that is regularly managed. Species include: perennial ryegrass *Lolium perenne*, cock's-foot *Dactylis glomerata*, fescue *Festuca sp.*, common chickweed *Stellaria media*, dove's-foot cranesbill *Geranium molle*, creeping buttercup *Ranunculus repens*, ribwort plantain *Plantago lanceolata*, spear thistle *Cirsium vulgare*, nettle *Urtica dioica*, cow parsley *Anthriscus sylvestris*, dandelion *Taraxacum officinale*, primrose *Primula sp.*, snowdrops *Galanthus sp.*, crocuses *Crocus sp.* and daffodils *Narcissus sp.*
- 5.6. The survey area features a number of scattered trees across the site and along the northern boundary including ash *Fraxinus excelsior*, English oak *Quercus robur*, crack willow *Salix fragilis*, hornbeam *Carpinus betulus*, beech *Fagus sylvatica* and Lawson cypress *Chamaecyparis lawsoniana*.
- 5.7. A dry ditch is present along the northern boundary with encroaching bramble *Rubus fruticosus* and nettles.
- 5.8. An area of bare ground track is present to the west and another area of bare ground is present to the northeast around the buildings.

Hedgerow (UK Habitat Classification h2a; secondary code: 190 – hedgerow with trees) – Priority Habitat

- 5.9. The survey area features a hedgerow with trees along the eastern and southern boundaries. Species include: ash, English oak, hawthorn *Crataegus monogyna*, bramble, blackthorn *Prunus spinosa*, privet *Ligustrum sp.* and ivy *Hedera helix*.
- 5.10. This hedgerow does not qualify as “important” under The Hedgerow Regulations 1997, lacking the required number of native woody species or associated features.

Other hedgerow (UK Habitat Classification h2b)

- 5.11. A short section of blackthorn hedge is present to the west of the survey area, along the access track.

Bramble scrub (UK Habitat Classification h3d)

- 5.12. The survey area features an area of scrub to the east dominated by brambles, with alexanders *Smyrnium olusatrum*, cleavers *Galium aparine*, nettles, ground ivy *Glechoma hederacea* and foxglove *Digitalis sp.*

Horticulture (UK Habitat Classification c1f)

- 5.13. An area of horticulture is present to the west of the survey area which is used for commercial flower growing.

Buildings (UK Habitat Classification u1b5)

- 5.14. There are several buildings within the survey area. Please refer to the bat section detailed below for further information.

Other developed land (UK Habitat Classification u1b6)

- 5.15. The survey area features concrete hardstanding to the north around the buildings.

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

- 5.16. The survey area includes a mixture of chain-link and closeboard fencing around the horticultural area and the area to the northeast where the chicken coop is present.

Standing open water and canals (UK Habitat Classification r1)

5.17. A pond is present in the southeast corner of the survey area. Please refer to the GCN section detailed below for further information.

Target note	Comments
A	Brash and soil pile.

Table 1, target notes.



Figure 2

Habitats on site.

Image © QGIS, date accessed 17/03/23



Photo 1, looking south across the survey area at the area of modified grassland.



Photo 2, looking south across the fenced horticultural area and towards the brush and soil pile in the southwest corner (target note A).



Photo 3, looking east along the dry ditch to the north of the survey area.



Photo 4, area of bramble scrub to the east of the survey area, looking northeast.



Photo 5, area of bare ground in the northeast corner of the survey area looking east.



Photo 6, pond in the southeast corner of the survey area, looking southeast.

6. PROTECTED AND NOTABLE SPECIES

Desktop review

Data search

- 6.1. The biodiversity data search within 2km of the site indicated 500 species records.
- 6.2. Records of note within 2km and relevant to the proposed development works are:
 - 21 barn owl *Tyto alba* records, with the most recent from 2018.
 - 11 skylark *Alauda arvensis* records, with the most recent from 2018.
 - 12 swift *Apus apus* records, with the most recent from 2017.
 - Six GCN *Triturus cristatus* records, with the most recent from 2021. The closest record is located approximately 0.7km southeast.
 - One reptile record (grass snake *Natrix helvetica*) from 2015, located approximately 1km southwest.
 - 24 hedgehog *Erinaceus europaeus* records, with the most recent from 2019.
 - 91 bat records, with the most recent from 2021, including common pipistrelles *Pipistrellus pipistrellus*, soprano pipistrelles *Pipistrellus pygmaeus*, brown long-eared *Plecotus auritus*, serotines *Eptesicus serotinus*, noctules *Nyctalus noctula* and Natterer's *Myotis nattereri*.

Protected species licences

- 6.3. A 2km search on <http://www.magic.gov.uk/> indicated one record of a granted European Protected Species ("EPS") Mitigation Licence relating to:
 - Bats (case reference: 2015-18425-EPS-MIT) from 2016, approximately 0.9km south. Species on the licence include: soprano pipistrelle.

Bats

- 6.4. There are four buildings and 14 trees/group of trees with bat roost potential located within the survey area, as indicated in Figure 3 and photos 7-25.



Figure 3

Location and numbering of buildings and trees with bat roost potential located on site.

Image © QGIS, date accessed 22/03/23

Building one - outbuilding

- 6.5. The building is of breezeblock and timber weatherboard construction with a pitched clay pantile roof. The weatherboarding is generally tight but a section of missing weatherboard is present at the apex on the southern gable which allows access into a small closed void. The roof features several lifted tiles and no ridge tiles are present creating possible access/roosting opportunities for bats. There are also several gaps at the eaves creating crevices which may offer suitable roosting opportunities.
- 6.6. Internally, the building is plaster boarded with a small mezzanine level to the north and several windows allowing high levels of light inside. A small (<1m to apex), inaccessible closed void is present to the south of the building.
- 6.7. No signs of bats were observed internally or on the building's exterior.

- 6.8. Potential roosting opportunities are present under missing and/or raised roof tiles, gaps at the eaves and in the small closed void.
- 6.9. Building one is assessed as **low** summer and **negligible** hibernation roost suitability for bats due to its location and roosting features. Please note, the building only features roosting opportunities under tiles/within the small void/eaves which would not provide a stable humidity and temperature adequate for hibernation roosting.



Photo 7, south and west aspects of building one, looking northeast.



Photo 8, gap at the apex of the southern aspect allowing access into the small, closed void.



Photo 9, gaps at the eaves on the western aspect.



Photo 10, gaps under tiles on the western aspect and missing ridge tiles.

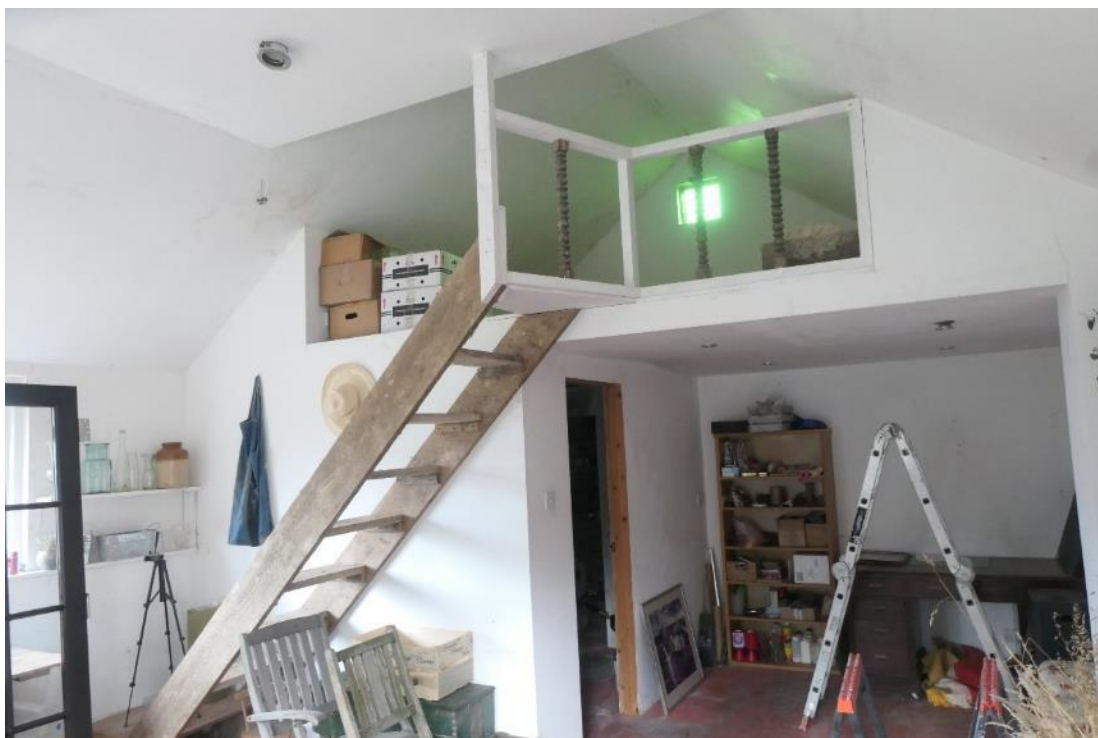


Photo 11, internal view looking northwest.

Buildings 2-4

6.10. The buildings vary in construction and are comprised of:

- Building two – timber building with a pitched, corrugated metal roof and two timber and corrugated metal lean-tos on the east and west aspects used as a chicken coop.
- Building three – three breezeblock and corrugated asbestos Nissen huts.
- Building four – a timber framed shed, with timber tongue and groove cladding and a single pitched corrugated metal roof.

6.11. There were no signs of use by bats on the building exteriors or interiors and the structures provide unsuitable roost environments, with no suitable cavities for roosting bats. The buildings are assessed as **negligible** (summer and hibernation) roost suitability for bats.



Photo 12, south and west aspect of building two, looking northeast.



Photo 13, north and west aspects of building three, looking southeast.



Photo 14, south and west aspects of building four, looking northeast.

Trees

6.12. The trees around the site boundary were assessed for bat roosting potential.

- 6.13. A total of 14 trees/groups of trees on or adjacent the survey area were assessed as having **low** to **moderate** roost suitability for bats based on their location, age and suitable features (Table 2, Figure 3).
- 6.14. 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
T8	Ash	quoted.goofy.calculate	Low	Ivy cover.
T9	Crack willow	soggy.title.mentioned	Moderate	Lift bark and ivy cover.
T10	Crack willow	unites.pylons.louder	Low	Ivy cover.
T11	Hornbeam	electrode.perfumes.booster	Low	Ivy cover.
T12	Hornbeam	gates.candles.obstruct	Low	Ivy cover.
T13	English oak	smudges.rejoiced.decide	Low	Ivy cover.
T14	Ash	began.mallets.pavilions	Low	Ivy cover.
T15	Ash	half.shrimps.snowy	Low	Ivy cover.
T16	Ash	icons.resettle.ever	Low	Ivy cover.
T17	Ash	foal.worldwide.awestruck	Low	Ivy cover.
T18	Ash	ambushes.reefs.placed	Low	Ivy cover.
H25	Ash & English oak	final.packets.trackers	Low	Ivy cover.
T23	English oak	pegs.powering.stem	Low	Ivy cover.
T24	Ash	sampling.flop.rinsed	Low	Ivy cover.

Table 2, trees with bat roosting potential. Tree no. are taken from the arboricultural report (Greenlight Environmental Consultancy Ltd, 2022).



Photo 15, T8 with ivy cover, looking northeast.



Photo 16, T9 & 10 with ivy cover and lifted bark, looking northwest.



Photo 17, T11 with ivy cover, looking northwest.



Photo 17, T12 with ivy cover, looking northeast.



Photo 18, T13 & 14 with ivy cover, looking southeast.



Photo 19, T15 with ivy cover, looking northeast.



Photo 20, T16 with ivy cover, looking east.



Photo 21, T17 with ivy cover, looking southeast.



Photo 22, T18 (behind T20) with ivy cover, looking southeast.



Photo 23, H25 on the southern boundary, looking southwest.



Photo 24, T23, looking south.



Photo 25, T24, looking south.

Foraging and commuting links

- 6.15. The site itself provides **negligible** value foraging habitat for bats with the survey area providing **low** to **moderate** value habitat along the boundary hedgerows.

6.16. The landscape immediately adjacent to the site and survey area is considered of **low** to **moderate** value for foraging and commuting bats, with linked gardens, hedgerows and treelines providing links to the wider landscape. Residential dwellings adjacent the site and within Worlingworth have the potential to provide roosting opportunities for bats.

Birds

6.17. 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.

6.18. The following bird species were observed during the site visit:

Amber listed:

Dunnock	<i>Prunella modularis</i>
Rook	<i>Corvus frugilegus</i>
Woodpigeon	<i>Columba palumbus</i>

Green listed:

Blackbird	<i>Turdus merula</i>
Buzzard	<i>Buteo buteo</i>
Great tit	<i>Parus major</i>
Magpie	<i>Pica pica</i>
Robin	<i>Erithacus rubecula</i>

6.19. The survey area provides suitable nesting habitats for scrub, hedgerow, tree and building nesting species. A robin/wren nest is present at the eaves of building one and buildings one and three also feature bird nest boxes.

6.20. The survey area does not provide suitable nesting habitat for red listed species.

6.21. The survey area provides potential breeding habitat for the following Amber listed species: dunnock, rook, woodpigeon and wren *Troglodytes troglodytes*.

6.22. No signs of barn owl were found on the site and no foraging habitat is present.

Great crested newts

6.23. There is one pond within the survey area and 14 further ponds 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).

- 6.24. The terrestrial habitats within the survey area are considered a mixture of unsuitable (hardstanding, modified grassland and horticulture) and suitable (scrub, dry ditch, brash/soil pile and hedgerows) GCN foraging, commuting and hibernating habitats.
- 6.25. Terrestrial habitats adjacent the site include a mixture of unsuitable (arable fields, horse paddocks, horticulture and residential dwellings with associated gardens and hardstanding) and suitable (unmanaged grassland and hedgerows) GCN foraging, commuting and hibernating habitats.
- 6.26. Ponds 1, 2, 4, 5 and 7 were assessed as **poor to average** suitability for GCN (Table 3). Ponds 3, 6, 8-15 were not assessed in detail, as authorised access to the ponds was not available.
- 6.27. The site falls within the Amber risk zone for GCN district level licensing, which is classified as “containing main population centres for GCN and comprise important connecting habitat that aids natural dispersal” (Natural England, 2021).

Pond	1	2	4	5	7
Geographic location	Zone A	Zone A	Zone A	Zone A	Zone A
	1.00	1.00	1.00	1.00	1.00
Pond surface area (m ²)	50m ²	100m ²	100m ²	300m ²	200m ²
	0.10	0.20	0.20	0.60	0.40
Desiccation rate	Annually	Annually	Never	Never	Annually
	0.10	0.10	0.90	0.90	0.10
Water quality/ invert density	Moderate	Poor	Poor	Poor	Poor
	0.67	0.33	0.33	0.33	0.33
Shoreline shade (%)	70%	95%	65%	80%	80%
	0.80	0.30	0.90	0.60	0.60
Waterfowl impacts	Absent	Absent	Absent	Absent	Absent
	1.00	1.00	1.00	1.00	1.00
Fish impacts	Absent	Absent	Absent	Absent	Absent
	1.00	1.00	1.00	1.00	1.00
Ponds within 1km	13+	13+	13+	13+	13+
	1.00	1.00	1.00	1.00	1.00
Terrestrial habitat quality	Moderate	Moderate	Moderate	Moderate	Moderate
	0.67	0.67	0.67	0.67	0.67
Macrophyte cover (%)	0%	0%	10%	0%	0%
	0.30	0.30	0.40	0.30	0.30
HSI Score	Below average	Poor	Average	Average	Below average
	0.50	0.46	0.65	0.68	0.53

Table 3, HSI score for ponds within 250m of the proposed site.



Photo 26, pond one, on the survey site, looking southeast.



Photo 27, pond two, looking northeast.



Photo 28, pond four, looking southeast.



Photo 29, pond five, looking south.



Photo 30, pond seven, looking east.

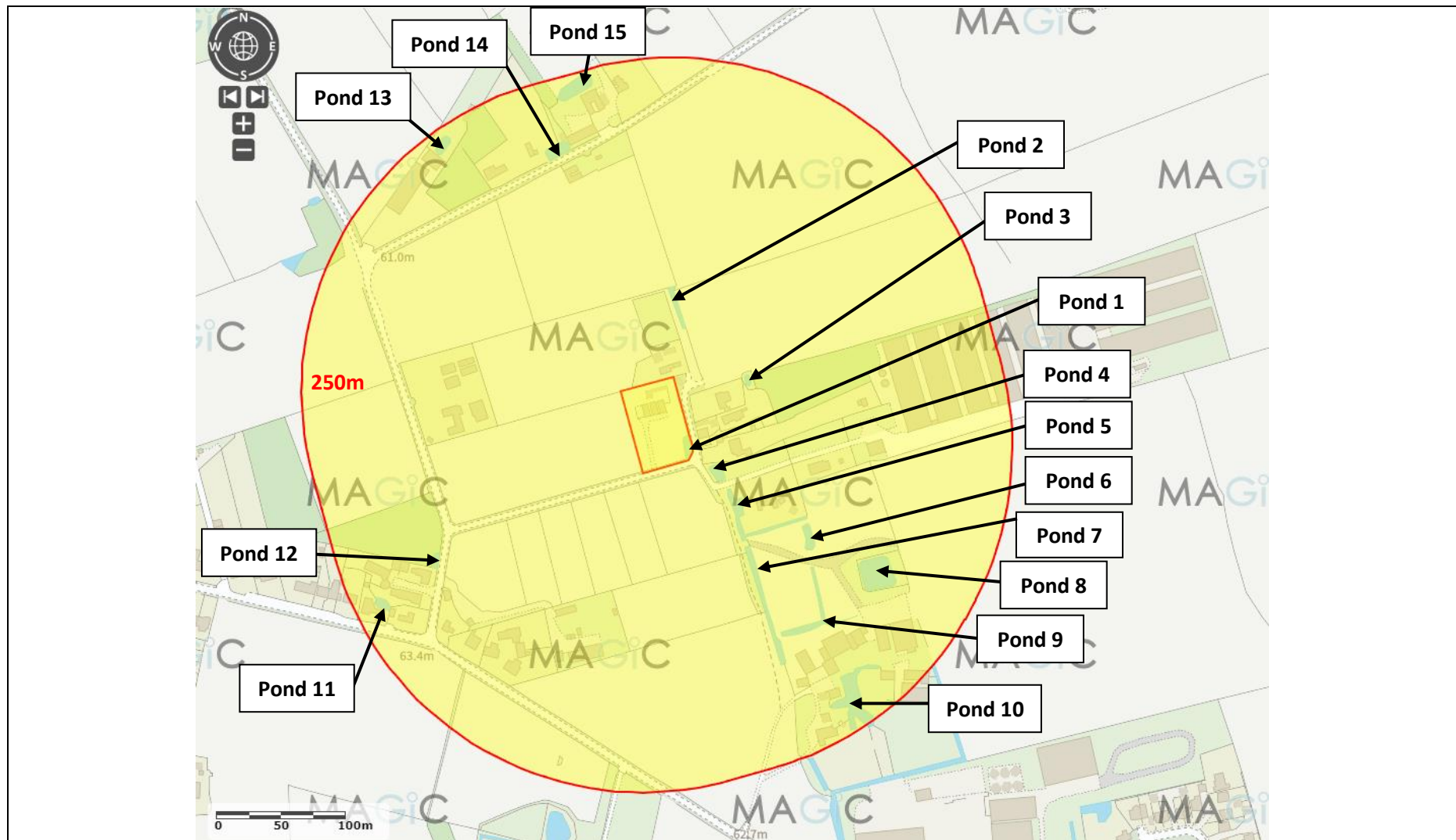


Figure 4
Ponds within 250m of the proposed survey area.
Image © MAGiC, date accessed 20/03/23

Reptiles

- 6.28. The habitats within the survey area are considered predominantly unsuitable for reptiles, consisting of managed modified grassland, hardstanding and buildings. Some small areas of suitable scrub and brash piles are present onsite.
- 6.29. Habitats located on the survey area boundaries including the base of the hedgerows and the dry ditch could be used as commuting habitats by reptiles if they were present in the area.
- 6.30. Terrestrial habitats adjacent the survey area include a mixture of unsuitable (arable, horticulture, horse paddocks and residential dwellings with associated gardens and hardstanding) and suitable (unmanaged grassland and hedgerows) reptile foraging, commuting and hibernating habitats.

Badgers

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

Dormice

- 6.33. The hedgerows on the survey area peripheries are considered suboptimal for hazel dormice with only a small patch of deciduous woodland (<0.3ha identified using MAGIC) located within 70m of the survey area (hazel dormouse home range, 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 (RNR 193), is located approximately 0.9km northwest and designated for its sulphur clover.
- 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 to convert the existing outbuilding (building one) to a residential dwelling will require little clearance of vegetated habitats on site. No priority habitats will be affected by the proposed development.
- 7.5. As a precautionary measure, the following mitigation will be implemented to avoid impacts on habitats from the proposed works:
- i. 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).
 - ii. 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 conversion of building one, 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 one bat activity survey to be conducted on building one (outbuilding) between May and August.

- ii. If bats are found to be present and roosting within any building(s), further activity surveys and a European Protected Species Mitigation Licence may be required for the development.
 - iii. If proposed works change to incorporate the tree with moderate bat roosting potential (T9) on the site, further bat surveys will be conducted prior to work commencing, to assess its potential use by bats.
 - iv. If proposed works change to incorporate trees 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.
 - v. 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 conversion of the outbuilding.
- 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 converted building (Swift Block – Appendix F).
- ii. Two small bird boxes installed on suitable trees on/adjacent the site (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 to convert the existing outbuilding (building one) will not result in the loss of terrestrial habitats for GCN and the pond within the survey area will be unaffected.

7.15. Although there are suitable habitats for GCN within the survey area, the proposed development to convert the existing building will have minimal impacts on the surrounding habitat. Therefore, works to the building can be undertaken under a GCN method statement detailed below.

7.16. The following mitigation will be implemented to avoid impacts on GCN from the proposed works:

- i. Vegetation around building one will be cut and maintained short (maximum height of 10cm) until the start of works, to discourage animals from using these areas.
- ii. 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.
- iii. 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.
- iv. If any GCN are discovered during the work, all works must cease immediately, and a qualified ecologist contacted for advice.

7.17. If proposed plans change to affect habitats outside of the red line site boundary (e.g. plans change to include works within the survey area highlighted in yellow in figure 1), further steps may be required. This can be in the form of the following methods:

- i. Further GCN surveys:

- a. 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).
 - b. eDNA 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-April and June).
 - 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.

Reptiles

- 7.18. The proposed works to convert the existing outbuilding (building one) will not result in the loss of habitat for reptiles. Although there are some small areas of suitable reptile habitat within the survey area, these are in small quantities and would be unable to support a population in isolation.
- 7.19. As a precautionary measure, the following mitigation will be implemented to avoid impacts on reptiles from the proposed works:
- i. Vegetation around building one will be maintained short (maximum height of 10cm) until the start of works, to discourage animals from using these areas.
- 7.20. 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

- 7.21. No impacts are expected on badger setts with the deciduous woodland located >30m from the proposed development and no mitigation is required.

Dormice

- 7.22. No loss of hedgerow is expected from the proposed works and no mitigation is required.

Other animals

7.23. 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).

7.24. 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.

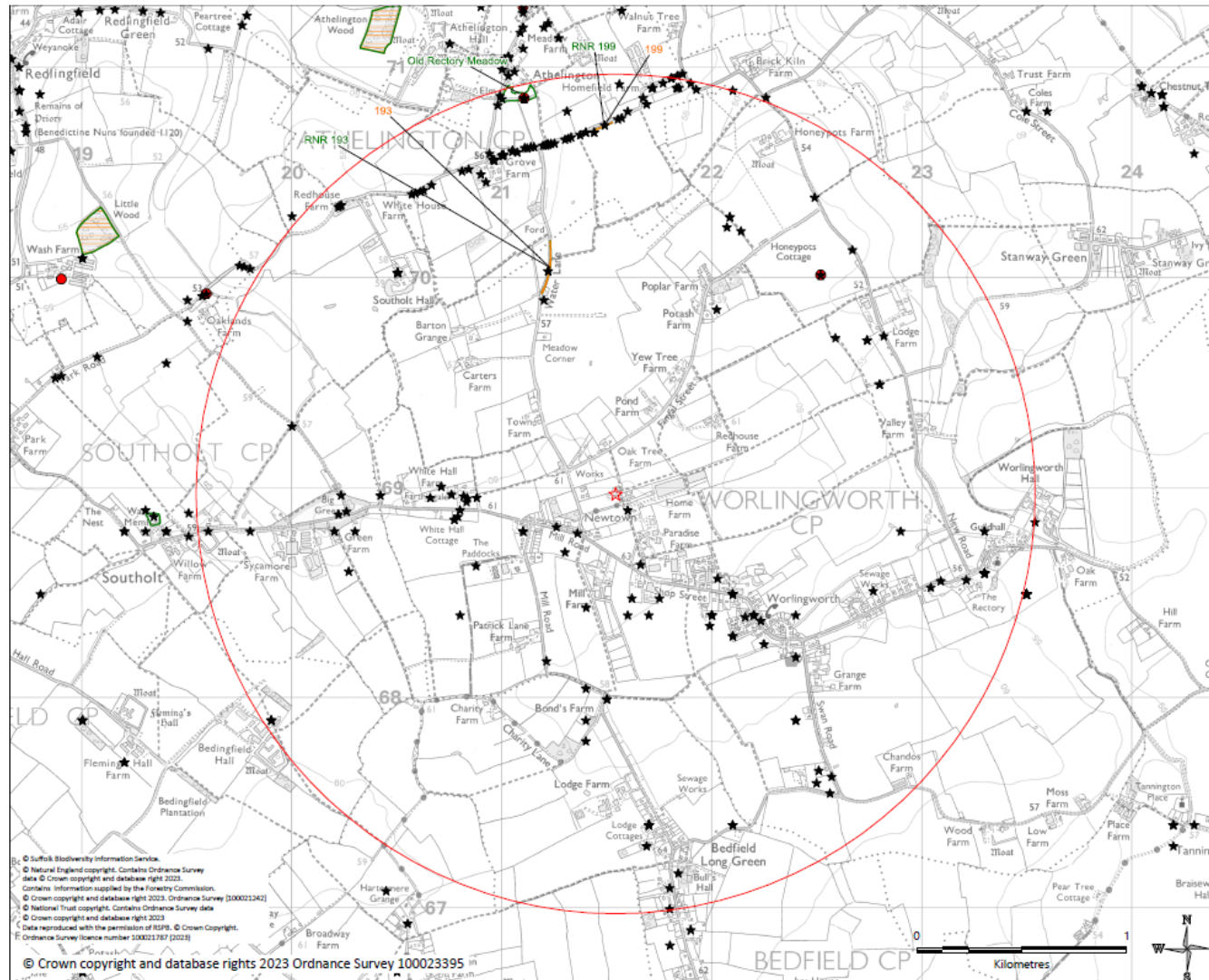
Other protected species

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.

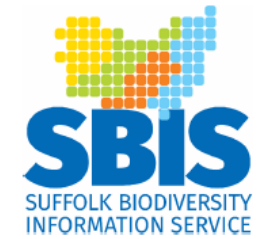
Appendix B
Map of protected sites within 2km



- Data Enquiry**
- ★ Search Point
 - Search Area
- Protected, Locally Scarce and Rare Species**
- ▼ Record Locations (for grids of 6 fig. or greater)
- Schedule 9 Species**
- Record Locations (for grids of 6 fig. or greater)
- Ancient/Veteran/Notable Trees**
-
- Roadside Nature Reserve**
- ▭
- County Wildlife Sites**
- ▭
- County GeoSites**
- ▭
- SSSI**
- ▭
- LNR**
- ▭
- SPA**
- ▭
- SAC**
- ▭
- RAMSAR**
- ▭
- NNR**
- ▭
- SWT Reserve**
- ▭
- Ancient Woodland Inventory**
- ▭
- Other Public or Conservation Ownership/Management**
- ▭ Forestry Commission, National Trust (public access), RSPB (public access)
- National Park**
- ▭ The Broads
- AONB**
- ▭ Suffolk Coast and Heaths or Dedham Vale

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Greenlight (Newtown Meadow, Worlingworth TM2154268976) 2km Data Enquiry



Date: 14/02/2023 | Drawn by: Jane Mason

Appendix C

Protected sites citations

County Wildlife Sites citations

CWS Number	Mid Suffolk 150
Site Name	OLD RECTORY MEADOW
Parish	ATHELINGTON
District	Mid Suffolk
NGR	TM211708
Description	This small County Wildlife Site meadow is situated to the south of the Old Rectory in the village of Athelington. The site is enclosed by hedges and scattered tall trees. The meadow supports a species-diverse flora including a number of species typically found in unimproved grassland on chalky boulder clay soils, e.g. pepper saxifrage and pyramidal orchid. The south-western corner of the meadow is rather wetter than the remainder of the site and is dominated by meadowsweet. The meadow is managed by cutting annually late in the summer and the cuttings removed as a haycrop.
RNR Number	0
Area	0.73
CWS Number	Mid Suffolk 192
Site Name	RNR 193
Parish	Worlingworth
District	Mid Suffolk
NGR	TM212700
Description	Sulphur Clover. This site is also a Roadside Nature Reserve.
RNR Number	193
Area	0.05

CWS Number	Mid Suffolk 193
Site Name	RNR 199
Parish	Athelington
District	Mid Suffolk
NGR	TM214707
Description	Sulphur clover. This is also a Roadside Nature Reserve.
RNR Number	199
Area	0.01

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

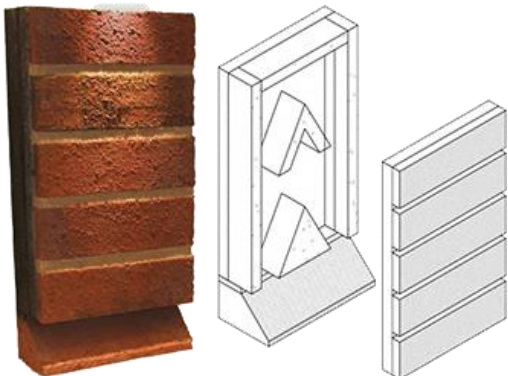



Plant species recorded on site

English name	Scientific name
Alexanders	<i>Smyrniololus sativum</i>
Ash	<i>Fraxinus excelsior</i>
Beech	<i>Fagus sylvatica</i>
Blackthorn	<i>Prunus spinosa</i>
Bramble	<i>Rubus fruticosus</i>
Cleavers	<i>Galium aparine</i>
Cock's-foot	<i>Dactylis glomerata</i>
Common chickweed	<i>Stellaria media</i>
Cow parsley	<i>Anthriscus sylvestris</i>
Crack willow	<i>Salix fragilis</i>
Creeping buttercup	<i>Ranunculus repens</i>
Crocus	<i>Crocus sp.</i>
Daisy	<i>Bellis perennis</i>
Dandelion	<i>Taraxacum officinale</i>
Daffodil	<i>Narcissus sp.</i>
Dove's-foot cranesbill	<i>Geranium molle</i>
English oak	<i>Quercus robur</i>
Fescue	<i>Festuca sp.</i>
Foxglove	<i>Digitalis sp.</i>
Ground ivy	<i>Glechoma hederacea</i>
Hawthorn	<i>Crataegus monogyna</i>
Hornbeam	<i>Carpinus betulus</i>
Ivy	<i>Hedera helix</i>
Lawson cypress	<i>Chamaecyparis lawsoniana</i>
Nettle	<i>Urtica dioica</i>
Perennial ryegrass	<i>Lolium perenne</i>
Primrose	<i>Primula sp.</i>
Privet	<i>Ligustrum sp.</i>
Ribwort plantain	<i>Plantago lanceolata</i>
Snowdrops	<i>Galanthus sp.</i>
Spear thistle	<i>Cirsium vulgare</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 style="text-align: center;">Quercus Fencing</p> <p style="text-align: center;">Hedgehog friendly oak woven fencing panels</p> 	<p style="text-align: center;">Jacksons-Fencing</p> <p style="text-align: center;">Hedgehog friendly gravel board for use with slotted posts</p> 
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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

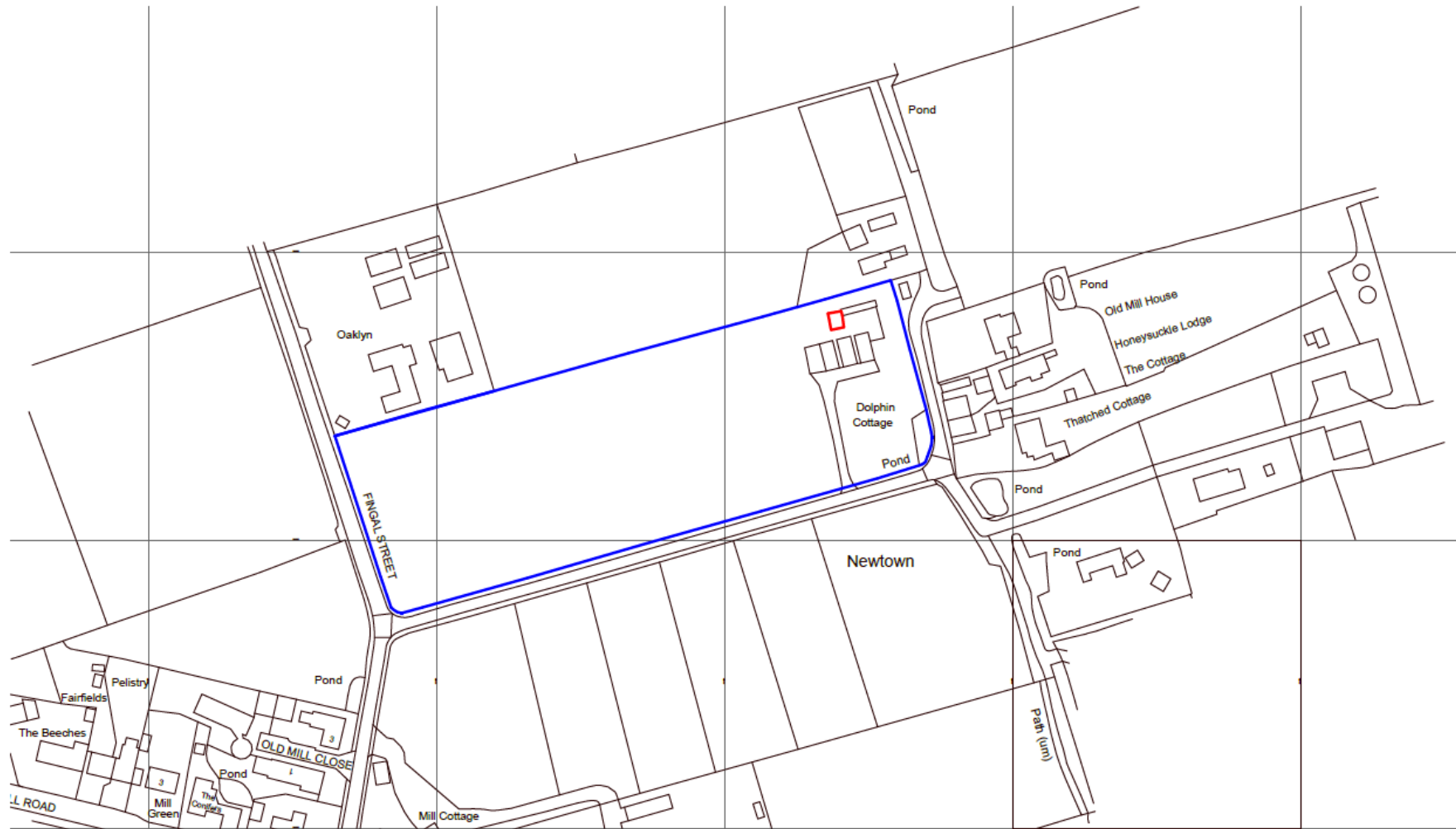
Trees	
Alder (d)	<i>Alnus glutinosa</i>
Apples (f; d)	<i>Malus spp.</i> (local varieties)
Ash (d)	<i>Fraxinus excelsior</i>
Beech (d)	<i>Fagus sylvatica</i>
Bird cherry (f; d)	<i>Prunus padus</i>
Elder (f; d)	<i>Sambucus nigra</i>
Elm (d)	<i>Ulmus procera</i>
Field maple (d)	<i>Acer campestre</i>
Pedunculate 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>

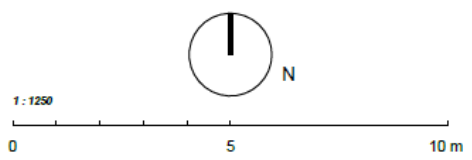
Flowering plants	
Bird's-foot trefoil	<i>Lotus corniculatus</i>
Black knapweed	<i>Centaurea nigra</i>
Common cat's-ear	<i>Hypochoeris radicata</i>
Common sorrel	<i>Rumex acetosa</i>
Common vetch	<i>Vicia sativa</i>
Cowslip	<i>Primula veris</i>
Field scabious	<i>Knautia arvensis</i>
Foxglove	<i>Digitalis 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



1 Site
1 : 1250



Rev	Date	Description

CLIENT: Victoria and Julian Uff
 PROJECT: Newtown Meadow
 JOB: 2312
 STATUS:
 Date Printed: 25/01/2023 16:36:01
 DRAWN BY: Author CHECKED BY: Checker

DR. NUMBER: 000 DR. TITLE: Site Plans
 REV: SCALE @ A3: 1 : 1250

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