



envirotech

Ecological Consultants
Environmental and Rural Chartered Surveyors

Ecological Appraisal

Rearing Farm at Fen Road, Ruskington



Tel: 015395 61894
Email: info@envtech.co.uk
Web: www.envtech.co.uk
Envirotech NW Ltd
The Stables, Back Lane, Hale, Milnthorpe, Cumbria. LA7 7BL
Directors:
A. Gardner BSc (Hons), MSc, MRICS, Dip NDEA
H. Gardner BSc (Hons), MSc, CEnv, MRICS
Registered in England and Wales. Company Registration Number 5028111

ACCURACY OF REPORT

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, all of the protected species this survey covers are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and/or in their interaction with protected species. If protected species are found during a work programme, and continuing the work programme could result in their disturbance, injury or death, either directly or indirectly an offence may be committed. If in doubt, stop work and seek further professional advice.

Quality and Environmental Assurance

This report has been printed on recycled paper as part of our commitment to achieving both the ISO 9001 Quality Assurance and ISO 14001 Environmental Assurance standards. Envirotech have been awarded the Gold standard by the Cumbria Business Environmental Network for its Environmental management systems.

Author	Matthew Thomas	Date	13 th October 2016
Updated	Andrew Gardner	Date	4 th May 2022
Updated	Amy Cooke	Date	9 th November 2023
Checked by	Andrew Gardner	Date	10 th November 2023
Report Version	3		
Field data entered	<input checked="" type="checkbox"/>		
Report Reference	3610		

Contents

1. EXECUTIVE SUMMARY	5
2. INTRODUCTION.....	6
2.1 Background	6
2.2 Objectives	7
3. METHODOLOGY AND SOURCES OF INFORMATION.....	8
3.1 Data Search.....	8
3.2 Vegetation and Habitats.....	8
3.3 Timing and Personnel	8
4. SURVEY METHODOLOGY	10
4.1 Amphibian	10
4.2 Badger.....	10
4.3 Bats.....	11
4.4 Birds	11
4.5 Brown Hare	11
4.6 Invertebrates.....	12
4.7 Reptiles	12
4.8 Water Vole.....	12
4.9 Survey limitations	12
5. RESULTS.....	13
5.1 Data Search.....	13
6. PHASE 1 SURVEY RESULTS	17
6.1 Habitat Results.....	17
6.2 Vegetation	22
6.3 Amphibian	22
6.4 Badger.....	23
6.5 Bats.....	23
6.6 Birds	23
6.7 Brown Hare	24
6.8 Invertebrates.....	24
6.9 Reptiles	24
6.10 Water vole	25
6.11 Other	25
6.12 Statutory and Non-Statutory Sites.....	25
7. MITIGATION/RECOMMENDATIONS	26
7.1 Compensatory planting and habitat enhancement	26
7.2 Amphibians	26

7.3	Badger.....	27
7.4	Bats.....	27
7.5	Birds.....	27
7.6	Brown Hares.....	28
7.7	Invertebrates.....	28
7.8	Reptiles.....	28
7.9	Water vole.....	28
8	REFERENCES.....	29

1. EXECUTIVE SUMMARY

- 1.1.1 In November 2023 Envirotech NW Ltd were commissioned to carry out an Ecological Appraisal of the field adjacent to a former chicken rearing farm, off Fen Road, Ruskington. It is proposed that a housing development is constructed on the field.
- 1.1.2 A data search and desk study of the site and an area within 2km of the site were undertaken to establish the presence of protected species and notable habitats.
- 1.1.3 The site was visited by a licenced ecologist from Envirotech NW Ltd on the 8th November 2023. A full botanical survey of the site was initially undertaken and this was followed by surveys to establish the presence or absence of bats, amphibians, nesting birds, brown hares, reptiles and badgers at the site or in proximity such that they may be affected by the proposed development.
- 1.1.4 The plant species assemblages recorded at the site are all common in the local area and of considered of low ecological value. Domestic gardens and sympathetically landscaped open space are considered to offer habitat of equal or greater ecological value.
- 1.1.5 No protected or notable species were recorded on the site during the survey.
- 1.1.6 Birds are likely to utilise hedges on site for nesting between March and September. Any vegetation clearance should therefore be undertaken outside of this period.
- 1.1.7 No other notable or protected species were recorded on the site.

2. INTRODUCTION

2.1 Background

2.1.1 In August 2016 Envirotech NW Ltd were commissioned to carry out an Ecological Appraisal of a former chicken rearing farm, off Fen Road, Ruskington, central grid reference TF 0893 5124 (Figure 1). A site investigation was undertaken and a report compiled which includes recommendations for any future actions and or mitigation required. An update to the survey was undertaken in April 2022, and a further walkover and updated report in November 2023 for the new proposal.

2.1.2 The November 2023 survey was requested in connection with the proposed housing development on the field adjacent to the former chicken farm.



2.2 Objectives

2.2.1 The main objectives of the study were:

- The completion of a Phase 1 Habitat Survey including the preparation of a vegetation and habitat map of the site and the immediate surrounding area.
- The survey and assessment of all habitats for statutorily protected species.
- An evaluation of the ecological significance of the site.
- The identification of any potential development constraints and the specification of the scope of mitigation and enhancement required in accordance with wildlife legislation, planning policy and other relevant guidance, and;
- The identification of any further surveys or precautionary assessments that may be required prior to the commencement of any development activities.

3. METHODOLOGY AND SOURCES OF INFORMATION

3.1 Data Search

- 3.1.1 The Lincolnshire Biological Records Centre (LERC), the Envirotech dataset, and the Multi-Agency Geographic Information for the Countryside (MAGIC) were searched to establish the presence of any records of statutorily protected, notable or rare species, and any designated sites of international, national, regional or local importance within a 2km radius of the site boundary.
- 3.1.2 The Envirotech dataset is compiled from extensive field surveys from the period 2004-present, as well as records obtained from third parties during this time.
- 3.1.3 Google Earth and Google Street View were consulted to establish the presence of any features of ecological importance within the local area.

3.2 Vegetation and Habitats

- 3.2.1 A vegetation and habitat map were produced for the site and the immediate surrounding area. The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC 2003).
- 3.2.2 Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the Wildlife and Countryside Act (1981) and indicators of important and uncommon plant communities. All plant nomenclature follows Stace (1991).
- 3.2.3 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the Wildlife and Countryside Act (1981), namely Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*) on terrestrial habitat and aquatic species such as floating pennywort (*Hydrocotyle ranunculoides*), water Hyacinth (*Eichhornia crassipes*) and New Zealand pygmyweed (*Crassula helmsii*).
- 3.2.4 The survey was also informed by questioning the landowner/site agent to ascertain the recent history of the site.

3.3 Timing and Personnel

- 3.3.1 The site and surrounding land were visited on the 14th September 2016.
- 3.3.2 During the visit, weather conditions were suitable for the survey types undertaken being warm and dry in late summer.
 - (MT) Mr. Matthew Thomas BSc (Hons), Grad CIEEM
Natural England Bat Class Licence (Level 2)
Natural England Barn Owl Licence
Natural England Great Crested Newt Licence (Level 1)
 - (JS) Mr. Jack Sykes BSc (Hons), MCIEEM
Natural England Bat Class Licence (Level 2)
Natural England Barn Owl Licence

Natural England Great Crested Newt Licence (Level 1)

3.3.3 The site and surrounding land were visited on the 26th April 2022.

3.3.4 During the visit, weather conditions were suitable for the survey types undertaken being warm and dry in early spring.

- (AG) Mr. Andrew Gardner BSc (Hons), MSc, MRICS
Natural England Bat Class Licence (Level 2)
Natural England Bat Low Impact Class Licence
Natural England Barn Owl Licence
Natural England Great Crested Newt Licence (Level 1)
Natural England Badger Class Licence
Natural England White Clawed Crayfish Licence
- (RG) Mr. Ray Gardner
Unlicensed observer with experience in emergence surveys

3.3.5 The site and surrounding land were visited on the 9th November 2023.

3.3.6 During the visit, weather conditions were suitable for the survey types undertaken being cool and overcast, but dry in mid-autumn.

- (AG) Mr. Andrew Gardner BSc (Hons), MSc, MRICS
- (RG) Mr. Ray Gardner

4. SURVEY METHODOLOGY

4.1 *Amphibian*

- 4.1.1 Great crested newts (*Triturus cristatus*) are listed on Annexes II and IV of the EC Habitats Directive and Appendix II of the Bern Convention. It is protected under Schedule 2 of the Conservation (Natural Habitats) Regulations (2019) and Schedule 5 of the Wildlife & Countryside Act (1981).
- 4.1.2 The great crested newt baseline survey involved a pond screening assessment to determine the presence and suitability of ponds located within the study area using a Habitat Suitability Index.
- 4.1.3 There are no ponds within 250m of the site boundary. There are however drainage ditches to the North, West and East of the site. These were however all found to be dry at the time of the survey.
- 4.1.4 Surveys for these species were therefore limited to assessing the potential of the habitats on site to support these species.

4.2 *Badger*

- 4.2.1 Badgers (*Meles meles*) and their setts are protected under the Protection of Badgers Act (1992). This legislation arises from animal welfare issues (rather than on the basis of nature conservation grounds) and protects badgers from being killed, injured or disturbed whilst occupying a sett. The main issue on proposed development sites tends to be the potential disturbance of badgers in their setts as a result of construction operations. Natural England recommends that the use of heavy machinery in proximity of a sett entrance should be avoided, with a 'disturbance free-zone' being established. The degree of disturbance attributed to construction activity is a function of the background level of activity badgers are accustomed to and that which will be attributed to a proposed activity. The "disturbance free zone" is therefore site specific.
- 4.2.2 The survey for badgers comprised an assessment of all suitable habitat within and outside the study area boundary (where this was possible) for indications of use by badgers.
- 4.2.3 Signs of badgers which were searched for included:
 - Setts - 'D' shaped entrances at least 25cms wide and wider than they are high with large spoil mounds
 - Discarded bedding at sett entrances (this includes grass and leaves)
 - Scratching posts on shrubs and trees close to a sett entrance
 - The presence of badger hairs which are coarse, up to 100mm long with a long black section and a white tip
 - Dung pit latrines and footprints
 - Habitual runs through vegetation and beneath fences
 - Hedgehog carcasses

4.3 Bats

- 4.3.1 All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act (1981), and are included on Schedule 2 of the Conservation (of Natural Habitats) Regulations (2019), as European Protected Species. Taken together, these pieces of legislation make it an offence to:
- Intentionally or recklessly kill, injure or capture bats;
 - Deliberately or recklessly disturb bats (whether in a roost or not);
 - Damage, destroy or obstruct access to bat roosts.
- 4.3.2 The Bat Conservation Trust (Hundt (2012)), Collins, J. (ed) (2016) and (2023) issued guidelines on bat survey methodology, a key feature of their recommendation is for the undertaking of a pre-survey assessment - an initial desk-study and a walkover assessment of the survey area and its surrounding area to identify the relative value of the habitats present for bats and likely commuting routes. This is to be followed by a survey program that is appropriate to the likely level of bat activity within the survey area to be determined by and based on the experience of the surveyor.
- 4.3.3 The potential value of the survey area for foraging bats was assessed through consideration of two main factors: professional knowledge of bat ecology and foraging behaviour in combination with the geographical location, topography and habitats present within the survey area and surrounds.
- 4.3.4 The survey area has small hedgerows within it and linear routes on its boundary. The main site however comprises an area which is open, exposed and structurally poor, it has a very low potential for use by bats.
- 4.3.5 There are two buildings on site, timber framed, timber clad, fibre cement corrugated roofed chicken sheds. These were assessed for their potential to be used by bats for roosting or hibernation.
- 4.3.6 A static bat detector was deployed on site for 7 days to record any potential bat activity inside the buildings.

4.4 Birds

- 4.4.1 All breeding birds, other than pest species, are protected under the Wildlife and Countryside Act of 1981 when building a nest, rearing young or sitting on eggs. Some bird species, such as barn owl (*Tyto alba*), are protected when near an active nest site. Several birds are listed as UK and or County BAP species.
- 4.4.2 The poor-quality habitat suggested a low potential for breeding bird species of interest.
- 4.4.3 Bird species and behaviour was noted during the other field surveys. All areas are covered equally, in order to avoid the subjective survey of better quality 'bird habitat'. All birds displaying breeding behaviour were recorded.

4.5 Brown Hare

- 4.5.1 The brown hare (*Lepus europaeus*) is a UK BAP species.
- 4.5.2 The survey method involved walking boundaries and surveying with binoculars. The survey was conducted at a suitable distance to ensure that the hares were not disturbed. Generally, surveys were undertaken throughout the early afternoon and evening when hares are thought to be most active and feeding.
- 4.5.3 There present the number of brown hares in each field or hedgerow was recorded, together with the nature and use of the field, climatic conditions and time of day. The presence of forms and faeces where present were also recorded.

4.6 Invertebrates

- 4.6.1 A general assessment was made of the study area's suitability for supporting invertebrates during the phase 1 survey. The study area's lack of habitat diversity, species-poor composition and uniformity of vegetation structure (i.e., lack of variation in height and microtopography) resulted in our belief that a low diversity of invertebrates would be likely to occur across the site.
- 4.6.2 The presence of invertebrates was noted during the other surveys which were undertaken. The extent of sampling was limited in that it could be confirmed that no priority or BAP species would be likely to be affected by the proposal.

4.7 Reptiles

- 4.7.1 All native reptiles are protected in Britain under the Wildlife and Countryside Act of 1981. It is an offence to intentionally kill, injure, sell or advertise to sell any of the six native species.
- 4.7.2 The survey for these species was based on assessing the habitat type and suitability of the site. This comprised an assessment of satellite imagery for the site and surrounding area as well as comparison of the results from the records searches with habitat types. The general habitat at the site was evaluated in terms of its suitability to reptiles for foraging or breeding.
- 4.7.3 Reptile surveys comprising visual encounter surveys were undertaken. Habitat at the site was not considered sufficiently suitable for a full presence/ absence survey to be warranted.

4.8 Water Vole

- 4.8.1 Water voles (*Arvicola amphibious*) and their habitat are fully protected under Schedule 5 of the Wildlife and Countryside Act (1981). This provides protection from killing or taking by certain prohibited methods and their breeding and resting places are fully protected from destruction or obstruction, it is also an offence to disturb them in these places.
- 4.8.2 There drainage ditches on the site boundaries. These watercourses were surveyed and assessed for evidence of the presence of water vole.
- 4.8.3 This involved intensive searches working upstream where possible, and observing from the banks where not; looking for burrows and other signs including footprints, droppings and chewed vegetation. This was undertaken up to 5m from the water course.

4.9 Survey limitations

- 4.9.1 No significant survey limitations were encountered.

5. RESULTS

5.1 Data Search

- 5.1.1 Envirotech and LERC hold no records of protected or notable species for the site. There are however records of protected or notable species within 2km. These are discussed in the relevant sections below.
- 5.1.2 There are no non-statutory sites within 2km of the site (Figure 3).
- 5.1.3 The nearest statutory protected site is Wilsford & Rauceby Warrens SSSI, SAC over 10km to the South-west (Figure 4).

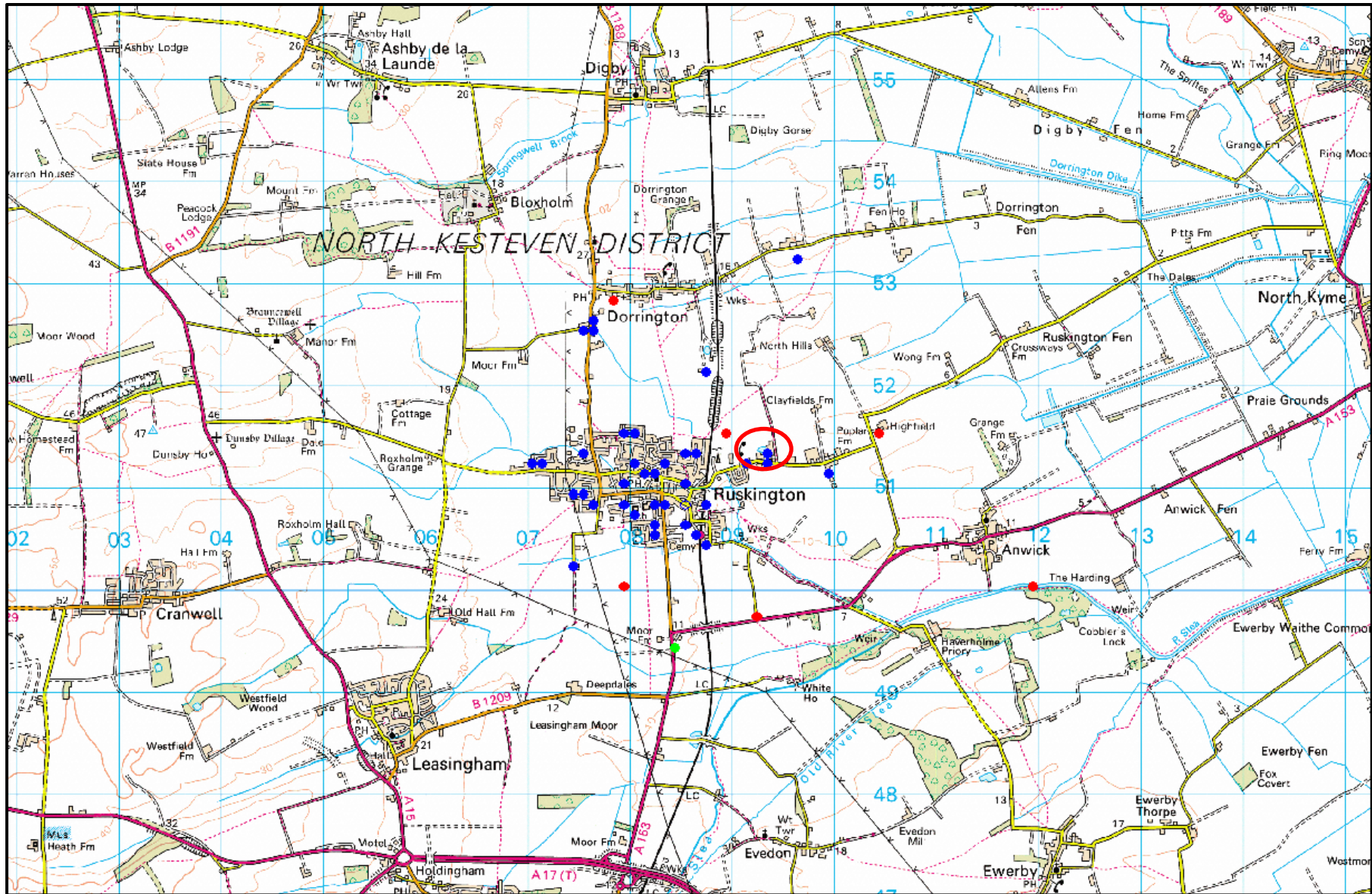
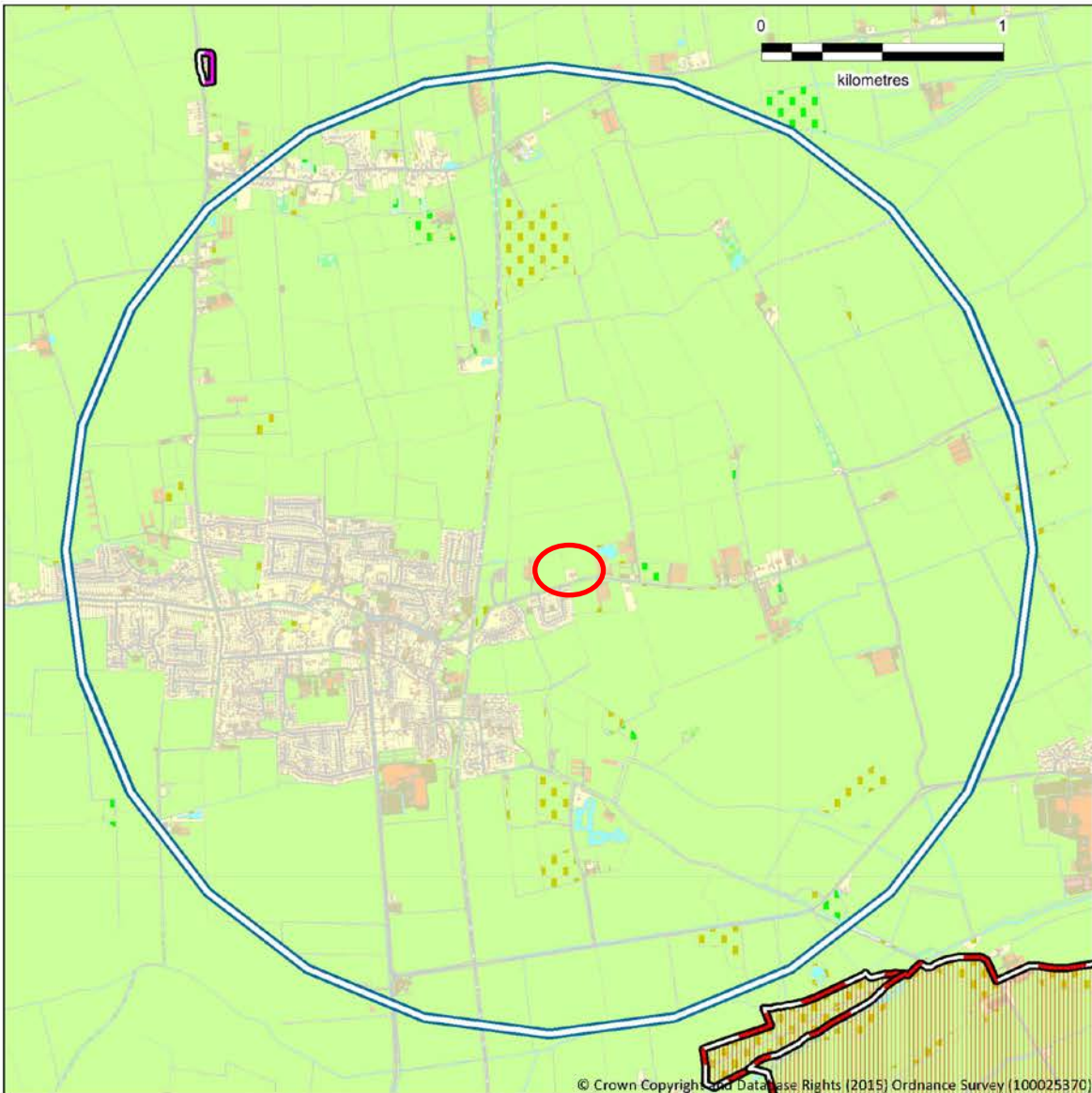


Figure 2 Notable species records where blue indicates bats, red indicates brown hare, and green indicates badgers. The site location is circled red.

Non-statutory sites within the search area

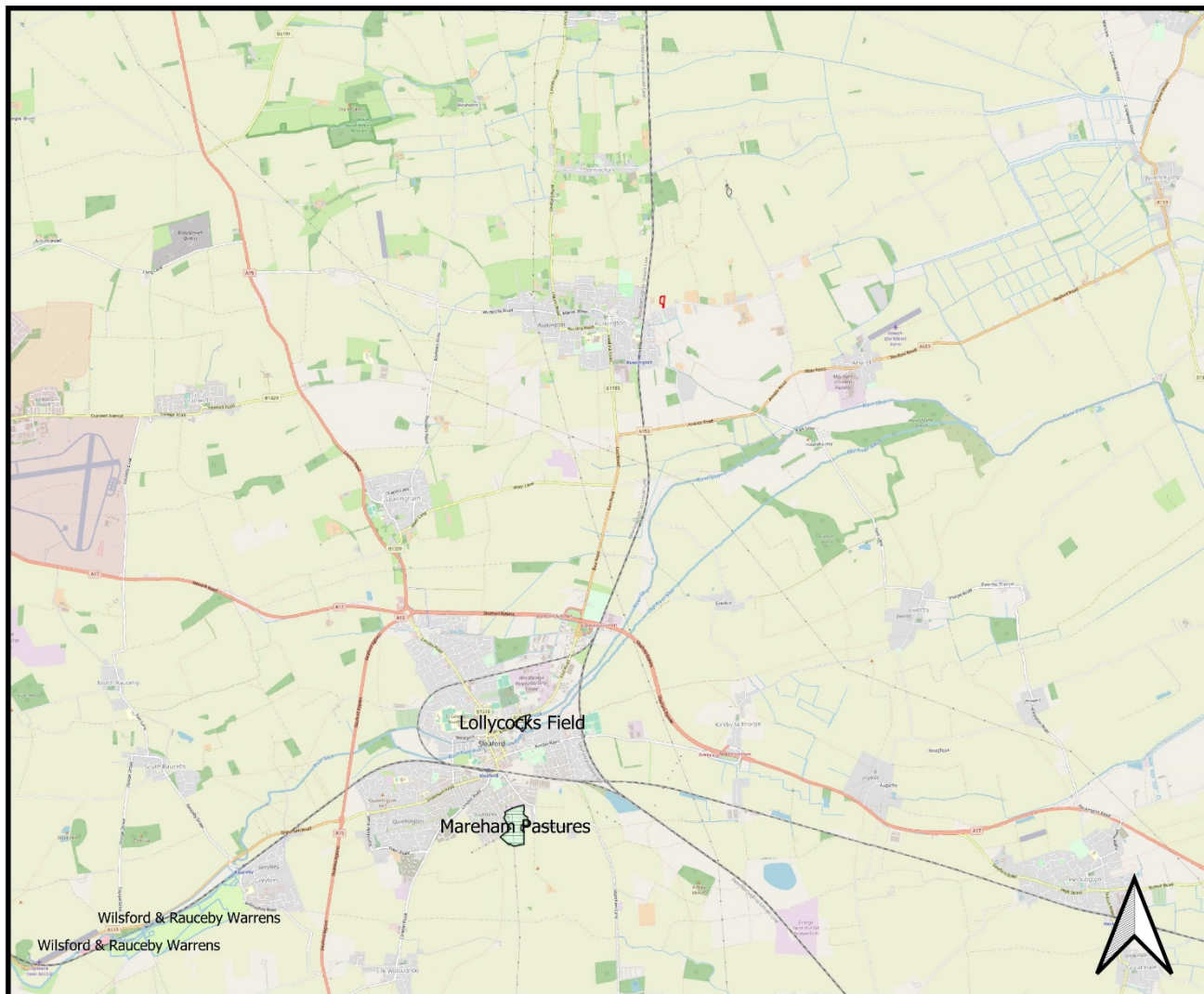


© Crown Copyright and Database Rights (2015) Ordnance Survey (100025370)

Space restrictions on the map may result in some sites not being labelled. Please refer to the GIS layers or site citations for details.

- | | |
|---|---|
|  Local Wildlife Site |  Lincolnshire Wildlife Trust Reserve |
|  Local Geological Site (mine entrance) |  Roadside Nature Reserve |
|  Local Geological Site |  Search area |
|  Site of Nature Conservation Interest |  LERC boundary |
|  Regionally Important Geological/Geomorphological Site | |

Figure 3 Non-statutory sites 2km buffer. Site location circled red.



-  SSSI
-  Boundary

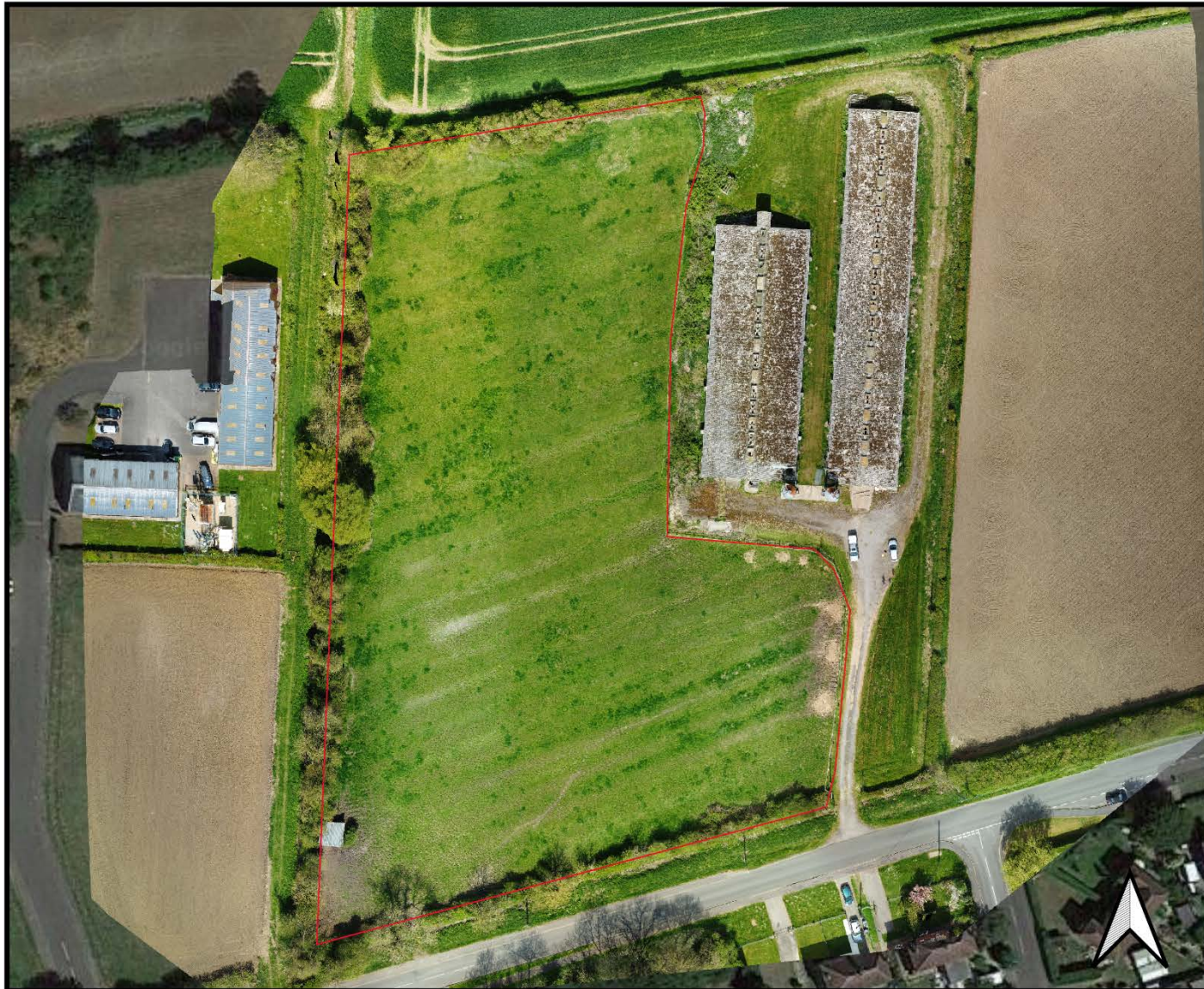
Figure 4
Protected Sites



6. PHASE 1 SURVEY RESULTS

6.1 *Habitat Results*

- 6.1.1 A drone was overflown on the 26th April 2022. This produced a number of images which were stitched together to form an orthomosaic map and provided up to date imagery of the site from which phase 1 habitat mapping has been based. Figure 5 shows the hi-resolution imagery without the phase 1 mapping overlay.
- 6.1.2 The site comprises two chicken sheds of lightweight construction, set on an area of gravel which is now being colonised by ephemeral plants. The wider site has been used as a horse paddock. There is arable land to the North and East, a similar site to the West and a road and residential housing to the South.
- 6.1.3 See Figure 6 for the Phase 1 Habitat Plan and Table 1 for the descriptive Target Notes, hereafter referred to as TN.




 Boundary

Figure 5
Orthomosaic map
drone imagery taken
26th April 2022



Target Note	Description	Comment
TN1	Species poor hedge	A dense hedge of hawthorn (<i>Crataegus monogyna</i>) and blackthorn (<i>Prunus spinosa</i>) lines the East and North boundary of the site. There are sections of the hedge missing with large gaps present. Ground flora is poor and limited to species at TN2.
TN2	Poor semi-improved grassland	Species poor, poor-quality grassland that gives way to an area of overgrown ruderal vegetation to the North. Species include Cocksfoot (<i>Dactylis glomerata</i>), Yorkshire fog (<i>Holcus lanatus</i>), Perennial ryegrass (<i>Lolium perenne</i>), Greater plantain (<i>Plantago major</i>), Dandelion (<i>Taraxacum officinale</i>), Ragwort (<i>Jacobaea vulgaris</i>), Scotch thistle (<i>Onopordum acanthium</i>) and Broad leaved dock (<i>Rumex obtusifolius</i>).
TN3	Building	The small corrugated steel shelter situated in the South-west corner of the field inspected for its potential to support roosting bats, nesting birds or any other specifically protected species.
TN4	Species poor hedge	A dense hedge of hawthorn (<i>Crataegus monogyna</i>) and Dog rose (<i>Rosa Canina</i>) lines the South boundary of the site. This sits above a dry ditch to the roadside. Ground flora as Per TN2.

Table 1 Details of Botanical and Faunal Target Notes.



- Boundary
- Target Note
- Building
- Poor Semi-Improved Grassland
- Intact Hedge - Species-poor
- Dry Ditch

Figure 6
Phase 1 Habitat Survey





TN1

Poor semi-improved grassland covers the site



TN2

The site is bordered by species-poor intact hedgerows

	<p>TN4</p> <p>A dry ditch runs along the base of the hedge</p>
<p>Table 2 Photographs of target noted and notable features on the site.</p>	

6.2 Vegetation

- 6.2.1 Details of the plant species found on site are included in the target notes. Species recorded are all commonly occurring and undoubtedly occur elsewhere in similar habitats in the local area. All of the plant species assemblages are poor.
- 6.2.2 The poor semi-improved grassland has a very low species diversity and ecological value. Whilst the assemblage of species within it is higher than improved pasture, the species are all indicative of regular grazing and disturbance, this habitat does not constitute a BAP habitat.
- 6.2.3 Tall ruderals around the site suggest elevated nutrient levels. There is extensive poaching to the field from cattle or horses.
- 6.2.4 The intact hedges bounding the site is species poor and contains a low diversity of woody plant species but all hedgerows are a UK BAP habitat. They should be retained in any proposed scheme and where lengths need to be lost, they should be transplanted or new hedges planted as compensation.
- 6.2.5 There are no trees within the site boundary.
- 6.2.6 There is no evidence of Japanese knotweed, giant hogweed or Himalayan balsam on the site. No other invasive or notable weed species listed on Schedule 9 (Section 14) of the Wildlife and Countryside Act (1981) (as amended) was identified within the site or adjacent land.

6.3 Amphibian

- 6.3.1 There are four records of amphibians within 2km of the site. These are for common frog (*Rana temporaria*), common toad (*Bufo bufo*) and great crested newts (*Triturus cristatus*). Two of the records, one for a toad and one for a frog are from the 1970's.
- 6.3.2 The record of the great crested newt is at a distance greater than 1km from the site. There are no recent amphibian records within 1km of the site.

- 6.3.3 The habitats within 250m of the site, including the site, appear to be unsuitable for use by amphibians. The ground is very dry, the vegetation scorched and there is very little shade or cover in the area.
- 6.3.4 There are no ponds within 250m of the site and all of the drainage ditches were dry. We do not consider there to be any breeding opportunities for amphibians within 250m of the site.

6.4 Badger

- 6.4.1 There are two records of badgers within 2km of the site.
- 6.4.2 Badger setts do not occur on site or within 30m of its boundaries.
- 6.4.3 There was no evidence of the presence of badgers on site, such as foraging activity, latrines or regular runs through the site.
- 6.4.4 There are few foraging opportunities on site for this species.
- 6.4.5 We do not consider the site to be of any significance to badgers.

6.5 Bats

- 6.5.1 There are 70 records of bats within 2km of the site. Only one species, brown long-eared bats (*Plecotus auritus*) is present amongst these records. Most of the records do not name a species.
- 6.5.2 The foraging habitat at the site is very poor for bats, being open and exposed and comprising habitats that are unlikely to give rise to large numbers of invertebrates. The hedge lines offer better quality foraging and commuting habitat; however, this is still relatively poor.
- 6.5.3 No evidence of bats was found anywhere on the site. The buildings adjacent are very well sealed because of their previous purpose. They have sheet fibre cement corrugate roofs, timber clad walls which are tightly insulated and boarded out interiors that would have been well lit until their cessation of use recently. There are no gaps, cracks or crevices anywhere in the buildings and as such offer negligible potential for use by bats.
- 6.5.4 A small corrugated steel lean-to is located to the East hedge line and has no potential for use by bats.
- 6.5.5 There are no trees on the site that could be utilised by bats for roosting.
- 6.5.6 A static recording device (Anabat Express) was left between the two buildings at the site for 7 nights between 14th and 21st September 2016 did not record any bat activity. Whilst this is some time ago, site conditions have not changed and this data is still considered valid.
- 6.5.7 We consider the site to be of very limited value to bats for foraging, commuting, hibernation or refuge.

6.6 Birds

- 6.6.1 There are numerous records of birds within 2km of the site. Magpie (*Pica pica*) were the only birds recorded on the site during the survey.

- 6.6.2 Foraging opportunities at the site for birds was considered to be low quality. The poor semi-improved grassland offers negligible opportunities and foraging is likely to be limited to the hedgerows and areas of ruderal coverage.
- 6.6.3 The gappy defunct hedge within the site have insufficient density to be of high value to nesting birds.
- 6.6.4 There were no rot holes or cracks in the trees within the site boundary which would support tree hole dwelling species such as woodpeckers.
- 6.6.5 The site is unlikely to be used by ground nest birds. Nesting by birds is likely to be limited to the intact hedgerows.
- 6.6.6 No evidence of use of the buildings by nesting birds was recorded.
- 6.6.7 A risk assessment of the site in respect of its future potential for and value to nesting birds could be adequately made.

6.7 Brown Hare

- 6.7.1 There are 14 records of brown hare within 2km of the site. Brown hare are a UK BAP priority species.
- 6.7.2 Brown hare are likely to utilise the arable land to the North of the site.
- 6.7.3 There was no evidence of use of the site by brown hare, such as droppings or forms.
- 6.7.4 Brown hare may utilise the hedges on the boundary of the site to create forms. The site is however likely to be too enclosed for us by this species.
- 6.7.5 A risk assessment of the site in respect of its future potential for and value to brown hares could be adequately made. We consider the risk to brown hares is very low.

6.8 Invertebrates

- 6.8.1 Numerous notable invertebrates have been recorded within 2km of the site.
- 6.8.2 No deadwood or vegetation on site was recorded which would provide an important resource for invertebrates in the local area.
- 6.8.3 The site is not adjacent to or close to any features or habitats likely to be significant for amphibians.
- 6.8.4 Given the poor-quality habitats contained within the site in comparison to the wider area, it is not considered that this site is of any local significance for invertebrates.
- 6.8.5 Impacts on the species are considered likely to be negligible, post development domestic gardens will create greater habitat diversity in the area than already exists.

6.9 Reptiles

- 6.9.1 There is a single record of a reptile within 2km of the site. The record is for a grass snake (*Natrix natrix*).

- 6.9.2 Grass snakes show a preference for riparian habitats and habitats near water where suitable forage for this species is abundant.
- 6.9.3 The site appears to be of very limited value to reptiles. It has limited foraging opportunities for these species.
- 6.9.4 There are no opportunities for refuge or hibernacula on site. There are no rock or log piles on site or other features that could be used by reptiles or any other species for this purpose.
- 6.9.5 No evidence of reptiles was recorded on site.

6.10 Water vole

- 6.10.1 There are two records of water voles within 2km of the site.
- 6.10.2 The drainage ditch on site was dry at the time of survey and had negligible vegetation growing along it. It would not provide suitable habitat for this species.
- 6.10.3 No signs of water voles, such as droppings, feeding piles or footprints were found on site.
- 6.10.4 We do not consider this species to be present on site or in the immediate local area.

6.11 Other

- 6.11.1 The boundary hedgerows are species poor and provide little potential for use by hedgehog (*Erinaceus europaeus*). Fragmentation of habitat locally and existing land use do not provide optimal conditions for the free passage of this species across the site and slugs and snails are likely to occur only at very low numbers.
- 6.11.2 The site may be crossed by species such as fox (*Vulpes vulpes*) and rabbit (*Oryctolagus cuniculus*) are known to occur locally.
- 6.11.3 The boundary hedgerows may provide suitable habitat for small mammals such as field vole (*Microtus agrestis*) but these areas are small and the sites value to small mammals is limited.

6.12 Statutory and Non-Statutory Sites

Direct Impacts:

- 6.12.1 There are no statutory or non-statutory sites which are connected to the site such that site development would directly affect the dispersal of species between them or directly impact upon their integrity.
- 6.12.2 The habitats on site do not represent or are linked to those found in any of the statutory or non-statutory sites locally.

Indirect Impacts:

- 6.12.3 There are no statutory or non-statutory sites which are connected to the site such that site development would indirectly affect the dispersal of species between them or indirectly impact upon their integrity.

7. MITIGATION/RECOMMENDATIONS

7.1 *Compensatory planting and habitat enhancement*

- 7.1.1 The landscaping scheme should utilise plants which are native and wildlife friendly. In particular night flowering species would be beneficial to bats. Wildflower seed could be used to plant verges to enhance the ecological value of the site and continuity between the site and the wider area.
- 7.1.2 Hedgerows around the site should be retained or improved where possible. Any lengths of intact hedgerow to be removed to facilitate development should be transplanted and or replanted in order that there is no net negative impact on this BAP habitat due to development.
- 7.1.3 The roots of hedgerow plants should be adequately protected during development from compaction/ground disturbance.
- 7.1.4 If the species poor hedge is removed, transplantation is not considered to be of significant ecological benefit as there are no notable species assemblages associated with them, replanting of linear lines of trees/shrubs would be more beneficial.

7.2 *Amphibians*

- 7.2.1 There is no requirement for specific mitigation for these species. There are currently no suitable breeding sites on or near the site. However, as a precautionary measure, in the unlikely event that any signs of any amphibian activity is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.
- 7.2.2 Consider the use of SUDS on site to provide new aquatic habitat during development. The drainage ditches appear to have been dry for much of the year.
- 7.2.3 Rock piles could be installed around any proposed suds scheme to provide some refuge habitat at the site for a range of species.
- 7.2.4 In order to further minimise impacts on amphibians the following points should also be followed.
- All work must take place during daylight hours as amphibians are more likely to be commuting overnight and this will ensure the risk to any amphibians commuting through the site will be minimised.
 - During the development, measures should be put in place to discourage amphibians from using the development area, the creation of any piles of earth, materials and rubble which could form potential artificial hibernacula and refuge should be avoided at all times. It is recommended that any spoil or rubble will be removed immediately to skips, or on hard standing or short grass. This will ensure that no potential amphibian hibernation or resting sites are created.
 - The storage of all loose materials must be palletised or similar so they are off the ground whenever possible.

- Should any trenches and excavations be required, an escape route for animals that enter the trench must be provided, especially if left open overnight. Ramps should be no greater than of 45 degrees in angle. Ideally, any holes should be securely covered. This will ensure amphibians are not trapped during work.
- All excavations left open overnight or longer should be checked for animals prior to the continuation of works or infilling. Back filling should be completed immediately after any excavations, ideally back filling as an on-going process to the work in hand.

7.3 Badger

7.3.1 Badger setts are not known to occur within 2km of the site. No setts will be disturbed by work but in order to minimise impacts on badgers passing over the site the following points should also be followed.

- All work must take place during daylight hours as badgers are more likely to be commuting over the site at night and this will ensure the risk to any badgers passing through the site will be minimised.
- Should any trenches and excavations be required, an escape route for animals that enter the trench must be provided, especially if left open overnight. Ramps should be no greater than of 45 degrees in angle. Ideally, any holes should be securely covered. This will ensure badgers are not trapped during work.
- All excavations left open overnight or longer should be checked for animals prior to the continuation of works or infilling. Back filling should be completed immediately after any excavations, ideally back filling as an on-going process to the work in hand.
- Boundary fences/walls should incorporate gaps at their base to facilitate the passage of badgers across the site.

7.4 Bats

- 7.4.1 Work at night should be restricted, new planting within the site should enhance structural diversity and light spill onto the boundary should be minimised.
- 7.4.2 New roosting provision for crevice dwelling bats could be incorporated into the buildings on site or bat boxes could be erected in retained trees.
- 7.4.3 Overall, it is considered there is more than sufficient scope for mitigation and compensation at the site such that there will be no adverse impact on the favourable conservation status of bats affected by the proposal.

7.5 Birds

- 7.5.1 Nesting by birds within the development area is considered unlikely to occur. Birds may nest within the hedge on the periphery of the site.
- 7.5.2 Any vegetation to be trimmed or cleared should be checked for nesting birds before it is removed. Ideally this should occur outside the bird nesting period March- September. If vegetation clearance is to occur in the March-September period a check for nesting birds should be conducted first by a suitably qualified individual.

- 7.5.3 New planting within the site and the retention of hedges on the site boundary will maintain the ecological functionality of the site for breeding birds.
- 7.5.4 If nesting birds are found at the site all site works shall cease and further ecological advice shall be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

7.6 *Brown Hares*

- 7.6.1 There is no requirement for specific mitigation for this species. However, as a precautionary measure, in the unlikely event that any signs of any brown hare activity is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.
- 7.6.2 The points in respect of not working at night and leaving open trenches with means of escape detailed for badgers are also applicable to this species.

7.7 *Invertebrates*

- 7.7.1 Landscaping should include native or wildlife friendly species including night flowering plants.
- 7.7.2 Contaminants should not be allowed to enter the soils or any watercourses during work. To this effect, spill kits should be provided on site. Re-fuelling of all plant and machinery should be undertaken away from open drains and water courses. Drip trays should be used under static machinery.

7.8 *Reptiles*

- 7.8.1 There is no requirement for specific mitigation for these species. However, as a precautionary measure, in the unlikely event that any signs of any reptile activity is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.
- 7.8.2 The hedges on the site boundary should be retained such that it is in proximity to open areas of ground which will also be suitable for basking.
- 7.8.3 The points in respect of not leaving open trenches without means of escape detailed for badgers are also applicable to these species.

7.9 *Water vole*

- 7.9.1 There is no requirement for specific mitigation for this species. However, as a precautionary measure, in the unlikely event that any signs of any Water vole activity is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

8. REFERENCES

Collins, J. (ed) (2016) *Bat Surveys for Professional Ecologists: Good practice guidelines* (3rd edn). The Bat Conservation Trust, London.

Collins, J. (ed) (2023) *Bat Surveys for Professional Ecologists: Good practice guidelines* (4th edn). The Bat Conservation Trust, London.

Hundt, L. (2012) *Bat Surveys: Good Practice Guidelines* (Second Edition). BCT, London.

Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey - a Technique for Environmental Audit*. Reprinted by JNCC, Peterborough. - See more at:
<http://www.cieem.net/habitats-general#sthash.mJYlrP8L.dpuf>

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* 10 (4), 143-155.

Stace, C. (1991). *New Flora of the British Isles*. Cambridge University Press.