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**Environmental and Rural Chartered Surveyors**

# Ecological Appraisal

# Land at Moorgate Farm
# Dinckley

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## PROFESSIONAL RESPONSIBILITY

This report has been commissioned and the actions of the surveyor have been made in accordance with the Code of Professional Conduct for the Chartered Institute of Ecology and Environmental Management. (www.cieem.org.uk) and the Royal Institution of Chartered Surveyors (www.rics.org.uk)

## 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.

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|---|---|---|---|
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## Contents

# 1. EXECUTIVE SUMMARY

1.1.1 Envirotech NW Ltd were commissioned in October 2016 by Gary Hoerty Associates to carry out an ecological appraisal of land at Moorgate Farm, Dinckley. It is proposed that camping pods are installed on site.

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 then visited by Envirotech NW Ltd on the 15th October 2016. 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 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.

1.1.5 None of the hedgerows around the site perimeter were considered important under the Hedgerow Regulations (1997).

1.1.6 New planting is to be undertaken on and around the site which will increase vegetative structure and diversity and will attract a greater range of species to utilise the site than currently occurs.

1.1.7 No protected or notable species were recorded on the site.

# 2. INTRODUCTION

## *2.1 Background*

2.1.1 In October 2016 Envirotech NW Ltd were commissioned by Garry Hoerty Associates to carry out an Ecological Appraisal of land at Moorgate Farm, Dinckley, central grid reference SD 68896 36236 (Figure 1). A site investigation was undertaken and a report compiled which includes recommendations for any future actions and or mitigation required.

2.1.2 The survey was requested in connection with the proposed installation of camping pods.

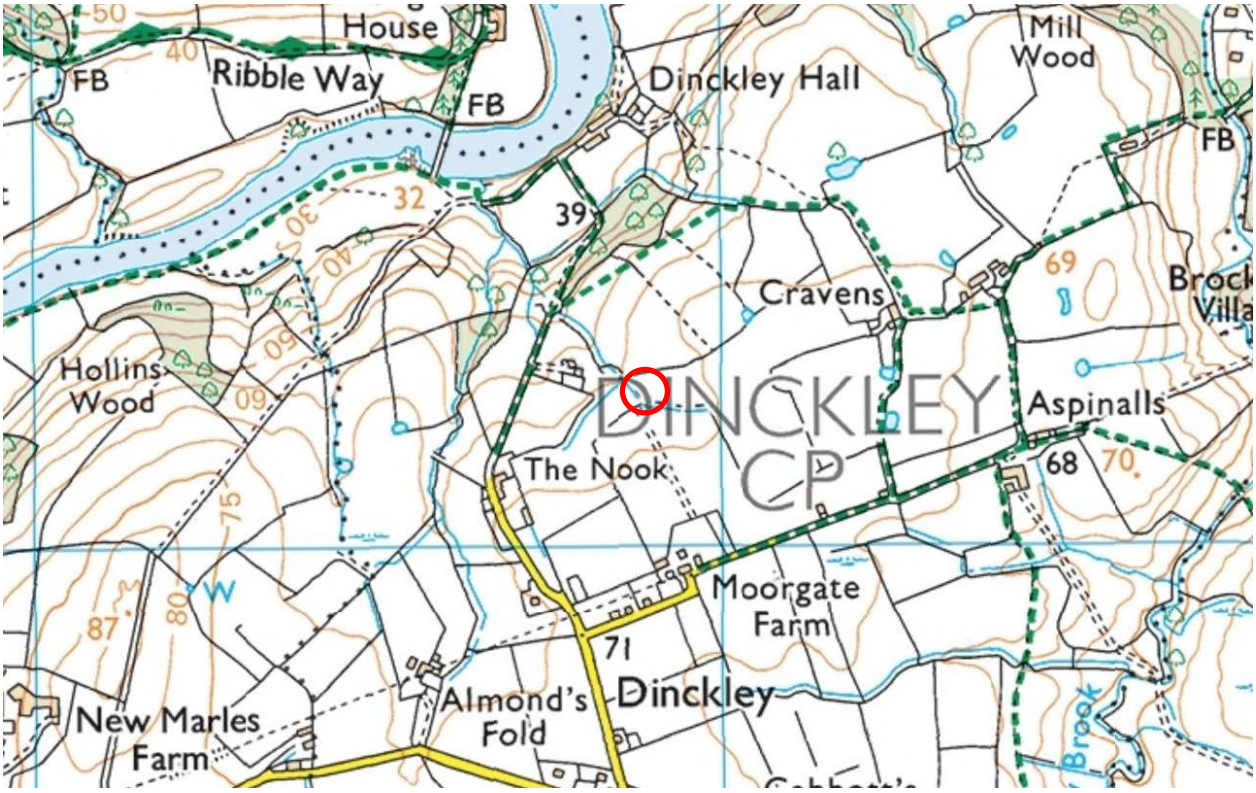



**Figure 1** *Site location at SD 68896 36236 circled red.*

## *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 Biological Records centre for Lancashire "LERN", 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 was 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 to ascertain the recent history of the site.

## *3.3 Timing and Personnel*

3.3.1 The site and surrounding land was visited on the 14th October 2016.

3.3.2 During the visit, weather conditions were suitable for the survey types undertaken.

- (EW) Miss Emma Wainwright BSc (Hons) Grad CIEEM
  Natural England Great Crested Newt Licence (Level 1)
  Unlicenced bat surveyor with three years bat scoping and emergence survey experience
  Accredited Agent on Natural England Bat Class Licence (Level 2)

# 4. SPECIES 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 (2010) and Schedule 5 of the Wildlife & Countryside Act (1981).

4.1.2 Water-bodies located within or adjacent to the study area were identified and where access was possible were assessed for their potential to support great crested newts. The criteria used in the assessment are based on those contained in the Herpetofauna Workers Manual and Oldham et al, 2000, and in applying these criteria a precautionary approach was adopted. The pond assessment was undertaken in order to determine which water-bodies, based on their potential to support great crested newts, should be subject to presence/absence surveys.

4.1.3 Following the criteria developed by Oldham et al (2000), the HSI tool developed for use with great crested newts and forming part of Natural England's EPS Licensing process was used to determine the suitability of ponds for great crested newts. The HSI was developed as a tool to aid fieldworkers to give ponds and their surrounding habitat a numerical score in terms of their suitability for great crested newts.

## *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 carcases

## *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 (2010), 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)) and Collins, J. (ed) (2016) 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. This resulted in the production of a map showing habitat quality both on and adjacent to the site.

4.3.4 Trees on and within the survey area boundary were assessed for their potential to support roosting or hibernating bats. This comprised a close inspection of all trees on and an external visual assessment of buildings outside the site and an assessment of their potential to be used by bats by a licensed surveyor.

4.3.5 Trees were all assessed in accordance with Collins, J. (ed) (2016).

## *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 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 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 Survey limitations*

4.8.1 The survey was undertaken in early autumn period. At this time of year plant species are less easily identified and the activity of some species is reduced.

4.8.2 Due to the habitats present on site there were no significant constraints in respect of identifying the botanical interest of the site.

4.8.3 The duration, extent and scope of the surveys were considered sufficient to plan appropriate mitigation and recommend additional precautionary survey work required prior to the commencement of work.

4.8.4 No significant survey limitations were encountered.

# 5. RESULTS

## *5.1 Data Search*

5.1.1 Envirotech and LERN hold no records of protected or notable species for the site. There are however records of protected or notable species within 2km (Figure 2). These are discussed in the relevant sections below.

5.1.2 The nearest non-statutory site is Hollins Wood and Dinckley Fields c.200m to the North-east of the site (Figure 3). The habitats present within the site are not representative of those within this biological heritage site.

5.1.3 There are no statutory designated sites within 2km of the site (Figure 4).

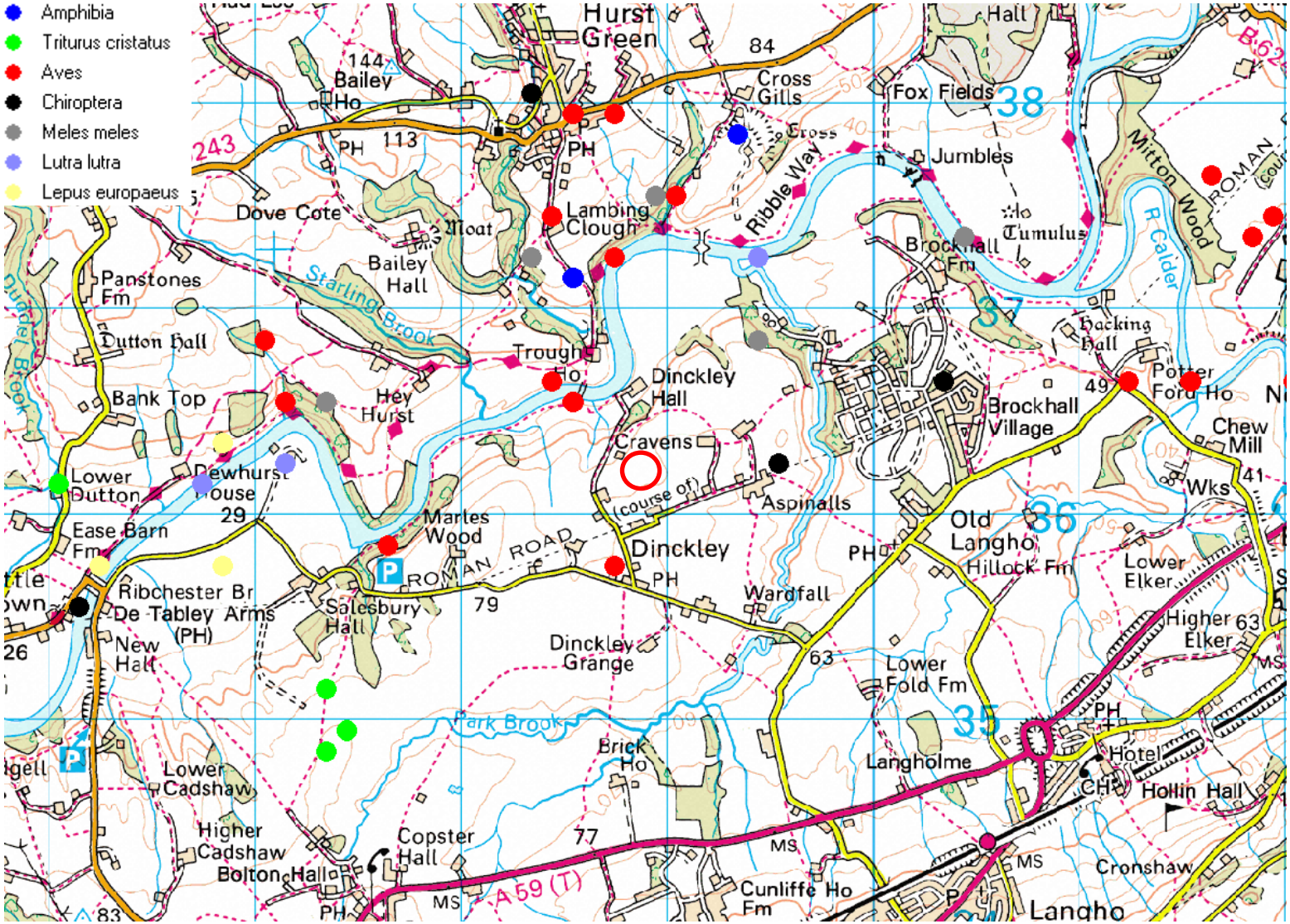



**Figure 2** *Notable species records, site location is circled red.*

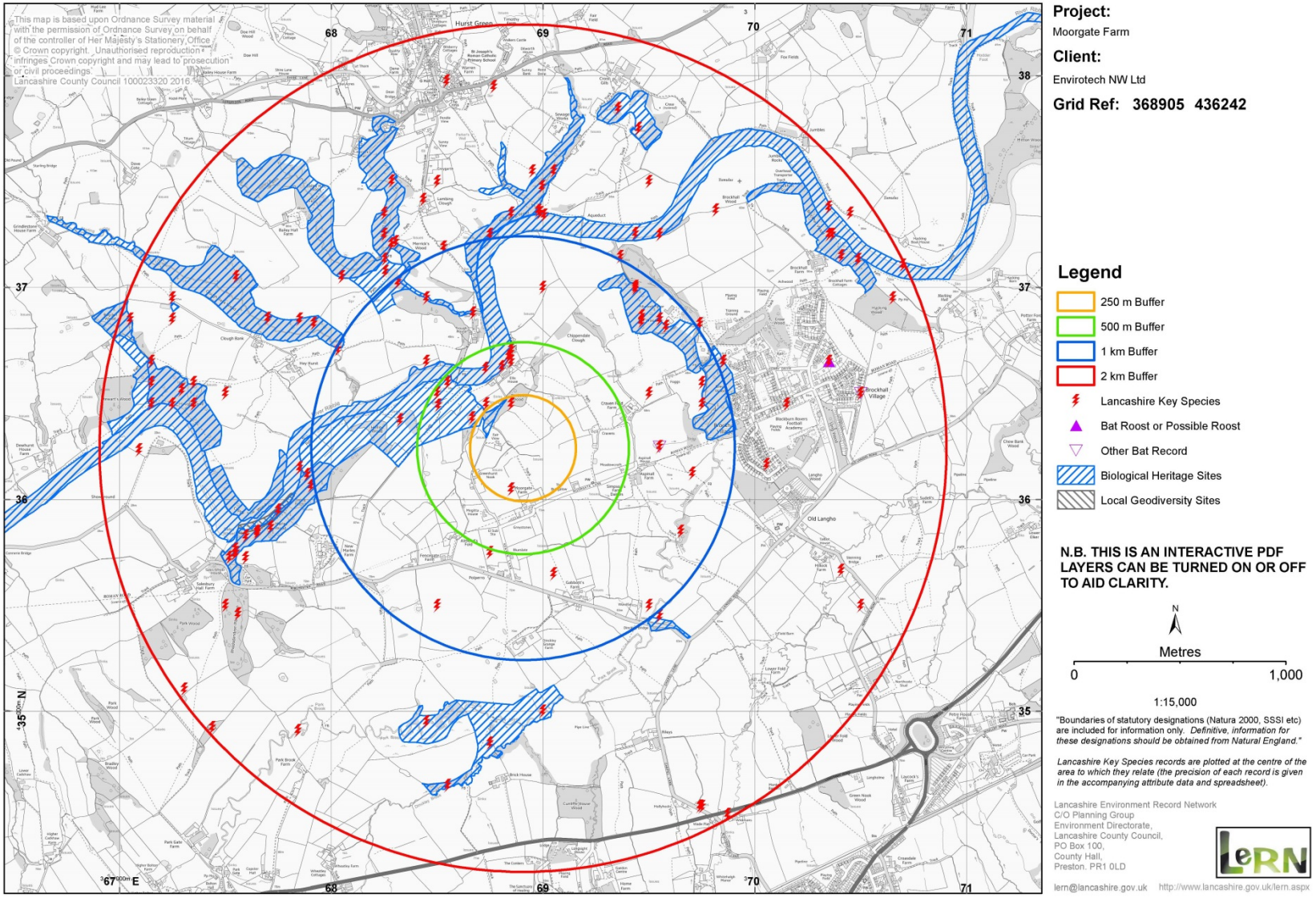



**Figure 3** *Non-statutory sites 2km buffer*.

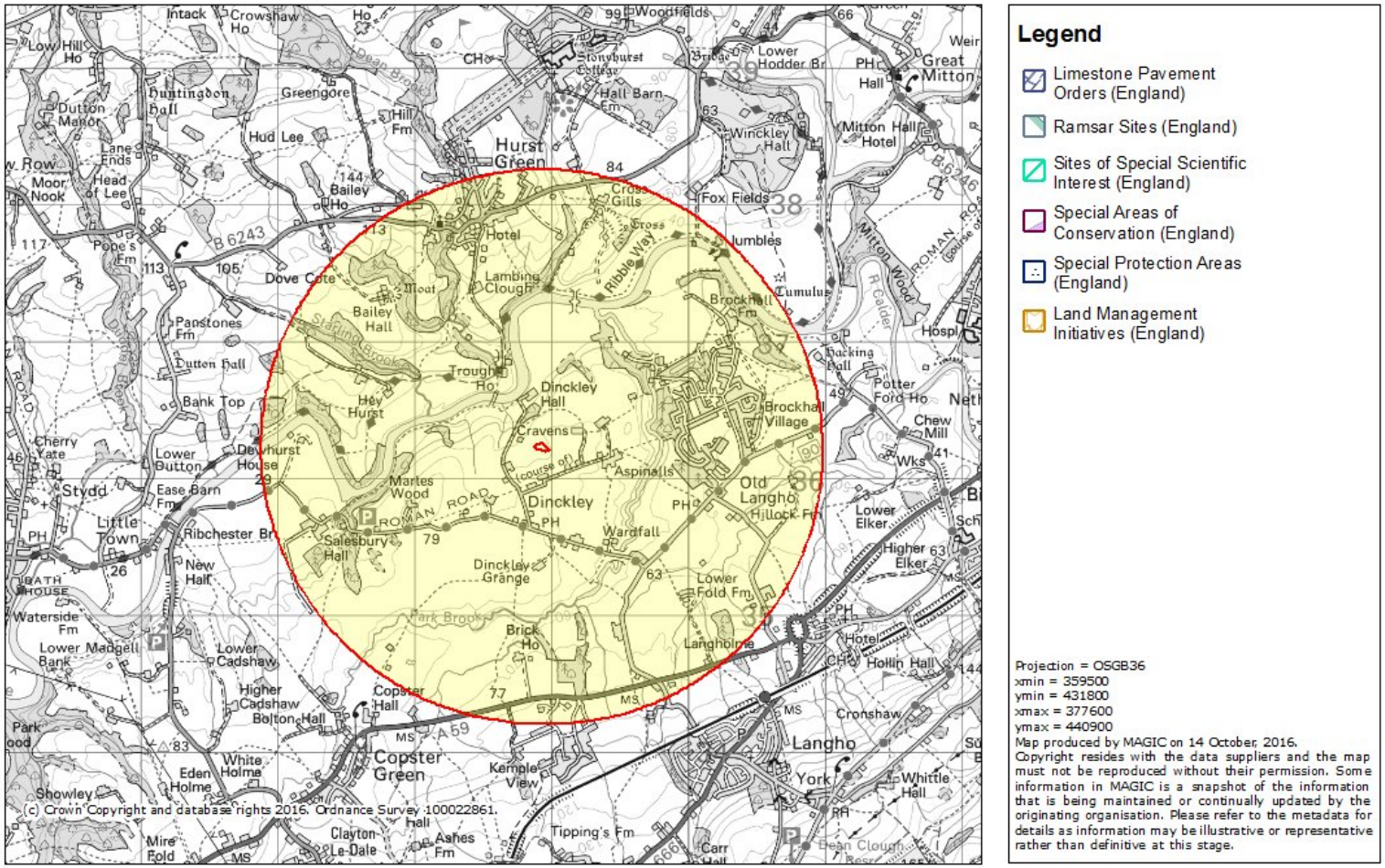



**Figure 4** *Statutory designated sites 2km buffer.*

# 6. PHASE 1 SURVEY RESULTS

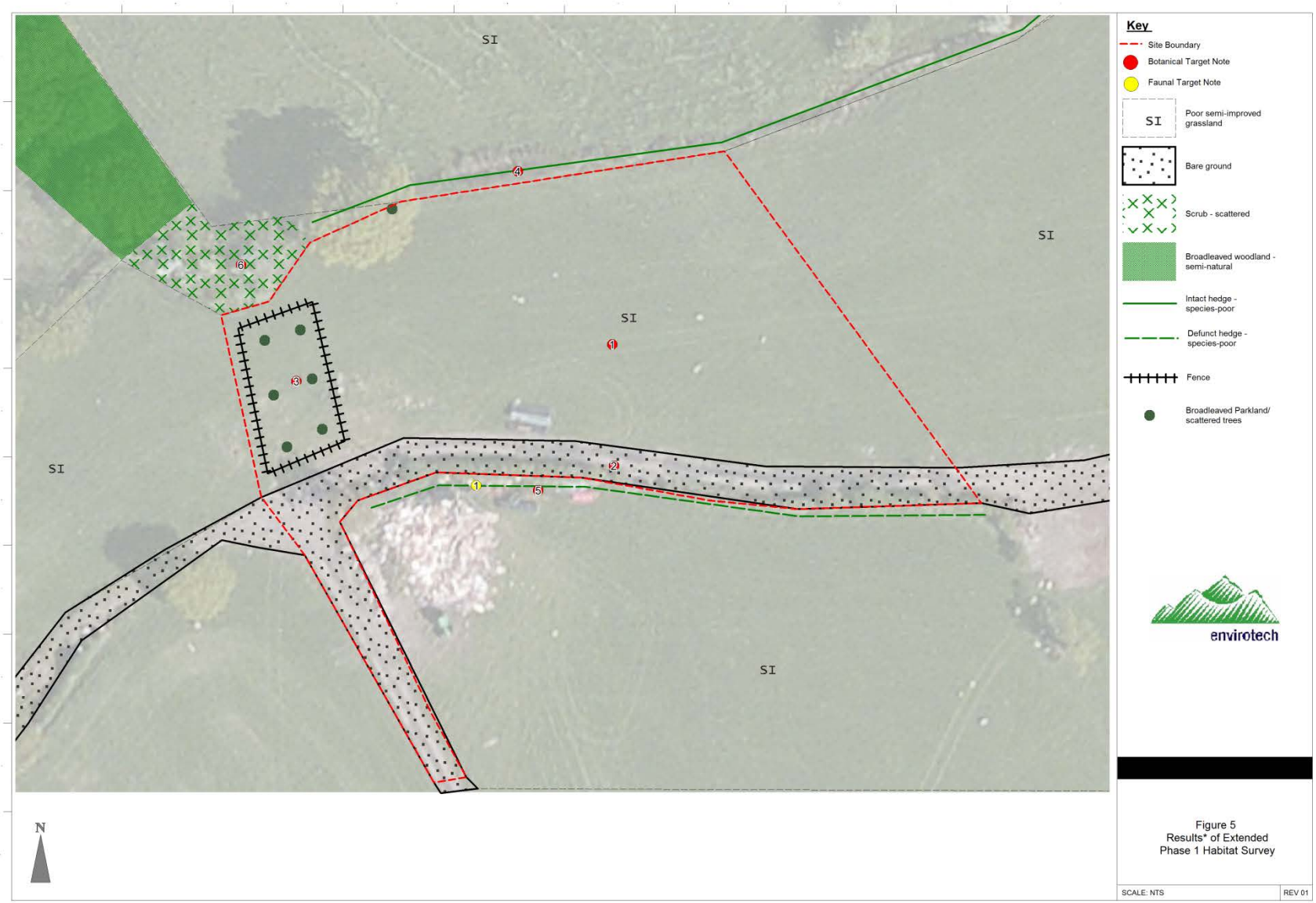
## *6.1 Habitat Results*

6.1.1 The site comprises poor semi-improved grassland bound by hedgerows to the North and South. New tree planting is being undertaken by the applicant in the West. Poor semi-improved grassland continues to the East and West.

6.1.2 See Figure 5 for the Phase 1 Habitat Plan and Table 1 for the descriptive Botanical and Faunal Target Notes, hereafter referred to as BTN and FTN.

| Target Note | Description | Comment |
|---|---|---|
| BTN1 | Poor semi-improved grassland | The majority of the site, and the core development area, is vegetated by extremely species poor grassland. Heavily grazed, those species which are present are indicative of high disturbance levels. Species present are limited to the graminoids Yorkshire fog (*Holcus lanatus*) and perennial ryegrass (*Lolium perenne*). There is negligible cover of forbs. |
| BTN2 | Bare ground | An access track occurs through the fields to the South and along the Southern boundary of the site. This track is largely bare ground with some areas of semi-improved grassland vegetation. |
| BTN3 | Scattered trees | A single mature oak (*Quercus* sp.) tree grows on the Northern site boundary. This tree is to be retained in the proposals. Additional trees on site comprise newly planted fruit trees in the West. These trees will also be retained and additional tree planting will be undertaken in this area. |
| BTN4 | Intact hedge – species poor | A hedgerow of blackthorn (*Prunus spinosa*), hawthorn (Crataegus monogyna) and occasional elder (*Sambucus nigra*) and holly (*Ilex aquifolium*) bounds the site to the North. There are no notable ground flora species listed under the hedgerow regulations assessment present at the base of this hedge. This is likely due to grazing pressures. Gaps are present within this hedge either site of the mature oak tree. |
| BTN5 | Defunct hedgerow – species poor | Bounding the site to the South is a hedgerow of hawthorn and elder. Gaps are frequent both within the hedge and at its base. Its ground flora has been similarly impacted on by grazing. To the South of this hedgerow, outside the site boundaries a small amount of the non-native invasive species Himalayan balsam (*Impatiens glandulifer*) is present. |
| BTN6 | Scrub | A small section of scrub abuts the site to the North. This habitat provides connectivity of the site with intact woodland locally. |
| FTN1 | Nesting birds | The hedgerows which bound the site are considered to be of insufficient density to be utilised by a significant number of nesting birds. No evidence of past use in such a way was present at the time of the survey. |

**Table 1** *Details of Botanical and Faunal Target Notes.*




*Habitats outside the site boundary are indicative only
and have been mapped from within the site boundary or from publicly accessible land

| | |
|---|---|
|  | Poor semi-improved grassland is bound to the North by a largely intact species poor hedgerow. A single mature oak tree occurs on this North boundary. A Small parcel of scrub occurs to the North of the site and West of the oak tree. |
|  | New fruit tree planting has been undertaken and will be retained in the West. |
|  | A bare ground track in the South is bound by a defunct species poor hedge. |

**Table 2** *Photographs*

## 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.

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 slightly 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 The hedgerows bounding the site to the North and South are species and structurally poor. They contain 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.

6.2.4 None of the hedgerows are classified as important under the Hedgerow Regulations (1997) (See Appendix 1).

6.2.5 Trees within the site boundary comprise small, newly planted fruit trees and a single mature oak. These trees do not form woodland but trees should be retained in any proposed scheme and or where they are removed new tree planting should be undertaken. Cut wood from felled trees should be stacked on the site boundaries where it can decay naturally and provide habitat for invertebrates.

6.2.6 There is no evidence of Japanese knotweed, giant hogweed or Himalayan balsam within the site boundaries. Himalayan balsam was noted in land adjacent to the site. Works should not facilitate the spread of this species further. 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 seven records for amphibians within 2km of the site on the datasets searched. Species recorded are common frog *(Rana temporaria)* and great crested newt (*Triturus cristatus*). Records for great crested newts are c1.5km to the South-west of the site.

6.3.2 There is no standing water on site though there is a single pond within 150m of site boundaries. Two further ponds are also shown on OS mapping within 350m of the site boundaries. These ponds were accessed and assessed for their potential to be used by amphibians.

6.3.3 The Habitat Suitability Index (HSI) was used to assess the potential suitability of the ponds as habitats for great crested newts (Table 3). Values for macrophytic vegetation have been omitted in accordance with guidance due to surveys being undertaken outside the period March to May. The value for water quality for Pond 3 has also been omitted due to it being dry at the time of the survey.

6.3.4 Pond 1 is c. 125m to the North-east of the site and was viewed from within the site owners land. It was found to be heavily shaded and almost entirely vegetated by willow (*Salix* spp.) scrub and bramble. There was no notable macrophytic vegetation within the pond. A HSI of 0.54 categorises Pond 1 as a below average potential habitat for great crested newts.

6.3.5 Pond 2 is c.296m to the East of the site. This pond was again viewed from within the site owners land and was found to be heavily shaded. Its poor water quality, turbid water and lack of macrophytic vegetation are indicative of regular use by wildfowl. A HSI of 0.36 categorises Pond 2 and a potentially poor habitat for use by great crested newts.

6.3.6 Pond 3 is c.305m to the East of the site, South of Pond 2. Although indicated on OS mapping as standing water, it was viewed from a public right of way and did not contain any standing water at the time of the survey. Anecdotal evidence suggests that standing water is present at some times of year but regular drying is likely to reduce its potential as a habitat for great crested newts. Pond 3 is vegetated by scrub and grassland species. No macrophytic vegetation was present. A HSI of 0.63 categorises Pond 3 as average potential as a habitat for great crested newts.

6.3.7 The proposed development will not result in the permanent loss of or a substantial negative effect on this pond or foraging areas linked to it. Boundary areas which may provide foraging or refuge sites are to be retained and improved where possible.

6.3.8 The core development area has a low value to amphibians being open and exposed. Structural diversity at ground level across the site is very poor. There are no areas with log, rubble piles or compost heaps which would be particularly favourable to amphibians.

6.3.9 As such precautionary mitigation would be appropriate in respect of construction activities. Reasonable avoidance measures will be followed in order to reduce the risk to amphibians commuting over the site.

| Pond ref | Pond 1 | Pond 2 | Pond 3 |
|---|---|---|---|
| SI1 - Location | 1 | 1 | 1 |
| SI2 - Pond area | 0.15 | 0.4 | 0.6 |
| SI3 - Pond drying | 0.9 | 0.9 | 0.1 |
| SI4 - Water quality | 0.33 | 0.33 | |
| SI4 - Shade | 0.2 | 0.2 | 0.7 |
| SI6 - Fowl | 0.67 | 0.01 | 1 |
| SI7 - Fish | 1 | 0.67 | 1 |
| SI8 - Ponds | 0.9 | 0.9 | 0.9 |
| SI9 - Terrestrial habitat | 0.67 | 0.67 | 0.67 |
| SI10 - Macrophytes | | | |
| **HSI** | **0.54** | **0.36** | **0.63** |

**Table 3** *Habitat Suitability Index*

## *6.4 Badger*

6.4.1 Seven records of badgers occur within 2km of the site.

6.4.2 Anecdotal evidence would suggest that badger setts occur locally within 500m of site boundaries. Badger setts do no not however occur on site and a lack of feeding signs or badger runs across the site would suggest that setts do not occur within 30m of site boundaries.

6.4.3 Badgers are only protected whilst occupying a sett and are often undisturbed by even moderate to high levels of disturbance. It is not considered that the increase in disturbance levels likely to occur as a result of the proposals would be significant or alter use of the site and surroundings by badgers. As no setts will be disturbed as a result of the proposals, precautionary mitigation would be appropriate.

## *6.5 Bats*

6.5.1 There are six records of at least two species of bat within 2km of the site. Species recorded are brown long-eared (Plecotus auritus) and several records of unidentified *Pipistrellus* sp. bats.

6.5.2 The foraging habitat at the site is very poor for bat species being open and exposed. The poor semi-improved grassland offers negligible foraging opportunities for bats. The hedge and tree lines are poor in terms of their structure and species diversity.

6.5.3 Despite being poor, the trees and hedgerows on the site offer the best foraging habitat for bats on the site as the remainder of it comprises open and exposed pasture. Whilst these areas of the site are the most structurally diverse but they are not considered exceptional in the local area. More extensive areas of medium and high quality habitat occur locally, including the gardens, woodland and existing residential dwellings adjacent (Figure 6).

6.5.4 It is not considered there would be significant degradation of foraging habitat as a result of the proposal so long as the hedgerows and trees are retained and or their loss is compensated for in any landscaping scheme.

6.5.5 There is a single mature tree on the site boundary. This was assessed in accordance with Collins ed. (2016) and assigned a risk category of Category 2 (Low risk). Although mature and pollarded in some areas, no crevices suitable for use by roosting bats were visible in the trees structure from the ground. Risk categories from Hundt (2012) and the requirement for mitigation for each tree category are shown on Figure 7.

6.5.6 We consider bat species are highly unlikely to rely on the site for feeding but may occur in the local area. Roosting by bats will not occur on the site.

6.5.7 Precautionary mitigation would be appropriate in respect of ensuring the foraging habitat on site is at least improved for use by bats during development.


Key
Site Boundary
High Value
Medium Value
Low Value
N
envirotech
Figure 6
Results* of Extended
Bat Habitat Survey
SCALE: NTS
REV 01
*Habitats outside the site boundary are indicative only
and have been mapped from within the site boundary or from publicly accessible land

| Tree category and description | Stage 1 Initial survey requirements | Stage 2 Further measures to inform proposed mitigation | Stage 3 Likely mitigation |
|---|---|---|---|
| **Known or confirmed roost** | Follow SNCO guidance and these guidelines wherever possible, to establish the extent to which bats use the site. This is particularly important for roosts of high risk species and/or roosts of district or higher importance and above | | The tree can be felled only under EPS licence following the installation of equivalent habitats as a replacement. |
| **Category 1*** Trees with multiple, highly suitable features capable of supporting larger roosts | Tree identified on a map and on the ground. Further assessment to provide a best expert judgement on the likely use of the roost, numbers and species of bat, by analysis of droppings or other field evidence.<br><br>***A consultant ecologist is required*** | Avoid disturbance to trees, where possible.<br><br>Further dusk and pre-dawn survey to establish more accurately the presence, species, numbers of bats present and the type of roost, and to inform the requirements for mitigation if felling is required. | Felling would be undertaken taking reasonable avoidance measures[3] such as 'soft felling' to minimise the risk of harm to individual bats. |
| **Category 1** Trees with definite bat potential, supporting fewer suitable features that category 1* trees or with potential for use by single bats | Tree identified on a map and on the ground. Further assessed to provide a best expert judgement on the potential use of suitable cavities, based on the habitat preferences of bats.<br><br>***A consultant ecologist required*** | Avoid disturbance to trees, where possible.<br>More detailed, off the ground visual assessment.<br><br>Further dusk and pre-dawn survey to establish the presence of bats, and if present, the species and numbers of bats and type of roost, to inform the requirements for mitigation if felling is required. | Trees with confirmed roosts following further survey are upgraded to Category 1* and felled under licence as above.<br><br>Trees with no confirmed roosts may be downgraded to Category 2 dependent on survey findings |
| **Category 2** Trees with no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features which may have limited potential to support bats. | None.<br><br>***A consultant ecologist is unlikely to be required*** | Avoid disturbance to trees, where possible.<br>No further surveys. | Trees may be felled taking reasonable avoidance measures.<br><br>Stop works and seek advice in the event bats are found, in order to comply with relevant legislation. |
| **Category 3** Trees with no potential to support bats | None.<br><br>***A consultant ecologist is not required unless new evidence is found*** | None. | No mitigation for bats required. |

**Figure 7** *Tree risk categories from Hundt (2012).*

## *6.7 Birds*

6.7.1 There are 94 records of birds within 2km of the site.

6.7.1 The hedgerows which bound the site are considered to be of insufficient density to offer significant potential for use by nesting birds. Although low numbers of small passerines may nest within the hedges, no evidence of past use in such a way was present at the time of the survey.

6.7.2 The poor semi-improved grassland has a low potential for use by nesting birds as the grassland is grazed and as such is usually short. Trampling risks are also very high within this area of the site.

6.7.3 There were no rot holes or cracks in the trees within the site boundary which would support tree hole dwelling species such as woodpeckers.

6.7.4 A risk assessment of the site in respect of its future potential for and value to nesting birds could be adequately made.

6.7.5 Precautionary mitigation would be appropriate in respect of construction activities and compensation for lost nesting and foraging opportunities will be required.

## *6.8 Brown Hare*

6.8.1 Brown hare are a UK BAP priority species. There are no records of brown hares within 2km of the site on the datasets searched.

6.8.2 No indication of brown hares was recorded on the site.

6.8.3 The site boundary has some potential for brown hares to create forms but use of the site is likely to be limited due to its open and exposed nature and high disturbance levels.

6.8.4 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 low.

## *6.9 Invertebrates*

6.9.1 Numerous notable invertebrates have been recorded within 2km of the site.

6.9.2 No deadwood or vegetation on site was recorded which would provide an important resource for invertebrates in the local area.

6.9.3 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.

## *6.10 Reptiles*

6.10.1 There are no records for reptiles within 2km of the site.

6.10.2 The majority of the site has a very low value to reptiles being devoid of significant ground cover. There are no areas of the core development area which would be particularly favourable to reptiles.

6.10.3 No indication of reptiles was recorded at the site.

6.10.4 As a consequence, precautionary mitigation would be appropriate in respect of construction activities so as to ensure reasonable avoidance measures are taken to avoid the killing or injury of these species.

## *6.11 Other*

6.11.1 The site may be crossed by species such as fox (*Vulpes vulpes*) and rabbit (*Oryctolagus cuniculus*) are known to occur locally.

6.11.2 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 roots of trees on the site and its boundaries should be adequately protected during work in accordance with industry standards. All trees should as far as possible be retained in the scheme.

7.1.2 The landscaping scheme should utilise plants which are native and wildlife friendly. In particular night flowering species would be beneficial to bats.

7.1.3 Hedgerows around the site will be retained and 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. The roots of hedgerow plants/trees should be adequately protected during development from compaction/ground disturbance.

7.1.4 New planting is to be undertaken around the site including tree planting in the West. This will provide additional connectivity of the site with habitats locally, increase the vegetative structure over the site and provide shelter post development.

7.1.5 Any additional new planting of linear trees and or landscaping of open spaces will further improve the ecological value of the site post development. Fencing of the site from grazing will promote species richness within the site and most notably within hedgerow ground flora.

## *7.2 Amphibians*

7.2.1 There will be no direct impact on any ponds or foraging areas linked to them as a result of the proposals. New planting to be undertaken within hedgerows and around the site will improve potential for these species to commute over and seek refuge around the site.

7.2.2 As a precautionary measure, in the unlikely event that any signs of any great crested newt 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.

7.2.3 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 over night 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 known to occur within 2km of the site. These setts will be undisturbed 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.

7.3.2 The incorporation of fruit trees on site provides a potential food source for badgers and will likely encourage this species to utilise 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 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 core development area is considered unlikely to occur. Birds may nest within hedges 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 trees and shrubs 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 Contaminants should not be allowed to enter substrates during work. To effect this, 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.

7.7.2 New planting around the site including fruit trees in the West will attract a greater range of invertebrates to utilise the site than will be attracted to the semi-improved grassland currently present.

## *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 points in respect of not leaving open trenches without means of escape detailed for badgers are also applicable to these species.

# 8. CONCLUSION

8.1.1 Ecological surveys, site appraisals and impact assessments were carried out with respect to land comprising poor semi-improved grassland bound to the North and South by hedgerows. Poor semi-improved grassland extends to the East and West. It is proposed that camping pods are installed on site.

8.1.2 Amphibians, bats, badgers and birds are known to occur in the local area, there was however no conclusive evidence of any specifically protected species regularly occurring on the site or the surrounding areas which would be negatively affected by site development following the mitigation proposed.

8.1.3 The vegetation to be cleared has a low ecological significance in the local area. Hedgerows will be improved where possible and new tree planting, including that of fruit trees, will be undertaken.

8.1.4 The protection of trees on the site boundary and landscaping will promote structural diversity in both the canopy and at ground level and will encourage a wider variety of wildlife to use the site than already occurs.

8.1.5 Contractors will be observant for protected species and all nesting birds. Should any species be found during construction, 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.

8.1.6 I certify this report has been compiled in accordance with the code of professional conduct for the Chartered Institute of Ecology and Environmental Management and The Royal Institute of Chartered Surveyors and reflects my objective opinion of the facts found in relation to the instruction received and information available based upon the methodology, assumptions and constraints detailed within this report.

# 8 REFERENCES

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

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

| Feature / Hedge | Length 20m + | Hedge is not bounding the curtilage of dwelling | Hedge established more than 30years | Hedge boundary of protected or common land or land used for agriculture or forestry | ARCHAEOLOGY AND HISTORY | Archaeological feature which is included in the schedule of monuments | Situated wholly or partly within an archaeological site | Boundary of a pre-1600 AD estate | Integral part of a field system | Protected species records | FEATURES | Bank or wall | Gaps less than 10% | Standard trees | Ditch | Parallel hedge | Footpath/ Bridleway | Connection points | Woody species | Average ground flora species | HEDGE CLASSIFIED AS IMPORTANT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1 - North** | Yes | Yes | Yes | Yes | | No* | No* | No* | No* | No | | No | Yes | Yes | No | No | No | 1 | 3 | 0 | **No** |
| **2 - South** | Yes | Yes | Yes | Yes | | No* | No* | No* | No* | No | | No | No | No | Yes | No | No | 3 | 2 | 0 | **No** |
| | No = Automatic failure | | | | | Yes = Automatic pass | | | | | | 7 woody species or 6 woody species + 3 features or 5 woody species + 4 features or highway + 4 woody species and 2 features | | | | | | | | | |

* Historic and archaeological records have not been checked for this site.