



envirotech

Ecological Consultants
Environmental and Rural Chartered Surveyors

Ecological Appraisal

Land at Broad Meadow, Chipping



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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

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1. EXECUTIVE SUMMARY

- 1.1.1 Envirotech NW Ltd were commissioned in March 2018 by Rural Solutions to carry out an ecological appraisal of land off Broad Meadow, Chipping. It is proposed that new houses are constructed on the 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 20th April 2018. A full botanical survey of the site was initially undertaken and this was followed by surveys to establish the likely 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 are considered to be of low ecological value. Sympathetically landscaped gardens are considered to offer habitat of equal or greater ecological value.
- 1.1.5 Birds may utilise the hedgerow and tree lines on site boundaries for nesting between March and September. Any vegetation clearance should therefore be undertaken outside of this period.
- 1.1.6 No other notable or protected species were recorded on the site.

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*).

3.3 *Timing and Personnel*

- 3.3.1 During the visit, weather conditions were suitable for the survey types undertaken being a dry day in early spring.
- 3.3.2 The site and surrounding land was visited on the 20th March 2018 by
 - (EW) Miss Emma Wainwright BSc (Hons) Grad CIEEM
Natural England Bat Class Licence (Level 1)
Natural England Great Crested Newt Licence (Level 1)
 - (FW) Miss Flora Whitehead BSc (Hons)

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 (2017) 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.
- 4.1.3 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. 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.
- 4.1.4 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.

4.2 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.
- 4.2.2 A disturbance to badgers in their setts may occur 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.
- 4.2.3 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.
- 4.2.4 The survey for badgers comprised an assessment of all suitable habitat within and outside the study area boundary (where this was possible) to a distance of 30m for indications of use by badgers.
- 4.2.5 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 (2017), 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 and structures 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 and buildings on the site to allow an assessment of their potential to be used by bats to be made 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'.

4.5 Brown Hare

4.5.1 The brown hare (*Lepus europaeus*) is a UK BAP species.

4.5.2 Where 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 winter. 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 Clark House Farm Pasture Biological Heritage Site (BHS) c.375m to the North (Figure 3). Habitats within the survey site are not representative of those listed in the citation for the BHS.
- 5.1.3 The nearest statutory protected site is the Bowland Fells Site of Special Scientific Interest (SSSI), c.2km to the North-west of the site (Figure 4). The distance of the SSSI from the survey site is such that there will be unaffected by the proposed development.

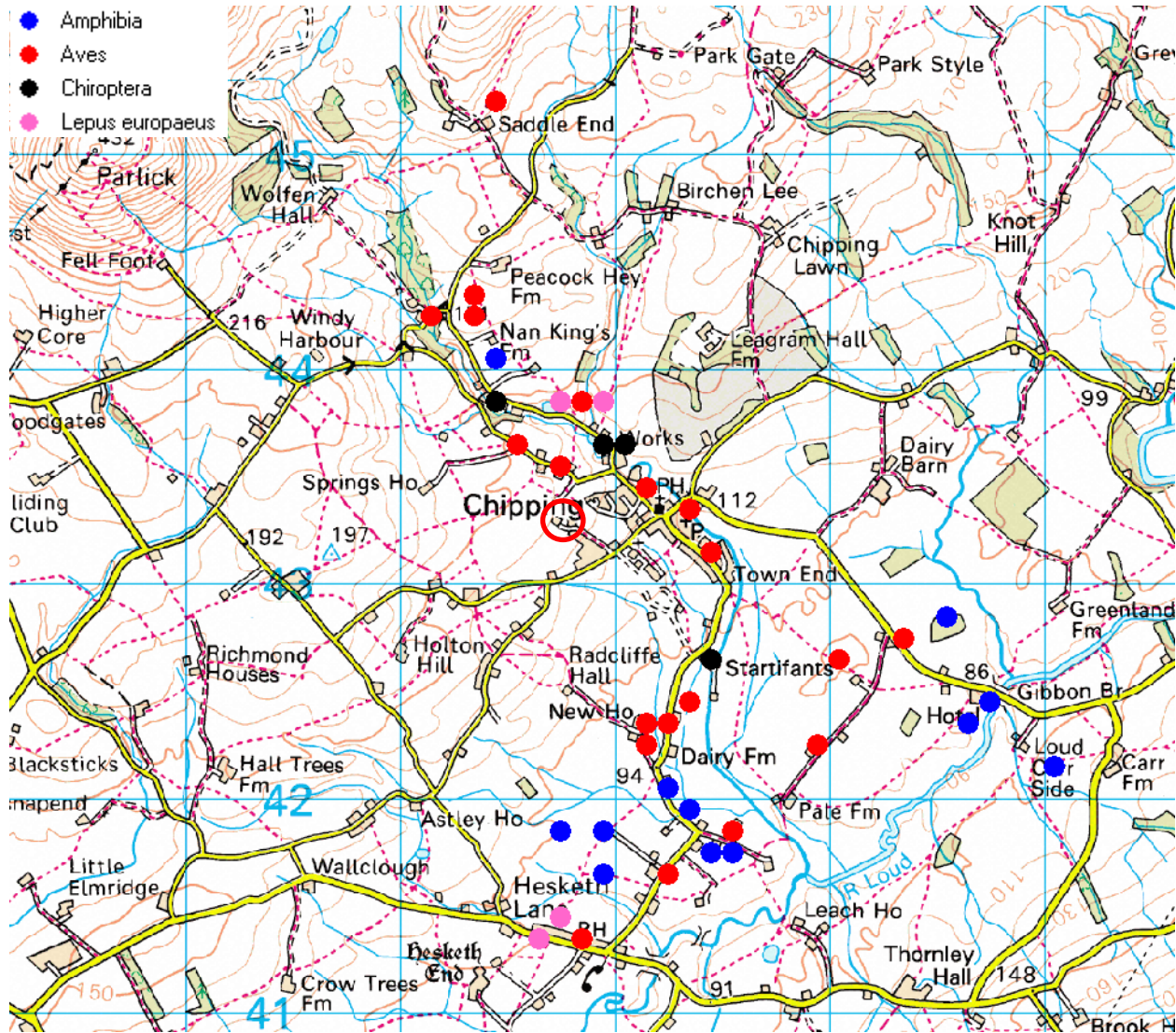
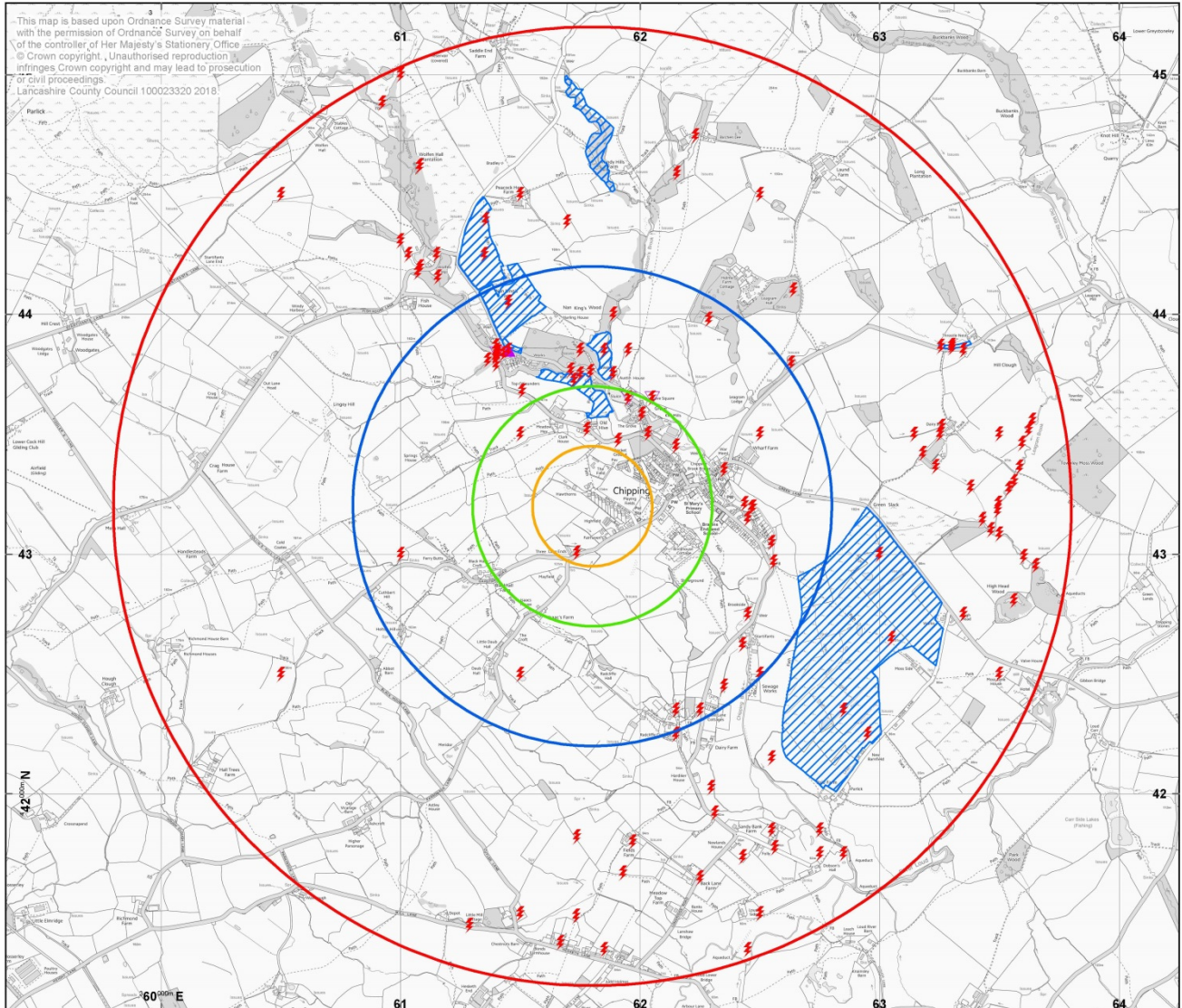


Figure 2 Notable species records, site location is circled red.

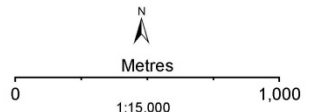


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Lancashire County Council 100023320 2018

Project:
Broad Meadow
Client:
Envirotech NW Ltd
Grid Ref: 361800 443200

- Legend**
- 250 m Buffer
 - 500 m Buffer
 - 1 km Buffer
 - 2 km Buffer
 - ⚡ Lancashire Key Species
 - ▲ Bat Roost or Possible Roost
 - ▼ Other Bat Record
 - Biological Heritage Sites

**N.B. THIS IS AN INTERACTIVE PDF
LAYERS CAN BE TURNED ON OR OFF
TO AID CLARITY.**



Boundaries of statutory designations (Natura 2000, SSSI etc) are included for information only. Definitive information for these designations should be obtained from Natural England.

Lancashire Key Species records are plotted at the centre of the area to which they relate (the precision of each record is given in the accompanying attribute data and spreadsheet).

NBN Atlas occurrence download at <https://nbnatlas.org> accessed on Fri Oct 20 12:44:41 UTC 2017. See supporting documentation for citations and further information.

Lancashire Environment Record Network
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Environment Directorate,
Lancashire County Council,
PO Box 100,
County Hall,
Preston, PR1 0LD



lern@lancashire.gov.uk <http://www.lancashire.gov.uk/lern.aspx>

Figure 3 Non-statutory sites 2km buffer.

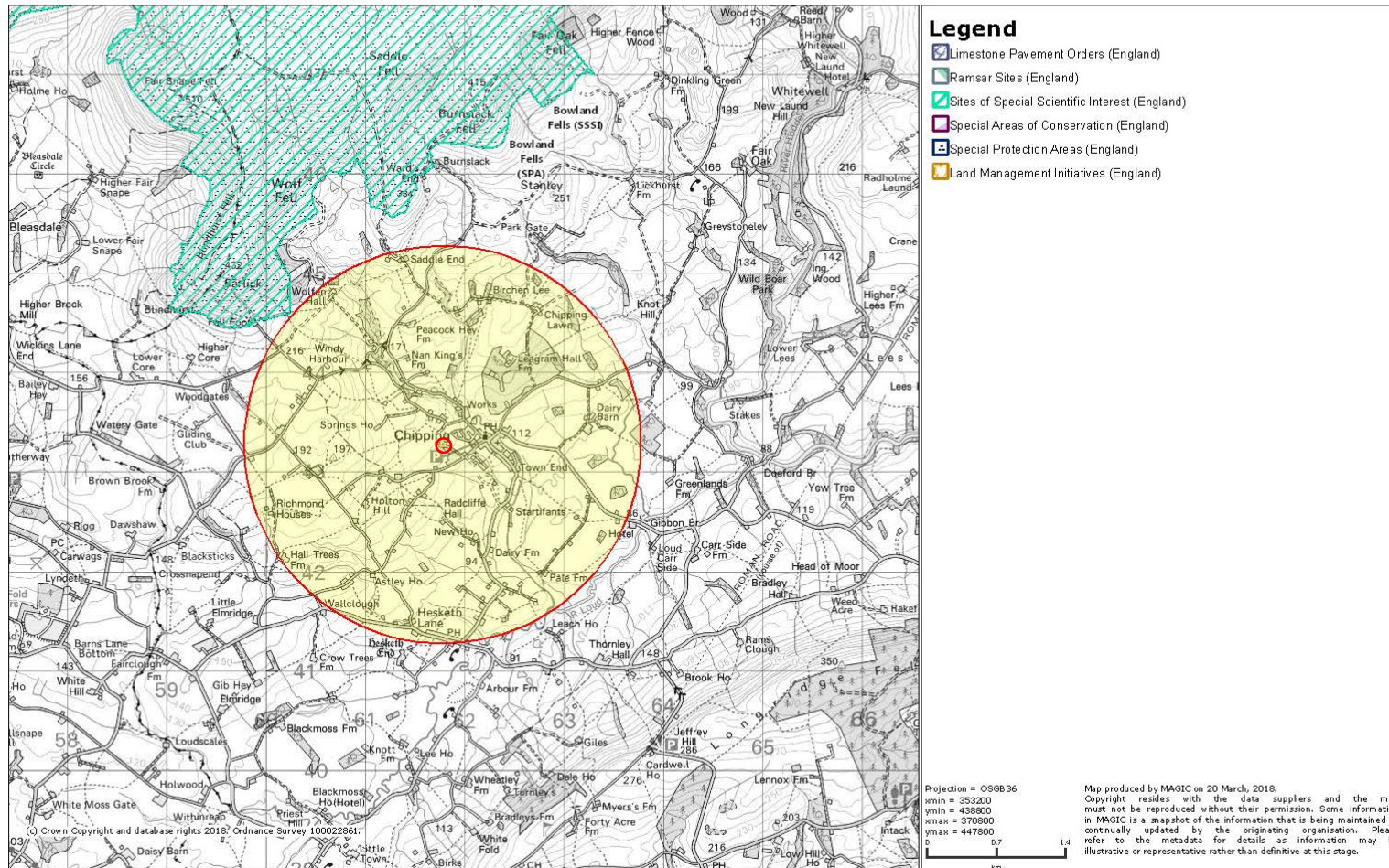


Figure 4 Statutory designated sites, 2km buffer.

6. PHASE 1 SURVEY RESULTS

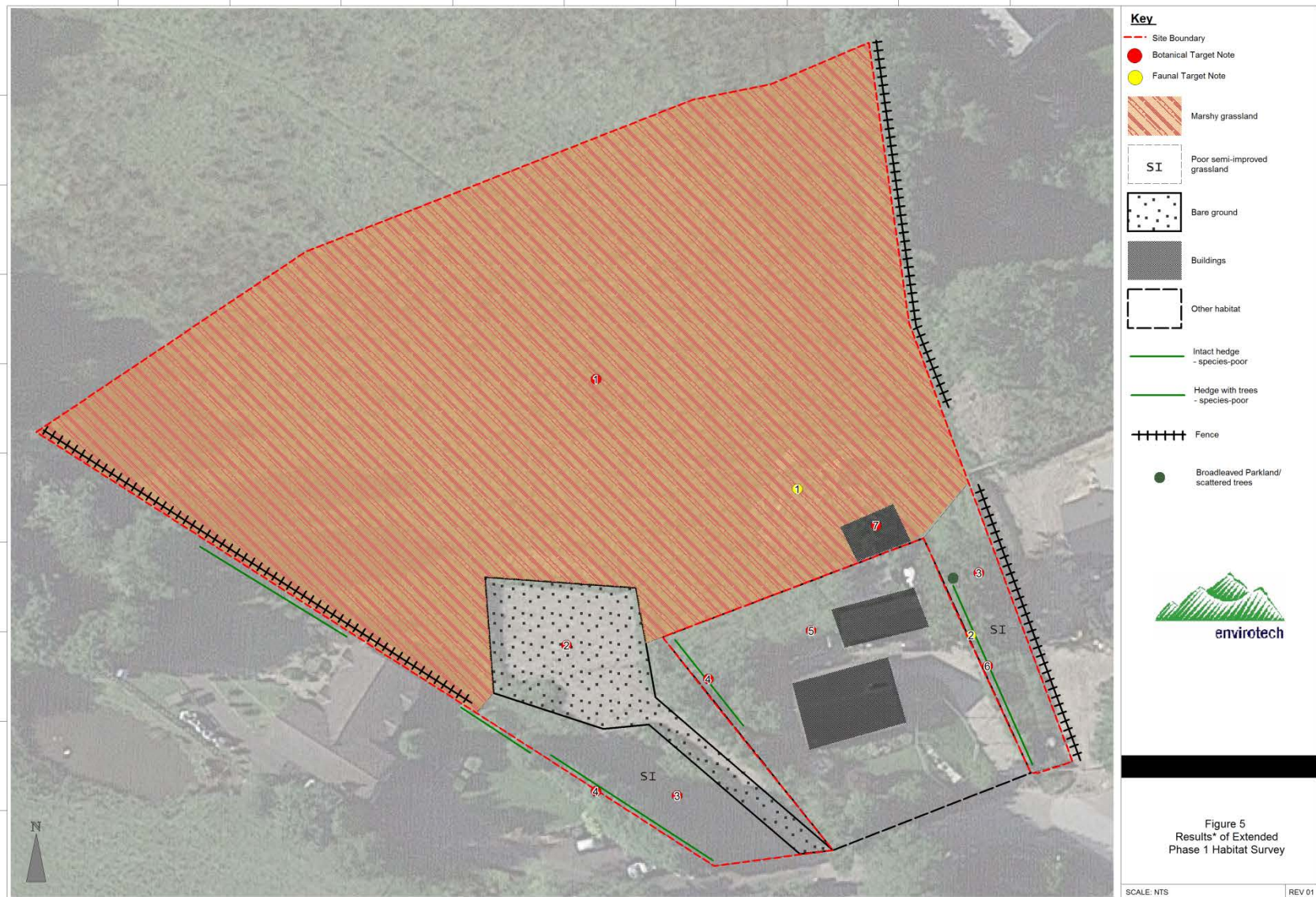
6.1 *Habitat Results*

6.1.1 The site comprises a parcel of marshy grassland with some sections of species poor grassland and bare ground. Marshy grassland further extends to the North. A residential bungalow, associated garage and gardens occur to the South. Gardens with frequent scattered trees occur 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	Marshy grassland	Marshy grassland covers the majority of the site and is categorized as such due to the high percentage cover of soft rush (<i>Juncus effusus</i>). Other species noted in the sward were fescue (<i>Festuca</i> sp.), broadleaved dock (<i>Rumex obtusifolia</i>), creeping buttercup (<i>Ranunculus repens</i>), common sorrel (<i>Rumex acetosa</i>), Yorkshire fog (<i>Holcus lanatus</i>) and common Dandelion (<i>Taraxacum officinale</i>). Although this habitat was not found to be grazed at the time of the survey, many of the species present were considered indicative of past high disturbance levels and improvement.
BTN2	Bare ground	The footings for a previously approved dwelling comprise an area of bare ground within the site. This habitat also forms an access track from the South-east. Occasional ephemeral species grow over this habitat and include creeping jenny (<i>Lysimachia nummularia</i>), herb-Robert (<i>Geranium robertianum</i>), pendulous sedge (<i>Carex pendula</i>), <i>Euphorbia</i> sp., common dandelion and broad leaved dock.
BTN3	Poor semi-improved grassland	Compartments of species poor grassland in the South of the site are similar in species composition to that of the marshy grassland but do not contain the high percentage cover of soft rush found in the remainder of the site. This habitat is commonly occurring locally and of low ecological value.
BTN4	Coniferous tree lines	Coniferous tree lines occur in the South-west of the site. They are semi-mature and non-native although they provide some structure and shelter they are considered to be of lower ecological value than that of a native tree line.
BTN5	Other habitat	Residential houses and associated gardens are frequent locally including a bungalow dwelling and its associated gardens to the South of the site.
BTN6	Intact hedgerow - species poor	A hedgerow which runs along the East boundary of the curtilage of the bungalow in the South is species and structurally poor. Woody species within the length of the hedgerow were beech (<i>Fagus sylvatica</i>), holly (<i>Ilex aquifolium</i>) and hawthorn (<i>Crataegus monogyna</i>). No notable species listed on the hedgerow regulations assessment were recorded in the base of the hedgerow at the time of the survey. An immature beech tree grows at the North extent of the hedge.
BTN7	Buildings	A dilapidated shed is present in the South of the site, on the boundary with the adjacent garden.

FTN1	Refugia	A pile of rubble to the North of the shed contains small pieces which would not provide suitable refugia for groups such as reptiles or amphibians. A metal sheet in this area could not be lifted to search due to its weight but may provide suitable refugia.
FTN2	Nesting birds	The intact hedgerow on site is not of sufficient density to provide significant nesting potential for birds.
Table 1 <i>Details of Botanical and Faunal Target Notes.</i>		



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



Bare ground in the site forms the footings of a previously consented dwelling. There is very little vegetation associated with this habitats



Looking South along the existing bare ground track. Coniferous trees flank either side.



Soft rush is frequent within the grassland on site and becomes more frequent to the North.



Dilapidated sheds adjacent to the grounds of the existing dwelling.

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 and marshy grasslands have a low species diversity and ecological value. Whilst the assemblage of species within them is higher than improved pasture, these habitats do not constitute BAP habitats.
- 6.2.3 The short section of hedgerow in the South of the site is species and structurally poor 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 The hedgerow is not classified as important under the Hedgerow Regulations (1997) assessment as it bounds the curtilage of a dwelling.
- 6.2.5 Trees within the site boundary comprise an immature beech tree within the hedgerow and several ash and sycamore saplings around the shed in the South. The immature nature of these individuals would allow them to be replaced with relative ease.
- 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 53 records for amphibians within 2km of the site. Species recorded are common frog (*Rana temporaria*), common toad (*Bufo bufo*), smooth newt (*Lissotriton vulgaris*) and palmate newt (*L. vulgaris*).
- 6.3.2 There is no standing water on site, though one pond is shown on OS mapping or aerial photography within 250m of the site (Figure 6).
- 6.3.3 This pond (Pond 1) is c. 24m to the West of the site. A residential garden and access track occur between the site and Pond 1. Full access to Pond 1 was not taken due to it being outside site ownership and not visible from any adjacent public rights of way. This pond is not visible from the site, although wildfowl were recorded in the field in which it stands.

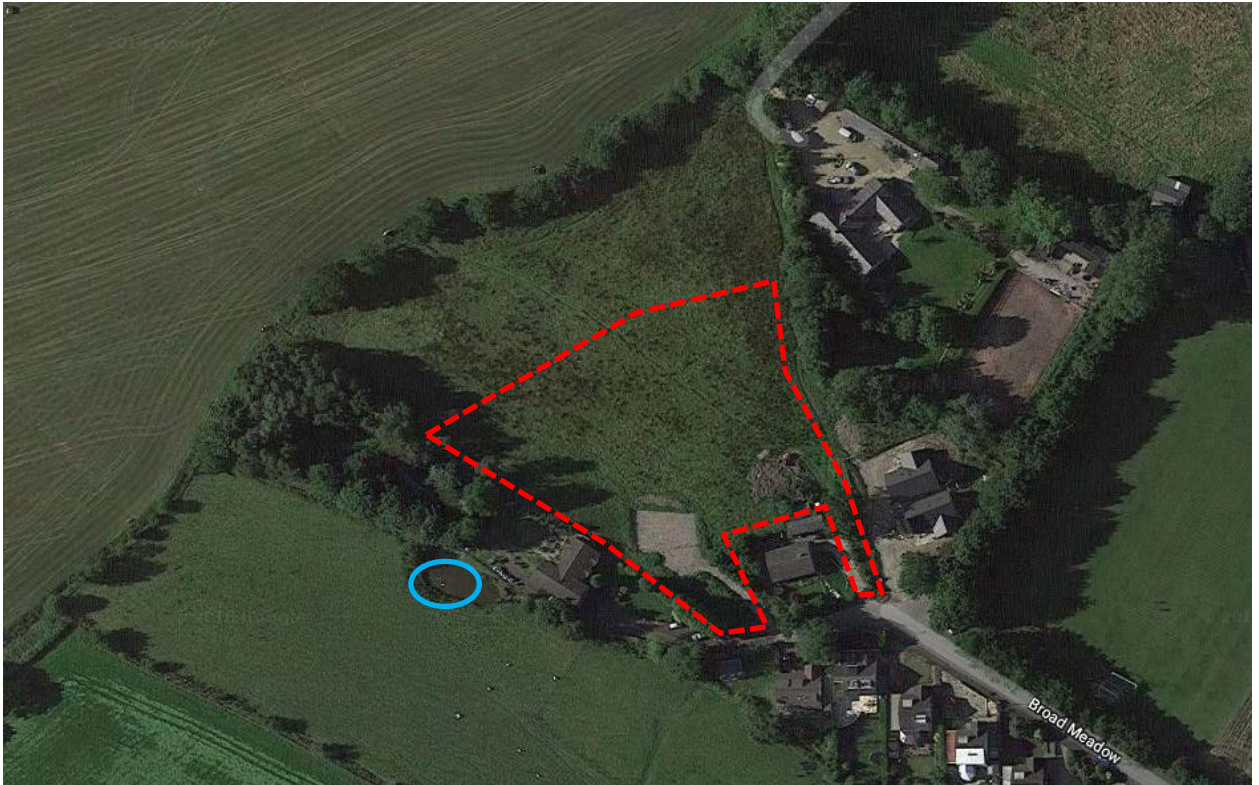


Figure 6 Site outlined red, Pond 1 circled blue

- 6.3.4 The core development area has a low value to amphibians being open grassland. Structural diversity at ground level across the site is poor. There are no areas which would be particularly favourable to amphibians.
- 6.3.5 The proposed development will not result in the permanent loss of or a substantial negative effect on any waterbodies or foraging areas linked to them. Boundary areas which may provide foraging or refuge sites, are to be retained.
- 6.3.6 Common toad (*Bufo bufo*) are UK BAP species, whilst these are not known to occur at the site or in Pond 1, the potential presence of this or other species recorded locally, should be considered. As such precautionary mitigation would be appropriate in respect of construction activities.

6.4 **Badger**

- 6.4.1 There are no records of badgers within 2km of the site on the dataset searched.
- 6.4.2 Badger setts do not occur on site and a lack of feeding signs or runs across the site would suggest that they do not occur within 30m of site boundaries.
- 6.4.3 The proposed development will not impact on any existing badger runs or setts. The porosity of the surrounding fields to the passage of badgers will not be affected.

6.5 **Bats**

- 6.5.1 There are 12 records of at least two species of bat within 2km of the site. Species recorded are common pipistrelle (*Pipistrellus pipistrellus*) and Daubenton's (*Myotis daubentonii*) bat.
- 6.5.2 There is potential for bats to forage around the site boundaries; this is largely provided by adjacent habitats. Grassland within the site is of comparatively low potential and is in itself unlikely to be attractive to bats.
- 6.5.3 More extensive areas of medium and high quality habitat occur locally, including the gardens, fragmented woodland and existing residential dwellings adjacent (Figure 7).
- 6.5.4 It is not considered there would be significant degradation of foraging habitat as a result of the proposal. Potential for use of the site by foraging bats can be increased post development.
- 6.5.5 Trees within the site were assessed in accordance with Collins ed. (2016) and assigned a risk category. All of the trees on site were immature and category 3 (negligible) risk. No indications of roosting or highly suitable roost sites were located within the trees. All of the trees could be adequately inspected.
- 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.

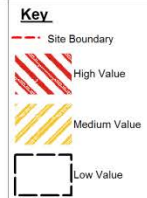


Figure 7
*Results of
 Extended Bat
 Habitat Survey*

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

6.6 Birds

- 6.6.1 There are 311 records of birds within 2km of the site.
- 6.6.2 Birds may nest within the tree lines and hedgerow. The hedgerow in the South of the site is considered to be of insufficient density to be of high value to nesting birds.
- 6.6.3 There were no rot holes or cracks in the trees within the site boundary which would support tree hole nesting species such as woodpeckers.
- 6.6.4 No actively nesting birds were recorded within the site at the time of the survey.
- 6.6.5 Precautionary mitigation is considered appropriate. The landscaping scheme should include species such as rowan (*Sorbus aucuparia*) which are seed bearing and will provide food for birds in the winter.

6.7 Brown Hare

- 6.7.1 Brown hare are a UK BAP priority species. There are 13 records of brown hares within 2km of the site.
- 6.7.2 No indication of brown hares was recorded on the site at the time of the survey.
- 6.7.3 The grassland over the site provides some potential for brown hare to create forms but the regular human presence and use of the site by dog walkers is likely to reduce this.
- 6.7.4 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.

6.8 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 plant species assemblages found on site are not representative of those found in sites which are designated for their invertebrate interest.
- 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 maintain or improve vegetative structure and habitat diversity at the site.

6.9 Reptiles

- 6.9.1 There are two records of slow worm (*Anguis fragillis*) within 2km of the site on the dataset searched. No other reptile species have been recorded within this search range.
- 6.9.2 There is low potential for use of metal sheeting at the site as refugia for these species. No indication of reptiles was recorded at the site at the time of the survey.
- 6.9.3 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.

6.10 Statutory and Non-Statutory Sites

Direct Impacts:

- 6.10.1 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.
- 6.10.2 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:

- 6.10.3 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.
- 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. 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.
- 7.1.3 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. The roots of hedgerow plants/trees should be adequately protected during development from compaction/ground disturbance.
- 7.1.4 It is proposed that a significant amount of new hedgerow planting is undertaken around the site post development. This will improve structural diversity and potential for species to commute across the site.

7.2 *Amphibians*

- 7.2.1 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 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 not known to occur within 2km of the site 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.

7.4 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 hedgerow planting will greatly improve potential for bats to forage and commute across the site.

7.4.3 New roosting provision for crevice dwelling bats could be incorporated into the buildings on site.

7.4.4 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 hedgerow and tree lines 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 Landscaping should include native or wildlife friendly species including night flowering plants.

7.7.2 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.

7.8 *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 metal sheet should be lifted and removed from site prior to works being undertaken. This will ensure that, in the unlikely event that any reptiles are seeking refuge beneath them, they can disperse safely from the site.

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.



Figure 8 Proposed site Plan

8. CONCLUSION

- 8.1.1 Ecological surveys, site appraisals and impact assessments were carried out with respect to a parcel of marshy grassland with some bare ground off, Broad Meadow, Chipping. It is proposed new houses will be constructed on the site.
- 8.1.2 Amphibians, bats, brown hares, reptiles and invertebrates have been recorded 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. The protection of trees on the site boundary and landscaping, including extensive new hedgerow planting, 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.
- 8.1.4 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.

9. REFERENCES

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