



envirotech

Ecological Consultants
Environmental and Rural Chartered Surveyors

Ecological Appraisal

Land at Hodder Bridge



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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.

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1. EXECUTIVE SUMMARY

- 1.1.1 Envirotech NW Ltd were commissioned in December 2019 by Rural Solutions to carry out an ecological appraisal of land at Hodder Bridge, Withgill in Clitheroe. It is proposed that a new dwelling with associated gardens and landscaping will be constructed on site, however, exact plans are currently unknown.
- 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 an ecologist from Envirotech NW Ltd on the 13th December 2019. A full botanical survey of the site was initially undertaken and this was followed by surveys to establish the presence or absence of notable species 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, with exception of the River Hodder. Habitat enhancement on site will increase the ecological value of the site.
- 1.1.5 None of the hedgerows around the site perimeter were considered important under the Hedgerow Regulations (1997).
- 1.1.6 Contaminants should not be allowed to enter any watercourses 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.
- 1.1.7 Care should be taken to ensure there is no increase in illumination at the entrance of the site and around Hodder Bridge.
- 1.1.8 Once exact plans are known, the impact on otter and water vole can be determined but it is anticipated that if buildings works are set back from the river by more than 30m impacts will be negligible.
- 1.1.9 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.
- 1.1.10 No other notable or protected species were recorded on the site.

2. INTRODUCTION

2.1 Background

2.1.1 In December 2019 Envirotech NW Ltd were commissioned by Rural Solutions to carry out an Ecological Appraisal of land at Hodder Bridge, Withgill in Clitheroe, central grid reference SD701 408 (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 construction of a new residential dwelling with associated gardens and landscaping, however, exact plans are currently unknown.

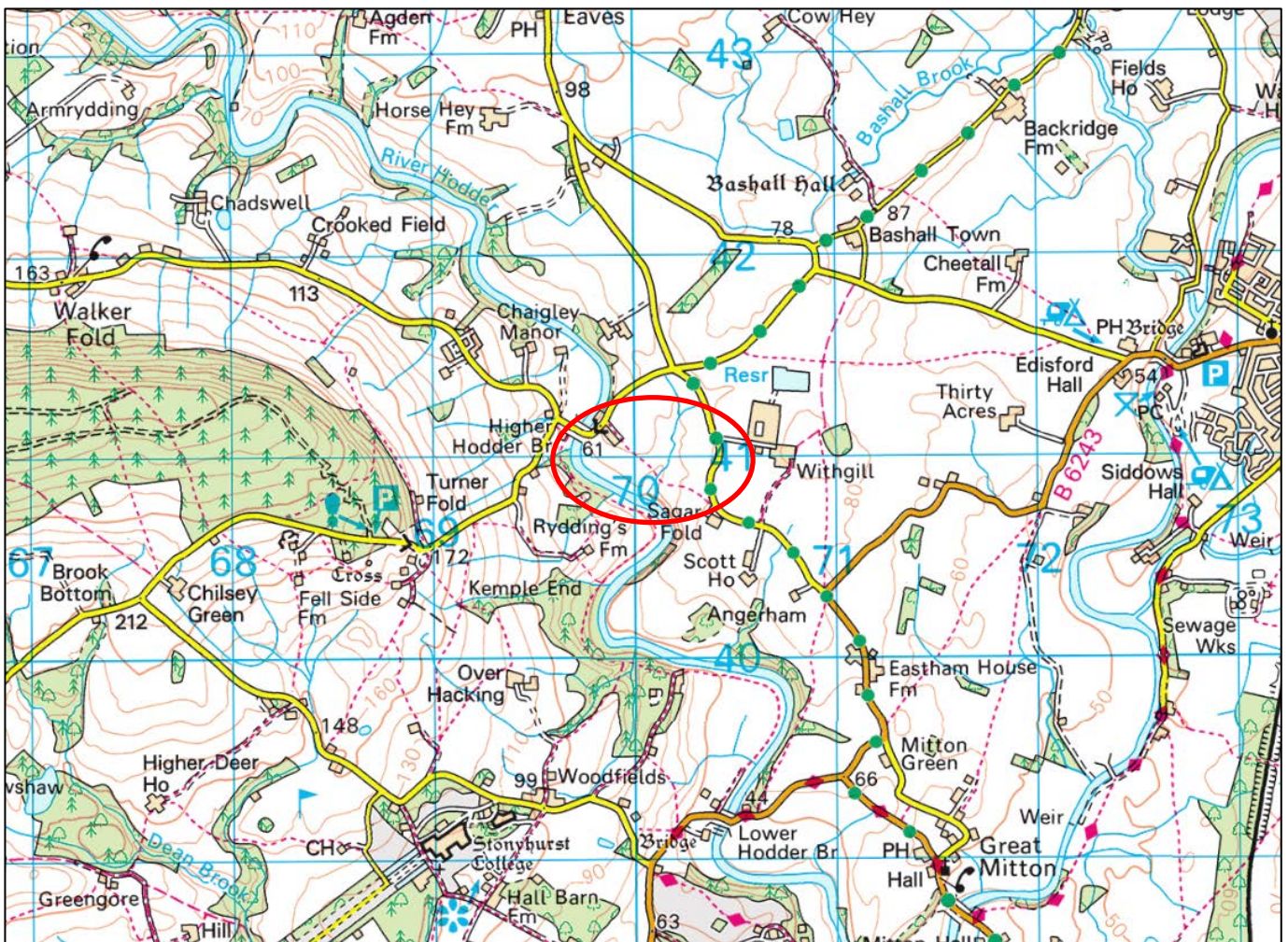


Figure 1 Site location at SD701 408 circled red.

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 Lancashire Environment Record Network "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.
- 3.3.2 The site and surrounding land was visited on the 13th December 2019 by
 - (SC) Ms Sian Comlay BSc (Hons), Grad CIEEM
Natural England Great Crested Newt Licence (Level 2)
Natural England Bat Class Licence Agent (Level 1)

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 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 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 Otter

4.7.1 Otters (*Lutra lutra*) are given protection by Annexes II & IV of the Habitats Directive and by Schedule 5 of the Wildlife and Countryside Act (1981) as amended and Schedule 2 of the Conservation (Natural Habitats etc.) Regulations (2017).

This protection means that it is an offence to deliberately or recklessly:

- Kill or injure otters;
- Destroy, damage or obstruct their dens, and
- Disturb them whilst in the den.

4.7.2 Watercourses were assessed for their suitability and for the presence of otters within 10m of the banks. The banks and scrub vegetation were carefully searched for spraints, feeding remains, runs, prints and couches/holts.

4.8 Red Squirrel

4.8.1 The site was walked over and the species of any tree over 15 years old was recorded.

4.8.2 At 50m intervals a check for signs of red squirrels (*Sciurus vulgaris*) was made and a note made of whether these are few, moderate or many. This was done by looking for feeding activity such as the remains of tree seeds, and whether or not there are dreys. Tree seed availability can vary greatly at different times of the year and from year to year. Seeds of broadleaved trees will usually be available from the autumn and the abundance of seeds will decline through winter and spring. Conifer seeds are available from summer, and often through to the following spring or summer. Thus, looking for signs of squirrel feeding activity can provide useful clues as to whether squirrels are currently resident and feeding within the trees on site.

4.9 Reptiles

4.9.1 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.

4.9.2 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.

4.9.3 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.

4.10 Water Vole

4.10.1 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.

4.10.2 The watercourses on site were surveyed and assessed for evidence of the presence of water vole.

4.10.3 This involved searches by wading 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.

4.11 White-clawed crayfish

4.11.1 White-clawed crayfish (*Austropotamobius pallipes*) are protected under the Wildlife and Countryside Act (1981). This provides protection from killing or taking by certain prohibited methods.

4.11.2 The watercourses on site were assessed for their suitability to support white-clawed crayfish.

4.12 Survey limitations

- 4.12.1 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.
- 4.12.2 Due to the habitats present on site there were no significant constraints in respect of identifying the botanical interest of the site.
- 4.12.3 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.
- 4.12.4 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. The data search identified an important Natterer's bat (*Myotis nattereri*) roost adjacent to the site in the north. There are also records of other protected or notable species within 2km (Figure 2). These are discussed in the relevant sections below.
- 5.1.2 The nearest non-statutory protected site is the River Hodder from confluence with River Ribble Upstream to cross of Greet Bridge/Bowland Fells SSSI Boundary which is located adjacent to the survey area and is designated as a Biological Heritage Site (BHS) (Figure 3).
- 5.1.3 The nearest statutory protected site is Hodder River Section Site of Special Scientific Interest (SSSI) located approximately 460m to the south of the site (Figure 4). This is isolated from the site by agricultural land, however, it is connected to the section of river adjacent to the survey area.

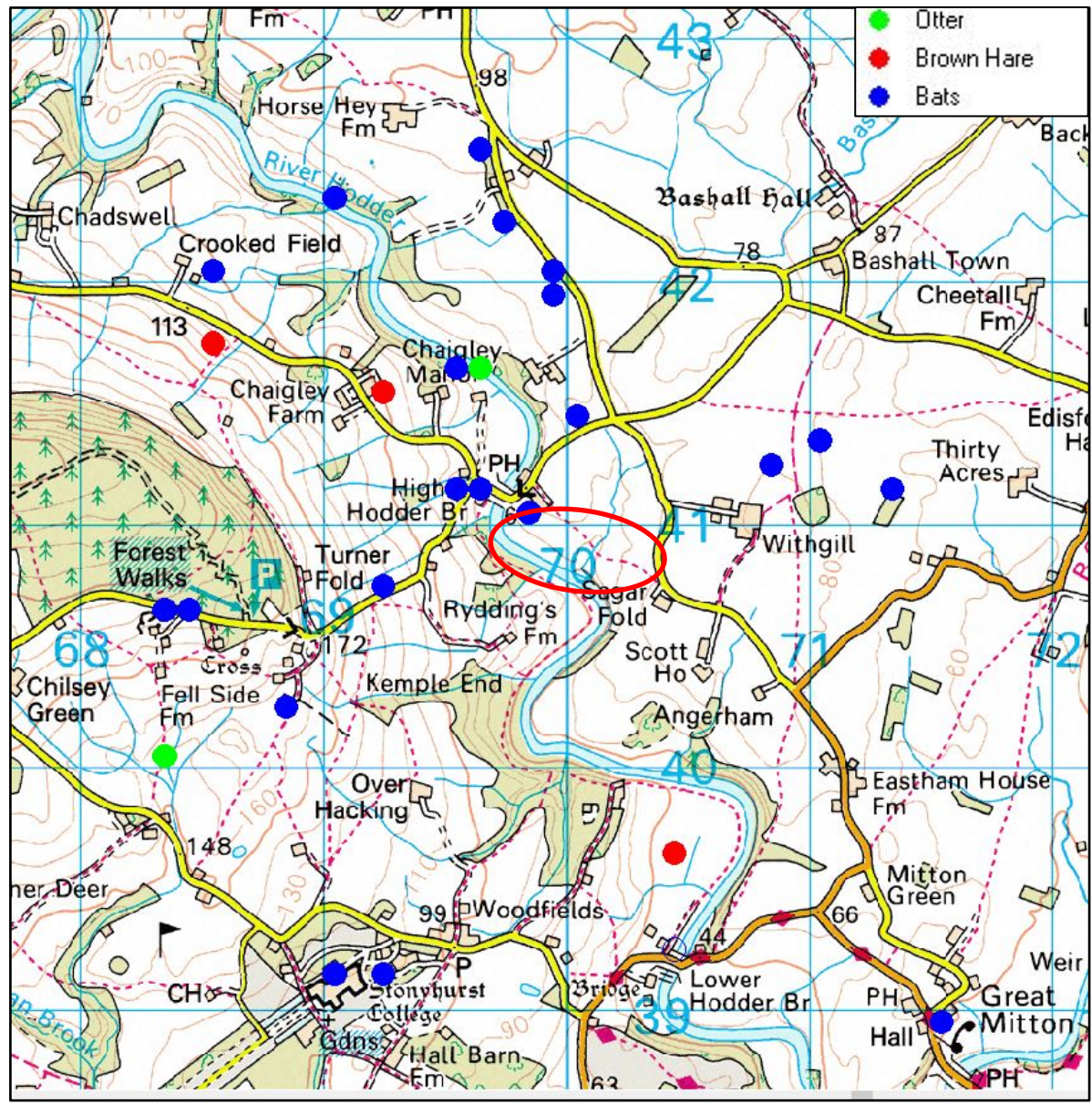


Figure 2 Notable species records, site location is circled red.

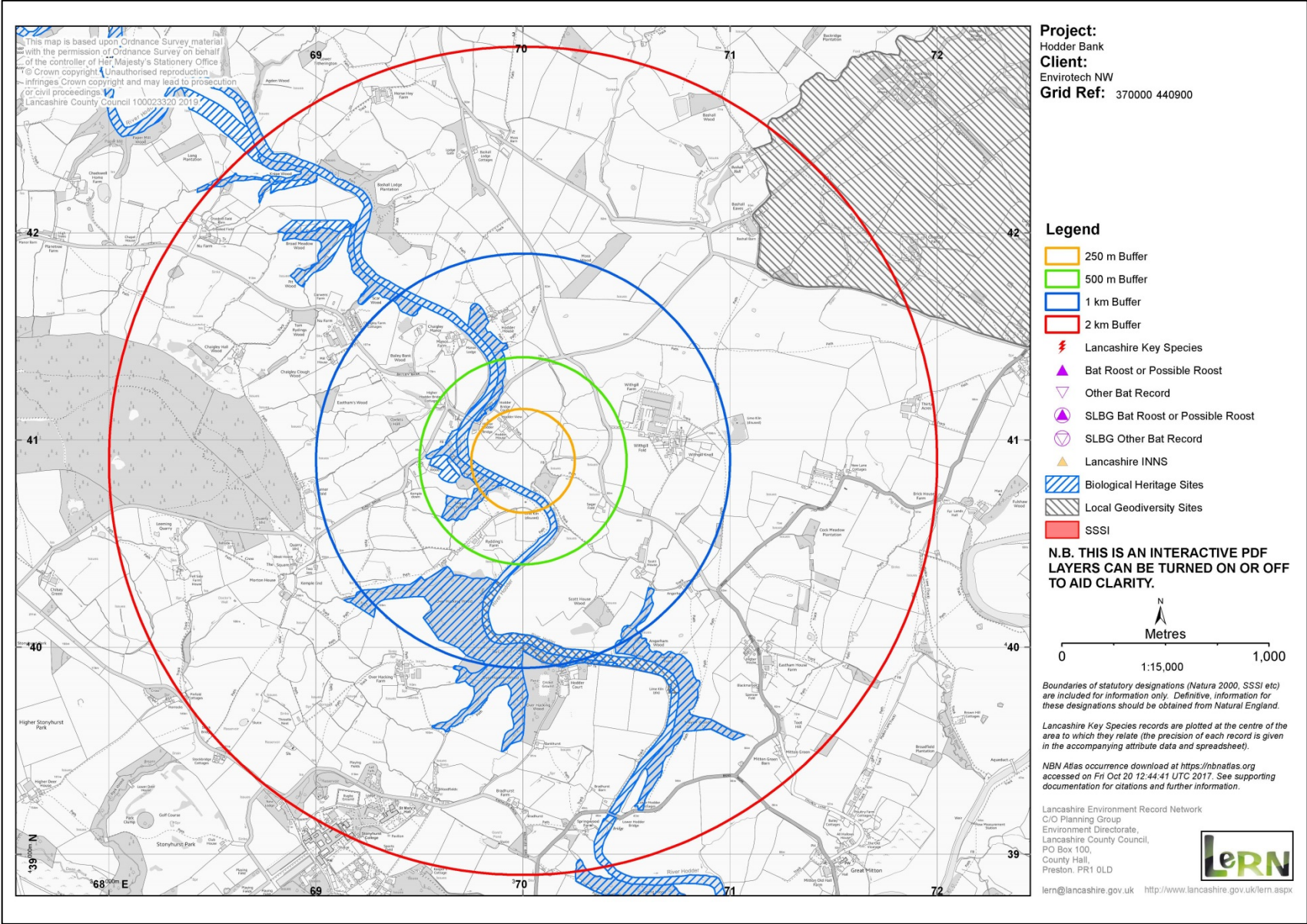


Figure 3 Non-statutory sites 2km buffer.

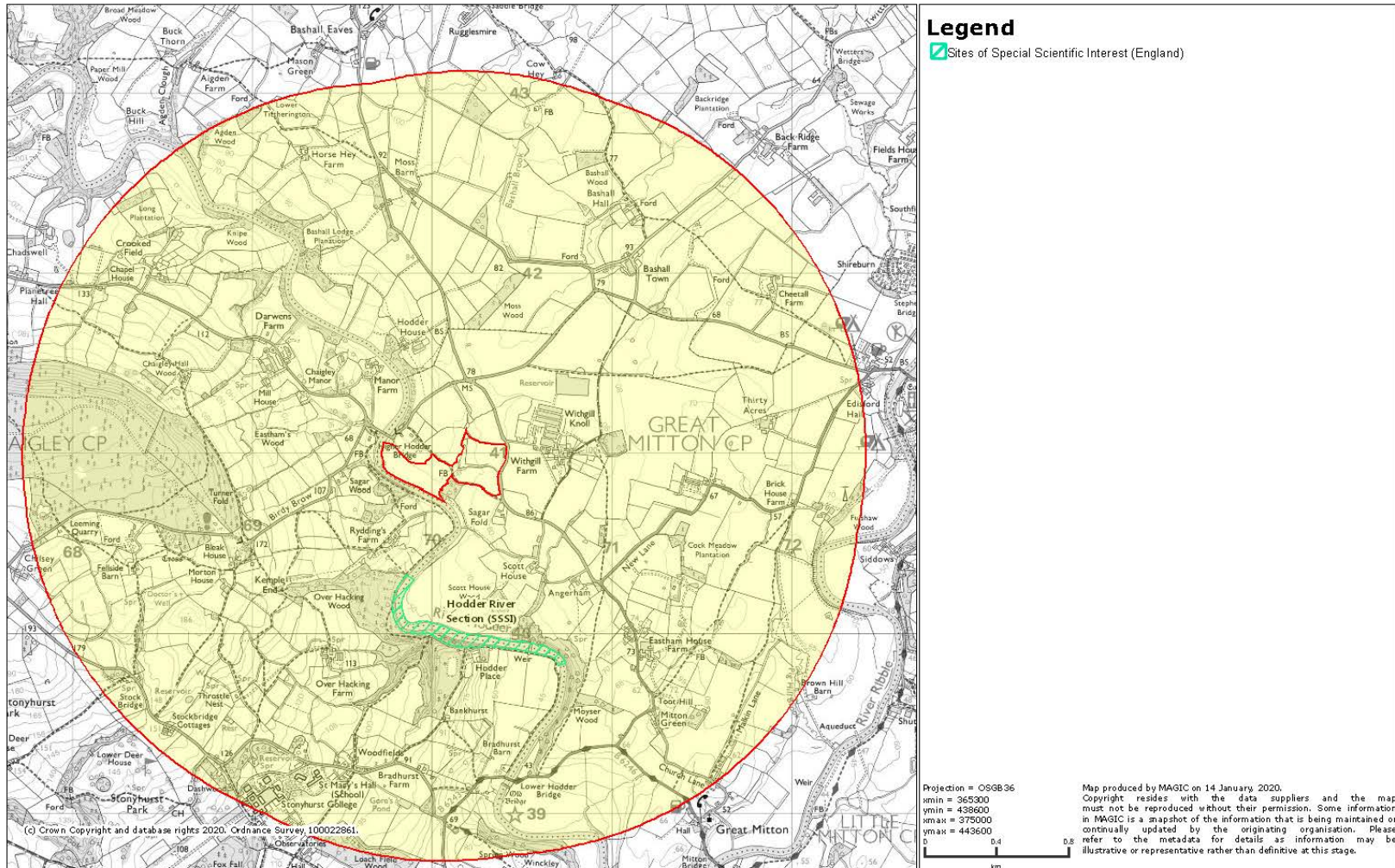


Figure 4 Statutory designated sites 2km buffer.

6. PHASE 1 SURVEY RESULTS

6.1 *Habitat Results*

6.1.1 The site is dominated by poor semi-improved grassland with scattered trees, hedgerows and watercourses present throughout the site. The site is bound by the River Hodder, agricultural land and woodland. The wider landscape is dominated by agricultural land with residential dwellings, farms and woodland.

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	Grazed pasture fields dominated the survey area. Species identified within the grassland include Yorkshire fog (<i>Holcus lanatus</i>), false oat grass (<i>Arrhenatherum elatius</i>), cock's-foot (<i>Dactylis glomerata</i>), perennial ryegrass (<i>Lolium perenne</i>), meadow grass (<i>Poa</i> sp.), ribwort plantain (<i>Plantago lanceolata</i>), creeping buttercup (<i>Ranunculus repens</i>), white clover (<i>Trifolium repens</i>), common vetch (<i>Vicia sativa</i>), common mouse ear (<i>Cerastium fontanum</i>) and buttercup species (<i>Ranunculus</i> sp). Occasional soft rush (<i>Juncus effusus</i>) was present within the fields in the east of the site.
BTN2	Scattered trees	Scattered trees were present at the site entrance and along the water courses, species identified include sycamore (<i>Acer pseudoplatanus</i>), beech (<i>Fagus sylvatica</i>), ash (<i>Fraxinus excelsior</i>), alder (<i>Alnus glutinosa</i>), hawthorn (<i>Crataegus monogyna</i>), <i>Salix</i> sp, English oak (<i>Quercus robur</i>), oak species (<i>Quercus</i> sp.), hornbeam (<i>Carpinus betulus</i>), hazel (<i>Corylus avellana</i>), maple species (<i>Acer</i> sp.) and coniferous species, including larch (<i>Larix decidua</i>). Along some of the watercourses under the trees were ivy (<i>Hedera helix</i>), dogs mercury (<i>Mercurialis perennis</i>) and woodavens (<i>Geum urbanum</i>). Some of the trees also had a light cover of ivy. The trees on site ranged in age from young to veteran specimens.
BTN3	Running water - Streams/wet ditches	Three watercourses were identified running through the site, with additional watercourses running adjacent to the site boundaries. The watercourses were all lined with trees and had banks varying in degree from shallow to steep. The banks were vegetated.
BTN4	Running water - River	The River Hodder runs adjacent to the south western boundary. Open beach areas with no vegetative cover were present along the river. Trees were also present over hanging these areas. The river banks varied in steepness but were generally vegetated.
BTN5	Intact hedgerows	An intact hedgerow was present along the eastern boundary. This hedgerow is subject to regular management and had recently been flailed. The hedgerow was dominated by hawthorn, with blackthorn (<i>Prunus spinosa</i>), hazel, holly (<i>Ilex aquifolium</i>) and elder (<i>Sambucus nigra</i>) also present. There was limited ground flora present with ivy and cleavers (<i>Galium aparine</i>) noted. Scattered ash trees were present within this hedgerow.
BTN6	Defunct Hedgerows	The remnants of an old hedgerow was present along the north eastern boundary. This hedgerow is now predominantly trees and is unmanaged. Species identified include hawthorn, holly, blackthorn, hazel and elder with some bramble (<i>Rubus fruticosus</i> agg.) also growing through the hedgerow. No ground flora was present beneath this hedgerow.

BTN7	Tall ruderal	Tall ruderal vegetation was present along a section of the bank of the River Hodder and within the centre of the site, species recorded include nettle (<i>Urtica dioica</i>), willow herb (<i>Chamerion angustifolium</i>), broadleaved dock (<i>Rumex obtusifolius</i>), common hogweed (<i>Heracleum sphondylium</i>), cow parsley (<i>Anthriscus sylvestris</i>), knapweed (<i>Centaurea nigra</i>), common vetch and soft rush. Himalayan balsam (<i>Impatiens glandulifera</i>) was also identified within this area.
BTN8	Flush	A section of flush habitat was present in the north of the site, this area was dominated by bryophytes with soft rush and spike rush (<i>Eleocharis palustris</i>) also frequent, along with tufted hair grass (<i>Deschampsia cespitosa</i>), creeping thistle (<i>Cirsium arvense</i>) and creeping buttercup also noted.
BTN9	Building	A wooden building was present on site. The structure was in excellent condition with all of the wooden panels tightly fitted. The eaves were all well sealed. The roof was constructed from corrugated sheeting which was also tightly fitted, and provides a suboptimal roosting material for bats.
BTN10	Hardstanding	Hardstanding access track and parking areas around the building were present in the west of the site. These areas were devoid of significant vegetation.
BTN11	Fence	Post and wire fences and wooden post and rail fences were present around the field boundaries and along some of the watercourses.
BTN12	Wall	A stone wall was present at the entrance of the site.
FTN1	Bats	The trees on site have potential to support roosting, foraging and commuting bats.
FTN2	Birds	The trees and hedgerows provide potential foraging and nesting habitat for birds.
FTN3	Otter/Water vole	The river and streams have potential to support otter and water vole.
FTN4	Brown hare	Three brown hare were observed on site during the survey, mammal tracks were identified within the centre of the site, these are considered to be associated with brown hare as they lead to the corner of a fence which a hare went through during the survey and would be too small for badger to fit through.

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



Grazed poor semi-improved grassland dominated the survey area



Scattered trees along the river bank.



Numerous streams running through the site and adjacent to site boundaries.



River Hodder runs adjacent to the site.



Intact managed hedgerow along the eastern boundary of the site.



Tall ruderal vegetation along the river bank.



Flush habitat in the north of the site.



Wooden building near the site entrance with associated area of hardstanding.
Scattered trees at site entrance.



Site entrance.

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 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 flush habitat has low species diversity but does have a moderate ecological value for ground nesting birds and small mammals. As the habitat is not in an upland area it does not constitute a BAP habitat.
- 6.2.4 The intact hedgerow bounding the site to the east 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 The defunct species poor hedgerow in the north east of the site also has a low ecological value. It has no understory and has been impacted by livestock grazing. Should this hedgerow need to be lost, transplanting is unlikely to be of ecological benefit. New shrub/ scrub planting would be suitable compensation for its loss.
- 6.2.6 None of the hedgerows are classified as important under the Hedgerow Regulations (1997) (See Appendix 1).
- 6.2.7 The streams/wet ditches have moderate species diversity and moderate ecological value. It is considered that these watercourses do not constitute a BAP habitat. However, the River Hodder adjacent to the site is known to support protected and notable species and can therefore be classified as a BAP habitat.
- 6.2.8 Trees within the site boundary comprise young to mature specimens.
- 6.2.9 There is evidence of Himalayan Balsam along the bank of the River Hodder. Himalayan balsam is classified as an invasive/notable weed species listed on Schedule 9 (Section 14) of the Wildlife and Countryside Act (1981) (as amended). There was no evidence of any other invasive or notable weed species listed on Schedule 9 (Section 14) of the Wildlife and Countryside Act (1981) (as amended), such as Japanese knotweed or giant hogweed, identified within the site or adjacent land.

6.3 Amphibian

- 6.3.1 The data search identified a single record of common frog (*Rana temporaria*) within 2km of the site. There are no records of great crested newt in the local area.
- 6.3.2 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.

- 6.3.3 Amphibians would be unlikely to attempt to cross the site as it comprises an area that is mostly open with uniform length grass. Whilst not a physical barrier to the dispersal of amphibians, the site is regarded as being a potentially hostile environment to them.
- 6.3.4 The hedgerows could be utilised as refuges and/or hibernacula but there are no great crested newt breeding ponds in proximity to the site.
- 6.3.5 Ordnance survey mapping data shows the presence of a single pond within 250m of the survey area. This pond could not be accessed during the survey, however, a review of aerial imagery shows this pond to be an ornamental garden pond, which is therefore unlikely to be suitable for great crested newts, but could potentially be used by common amphibians. The pond is located approximately 100m to the north east of the site.
- 6.3.6 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. The habitats on site will also be enhanced which would make the site more suitable for amphibians.
- 6.3.7 The potential presence of common amphibian species, should be considered. As such precautionary mitigation would be appropriate in respect of construction activities.

6.4 Badger

- 6.4.1 No records of badgers occur within 2km of the site.
- 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 The data search provided over 100 records of at least six species of bat within 2km of the site, including soprano pipistrelle (*Pipistrellus pygmaeus*), common pipistrelle (*Pipistrellus pipistrellus*), Nathusius's pipistrelle (*Pipistrellus nathusii*), Natterer's bat (*Myotis nattereri*), Daubenton's bat (*Myotis daubentonii*), Brandt's bat (*Myotis brandtii*) and unidentified *Myotis* species.
- 6.5.2 The foraging habitat at the site is moderate for bat species being open and exposed, with scattered trees and watercourses. The poor semi-improved grassland offers negligible foraging opportunities for bats.
- 6.5.3 The trees, watercourses 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 River Hodder, woodland and scattered trees 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, vegetation along the watercourses and scattered trees are retained and or their loss is compensated for in any landscaping scheme.
- 6.5.5 All trees around the site perimeter were also assessed in accordance with Collins ed. (2016) and assigned a risk category. All of the trees on site were category 1 (moderate), category 2 (low) or category 3 (negligible) risk. All of the trees could be adequately inspected. Risk categories from Hundt (2012) and the requirement for mitigation for each tree category are shown on Figure 7.
- 6.5.6 Records held by LERN suggest an important Natterer's bat roost occurs to the north of the site. There are numerous records for a number of bats of this species indicative of a maternity roost. Therefore the vegetation at the site entrance must be retained with no increase in illumination, as this area is likely to be used for commuting and foraging.
- 6.5.7 The wooden structure on site was well sealed with no gaps identified suitable to support roosting bats. This building was therefore considered to provide negligible roosting potential.
- 6.5.8 We consider bat species are highly unlikely to rely on the site for feeding but do occur in the local area.



*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. <i>A consultant ecologist is required</i>	Avoid disturbance to trees, where possible. 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' 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. <i>A consultant ecologist required</i>	Avoid disturbance to trees, where possible. More detailed, off the ground visual assessment. 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. 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. <i>A consultant ecologist is unlikely to be required</i>	Avoid disturbance to trees, where possible. No further surveys.	Trees may be felled taking reasonable avoidance measures. 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. <i>A consultant ecologist is not required unless new evidence is found</i>	None.	No mitigation for bats required.

Figure 7 Tree risk categories from Hundt (2012).

6.7 Birds

- 6.7.1 There are 120 records of birds within 2km of the site. Mallard (*Anas platyrhynchos*) were observed on site during the survey along the river banks.
- 6.7.2 The intact hedgerow to the east of the site offers potential habitat for feeding and nesting birds. 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 The area of flush habitat also offers potential nesting habitat for birds along with the open beach areas along the river, which may provide suitable habitat for sandpiper and oystercatcher which are known to occur along the BHS.
- 6.7.4 The gappy defunct hedgerow has insufficient density to be of high value to nesting birds.
- 6.7.5 There were trees with rot holes and cracks within the site boundary which have potential two support tree hole nesting species such as woodpeckers.
- 6.7.6 Potential nest sites were located within the core development area but the surveys were undertaken at a time of year when nesting had been completed. A risk assessment of the site in respect of its future potential for and value to nesting birds could however be adequately made.
- 6.7.7 The habitat on site is not considered to be of anything more than of local significance, habitats present are well represented in the local area. It is understood that no vegetation will be removed to facilitate the development and the habitats on site will be enhanced, therefore 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.

6.8 Brown Hare

- 6.8.1 Brown hare are a UK BAP priority species. There are 14 records of brown hares within 2km of the site.
- 6.8.2 Three brown hare were observed on site during the survey.
- 6.8.3 The site boundary has low potential for brown hares to create forms but use of the site is likely to be limited due to its open and exposed nature.
- 6.8.4 The site is surrounded by further areas of suitable habitat for brown hare and the porosity of the site will be maintained post development.
- 6.8.5 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 low.

6.9 Invertebrates

- 6.9.1 Six 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 Semi-Improved pasture, tall ruderal and flush vegetation has some value to species such as common butterflies but this is not considered to be locally significant.
- 6.9.4 Species such as Bumblebees which relay on nectar would be negatively impacted by the removal of Himalayan balsam on site as this is a good source of nectar. The benefits of the removal of Himalayan balsam are however considered to outweigh the impact as a result of the loss of nectar sources on site. Flowering plant species such as lavender should however be incorporated into the landscape scheme as compensation.
- 6.9.5 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.
- 6.9.6 Impacts on the species are considered likely to be negligible, post development landscaping will create greater habitat diversity in the area than already exists.

6.10 Otter

- 6.10.1 There are seven records of otters (*Lutra lutra*) within 2km of the site. The River Hodder BHS is designated for its importance for otter.
- 6.10.2 The River Hodder is considered to provide suitable habitat for otter. Suitable holt habitats were identified along the river bank.
- 6.10.3 No indication of the presence or past use of the site was found, however, the survey was undertaken after a period of heavy rainfall which may have washed evidence away.
- 6.10.4 The streams and wet ditches are considered unlikely to support fish, however, they may provide suitable commuting features for otter across the landscape.
- 6.10.5 Once exact plans are known, the impact on otter can be determined. Precautionary mitigation will be required in respect of construction activities which will need to be restricted at night along with keeping works at least 20m from the banks of the watercourses.

6.11 Red Squirrel

- 6.11.1 This species has not been recorded locally.
- 6.11.2 No dreys were located within the trees on site. No feeding signs were located.
- 6.11.3 Red squirrel are considered to be absent from the site.

6.12 Reptiles

- 6.12.1 The data search identified a single record of common lizard (*Zootoca vivipara*) within 2km of the site.
- 6.12.2 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.
- 6.12.3 Reptiles may occur along the River Hodder and the boundaries of the site as they provide linkage across the local landscape. It is however understood that these areas will not be impacted by the development.
- 6.12.4 Within the landscaping any areas of dense vegetation cover, which would provide suitable forging habitat, should be adjacent to open areas of ground which would provide suitable basking habitat.
- 6.12.5 Precautionary mitigation is considered to 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.

6.13 Water vole

- 6.13.1 There are no records of water voles within 2km of the site.
- 6.13.2 The River Hodder provides suitable habitat for water vole. The other watercourses on site have a varying degree of bank steepness. The steeper banks were shaded with limited vegetative cover, which would reduce the suitability of these areas to support water vole.
- 6.13.3 No signs of water voles, such as droppings, feeding piles or footprints were identified during the survey, however, the survey was undertaken at a suboptimal time of the year and after a period of heavy rainfall.
- 6.13.4 Once exact plans are known, the impact on water vole can be determined. Precautionary mitigation will be required in respect of construction activities along with keeping works at least 10m from the banks of the watercourses.

6.14 White clawed crayfish

- 6.14.1 The data search identified no records of white clawed crayfish within 2km of the survey area.
- 6.14.2 The River Hodder has potential to provide suitable habitat for white clawed crayfish.
- 6.14.3 The other watercourses on site do not have a rocky/shingly bed which would provide suitable habitat.
- 6.14.4 As works will not be undertaken within the River Hodder, precautionary mitigation is considered appropriate with respect to the development.

6.15 Other

- 6.15.1 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.
- 6.15.2 The site may be crossed by species such as fox (*Vulpes vulpes*) and rabbit (*Oryctolagus cuniculus*) are known to occur locally.
- 6.15.3 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.

6.16 Statutory and Non-Statutory Sites

Direct Impacts:

- 6.16.1 The River Hodder BHS is located adjacent to the site and River Hodder Section SSSI is connected to the section of River Adjacent. Site development has potential to directly impact upon these sites. Therefore precautionary mitigation is required to prevent this occurring.
- 6.16.2 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:

- 6.16.1 The River Hodder BHS is located adjacent to the site and River Hodder Section SSSI is connected to the section of River Adjacent. Site development has potential to indirectly impact upon these sites. Therefore precautionary mitigation is required to prevent this occurring.

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. 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 Care should be taken not to introduce none native species when landscaping the proposed scheme.
- 7.1.4 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.
- 7.1.5 If the defunct species poor hedgerow 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.
- 7.1.6 Contaminants should not be allowed to enter any watercourses 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.
- 7.1.7 A fence should be installed 20m from the bank of the River Hodder. Riparian planting should also be undertaken along the river.
- 7.1.8 20m buffers should be maintained from the banks of all watercourses on site.
- 7.1.9 Himalayan balsam should be eradicated from the site. Advice should be sort from professionals in the field of invasive species eradication, disposal and control. This plant should not be allowed to spread off site.

7.2 *Amphibians*

- 7.2.1 There is no requirement for specific mitigation for these species. There are currently no suitable breeding sites for great crested newts on or near the site, however there is an ornamental pond approximately 100m to the north east which could potentially support common amphibians. 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. Such areas would be best placed in areas where connectivity to the site boundaries and wider area is improved.
- 7.2.3 Clean surface and roof water could be channelled into created ponds to ensure water within it remains clean.
- 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 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, however, there is suitable sett building habitat within 2km. Any setts within the wider landscape 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.
- 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 Any trees to be felled should be re-inspected for bats to confirm they remain absent.
- 7.4.4 Care should be taken to ensure there is no increase in illumination at the entrance of the site and around Hodder Bridge.
- 7.4.5 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 likely to occur. Birds may nest within hedgerows and trees on the peripheries 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 Artificial bird nesting sites for swallow could be incorporated into the new buildings under the eaves in suitable locations.
- 7.5.5 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 any watercourse 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 Otter

- 7.8.1 Once exact plans are known, the impact on otter can be determined.
- 7.8.2 However, as a precautionary measure, no works should be undertaken within 10m of the watercourse banks.
- 7.8.3 The points in respect of not working at night and leaving open trenches with means of escape detailed for amphibians are also applicable to this species which is only likely to pass through the site at night.
- 7.8.4 The points in respect of new shrub and tree planting around the site and the ecological enhancement of riparian corridors are likely to enhance the sites potential for future use of the site.

7.9 Red Squirrels

- 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 Red Squirrel 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.

7.10 Reptiles

- 7.10.1 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.

7.10.2 Dense scrub and woodland on the edge of the development site should be retained such that it is in proximity to open areas of ground which will also be suitable for basking.

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

7.11 *Water vole*

7.11.1 Once exact plans are known, the impact on otter can be determined.

7.11.2 However, as a precautionary measure, no works should be undertaken within 10m of the watercourse banks.

7.11.3 Enhancement of the riparian corridors will provide better opportunities for use of the site post development than currently occur.

7.12 *White-clawed crayfish*

7.12.1 There is no requirement for specific mitigation for this species. However, as a precautionary measure, in the unlikely event that any signs of any White-clawed crayfish 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.

7.12.2 Contaminants should not be allowed to enter any watercourse 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.

8. CONCLUSION

- 8.1.1 Ecological surveys, site appraisals and impact assessments were carried out with respect to land comprising open ground at Hodder Bridge, Withgill in Clitheroe. It is proposed that there will be the construction of a new residential dwelling with associated gardens and landscaping on site, however, exact plans are currently unknown.
- 8.1.2 Bats, brown hare, birds, common frog and common lizard 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; the trees and vegetation along the watercourses are to be retained.
- 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 Contaminants should not be allowed to enter any watercourses 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.
- 8.1.6 Care should be taken to ensure there is no increase in illumination at the entrance of the site and around Hodder Bridge.
- 8.1.7 Once exact plans are known, the impact on otter and water vole can be determined.
- 8.1.8 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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10. APPENDIX

Hedge		Feature								
	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						
1	Yes	No	Yes	Yes						
2	Yes	No	Yes	Yes						
No = Automatic failure										
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
	No	Yes	Yes	No	No	No	1	5	0	No
	Yes	No	No	No	No	No	1	5	0	No
	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.