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Ecological Consultants
Environmental and Rural Chartered Surveyors

Ecological Appraisal

Land Off Accrington Road, Whalley

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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. INTRODUCTION

1.1 Background

1.1.1 In 2021 Envirotech NW Ltd were commissioned by Oakmere Homes to carry out an Ecological Appraisal of land off Accrington Road, Whalley, Lancashire, central grid reference SD 73590 36018. A site investigation was undertaken and a report compiled which includes recommendations for any future actions and or mitigation required.

1.1.2 The survey was requested in connection with the proposed construction of new houses. The site had been subject to survey in previous years for other proposed schemes.

1.1.3 Site surveys were undertaken over successive years as different options for the site were brought forward.

1.2 Objectives

1.2.1 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.

2. METHODOLOGY AND SOURCES OF INFORMATION

2.1 Data Search

2.1.1 The Biological Records centre for Lancashire "LERN" 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 national, regional or local importance within a 2km radius of the site boundary.

2.1.2 Google Earth and Google Street View were consulted to establish the presence of any features of ecological importance within the local area.

2.2 Vegetation and Habitats

2.2.1 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).

2.2.2 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).

2.2.3 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*).

2.2.4 The survey was also informed by questioning the landowner/site agent to ascertain the recent history of the site.

2.3 Timing and Constraints

2.3.1 The site was surveyed on the 29th November 2011 and the 11th July 2012 by Andrew Gardner and Kate Statham. 21st August 2015 by Chris Arthur and 13th October 2020, 6th December 2021 and 12th October 2022 by Andrew Gardner.

2.3.2 During each of the surveys, full access to the site was possible. The habitats present could be adequately assessed at the times of year the surveys were undertaken.

3. PHASE 1 SURVEY RESULTS

3.1 Habitat Results

3.1.1 The site is known as land off Accrington Road, Whalley and comprises an open area of poor semi-improved pasture bounded by species poor hedges, and the River Calder to the South. Other habitats on and adjacent to the site comprise emergent vegetation, tall ruderals, marshy grassland and scrub.

3.1.2 The site is located at the South-eastern extent of Whalley, with the land use being dense urban mosaic to the West and predominantly agricultural to all other sides.

3.1.3 The site abuts a public highway to the North, residential dwellings to the West, the River Calder to the South and industrial premises to the East.

3.1.4 See Figure 1 for the Phase 1 Habitat Plan and Table 1 for the descriptive Target Notes.

Target Note	Description	Comment
TN1	Poor semi-improved grassland (Neutral Grassland)	The majority of the development site comprises improved pasture. This appears to have been mown in the past for silage but there is little indication of agricultural improvement/management in recent years. The sward is becoming long and dominated by course grass species comprising Yorkshire fog (*Holcus lanatus*), false oat grass (*Arrhenatherum elatius*), rough meadow grass (*Poa trivialis*), cock's foot (*Dactylis glomerata*), bent (*Agrostis* sp.), crested dog's tail (*Cynosurus cristatus*), perennial rye grass (*Lolium perenne*) and sweet vernal grass (*Anthoxanthum odoratum*). Ragwort (*Jacobea vulgaris*) and creeping thistle (*Cirsium arvense*) are prevalent throughout the grassland, along with lesser quantities of field speedwell (*Veronica persica*), creeping buttercup (*Ranunculus repens*), hogweed (*Heracleum sphondylium*), selfeal (*Prunella vulgaris*), common vetch (*Vicia sativa*), ribwort plantain (*Plantago lanceolata*) and meadow vetchling (*Lathyrus pratensis*).
TN2	Marsh/marshy grassland	In the Northern area of the site is a small parcel of marshy grassland where the species listed in BTN1 are dominated by a high proportion of soft rush (*Juncus effusus*).
TN3	Scrub – dense/continuous	Running along the Northern boundary is a thin strip of dense scrub which comprises nettle (*Urtica dioica*), bramble (*Rubus fruticosus* agg.) and hogweed.
TN4	Intact hedge – species poor	The Northern boundary of the site is delineated by a species poor hedge. This is predominantly hawthorn (*Cretaegus monogyna*) with small quantities of wych elm (*Ulmus glabra*) and elder (*Sambucus nigra*).
TN5	Intact hedge – species poor	An intact hedge also forms the Eastern boundary of the site. Species present are the same as the Northern hedge.
TN6	Fence	The site is bounded to the South and West by a post and wire fence.

TN7	Running water	A wet ditch runs down the East side of the site. The ditch is unfenced from the field and has an open shallow profile across its bottom with steep artificial banks. There is occasional Himalayan balsam along the ditch, but there is little cover or other aquatic vegetation associated with it.
TN8	Scattered/parkland broadleaf trees	A single scattered tree is present within the site; a hawthorn tree in the Southern area.
TN9	Defunct hedge – species poor	Running through the center of the site is a defunct hedgeline which is now just a line of trees and is no longer stockproof. Species present are hawthorn, holly (*Ilex aquifolium*) and ash (*Fraxinus excelsior*).
TN10	Other habitat	To the West is dense urban mosaic of residential dwellings.
TN11	Hard-standing	Abutting the site to the North is a busy public highway; Accrington road.
TN12	Other habitat	An industrial property occurs immediately to the East.
TN13	Running water	The River Calder runs just off-site to the South. The banks of the river contain dense stands of Himalyan balsam, nettle, greater willowherb (*Epilobium hirsutum*), hedge woundwort (*Stachys sylvatica*), hemp agrimony (*Eupatorium cannabinum*), common reed (*Phragmites australis*) and hemlock water-dropwort (*Oenanthe crocata*), along with scattered ash and alder (*Alnus glutinosa*) trees. A public footpath runs between the site and the river, which is flanked by scrub species such as bramble and nettle.
TN14	Otters/water voles	The wet ditch to the East of the site is considered of negligible potential to support otters or water voles.
TN15	Otters/water voles	The River Calder offers suitable habitat for otters and water voles, but no indications of the presence of these species were found along the banks. No adverse effects on this habitat are anticipated as a result of the proposals.
TN16	Birds	The hedges bounding the site to the North and East are likely to offer opportunities for feeding and nesting birds.

Table 1 - *Details of Target Notes*

Figure 1

Phase 1 Habitat Map

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The site is two large fields of poor semi-improved grassland (TN1).

This has evidently not been managed in recent years and so has become rank and dominated by coarse graminoids. The species present are all indicative of previously agricultural enhancement.

To the North the site is bounded by a species poor hawthorn hedge (TN5) and a band of scrub (TN4).

	A similar hedgerow runs along the Eastern boundary (TN6). The hedges around the site would offer foraging and nesting opportunities for birds (TN16). Himalayan Balsam was present to its base
	Through the centre of the site is a defunct hedge which is no longer stockproof (TN9).
	Adjacent to the hedge is a wet ditch (TN7). This is shallow and largely un-vegetated. It is considered to be of negligible potential to be used by otters or water voles (TN15).

 	The River Calder runs in very close proximity to the South (TN13). The banks of the river contain dense stands of Himalayan balsam, and invasive weed species. The river is known to support otters and offers potential habitat for water voles (TN2).

Table 2 - *Photographs*

4. SPECIES SURVEY METHODOLOGY

4.1 Amphibian

4.1.1 Great crested newts (*Triturus cristatus*) are listed on Annexes II and IV of the EC Habitats Directive and Appendix II of the Bern Convention. It is protected under Schedule 2 of the Conservation (Natural Habitats) Regulations (2010) and Schedule 5 of the Wildlife & Countryside Act (1981).

4.1.2 The great crested newt baseline survey involved a pond screening assessment to determine the presence and suitability of ponds located within the study area using a Habitat Suitability Index.

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

4.2 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 essentially protects badgers from killing, injuring or disturbance. The main issue on proposed development sites tends to be the potential disturbance of badgers in their setts as a result of construction operations. Natural England recommends that the use of heavy machinery in proximity of a sett entrance should be avoided, with a 'disturbance free-zone' being established. The degree of disturbance attributed to construction activity is a function of the background level of activity badgers are accustomed to and that which will be attributed to a proposed activity. The "disturbance free zone" is therefore site specific.

4.2.2 The survey for badgers comprised an assessment of all suitable habitat within and outside the study area boundary (where this was possible) for indications of use by badgers.

4.2.3 Signs of badgers which were searched for included:

- Setts - 'D' shaped entrances at least 25cms wide and wider than they are high with large spoil mounds
- Discarded bedding at sett entrances (this includes grass and leaves)
- Scratching posts on shrubs and trees close to a sett entrance
- The presence of badger hairs which are coarse, up to 100mm long with a long black section and a white tip
- Dung pit latrines and footprints

- Habitual runs through vegetation and beneath fences
- Hedgehog carcases

4.3 Bats

4.3.1 All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act (1981), and are included on Schedule 2 of the Conservation (of Natural Habitats) Regulations (2010), as European Protected Species. Taken together, these pieces of legislation make it an offence to:

- Intentionally or recklessly kill, injure or capture bats;
- Deliberately or recklessly disturb bats (whether in a roost or not);
- Damage, destroy or obstruct access to bat roosts.

4.3.2 The Bat Conservation Trust (Hundt (2012)) 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 behavior 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 The survey area has small hedgerows within it and linear routes on its boundary. The main site however comprises an area which is open, exposed and structurally poor, it has a very low potential for use by bats.

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

4.4 Birds

4.4.1 All breeding birds, other than pest species, are protected under the Wildlife and Countryside Act of 1981 when building a nest, rearing young or sitting on eggs. Some bird species, such as barn owl (*Tyto alba*), are protected when near an active nest site. Several birds are listed as UK and or County BAP species.

4.4.2 The poor quality habitat suggested a low potential for breeding bird species of interest.

4.4.3 Bird species and behavior was noted during the other field surveys. All areas are covered equally, in order to avoid the subjective survey of better quality 'bird habitat'. All birds displaying breeding behavior were recorded.

4.5 Brown Hare

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

4.5.2 The survey method involved walking boundaries and surveying with binoculars. The survey was conducted at a suitable distance to ensure that the hares were not disturbed. Generally, surveys were undertaken throughout the early afternoon and evening when hares are thought to be most active and feeding.

4.5.3 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.

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 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 (2010).

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 Reptiles

4.8.1 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.

4.8.2 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.

4.8.3 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.

4.9 Water Vole

4.9.1 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.

4.9.2 There is a stream on the East boundary of the site, and the River Calder to the South. These watercourses were surveyed and assessed for evidence of the presence of water vole.

4.9.3 This involved intensive 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.

4.10 Survey limitations

4.10.1 Due to the habitats present on site there were no significant constraints in respect of identifying the botanical interest of the site. Bats were active at the time of the survey.

4.10.2 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.

4.10.3 Surveys at the site have been undertaken over a number of years and as survey results remain similar, it is considered the level of use of the site by species targeted for survey has been determined.

4.10.4 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 designated site is Calden Bank, Broken Brow Biological Heritage Site (BHS), c.300m to the East (Figure 3). There are several other BHSs within the 2km search area.

5.1.3 There are no statutory designated sites for nature conservation with 2km. Cock Wood Gorge Site of Special Scientific Interest (SSSI) lies c.1600m to the South-east (Figure 4). This is designated for its geological interest.

5.1.4 The distance of the development area from these statutory and non-statutory protected sites is such that there should be no direct or indirect impacts upon them.

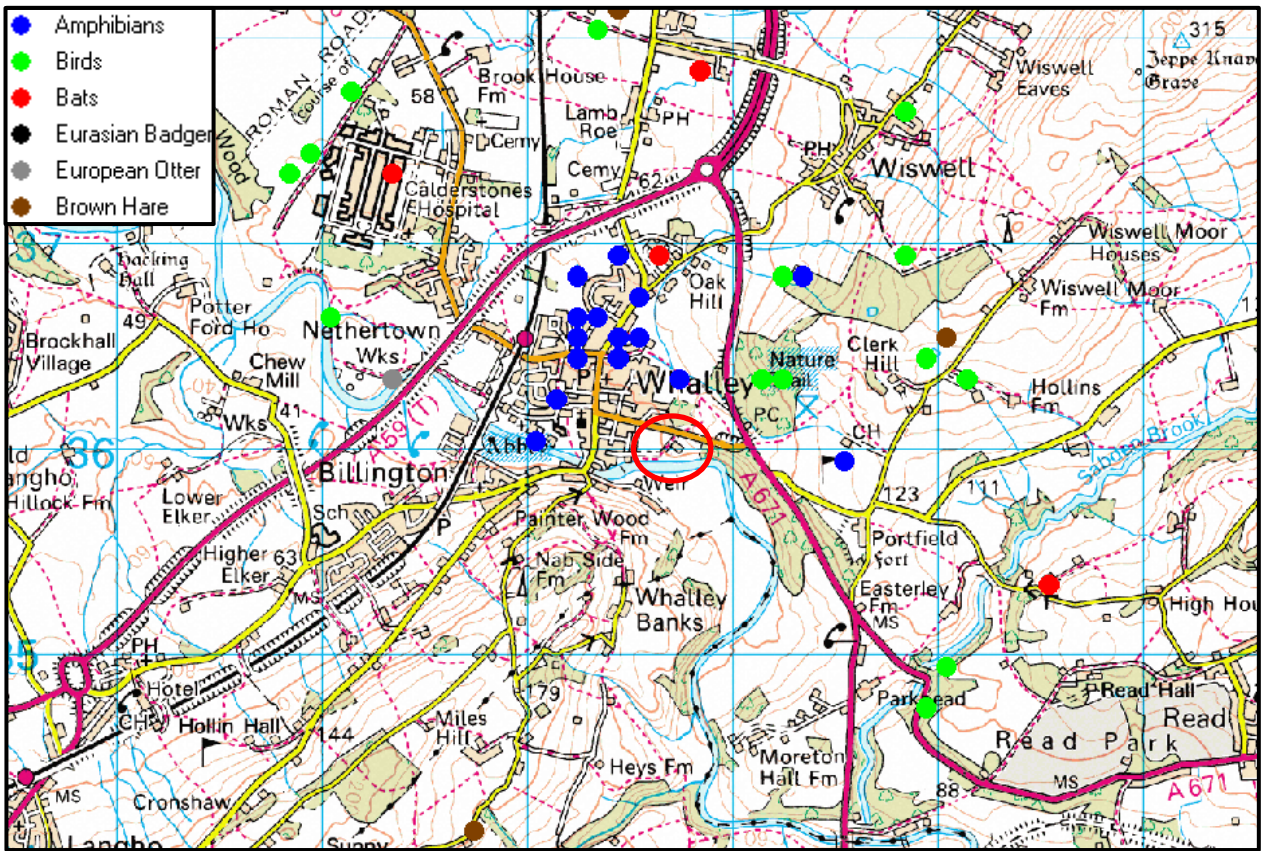

Figure 2 – *Notable species, site circled in red*

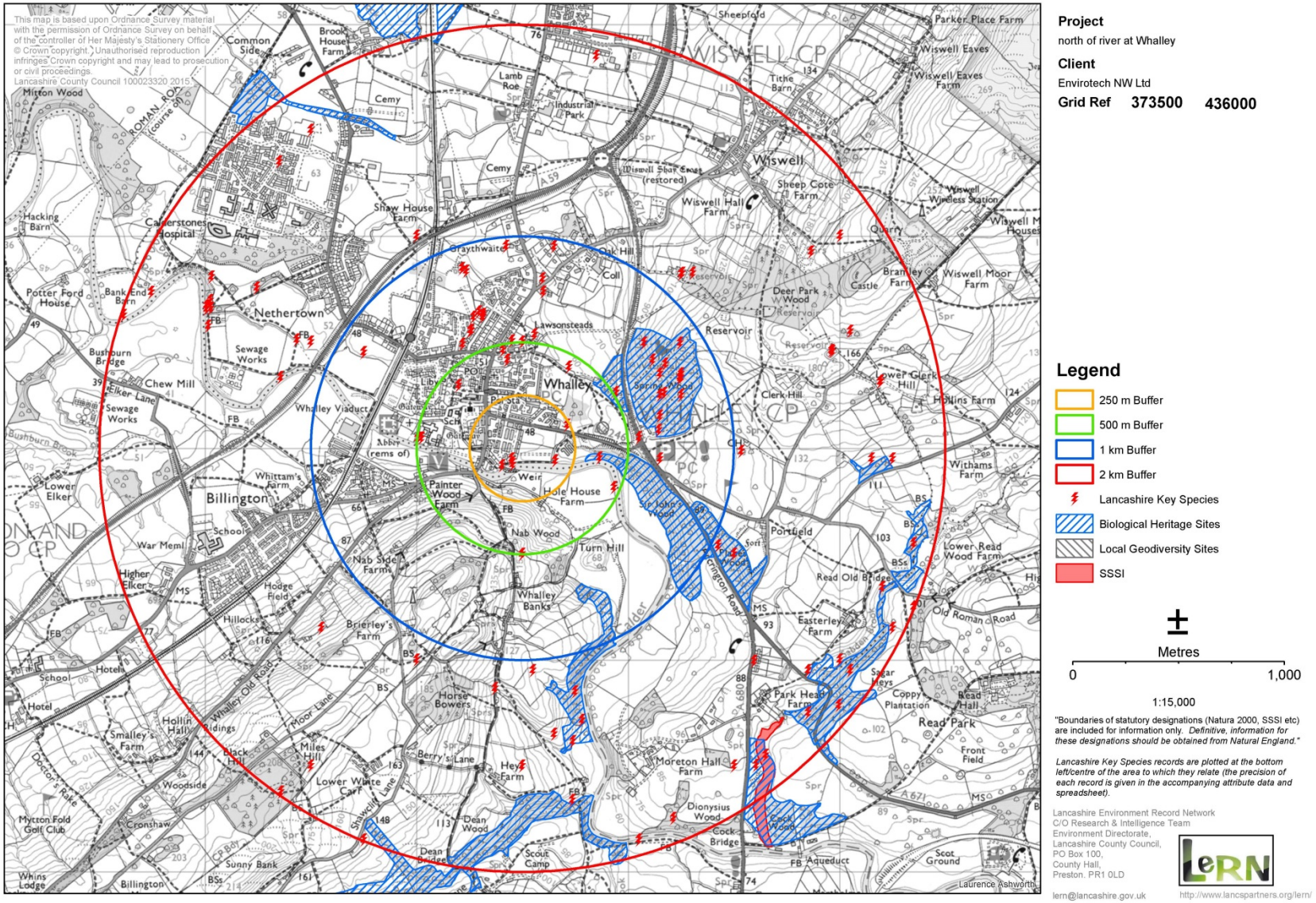

Figure 3 – *Non-statutory designated sites and Lancashire Key Species 2km buffer*

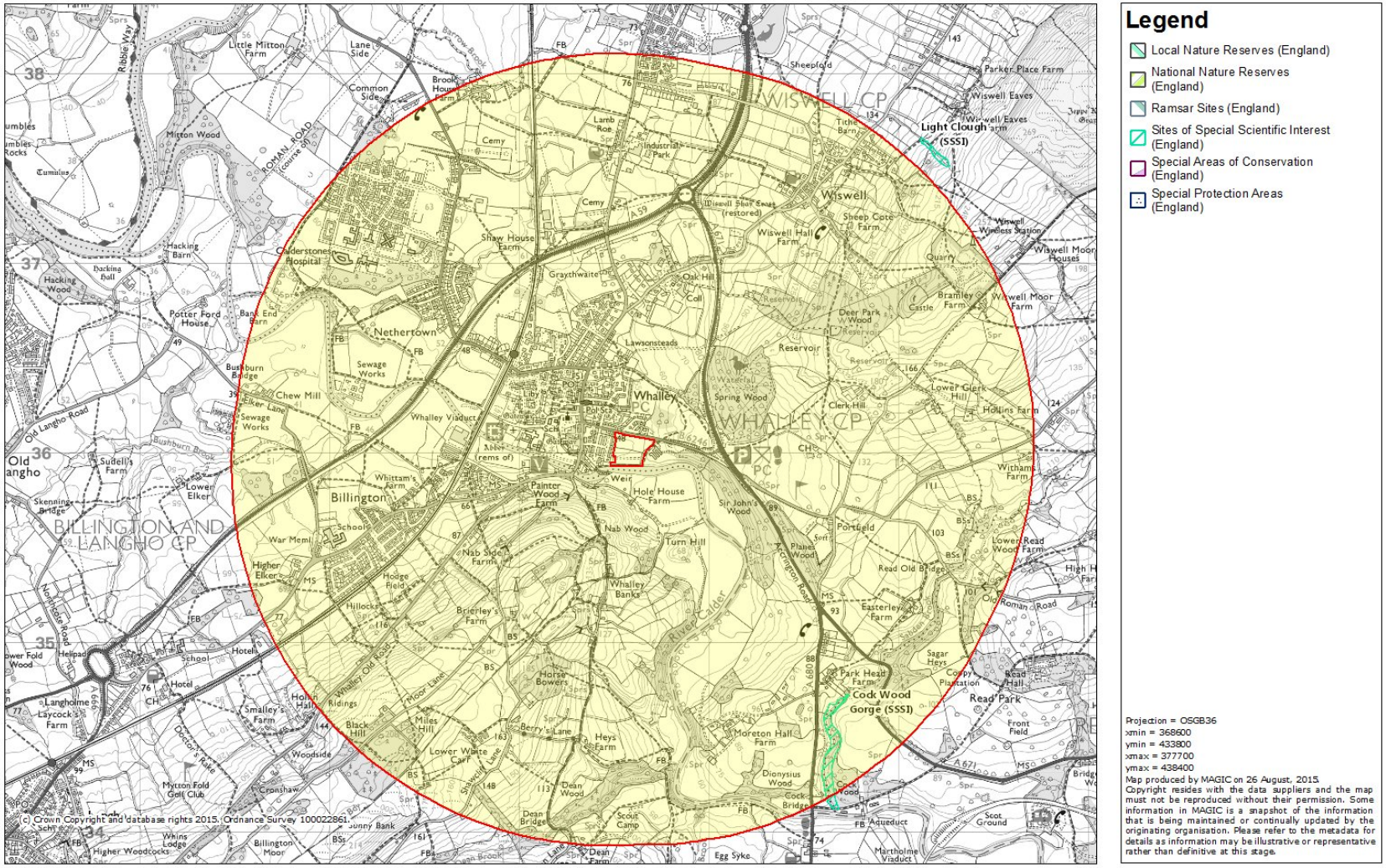

Figure 4 - *Statutory designated sites 2km buffer*

5.2 Vegetation

5.2.1 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.

5.2.2 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 agricultural enhancement and disturbance; this habitat does not constitute a BAP habitat.

5.2.3 The intact hedges bounding the site to the North and East are species poor and contain a low diversity of woody plant species but all hedgerows are a UK BAP habitat. They should be retained in any proposed scheme and where lengths need to be lost, they should be transplanted or new hedges planted as compensation.

5.2.4 The defunct species poor hedgerow in the centre of the site also has a low ecological value. It as no understory and has been significantly impacted by livestock grazing. Should this need to be lost, transplanting is unlikely to be of ecological benefit. New shrub/scrub planting would be suitable compensation for its loss.

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

5.2.6 There is extensive Himalayan balsam along the Eastern boundary and off-site to the South. This is an invasive or notable weed species listed on Schedule 9 (Section 14) of the Wildlife and Countryside Act (1981) (as amended) and will need to be cleared from the site and disposed of in line with industry standards.

5.2.7 There was no Japanese knotweed, giant hogweed or other notable/invasive weed species identified within the site or adjacent land.

5.3 Amphibian

5.3.1 There are 264 records for amphibians within 2km of the site. 74 of the records are for great crested newt, with the remainder comprising those for common frog (*Rana temporaria*), common toad (*Bufo bufo*), smoot newt (*Lissotriton vulgaris*) and palmate newt (*Lissotriton helveticus*).

5.3.2 There is no standing water on site or within 250m of its boundaries identifiable on OS mapping or aerial photography.

5.3.3 The rank grassland and hedges could be utilised as refuges and/or hibernacula but there are no breeding ponds in proximity to the site.

5.3.4 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.

5.3.5 Amphibians would be unlikely to access the site as it is bounded by significant barriers to their dispersal; the River Calder to the South, as major public highway to the North, dense urban mosaic to the West and an industrial premises to the East.

5.3.6 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.

5.4 Badger

5.4.1 Two records of badgers occur within 2km of the site.

5.4.2 Badger setts do no occur on site or within 30m of its boundaries, and there were no indications of badger feeding found on site.

5.4.3 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.

5.4.4 Precautionary mitigation is considered appropriate during construction. The landscaping scheme should also include species such as Apple or other fruit trees which would provide a food source in winter.

5.4.5 The design of fences/walls should be considerate to the passage of badgers.

5.5 Bats

5.5.1 There are six records of bat within 2km of the site. Some of the records do not provide species data, with only soprano pipistrelle (*Pipistrellus pygmaeus*) confirmed to be present locally.

5.5.2 Bats are likely to forage along the tree lines on the river bank and over the still water above the weir on the boundary of the development site. Daubenton's (*Myotis daubentonii*) in particular prefer still water with tree lined river banks. The core development area is not however considered to offer significant bat roosting or foraging potential. The loss of tall ruderals to the east during re-profiling will be replaced by emergent and damp ground species of equal foraging value.

5.5.3 More extensive areas of medium and high quality habitat occur locally, including the River Calder to the South and dense woodland to the East (Figure 5).

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

5.5.5 Trees around the site perimeter were also assessed in accordance with BCT (2012) and assigned a risk category. All of the trees on site were 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. Risk categories from BCT (2012) and the requirement for mitigation for each tree category are shown on Figure 6.

5.5.6 Along the banks of the River Calder to the South are several large ash trees which are of suitable size to offer potential bat roosting opportunities. These are not within the site and will not be impacted by the proposals.

5.5.7 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.

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

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Figure 5
Results* of
Bat Habitat Survey

SCALE: NTS | REV 01

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

Tree category and description	Stage 1 Initial survey requirements	Stage 2 Further measures to inform proposed mitigation	Stage 3 Likely mitigation
Known or confirmed roost	Follow SNCO guidance and these guidelines wherever possible, to establish the extent to which bats use the site. This is particularly important for roosts of high risk species and/or roosts of district or higher importance and above		The tree can be felled only under EPS licence following the installation of equivalent habitats as a replacement.
Category 1* Trees with multiple, highly suitable features capable of supporting larger roosts	Tree identified on a map and on the ground. Further assessment to provide a best expert judgement on the likely use of the roost, numbers and species of bat, by analysis of droppings or other field evidence. ***A consultant ecologist is required***	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[3] such as 'soft felling' to minimise the risk of harm to individual bats.
Category 1 Trees with definite bat potential, supporting fewer suitable features that category 1* trees or with potential for use by single bats	Tree identified on a map and on the ground. Further assessed to provide a best expert judgement on the potential use of suitable cavities, based on the habitat preferences of bats. ***A consultant ecologist required***	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. ***A consultant ecologist is unlikely to be required***	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. ***A consultant ecologist is not required unless new evidence is found***	None.	No mitigation for bats required.

Figure 6 - *Tree risk categories*

5.6 Birds

5.6.1 There are 143 records of birds within 2km of the site.

5.6.2 Potential nest sites were located on the site in the dense scrub to the East. The core development area offers a limited potential for nesting birds. A risk assessment of the site in respect of its future potential for and value to nesting birds could be adequately made.

5.6.3 There are habitats along the river bank which offer nesting potential for nesting birds but they would be subject to high levels of disturbance and predation from dogs.

5.6.4 The open grassland would also not offer optimal nesting sites for ground nesting birds. Trees around the edge of the site would provide hunting perches for raptors which would increase the risk of predation.

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

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

5.6.7 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. The impact on nesting birds is therefore considered likely to be minor.

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

5.7 Brown Hare

5.7.1 Brown hare are a UK BAP priority species. There are two records of brown hares within 2km of the site, both of which are from 2001.

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

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

5.7.4 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 very low.

5.8 Invertebrates

5.8.1 Notable invertebrates have been recorded within 2km of the site.

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

5.8.3 Given the poor quality habitats contained within the site in comparison to the wider area, it is not considered that this site is of any local significance for invertebrates.

5.8.4 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.

5.8.5 The significance of the site to invertebrates is likely to be limited in the local context although the habitat on site will support invertebrate species. Mitigation can be incorporated into the design and landscaping scheme with the careful selection of plant species and substrates for the garden areas.

5.9 Otter

5.9.1 There are two records of otters within 2km of the site from 2015.

5.9.2 No indication of the presence of otters was found along the river bank but the habitat here is suitable for the species and it may occur

5.9.3 Whilst the site may provide foraging and refuge opportunities, this species is considered as being absent from the site and is unlikely to be significantly impacted by site development.

5.9.4 There is little than can be done to reduce disturbance impacts from walkers as the river bank is a public footpath.

5.9.5 Precautionary mitigation would be appropriate in respect of construction activities which will need to be restricted at night.

5.10 Reptiles

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

5.10.2 No indication of reptiles was recorded at the site.

5.10.3 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.

5.10.4 Reptiles may occur along the River corridor to the South of the site and this provides linkage across the local landscape. It is however outside the site boundary and is unaffected by the proposal.

5.10.5 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.

5.11 Water vole

5.11.1 There are no records of water voles within 2km of the site from the last 40 years. One record from 1969 was returned during the data search.

5.11.2 There were no indications of this species found along the river bank but the habitat here is suitable for the species and it may occur. A ditch down the East side of the site is considered to have negligible potential for use by the species.

5.11.3 No habitat potentially used by the species will be detrimentally affected by the proposal. The river bank is not subject to significant alteration. The removal of soil from the East side of the site will lower the ground level to create a new flood plain which should result in the growth of vegetation which is palatable to this species. No significant negative impacts on the species are therefore predicted.

5.12 Other

5.12.1 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.

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

5.12.3 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.

5.13 Statutory and Non-Statutory Sites

Direct Impacts:

5.13.1 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.

5.13.2 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:

5.13.3 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.

6. MITIGATION/RECOMMENDATIONS

6.1 Compensatory planting and habitat enhancement

6.1.1 The site has been designed to maximise ecological enhancement through the following measures

1. **New hedges**- will be planted to the site boundary and edge of plots using native species. Hedges are a UK BAP habitat and important for species such as birds, hedgehogs and insects which use them for shelter as well as feeding. Hedges enhance connectivity across the site.

2. **Grassland-** Larger areas of grassland will be created within and to the edge of the site either by retention of the existing grassland or re-seeding. The introduction of new native grass and flowering species to the existing sward can therefore be achieved.

3. **Trees-** New standard tree planting within the site and to its boundaries will create new structural diversity both in the horizontal and vertical plane.

4. **Scrub/ shrub-** Native scrub/ shrub planting to the site boundaries will link with and soften the edge of the woodland creating a mosaic of habitats which transition from grassland to tall ruderal, shrubs and then trees. Such habitat transition is important for species such as Hedgehog.

4.1 Amphibians

4.1.1 There is no requirement for specific mitigation for these species. There are currently no suitable breeding sites on or near the site. However, as a precautionary measure, in the unlikely event that any signs of any amphibian activity is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

4.1.2 Consider the use of SUDS on site to provide new aquatic habitat during development. Such areas would be best placed in public open space where connectivity to the site boundaries and wider area is improved.

4.1.3 In order to further minimise impacts on amphibians the following points should also be followed.

- All work must take place during daylight hours as amphibians are more likely to be commuting over night and this will ensure the risk to any amphibians commuting through the site will be minimised.

- During the development, measures should be put in place to discourage amphibians from using the development area, the creation of any piles of earth, materials and rubble which could form potential artificial hibernacula and refuge should be avoided at all times. It is recommended that any spoil or rubble will be removed immediately to skips, or on hard standing or short grass. This will ensure that no potential amphibian hibernation or resting sites are created.

- The storage of all loose materials must be palletised or similar so they are off the ground whenever possible.

- Should any trenches and excavations be required, an escape route for animals that enter the trench must be provided, especially if left open overnight. Ramps should be no greater than of 45 degrees in angle. Ideally, any holes should be securely covered. This will ensure amphibians are not trapped during work.

- All excavations left open overnight or longer should be checked for animals prior to the continuation of works or infilling. Back filling should be completed immediately after any excavations, ideally back filling as an on-going process to the work in hand.

4.2 Badger

4.2.1 Badger setts are known to occur within 2km of the site. These setts will be undisturbed by work but in order to minimise impacts on badgers passing over the site the following points should also be followed.

- All work must take place during daylight hours as badgers are more likely to be commuting over the site at night and this will ensure the risk to any badgers passing through the site will be minimised.

- Should any trenches and excavations be required, an escape route for animals that enter the trench must be provided, especially if left open overnight. Ramps should be no greater than of 45 degrees in angle. Ideally, any holes should be securely covered. This will ensure badgers are not trapped during work.

- All excavations left open overnight or longer should be checked for animals prior to the continuation of works or infilling. Back filling should be completed immediately after any excavations, ideally back filling as an on-going process to the work in hand.

- Boundary fences/walls should incorporate gaps at their base to facilitate the passage of badgers across the site.

4.3 Bats

4.3.1 Work at night should be restricted, new planting within the site should enhance structural diversity and light spill onto the boundary should be minimised.

4.3.2 New roosting provision for crevice dwelling bats could be incorporated into the buildings on site or bat boxes could be erected in retained trees. The provision of bat boxes within building will provide ideal roosts for rarer bat species such as Daubenton's which feed over still water such as the river adjacent.

4.4 Birds

4.4.1 Nesting by birds within the development area is considered unlikely to occur. Birds may nest within hedges on the periphery of the site.

4.4.2 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.

4.4.3 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.

4.4.4 Artificial bird nesting sites for swallow could be incorporated into the new buildings under the eaves in suitable locations.

4.4.5 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.

4.5 Brown Hares

4.5.1 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.

4.5.2 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.

4.6 Invertebrates

4.6.1 Landscaping should include native or wildlife friendly species including night flowering plants.

4.6.2 Contaminants should not be allowed to enter the west ditch to the East or the River Calder 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.

4.7 Otter

4.7.1 There is no requirement for specific mitigation for this species. However, as a precautionary measure, in the unlikely event that any signs of any otter 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.

4.7.2 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.

4.7.3 The point in respect of new shrub and tree planting around the site is also likely to enhance the sites potential for future use of the site.

4.8 Reptiles

4.8.1 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.

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

4.9 Water vole

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

5. CONCLUSION

5.1.1 Ecological surveys, site appraisals and impact assessments were carried out with respect to land comprising open ground off Accrington Road, Whalley, Lancashire. It is proposed new houses will be constructed on the site.

5.1.2 Otters are known to occur along the River Calder. 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.

5.1.3 The vegetation to be cleared has a low ecological significance in the local area; the trees close to but outside the development area are generally of low quality.

5.1.4 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.

5.1.5 Contractors will be observant for protected species and all nesting birds. Should any species be found during construction, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

6. APPENDIX

Feature / Hedge	Length 20m +	Hedge is not bounding the curtilage of dwelling	Hedge established more than 30years	Hedge boundary of protected or common land or land used for agriculture or forestry	ARCHAEOLOGY AND HISTORY	Archaeological feature which is included in the schedule of monuments	Situated wholly or partly within an archaeological site	Boundary of a pre-1600 AD estate	Integral part of a field system	Protected species records	FEATURES	Bank or wall	Gaps less than 10%	Standard trees	Ditch	Parallel hedge	Footpath/ Bridleway	Connection points	Woody species	Average ground flora species	HEDGE CLASSIFIED AS IMPORTANT
BTN4	Yes	Yes	Yes	Yes		No*	No*	No*	No*	No		No	Yes	No	No	No	No	1	3	0	**No**
BTN5	Yes	Yes	Yes	Yes		No*	No*	No*	No*	No		No	Yes	No	No	No	No	1	3	0	**No**
	No = Automatic failure					Yes = Automatic pass						7 woody species or 6 woody species + 3 features or 5 woody species + 4 features or highway + 4 woody species and 2 features									

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