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Environmental and Rural Chartered Surveyors

Ecological Appraisal

Land at Pendle view, Mellor

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ACCURACY OF REPORT

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

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

If in doubt, stop work and seek further professional advice.

Quality and Environmental Assurance

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1. EXECUTIVE SUMMARY

1.1.1 Envirotech NW Ltd was commissioned in July 2019 by Gary Hoetry Associates to carry out an ecological appraisal of land off Primrose Lane, Mellor. It is proposed that between 8 and 12 small holiday lodges/pods are constructed on the land.

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 two ecologists from Envirotech NW Ltd on the 13th August 2019. A full botanical survey along with presence or absence surveys of notable species were undertaken at the site that 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. Domestic gardens and sympathetically landscaped open space is considered to offer habitat of equal or greater ecological value.

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

1.1.6 Himalayan balsam was noted as being present on site.

1.1.7 Birds are likely to utilise trees, hedgerows and the stables on site for nesting and foraging.

1.1.8 No other notable or protected species were recorded on the site.

2. INTRODUCTION

2.1 Background

2.1.1 In July 2019 Envirotech NW Ltd were commissioned by Gary Hoetry Associates to carry out an Ecological Appraisal of land off Primrose Lane, Mellor central grid reference SD 663 312 (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 between 8 and 12 pods/lodges.

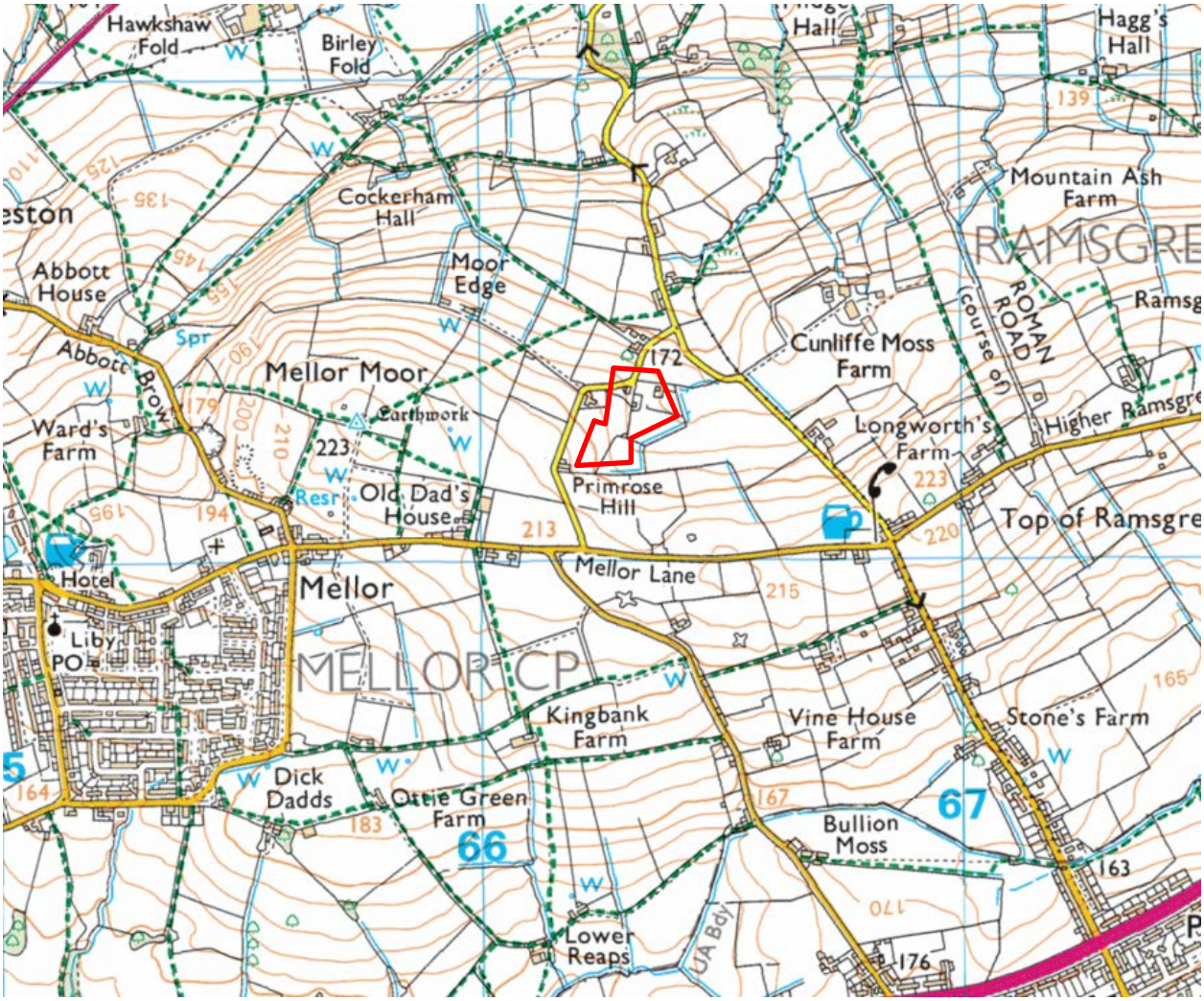

Figure 1 *Site location at SD 663 312* outlined in *red*.

2.2 Objectives

2.2.1 The main objectives of the study were:

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

3. METHODOLOGY AND SOURCES OF INFORMATION

3.1 Data Search

3.1.1 The Biological Records centre for Lancashire "LERN", the Envirotech dataset, and the Multi-Agency Geographic Information for the Countryside (MAGIC) were searched to establish the presence of any records of statutorily protected, notable or rare species, and any designated sites of international, national, regional or local importance within a 2km radius of the site boundary.

3.1.2 The Envirotech dataset is compiled from extensive field surveys from the period 2004-present, as well as records obtained from third parties during this time.

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

3.2 Vegetation and Habitats

3.2.1 A vegetation and habitat map was produced for the site and the immediate surrounding area. The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC 2003).

3.2.2 Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the Wildlife and Countryside Act (1981) and indicators of important and uncommon plant communities. All plant nomenclature follows Stace (1991).

3.2.3 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the Wildlife and Countryside Act (1981), namely Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*) on terrestrial habitat and aquatic species such as floating pennywort (*Hydrocotyle ranunculoides*), water hyacinth (*Eichhornia crassipes*) and New Zealand pygmyweed (*Crassula helmsii*).

3.3 Timing and Personnel

3.3.1 During the visit, weather conditions were suitable for the survey types undertaken being warm and dry in mid summer.

3.3.2 The site and surrounding land was visited on the 13th August 2019 by

- (FW) Miss Flora Whitehead BSc (Hons)
  Natural England Bat Class Licence Agent (Level 1)
  Natural England Great Crested Newt Licence Agent (Level 1)

- (AR) Ms Amy Riley

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, if any, based on their potential to support great crested newts, should be subject to presence/absence surveys.

4.1.5 A small pond occurs to the South of the site and could be fully accessed. The site was however considered sufficiently low risk for GCN that no further assessments were warranted.

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 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 (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).

4.3.6 As the stables and trees on site provide negligible potential an emergence survey was deemed not necessary. The house within the site is not being affected by the proposals and therefore is not subjected to an emergence survey.

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.

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 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 Survey limitations

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

4.9.2 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.

4.9.3 No significant survey limitations were encountered.

5. RESULTS

5.1 Data Search

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

5.1.2 The nearest non-statutory site is 710m to the North-east of the site being Wood House Farm Fields (Figure 3). This is isolated from the site by Saccary Lane and improved grasslands.

5.1.3 There are no statutory protected sites within 2km of the site (Figure 4). The nearest statutory site is the Darwen river section SSSI which is roughly 4.8 km from site.

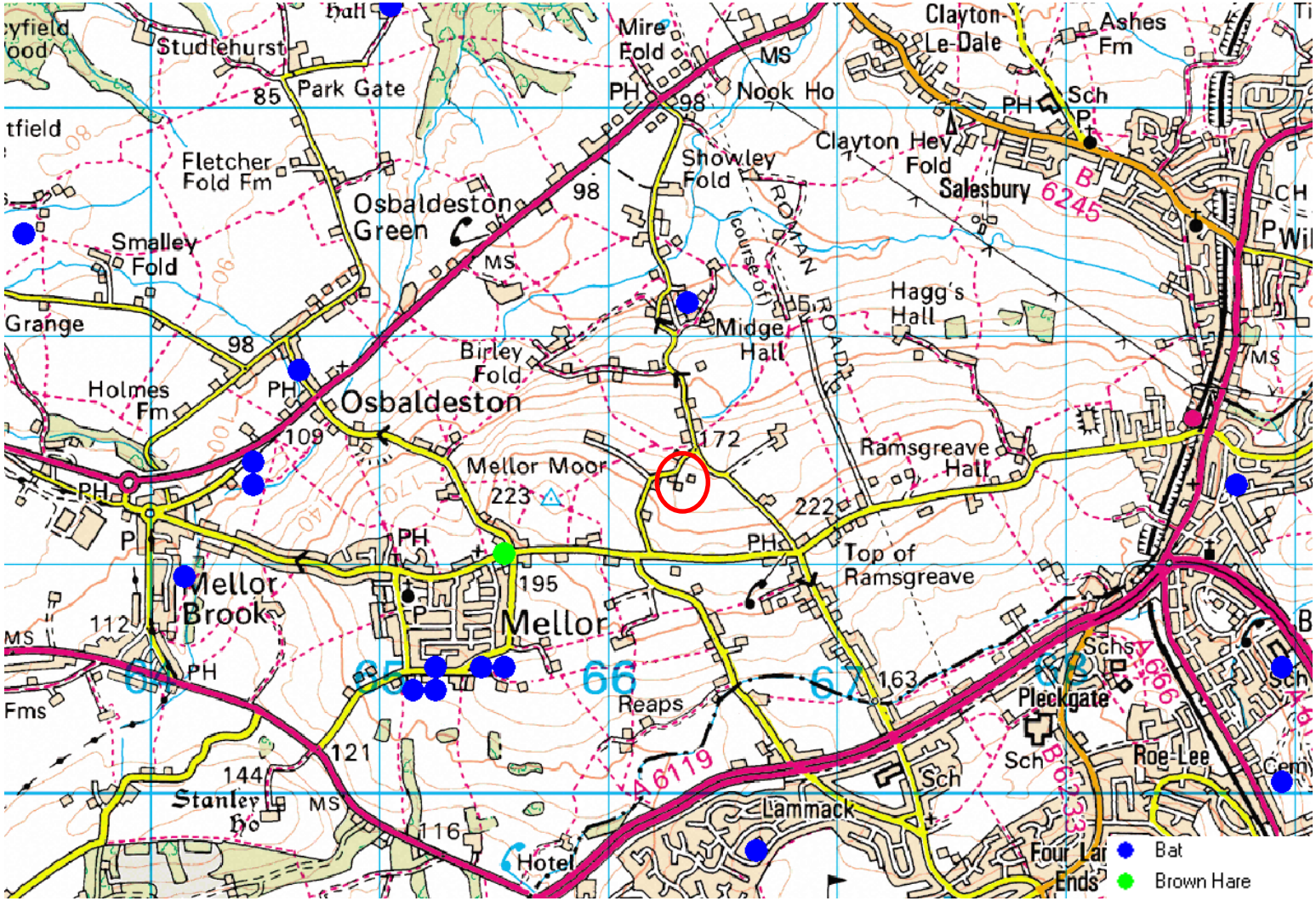

Figure 2 *Notable species records, site location is circled red.*

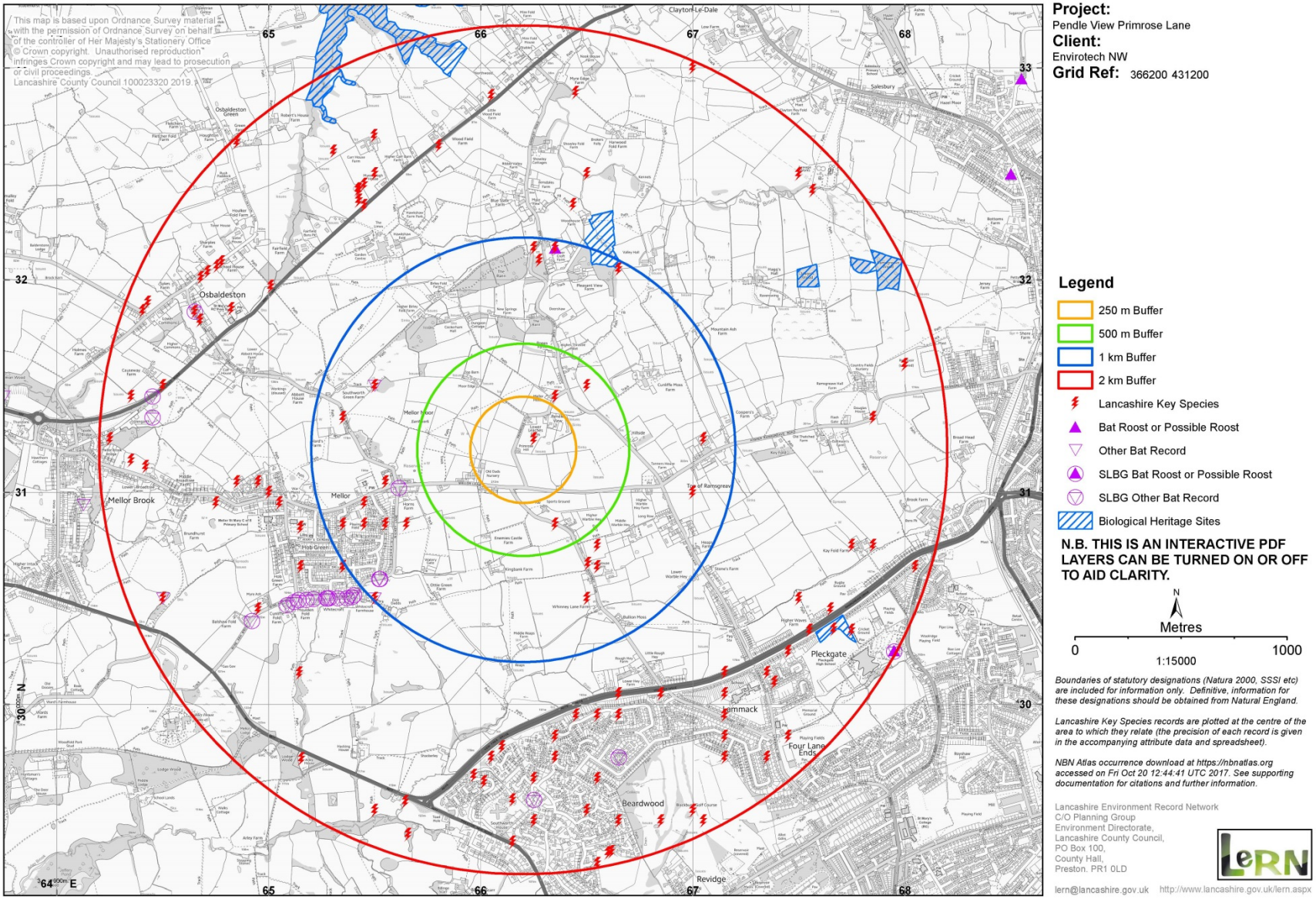

Figure 3 *Non-statutory sites 2km buffer*.

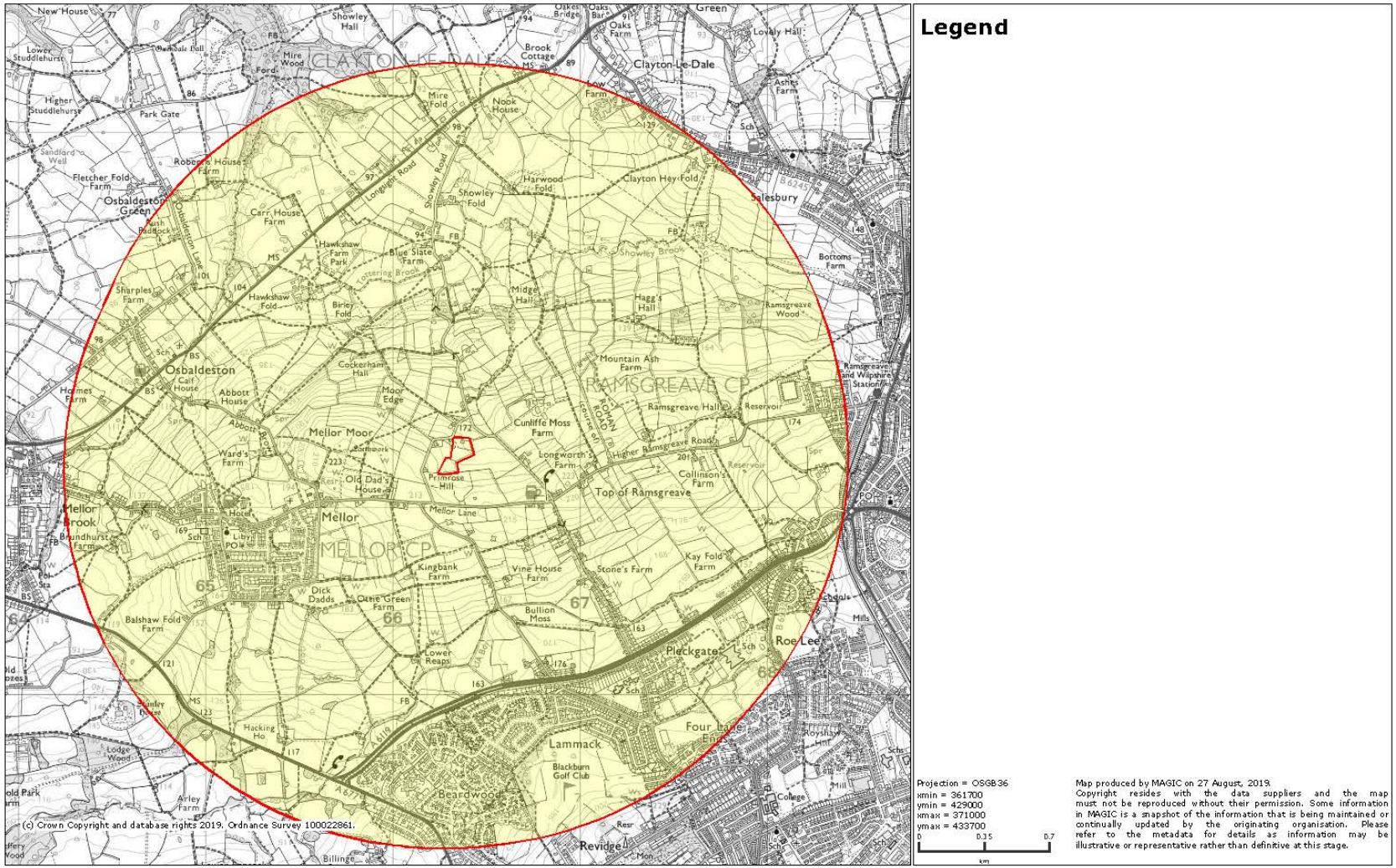

Figure 4 *Statutory designated sites 2km buffer.*

6. PHASE 1 SURVEY RESULTS

6.1 Habitat Results

6.1.1 The site comprises of grazed poor semi improved grassland, amenity grassland, areas of hard standing and buildings with fences and hedgerows on its boundary. There are residential properties to the North-west and is enclosed by improved grassland on the remaining boundaries.

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	Intact hedgerow, species poor	Dense well managed hedgerow consisting of Privet *(Ligustrum vulgare),* Sycamore (*Acer pseudoplatanus),* Beech *(Fagus sylvatica)* and oak sp. (*Quercus*)
BTN2	Intact hedgerow, species poor	Dense managed hedgerow consisting of Beech, Elder (*Sambucus nigra)*, Rose (Rosa *canina* or *arvenis)* and cherry (*Prunus avium*). Understory consists of Nettle *(Urtica dioica),* Meadow buttercup (*Ranunculas acris*), Yorkshire Fog *(Holcus lanatus)* with stands of Mombretia (*Crocosmia)* and Hydrangea (*Hydrangea macrophylla*).
BTN3	Intact hedgerow with trees, species poor	A beech dominated hedgerow with Blackthorn *(Prunus spinosa),* Copper beech (*Fagus sylvatica f.purpurea*) with semi-mature willow (*Salix)* and Silver birch (*Betula pendula).*
BTN4	Intact hedgerow with trees, species poor	A hedgerow surrounding amenity grassland, species comprise of Common laurel (*Prunus laurocerasus)*, Red dogwood (*Cornus sericea*), Beech, Birch, Willow, Alder *(Alnus glutinosa),* Conifer (*Pinophyta)*, Pine (*Pinus)* with Bindweed (*Convolvulus arvensis*).
BTN5	Defunct species poor hedgerow	A mature gappy hedgerow consisting of Elder, Ash (*Fraxinus excelsior*) and Hawthorn (*Crataegus monogyna*) with Bramble *(Rubus fruticosus agg),* Nettle *(Urtica dioica)* and Himalayan Balsam *(Impatiens glandulifer).*
BTN6	Defunct species poor hedgerow	Hedgerow along a running water ditch, species consist of Alder, Hawthorn, Rowan (*Sorbus aucuparia),* Elder, Silver birch with Himalayan Balsam, Bracken (*Pteridium aquilinum),* Soft Rush (*Juncus effusus),* Yorkshire fog and Buttercup.
BTN7	Standing water	A moderate sized pond with Duckweed (*Lemna minor)*, Water lily (*Nuphar lutea)*, Bulrush (*Typha latifolia*) and Soft rush vegetation.
BTN8	'Other' – Orchard	A small orchard with a low number of young Apple trees. The grassland surrounding the trees is mown.
BTN9	Amenity grassland	Mown grassland with little botanical interest.
BTN10	Poor semi-improved grassland	The dryer of the two poor semi-improved sheep grazed grasslands on site dominated by Yorkshire Fog, Perennial Ryegrass (*Lolium perenne),* False Oat grass (*Arrhenatherum elatius)* with Rosebay Willow herb *(Epilobium angustifolium), D*oc, Common thistle, Nettle, Plantain *(Plantago major),* creeping buttercup.
BTN11	Poor semi-improved grassland	The area on the plan outlined in blue (south of the site) is considerably wetter than BTN10, this area has the same plant assembly as above but soft rush and red fescue (*Festuca rubra*) is starting to dominate. Himalayan balsam is present on the margins of the grassland. The entrance gateway is heavily poached.

BTN12	Mixed woodland, species poor – plantation	Area of woodland excluded from livestock by fencing, woody species are Alder and Goat Willow *(Salix caprea),* understory consists of Nettle, Doc, Yorkshire Fog, Perennial Rye
BTN13	'Other habitat' – Horse ménage	Overgrown horse ménage with broadleaf plantain, pineapple weed and grasses.
BTN14	Scattered Trees	Scattered trees within the blue outline, these consist of young Ash and Alder.
BTN15	Himalayan balsam	Himalayan balsam scattered across most of the site, however it is more abundant along the ditch and to the south of the site.
BTN16	Tall ruderal	Small stands of dense nettle.
FTN1	Nesting birds in building	A low number of old swallow and wren nests were found within the stables. These buildings offer moderate potential for nesting birds
FTN2	Bats in building	No signs of use by bats could be found. The buildings offer a negligible potential for roosting bats.
FTN3	Foraging bats	The hedgerows on site offer the best potential for foraging and commuting bats.
FTN4	Amphibians	Although unlikely to provide potential for newts, due to the lack of nearby ponds the pond on site does provide potential breeding sites for common frog and common toad.

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

Figure 5- *Results of extended phase 1 habitat survey.*

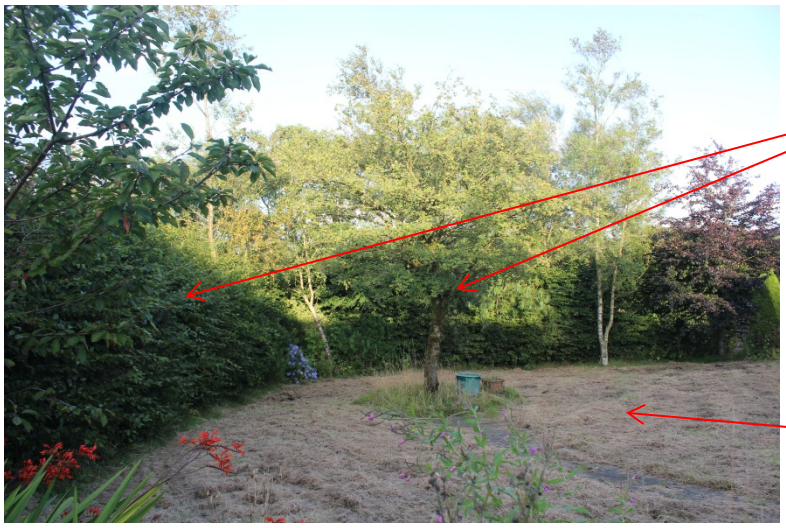	BTN2, BTN3 – Managed hedgerow with standing trees, offer nesting potential for birds and moderate quality for foraging and commuting bats. BTN9 – Mown amenity grassland
	Image taken looking East across areas of hard standing and horse ménage (BTN13)
	BTN6 – defunct hedgerow, along a ditch with running water.

	Image taken looking North-east towards BTN10
	Stables on site, offering negligible potential for roosting bats (FTN2)and moderate potential for nesting birds (FTN1)

	Enclosed planted woodland (BTN12), Himalayan balsam was present in this area.
	Image taken looking North towards horse ménage with stands off nettle (BTN16)
	Image taken looking South into proposed development site, this poor semi-improved grassland (BTN11) is considerably wetter than the poor semi-improved grassland to the north of the site (BTN10) Significant poaching from livestock around gateway

	BTN7, the standing water on site is heavily overgrown with bulrush, there is very little open water.
	Image taken looking North across proposed development site.

	BTN5 – defunct hedgerow species poor, Himalayan balsam (BTN15) is present along the ditch.
	BTN4, hedgerow enclosing residential garden. Mown amenity grassland (BTN9).

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 Defunct species poor hedgerows on the South and North-east boundary have a low ecological value. They have no understory and have been significantly impacted by livestock grazing. Should these need to be lost, transplanting them is unlikely to be of ecological benefit. New shrub/ scrub planting would be suitable compensation for their loss.

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

6.2.5 Trees within the site boundary comprise small Oak, Ash, Elder and Hawthorn trees within the defunct hedge lines.

6.2.6 Himalayan Balsam was present across much of the site especially along the ditch to the East of the site.

6.2.7 There is no evidence of Japanese knotweed or giant hogweed on the site. No other invasive or notable weed species listed on Schedule 9 (Section 14) of the Wildlife and Countryside Act (1981) (as amended) was identified within the site or adjacent land.

6.3 Amphibian

6.3.1 There are records for amphibians within 2km of the site. There are no records of great crested newt in the local area.

6.3.2 There is a moderate sized pond on site, full access was gained and a HSI score was compiled.

6.3.3 The HSI score of 0.69 is classified as being average for great crested newts. The pond is very heavily vegetated with both macrophytic cover and emergent vegetation, including bulrush, with very little open water. We judge that this would reduce the suitability of this pond to support great crested newts.

6.3.4 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.

6.3.5 The proposed development will not result in the permanent loss of or a substantial negative effect on any water bodies or foraging areas linked to them. Boundary areas which may provide foraging or refuge sites, are to be retained.

6.3.6 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 the mill pond for great crested newts. The HSI was developed as a tool to aid fieldworkers to give ponds and their surrounding habitat a numerical score in terms of their suitability for great crested newts. See Table 3.

Pond 1	**1**
Location	0.5
Pond area	0.5
Pond drying	0.9
Water quality	0.67
Shade	1
Fowl	1
Fish	1
Ponds	0.1
Terrestrial habitat	0.67
Macrophytes	0.6
HSI	*0.69*

Table 3 *Results of Habitat Suitability Index*.

6.3.7 Common toad (*Bufo bufo*) are UK BAP species, whilst these are not known to occur in the mill pond, the potential presence of this or other species, which are less prone to fish predation than great crested newt, should be considered. As such precautionary mitigation would be appropriate in respect of construction activities.

6.4 Badger

6.4.1 There are no records of badgers within the local area.

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.

6.5 Bats

6.5.1 There are 62 records of two species of bat within 2km of the site.

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

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

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

6.5.5 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 2 (low) or 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 Hundt (2012) and the requirement for mitigation for each tree category are shown on Figure 7.

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

Figure 6- *Suitable bat foraging habitat*

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

6.7 Birds

6.7.1 There are 211 records of birds within 2km of the site.

6.7.2 The intact hedgerows surrounding the gardens of the site offer potential habitat for feeding and nesting birds. The poor semi-improved grassland across the site 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 these areas.

6.7.3 The gappy defunct hedges within the site have insufficient density to be of high value to nesting birds.

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

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

6.7.6 Precautionary mitigation is considered appropriate. The landscaping scheme should include species such as rowan (*Sorbus aucuparia*) which are seed bearing and will provide food for birds in the winter.

6.7.7 The site was visited towards the end of the bird breeding season, potential nesting sites were located. A risk assessment of the site in respect of its future potential for and value to nesting birds could however be adequately made.

6.7.8 There are old nest sites for Swallow (*Hirundo rustica*) and small passerines such as Wren (*Troglodytes troglodytes*) within the stables on site. Access is being taken via open doors.

6.7.9 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.

6.8 Brown Hare

6.8.1 Brown hare are a UK BAP priority species. There are two records of brown hares within 2km of the site.

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

6.8.3 A risk assessment of the site in respect of its future potential for and value to brown hares could be adequately made. We consider the risk to brown hares is very low.

6.9 Invertebrates

6.9.1 Invertebrates have been recorded within 2km of the site.

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

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

6.9.4 The domestic garden within the red line boundary will not be affected by the proposed development. It is likely that this area will provide the greatest potential for invertebrates on site.

6.9.5 Trees on the site boundaries contain comparatively little rotten wood in their canopies.

6.9.6 The pond has a good assemblage of commonly occurring aquatic plant species present aquatic invertebrates are likely to be present.

6.9.7 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. The pond should be retained and may be improved.

6.9.8 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.

6.10 Reptiles

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

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

6.10.3 No specific mitigation for these species is considered necessary.

6.11 Other

6.11.1 The boundary hedgerows are species poor and provide little potential for use by hedgehog (*Erinaceus europaeus*). Fragmentation of habitat locally and existing land use do not provide optimal conditions for the free passage of this species across the site and slugs and snails are likely to occur only at very low numbers.

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

6.11.3 The boundary hedgerows may provide suitable habitat for small mammals such as field vole (*Microtus agrestis*) but these areas are small and the sites value to small mammals is limited.

6.12 Statutory and Non-Statutory Sites

Direct Impacts:

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

6.12.2 The habitats on site do not represent or are linked to those found in any of the statutory or non-statutory sites locally.

Indirect Impacts:

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

7. MITIGATION/RECOMMENDATIONS

7.1 Compensatory planting and habitat enhancement

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

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

7.1.3 Hedgerows around the site should be retained or improved where possible. Any lengths of intact hedgerow to be removed to facilitate development should be transplanted and or replanted in order that there is no net negative impact on this BAP habitat due to development. The roots of hedgerow plants/trees should be adequately protected during development from compaction/ground disturbance.

7.1.4 If the defunct species poor hedges are removed, transplantation of them is not considered to be of significant ecological benefit as there are no notable species assemblages associated with them, replanting of linear lines of trees/ shrubs would be more beneficial.

7.2 Amphibians

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

7.2.2 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 to minimise any possible 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 The stables on site currently provide negligible potential to bats.

7.4.4 Overall it is considered there is more than sufficient scope for mitigation and compensation at the site such that there will be no adverse impact on the favourable conservation status of bats affected by the proposal.

7.5 Birds

7.5.1 Nesting by birds within the stables is likely to occur. Birds may nest within hedges on the periphery of the site.

7.5.2 Any vegetation to be trimmed or cleared and the stables prior to demolition should be checked for nesting birds before it is removed. Ideally this should occur outside the bird nesting period March- September. If vegetation clearance or stable demolition 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 the ditches or pond on site. To prevent this, spill kits should be provided on site. Re-fuelling of all plant and machinery should be undertaken away from open drains and water courses. Drip trays should be used under static machinery.

7.8 Reptiles

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

7.8.2 The enclosed woodland to the North-east of the site should be retained as this is close to open areas of ground which is suitable for basking.

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

Figure 8 *Proposed site Plan.*

8. CONCLUSION

8.1.1 Ecological surveys, site appraisals and impact assessments were carried out with respect to land comprising open ground at Pendle view, Mellor. It is proposed new holiday lodges/pods will be constructed within the blue line boundary.

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

8.1.3 A low number of old Swallow and Wren nests were found within the stables.

8.1.4 The vegetation to be cleared has a low ecological significance in the local area; the trees within the red line and blue line boundary should be retained.

8.1.5 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.

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

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10. APPENDIX

Key

Site Boundary

N

envirotech

Hedgerow Regulation Assessment

SCALE: 1cm = 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

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

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