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Ecological Consultants
Environmental and Rural Chartered Surveyors

Ecological Appraisal

Lamb Roe Gardens, 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.

Quality and Environmental Assurance

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Contents

1. EXECUTIVE SUMMARY

1.1.1 Envirotech NW Ltd were commissioned to carry out an ecological appraisal of land at Lamb Roe Gardens, Whalley. It is proposed that new care home, residential and commercial units are constructed on the site.

1.1.2 A data search and desk study of the site and an area within 2km of the site were undertaken to establish the presence of protected species and notable habitats.

1.1.3 The site was then visited by two licenced ecologists from Envirotech NW Ltd on the 1st November 2016. Additional visits were made on the 25th September and 3rd October 2018. A full botanical survey of the site was initially undertaken and this was followed by surveys to establish the presence or absence of bats, amphibians, nesting birds, brown hares, badgers and reptiles at the site or in proximity such that they may be affected by the proposed development.

1.1.4 The plant species assemblages recorded at the site are all common in the local area and of considered of low ecological value. 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 or within the site were considered important under the Hedgerow Regulations (1997).

1.1.6 Birds are likely to utilise hedgerows on site for nesting between March and September. Any vegetation clearance should therefore be undertaken outside of this period.

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

2. INTRODUCTION

2.1 Background

2.1.1 Envirotech NW Ltd were commissioned to carry out an Ecological Appraisal of land at Lamb Roe Gardens, central grid reference SD 735 374 (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 new care home, residential and commercial units.

Figure 1 *Site location at SD 733 374 circled red*.

2.2 Objectives

2.2.1 The main objectives of the study were:

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

3. METHODOLOGY AND SOURCES OF INFORMATION

3.1 Data Search

3.1.1 The Envirotech dataset, 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 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 The site and surrounding land was visited on the 1st November 2016, 25th September and 3rd October 2018.

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

- (AG) Mr Andrew Gardner BSc (Hons), MSc, MCIEEM, MRICS, CEnv
  Natural England Bat Class Licence (Level 2)
  Natural England Barn Owl Licence
  Natural England Great Crested Newt Licence (Level 1)

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

Accredited Agent on Natural England Bat Class Licence (Level 2)

- (JS) Mr Jack Sykes BSc (Hons), MCIEEM
  Natural England Bat Class Licence (Level 2)
  Natural England Great Crested Newt Licence (Level 2)

4. SPECIES SURVEY METHODOLOGY

4.1 Amphibian

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

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

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

4.2 Badger

4.2.1 Badgers (*Meles meles*) and their setts are protected under the Protection of Badgers Act (1992). This legislation arises from animal welfare issues (rather than on the basis of nature conservation grounds) and protects badgers from being killed, injured or disturbed whilst occupying a sett. The main issue on proposed development sites tends to be the potential disturbance of badgers in their setts as a result of construction operations. Natural England recommends that the use of heavy machinery in proximity of a sett entrance should be avoided, with a 'disturbance free-zone' being established. The degree of disturbance attributed to construction activity is a function of the background level of activity badgers are accustomed to and that which will be attributed to a proposed activity. The "disturbance free zone" is therefore site specific.

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

4.2.3 Signs of badgers which were searched for included:

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

black section and a white tip

- Dung pit latrines and footprints
- Habitual runs through vegetation and beneath fences
- Hedgehog carcases

4.3 Bats

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

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

4.3.2 The Bat Conservation Trust (Hundt (2012)) and Collins, J. (ed) (2016) issued guidelines on bat survey methodology, a key feature of their recommendation is for the undertaking of a pre-survey assessment – an initial desk-study and a walkover assessment of the survey area and its surrounding area to identify the relative value of the habitats present for bats and likely commuting routes. This is to be followed by a survey program that is appropriate to the likely level of bat activity within the survey area to be determined by and based on the experience of the surveyor.

4.3.3 The potential value of the survey area for foraging bats was assessed through consideration of two main factors: professional knowledge of bat ecology and foraging behaviour in combination with the geographical location, topography and habitats present within the survey area and surrounds. This resulted in the production of a map showing habitat quality both on and adjacent to the site.

4.3.4 A transect survey was undertaken on two occasions by two surveyors using hand held EM3 bat detectors. Two Anabat detectors were deployed on what were considered to be potential bat foraging/ commuting routes.

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 and adjacent the site and an assessment of their potential to be used by bats to be made.

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

4.4 Birds

4.4.1 All breeding birds, other than pest species, are protected under the Wildlife and Countryside Act of 1981 when building a nest, rearing young or sitting on eggs. Some

bird species, such as barn owl (*Tyto alba*), are protected when near an active nest site. Several birds are listed as UK and or County BAP species.

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

4.5 Brown Hare

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

4.5.2 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 There present the number of brown hares in each field or hedgerow was recorded, together with the nature and use of the field, climatic conditions and time of day. The presence of forms and faeces where present were also recorded.

4.6 Invertebrates

4.6.1 A general assessment was made of the study area's suitability for supporting invertebrates during the phase 1 survey. The study area's lack of habitat diversity, species-poor composition and uniformity of vegetation structure (i.e., lack of variation in height and microtopography) resulted in our belief that a low diversity of invertebrates would be likely to occur across the site.

4.6.2 The presence of invertebrates was noted during the other surveys which were undertaken. The extent of sampling was limited in that it could be confirmed that no priority or BAP species would be likely to be affected by the proposal.

4.7 Reptiles

4.7.1 All native reptiles are protected in Britain under the Wildlife and Countryside Act of 1981. It is an offence to intentionally kill, injure, sell or advertise to sell any of the six native species.

4.7.2 The survey for these species was based on assessing the habitat type and suitability of the site. This comprised an assessment of satellite imagery for the site and surrounding area as well as comparison of the results from the records searches with habitat types. The general habitat at the site was evaluated in terms of its suitability to reptiles for foraging or breeding.

4.7.3 Reptile surveys comprising visual encounter surveys were undertaken. Habitat at the site was not considered sufficiently suitable for a full presence/ absence survey to be warranted.

4.8 Survey limitations

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

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

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

4.8.4 No significant survey limitations were encountered.

5. RESULTS

5.1 Data Search

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

5.1.2 The nearest non-statutory site is C.630m to the East and is isolated from the site by a railway line (Figure 3).

5.1.3 The nearest statutory protected site is Light Clough Site of Special Scientific Interest (SSSI) c.1.3km to the East of the site (Figure 4). This is isolated from the site by the A59.

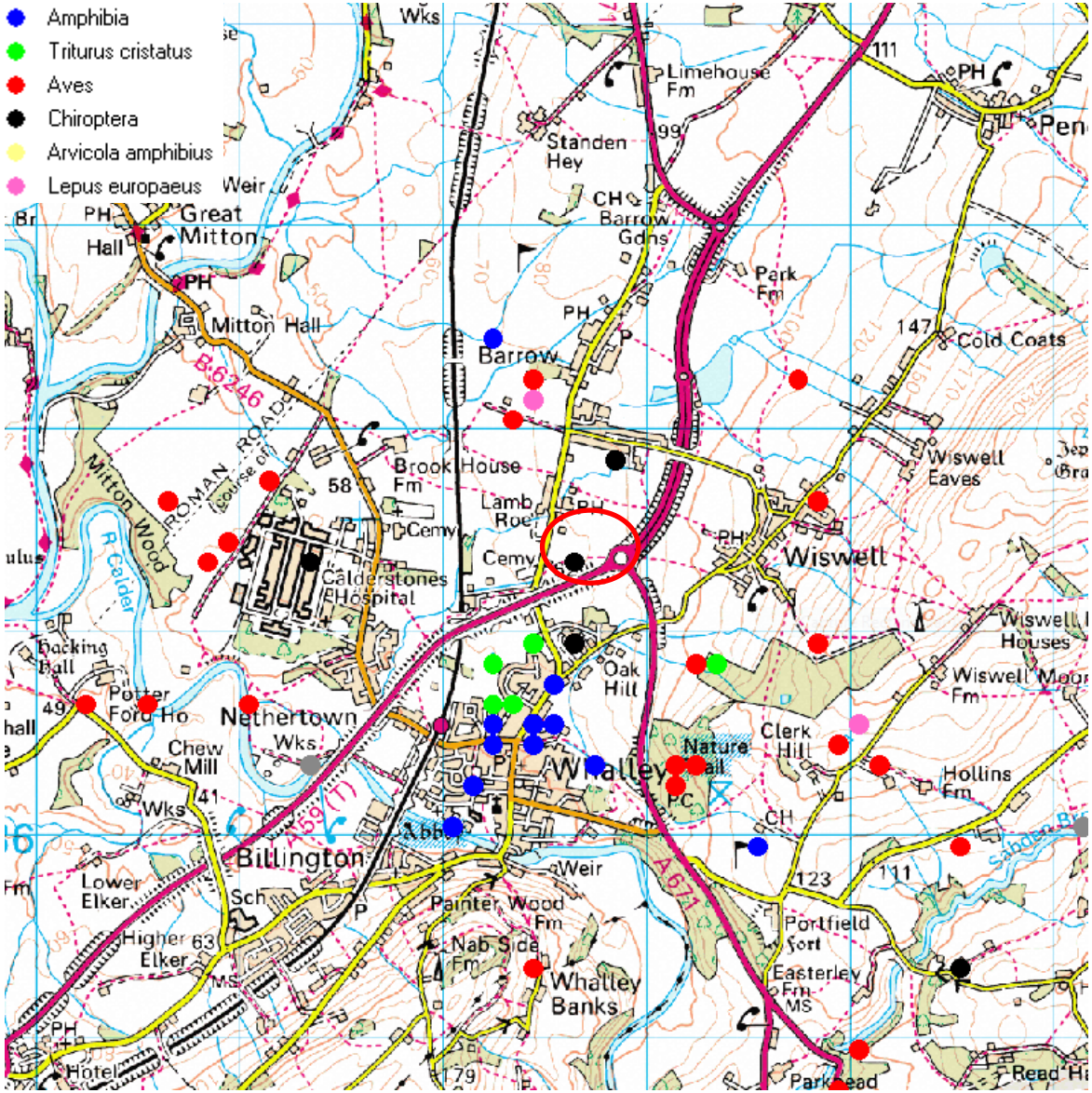

Figure 2 *Notable species records, site location is circled red.*

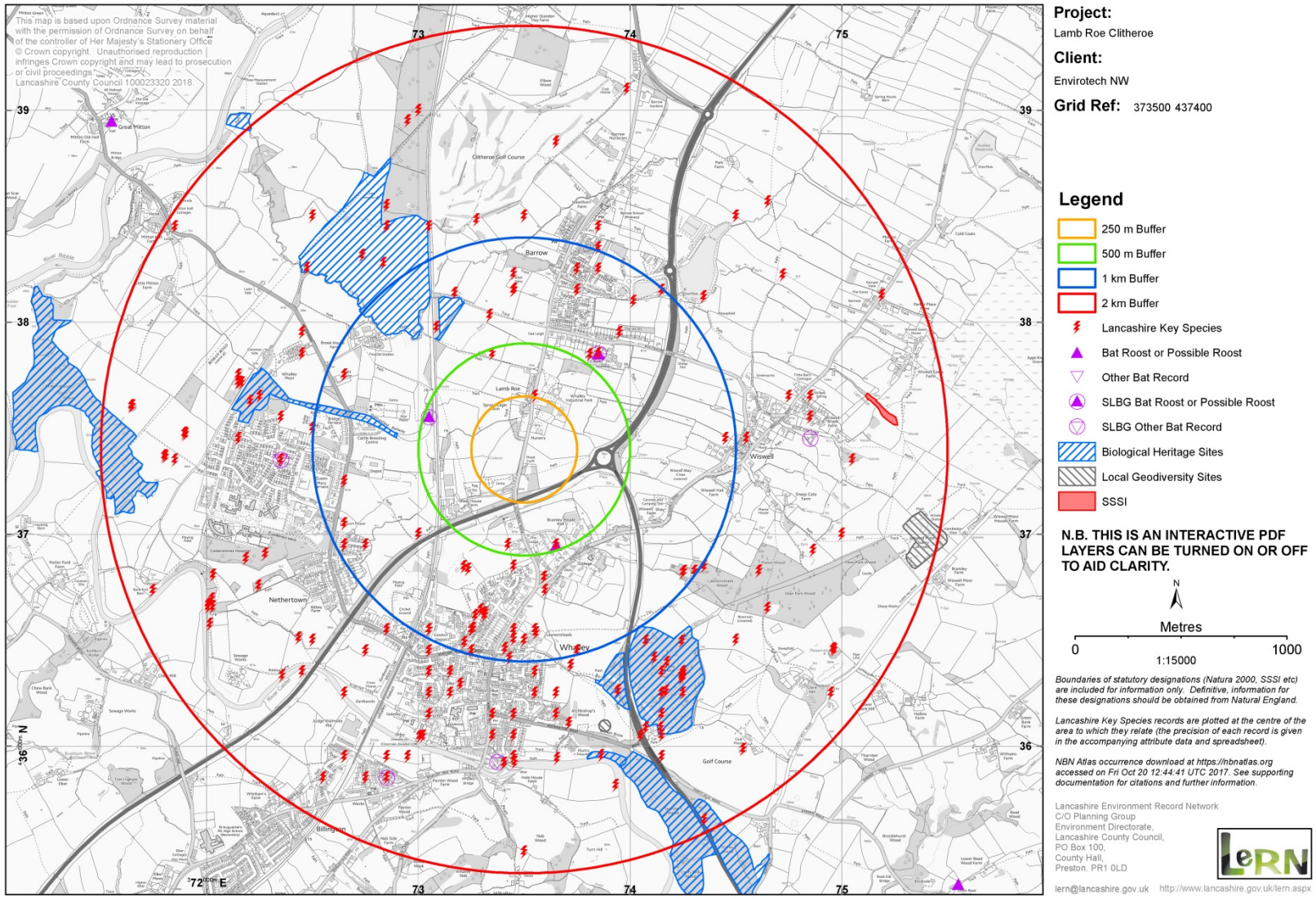

Figure 3 *Non-statutory and Statutory protected sites*

6. PHASE 1 SURVEY RESULTS

6.1 Habitat Results

6.1.1 The site comprises poor semi-improved and marshy grassland intersected by a species and structurally poor hedgerow. Clitheroe road runs to the West of the site residential houses and gardens extend to the North and South and poor semi-improved grassland continues to the East on the other side of the A59.

6.1.2 See Figure 4 for the Phase 1 Habitat Plan and Table 1 for the descriptive Botanical Target Notes, hereafter referred to as BTN.

Target Note	Description	Comment
BTN1	Poor semi-improved grassland	The northern field is covered by poor semi-improved grassland. Species present within the sward were Yorkshire fog (*Holcus lanatus*), perennial ryegrass (*Lolium perenne*), cocksfoot (*Dactylus glomerata*), Crested Dog's-Tail *(Cynosurus cristatus)*, Soft Rush (*Juncus effusus)*, Creeping thistle *(Cirsium arvense),* creeping buttercup (*Ranunculus repens*), Common Nettle *(Urtica dioica),* Silverweed *(Potentilla anserina)*, Timothy-grass *(Phleum pratense),* and Broad-leaved dock (*Rumex obtusifolius)*. The field has been sheep grazed and as such the sward is short.
BTN2	Marshy Grassland	Whilst not "marshy" in respect of the field being wet, the field is dominated by Sharp-Flowered Rush (*Juncus acutiflorus)*. Other species are as per BTN1 but at low density due to being outcompeted by the rush.
BTN3	Intact hedge – species poor (Hedgerow 1)	A hedgerow intersects the site and although it is not defunct it has a poor structure and gaps are occasional. Woody species present within the hedge are hawthorn (*Crataegus monogyna*), Sycamore (*Acer pseudoplatanus),* Elderberry *(Sambucus nigra),* dog rose (*Rosa canina*) and ash (*Fraxinus excelsior*). Reed canary grass *(Phalaris arundinacea*) occurs at the base of the hedge but there are no notable species listed under the hedgerow regulation assessment present. The base of the hedge is open and grazed by sheep.
BTN4	Intact hedge – species poor (Hedgerow 2)	A hedgerow runs down the North-east side of the site boundary. The woody species present within the hedge is hawthorn (*Crataegus monogyna*). There are no notable species listed under the hedgerow regulation assessment present. The base of the hedge is open and grazed by sheep.
BTN5	Intact hedge – species poor (Hedgerow 3)	The site is bound the West by an intact hawthorn hedge. This hedge is regularly cut and its central section is missing to facilitate access to the field. There are no other notable species present in the hedge.
BTN6	Scattered trees	A single ash tree occurs within the centre of the Northern field site 6a. This is a mature specimen. A second occurs along the hedge line in the middle of the site, this appears to also be mature 6b. Smaller Ash occur within or near the hedge line 6b. The trees within the site showed no visible potential bat roost sites. A mature ash occurs on the Northern site boundary 6d.
BTN7	Scattered trees	Young beech and hawthorn to the roadside embankment appear to have been planted for screening the roundabout.

BTN8	Scattered scrub	A line of Blackthorn *(Prunus spinosa)* against the boundary fence.

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

Key

- Site Boundary
- Botanical Target Note
- SI — Poor semi-improved grassland
- Marsh/marshy grassland
- Intact hedge - species-poor
- Fence
- Broadleaved Parkland/ scattered trees

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Figure 4

Results* of Extended Phase 1 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

The northern field is covered by poor semi-improved grassland.

Occasional standard trees occur in the hedge lines and centre of the field (BTN1)

 	Marshy grassland to the southern field is dominated by Sharp-Flowered Rush (*Juncus acutiflorus)* (BTN2)
	A species poor hedge with negligible ground flora cuts through the centre of the site (BTN3)

	A species poor hedge the North of the site (BTN4)
 	A large mature ash lies in the centre of the site (BTN6a) A mature ash occurs in the central hedgerow (BTN6c)

	Young beech and hawthorn on the roadside verge (BTN7)
	Blackthorn to the site boundary (BTN8)
Table 2 *Photographs*	

6.2 Vegetation

6.2.1 Details of the plant species found on site are included in the target notes. Species recorded are all commonly occurring and undoubtedly occur elsewhere in similar habitats in the local area.

6.2.2 The poor semi-improved and marshy 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, these habitats do not constitute a BAP habitat.

6.2.3 The intact hedges bounding and intersecting the site are species poor and contain a low diversity of woody plant species. The bases of the hedgerows have all been grazed by sheep. Despite being poor all hedgerows are a UK BAP habitat. They should be

retained in any proposed scheme and where lengths need to be lost, they should be transplanted or new hedges planted as compensation.

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

6.2.5 Mature Ash trees occur within the hedgerow and centre of the northern field. These trees have elevated ecological value being large and native. These trees should be retained in any proposed scheme and or where they are removed new tree planting should be undertaken. Cut wood from felled trees should be stacked on the site boundaries where it can decay naturally and provide habitat for invertebrates.

6.2.6 There is no evidence of Japanese knotweed, giant hogweed or Himalayan balsam 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 146 records for amphibians within 2km of the site. Species recorded are common frog (*Rana temporaria*), common toad (*Bufo bufo*), smooth newt (*Lisotriton vulgaris*), palmate newt (*Lisotriton helveticus*) and great crested newt (*Triturus cristatus*).

6.3.2 All the records of great crested newts occur to the South of the site and are isolated from it by the A59. It is considered that the heightened vehicular use of the A59 is sufficient that it would act as a significant barrier to the dispersal of this species.

6.3.3 Terrestrial refuge searches were undertaken around the site but 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. No evidence of use of the site by amphibians was found.

6.3.4 The core development area has a low value to amphibians being open and exposed. The boundary hedgerows could be utilised as refuges and/or hibernacula but there are no breeding ponds in proximity to the site.

6.3.5 The proposed development will not result in the permanent loss of or a substantial negative effect on any pond or foraging areas linked to it.

6.3.6 Amphibians would be unlikely to attempt to cross the site as it comprises an area that is mostly open with uniform length grass. Whilst not a physical barrier to the dispersal of amphibians, the site is regarded as being a potentially hostile environment to them.

6.3.7 As such precautionary mitigation would be appropriate in respect of construction activities.

6.4 Badger

6.4.1 One record of badgers occurs within 2km of the site on the dataset searched.

6.4.2 Badger setts do no occur on site and a lack of feeding signs or runs suggests that they do not occur within 30m of site boundaries.

6.4.3 The proposed development will not impact on any existing badger runs or setts. The porosity of the surrounding fields to the passage of badgers will not be affected.

6.4.4 Precautionary mitigation is considered appropriate during construction.

6.5 Bats

6.5.1 There are three records of two species of bat within 2km of the site. Species recorded are Soprano pipistrelle (*P.pygmaeus*) and Pipsitrelle Sp.

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 quality habitat occur locally, including the gardens, woodland and existing residential dwellings adjacent. There is no high quality bat foraging habitat in proximity to the site. (Figure 5).

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 Trees within and adjacent to the site perimeter were assessed in accordance with Collins ed. (2016) and assigned a risk category. The emergence surveys for bats covered the higher risk trees and no emergence was noted. All trees within and on the site boundary are category 2 or 3. The requirement for mitigation for each tree category are shown on Figure 6.

6.5.6 Two activity surveys were undertaken on the site by two surveyors. One survey was undertaken on the 25th September 2018, one survey was undertaken on the 3rd October 2018. On both nights there was no wind, no rain and 100% cloud cover. Temperatures were 12 and 14 degrees Celsius.

6.5.7 Surveyors walked a route covering all site boundaries and the central hedgerow from 10mins before sunset until 1.5hrs after sunset when bat activity could no longer be seen.

6.5.8 A maximum of two Common Pipistrelle *(Pipistrellus pipistrellus)* were recorded flying into the site from the West over the road. These bats fed up and down the central hedgerow before flying over the A59 to the South. The same activity was recorded on both surveys, Figure 8.

6.5.9 It as noted that the road to the East is lit by street lights and the A59 by car headlights. Despite this illumination bats appeared to pass freely over these areas, Table 3.

	Road to the West which is lit by streetlights and over which bats freely flew
Table3 *Road*	

6.5.10 Two anabat detectors were deployed on the site between the 25th September and 3rd October 2018. The location of these is shown on Figure 8. Results are shown on Table 4. Call analysis was undertaken using KALEIDOSCOPE 4.0.1, Bats of Europe 3.1.3 S/A:+1.

6.5.11 Over the entire recording period Anabat 1 recorded five passes by Noctule. Anabat 2 recorded seven passes by Noctule, five by common pipistrelle and one by Brown Long-eared. The level of bat activity is considered to be low but reflects the findings of the transect and habitat surveys.

6.5.12 We consider bat species are highly unlikely to rely on the site for feeding or roosting but may occur in the local area.

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

Key

- Site Boundary
- High Quality Habitat
- Medium Quality Habitat
- Low Quality Habitat

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Figure 5
Results* of Extended
Bat Habitat Survey

SCALE: NTS | REV 01

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

Key

Site Boundary

Tree Risk

N

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Figure 6

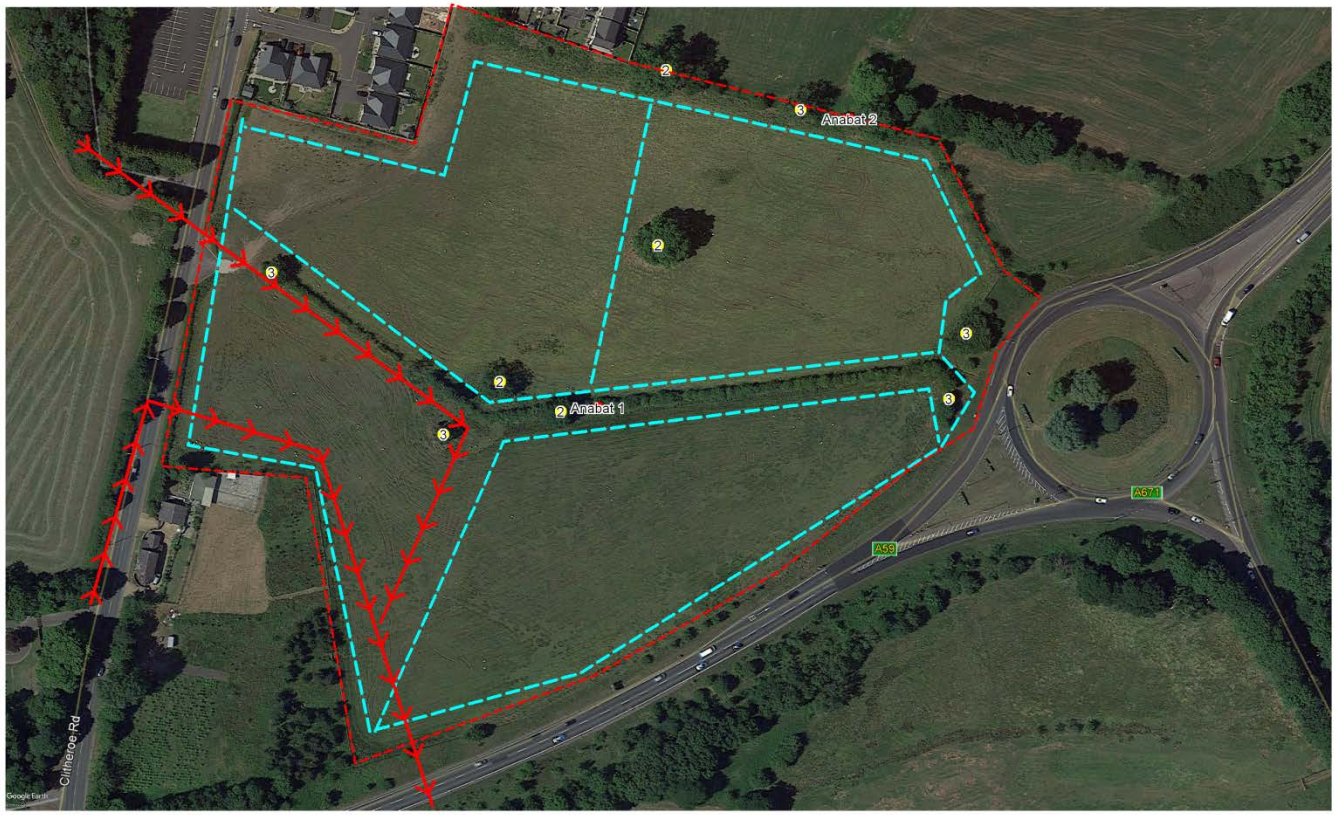
Results of
Bat and Tree Survey

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



Key

Site Boundary

Common Pipistrelle

Transect route

N

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Figure 8

Results of
Bat Activity survey

SCALE: NTS

REV 01

KALEIDOSCOPE 4.0.1								
Bats of Europe 3.1.3 S/A:+1		NYNO				NYNO	PIPI	PLAUR
Anabat 1	**Total**	**5**	**Anabat 2**		**Total**	**7**	**5**	**1**
20180925	*	1		20180925	*			
	20180925				20180925			
	20180926	1			20180926			
20180926	*	2		20180926	*	3		
	20180926				20180926	1		
	20180927	2			20180927	2		
20180927	*	1		20180927	*		3	1
	20180927	1			20180927		3	1
	20180928				20180928			
20180928	*			20180928	*		1	
	20180928				20180928		1	
	20180929				20180929			
20180929	*			20180929	*			
	20180929				20180929			
	20180930				20180930			
20180930	*			20180930	*	1		
	20180930				20180930			
	20181001				20181001	1		
20181001	*			20181001	*			
	20181001				20181001			
	20181002				20181002			
20181002	*	1		20181002	*	3	1	
	20181002				20181002		1	
	20181003	1			20181003	3		
20181003	*			20181003	*			
	20181003				20181003			

Table 4- *Anabat results*

6.6 Birds

6.6.1 There are 231 records of birds within 2km of the site.

6.6.2 The intact hedgerows within and bounding the site offer potential habitat for feeding and nesting birds. The poor semi-improved grassland has a low potential for use by nesting birds as the grassland is grazed and as such is usually short. Trampling risks are also very high within this area of the site. The marshy grassland has the potential to be used by species such as Skylark *(Alauda arvensis)* but the size of the field is not optimal for this species.

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

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

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

6.7 Brown Hare

6.7.1 Brown hare are a UK BAP priority species. There are six records of brown hares within 2km of the site on the dataset searched.

6.7.2 No indication of brown hares was recorded on the site. The marshy grassland would be suitable for them to create forms.

6.7.3 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.

6.8 Invertebrates

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

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

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

6.8.4 Impacts on the species are considered likely to be negligible, post development domestic gardens will create greater habitat diversity in the area than already exists.

6.9 Reptiles

6.9.1 There are no records for reptiles within 2km of the site on the dataset searched.

6.9.2 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.

6.9.3 No indication of reptiles was recorded at the site.

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

6.10 Statutory and Non-Statutory Sites

<u>Direct Impacts:</u>

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

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

Indirect Impacts:

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

7. MITIGATION/RECOMMENDATIONS

7.1 Compensatory planting and habitat enhancement

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

7.1.2 The landscaping scheme should utilise plants which are native and wildlife friendly. In particular night flowering species would be beneficial to bats. Wildflower seed could be used to plant verges to enhance the ecological value of the site and continuity between the site and the wider area.

7.1.3 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 retained hedgerow plants/trees should be adequately protected during development from compaction/ground disturbance.

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 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.

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

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

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

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

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

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

7.3 Badger

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

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

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

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

7.4 Bats

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

7.4.2 New roosting provision for crevice dwelling bats could be incorporated into the buildings on site or bat boxes could be erected in retained trees.

7.4.3 Any category 2 trees to be felled should be re-inspected for bats to confirm they remain absent.

7.4.4 Linkage across the site should be maintained with a green corridor.

7.5 Birds

7.5.1 Nesting by birds within the core development area is considered unlikely to occur. Birds may nest within hedges on the periphery of the site or within the marshy grassland.

7.5.2 Any vegetation to be trimmed or cleared should be checked for nesting birds before it is removed. Ideally this should occur outside the bird nesting period March-September. If vegetation clearance is to occur in the March-September period a check for nesting birds should be conducted first by a suitably qualified individual.

7.5.3 New planting within the site and the retention of trees and shrubs on the site boundary will maintain the ecological functionality of the site for breeding birds.

7.5.4 If nesting birds are found at the site all site works shall cease and further ecological advice shall be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

7.6 Brown Hares

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

7.6.2 The points in respect of not working at night and leaving open trenches with means of escape detailed for badgers are also applicable to this species.

7.7 Invertebrates

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

7.8 Reptiles

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

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

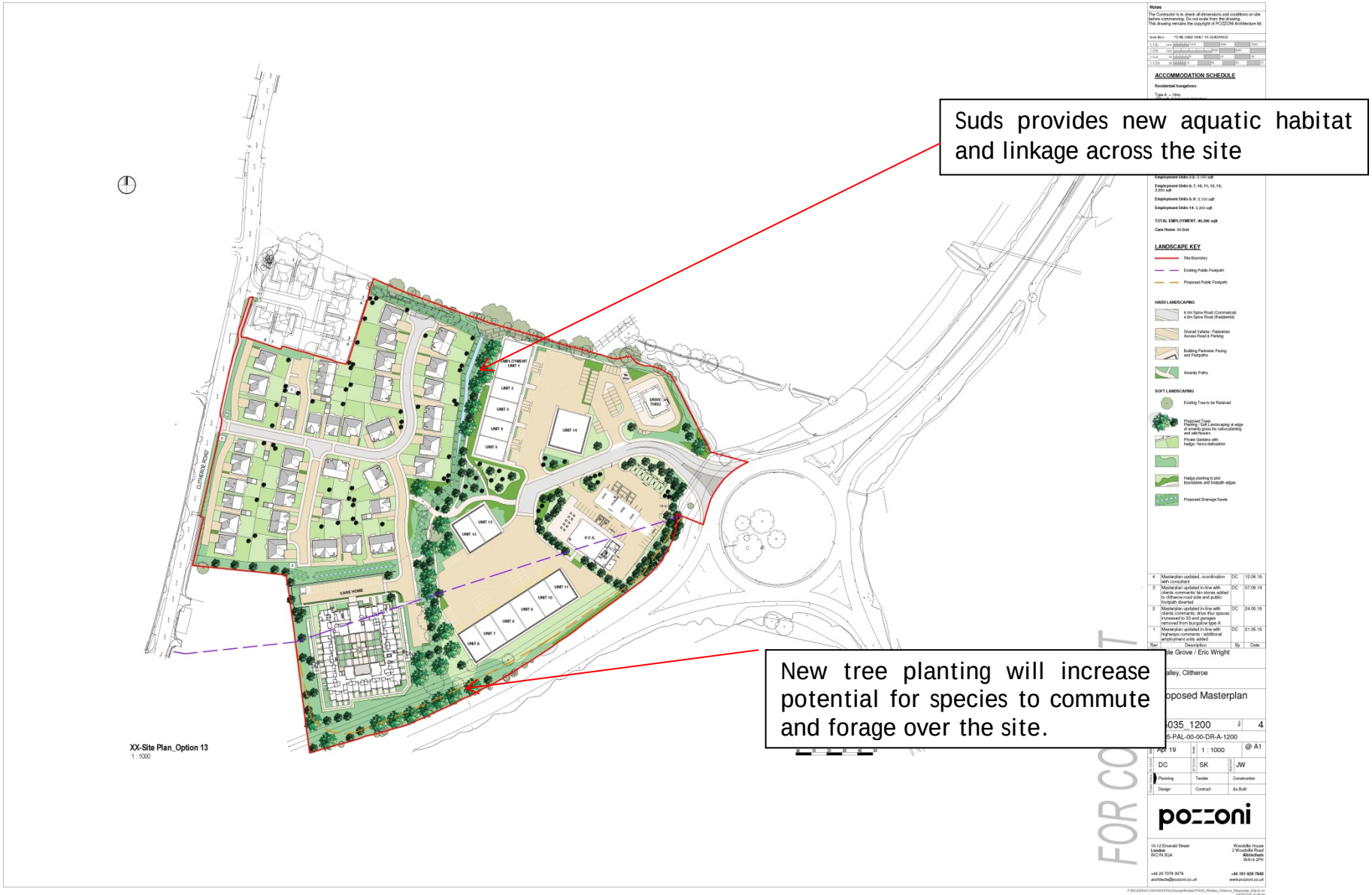

Figure 9 *Proposed site Plan.*

8. CONCLUSION

8.1.1 Ecological surveys, site appraisals and impact assessments were carried out with respect to land comprising open poor semi-improved and marshy grassland at Lamb Roe Gardens off Clitheroe Road, Whalley. It is proposed new care home, residential and commercial units will be constructed on the site.

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

8.1.3 The vegetation to be cleared has a low ecological significance in the local area. The protection of trees, landscaping and improvement of existing hedgerows will promote structural diversity in both the canopy and at ground level and will encourage a wider variety of wildlife to use the site than already occurs.

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

8 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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9 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
1	Yes	Yes	Yes	Yes		No*	No*	No*	No*	No		No	Yes	No	No	No	No	0	2	0	**No**
2	Yes	Yes	Yes	Yes		No*	No*	No*	No*	No		No	Yes	No	No	No	No	0	1	0	**No**
3	Yes	Yes	Yes	Yes		No*	No*	No*	No*	No		No	Yes	No	No	No	No	0	1	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.