Whitcher Wildlife Ltd.
Ecological Consultants.

LILEY HALL FARM, LILEY LANE, GRANGE MOOR.

OS REF: SE 2059 1729.

PRELIMINARY ECOLOGICAL APPRAISAL.

Ref No: **230833.**

Date: **11th August 2023.**

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1. INTRODUCTION.

1.1. An application is being considered by Wood Associates for the potential development of an existing farm which includes five existing agricultural buildings. No plans have been drawn up at the time this survey was carried out.

1.2. Whitcher Wildlife Ltd has been commissioned to carry out a Preliminary Ecological Appraisal of the site to establish whether there are any issues that may affect the proposed works.

1.3. That survey was carried out on 11th August 2023. This report outlines the findings of all surveys and makes appropriate recommendations.

1.4. Appendix I to V of this report provides additional information on specific species and are designed to assist the reader in understanding the contents of this report.

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2. SURVEY METHODOLOGY.

2.1. Prior to visiting the site, the survey area was cross referenced to maps and aerial photographs to give a general idea of the habitats and potential issues within the area and to identify potential access and walking routes.

2.2. The survey area was walked where access was agreed and public rights of way were used where no access was agreed. All habitats within and immediately around the survey area were documented and the dominant species within that habitat listed in line with the UK Habitat Classification methodology to identify the primary habitat types throughout the survey area. All primary habitats are accompanied by secondary codes which are used to add further specific details where necessary. Each primary habitat and unique set off secondary codes will be shown individually in the appended annotated map.

2.3. The survey area and immediate surrounding area was thoroughly searched for evidence of badger (*Meles meles*) activity by looking for the following signs in line with Harris S, Cresswell P and Jefferies D (1989). *Surveying Badgers*. Mammal Society: -

* Badger setts.
* Badger latrines or dung pits.
* Badger snuffle holes and evidence of foraging.
* Badger paths.
* Badger prints in areas of soft mud.
* Badger hairs caught on fencing.

2.4. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 100m in each direction were thoroughly searched for evidence of water vole (*Arvicola amphibius*) activity by looking for the following signs, in line with Dean M, Strachen R, Gow D and Andres R (2016). *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series).* Eds Fiona Mathews and Paul Chanin. The mammal Society, London: -

* Water vole burrows.
* Water vole faeces and latrines.
* Water vole feeding stations.
* Water vole runs.
* Water vole prints in areas of soft mud.
* Water vole lawns.
* Predator field signs.

2.5. The survey area was searched for watercourses and where found all watercourses within the survey area and for approximately 50m in each direction were thoroughly searched for evidence of otter (*Lutra lutra*) activity by looking for the following signs in line with the P Chanin (2003). *Monitoring the Otter* and *Conserving Natura 2000 Rivers: Monitoring Series No10 Guidelines: -*

* Otter prints in soft mud.
* Otter spraints.
* Otter Holts.

2.6. The survey area was searched for watercourses and waterbodies. Where found, and where safe to enter the water, all were thoroughly searched for the presence of crayfish, for approximately 50m in each direction of the site, by searching under rocks and logs. Where stated, crayfish traps were also deployed into the watercourse. All survey work was carried out in accordance with the *Conserving Natural 2000 Rivers Monitoring Series No 1, Protocol for Monitoring the White Clawed Crayfish*.

2.7. The survey area was searched for trees and structures and where found these were checked for potential bat roosting sites in line with Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition)* by looking for the following signs: -

* Holes, cracks or crevices.
* Bat Droppings.

2.7.1. All survey work was carried out in line with Collins, J. (ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition),* with an assessment of the buildings suitability for roosting bats made in accordance with these guidelines.

2.7.2. The land immediately adjacent to the survey area was assessed for bat roosting potential and bat foraging potential. Connective routes and flight lines were also assessed whilst on site and using maps of the area.

2.8. The area within 500m of the survey site was cross referenced to maps to highlight all ponds close to the site. Where possible, all ponds identified were accessed using agreed access or public rights of way to assess the potential for great crested newts (*Triturus cristatus*) to be present.

2.9. The survey area was assessed for the potential for reptiles and suitable reptile habitats. Where applicable the area was also searched for the presence of reptiles.

2.10. Where appropriate, the habitat within and surrounding the survey area was searched for species such as hazel, oak, honeysuckle, bramble and other species which may provide potential habitat for hazel dormice (*Muscardinus avellanarius*). Field signs such as feeding remains and nests were also searched for where possible, in line with P Bright, P Morris and T Mitchell-Jones *the Dormouse Conservation Handbook 2nd Edition*.

2.11. Where appropriate, the area within and surrounding the survey area was assessed for its potential to house habitat for red squirrels. Field signs of red squirrels were searched for at least every 50m, looking for any dreys, feeding signs or sightings of red squirrels.

2.12. All surveys were carried out in line with the Chartered Institute of Ecological and Environmental Management (CIEEM) survey standards and advice.

2.13. This document is prepared in line with The National Planning Policy Framework (NPPF). This sets out the government policy on biodiversity and nature conservation and places a duty on Planning Authorities to give material consideration to the effect of a development on legally protected species when considering planning applications. The NPPF and the Planning Practice Guidance on "Natural Environment" also promote sustainable development by ensuring that developments take account of the role and value of biodiversity and that it is conserved and enhanced within the development.

2.14. This report is prepared in line with the Natural Environment and Rural Communities (NERC) Act that came into force on 1st Oct 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England.

2.15. This survey was carried out by Jess Mason MSc ACIEEM FRGS. Since 2018 Jess has had experience in a professional capacity as an Ecologist carrying out protected species and habitat surveys. Jess holds a Natural England level 2 survey licence in respect of bats, and a Scottish Natural Heritage survey licence in respect of barn owls. She has also successfully completed a number of courses run by FSC in the relative protected species and carrying out site assessments using vegetation and has completed a MSc in Biological Recording. Jess is an Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM).

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3. SURVEY RESULTS.

3.1. Data Search Results.

3.1.1. A data search was submitted to the West Yorkshire Ecology for records of protected species and designated sites within 2km of the survey area.

3.1.2. The data search found no statutory designated sites within 2km of the survey area.

3.1.3. However, there are nine Local Wildlife Sites within 2km of the survey area, shown in the map below. The closest site is Gregory Spring LWS, which lies approximately 250m to the north of the survey area. Gregory Spring LWS is also Ancient Semi-Natural Woodland, and is part of Kirklees Wildlife Habitat Network.

Redacted

3.1.4. There are records of common bat species, badger, and great crested newt.

3.1.5. The closest bat records are two field records of common pipistrelle and noctule bat approximately 520m from the survey area. The closest roost record is an unidentified pipistrelle roost approximately 730m from the survey area.

3.1.6. The location of badger records within the search area are not made available within the data search. However, the data search states that there are no records of badger within 200m of the survey area, and the closest sett record is 840m from the survey area.

3.1.7. There is a large number of great crested newt records within the search area. All of the 266 records are clustered around a quarry approximately 1.2km to the west of the survey area.

3.1.8. A copy of the data search results can be provided to the client upon request but must not be placed in the public domain.

3.2. The Surveyed Area.

3.2.1. The survey area is located in a semi-rural area of Grange Moor, West Yorkshire. The survey area is bordered by agricultural fields separated by hedgerows and scattered agricultural buildings.

3.2.2. The aerial map below shows the location of the survey area, in red, and the surrounding area.

3.2.3. The survey area comprises a farm complex consisting of four steel-framed barns, a stone barn, tracks, and areas of hardstanding for storage.

3.3. Description of Habitats.

3.3.1. Appendix VI of this report contains annotated maps marked up with the varying habitats. The habitats on and adjacent to the site are: -

- g3c – Other neutral grassland
- g4 – Modified grassland
- u1b – Developed land; sealed surface
- h3 – Dense scrub
- u1b5 – Buildings
- u1 – Built up areas and gardens
- h2a6 – Other native hedgerow
- Individual trees

3.3.2. g3c – Other neutral grassland

Secondary codes: 524 Invasive non-native species; 81 Ruderal

3.3.2.1. Areas surrounding the buildings and tracks, and unsealed areas which may have been used for parking or storage but have been undisturbed for a period of time, are dominated by ruderal vegetation comprising great willowherb (*Epilobium hirsutum*), nettle (*Urtica dioica*), white clover (*Trifolium repens*), curled dock (*Rumex crispus*), broadleaved dock (*Rumex obtusifolius*), pineappleweed (*Matricaria discoidea*), dandelion (*Taraxacum obtusifolius*), cat's-ear (*Hypochaeris radicata*), broadleaf plantain (*Plantago major*), mugwort (*Artemisia vulgaris*), perennial ryegrass (*Lolium perenne*), ivy (*Hedera helix*), hoary willowherb (*Epilobium parviflorum*), ragwort (*Jacobaea vulgaris*), and Yorkshire fog *(Holcus lanatus*). Himalayan balsam (*Impatiens glandulifera*) is also scattered throughout.

3.3.2.2. The table below shows the results of the "grassland – medium, high and very high distinctiveness" condition assessment. This area of neutral grassland habitat passes one out of six criteria, and fails essential criteria A and F, leading to a "poor" result.

Condition Assessment Criteria		Criterion passed (Yes or No)
A	The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present. **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	No
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[1].	No
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Yes
E	Combined cover of species indicative of sub-optimal condition[2] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]) are present, this criterion is automatically failed.	No
Additional Criterion - must be assessed for all non-acid grassland types		
F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 2 and 4 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	No
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		No
Number of criteria passed		1

Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓
Non-acid grassland Types (Result out of 6 criteria)		
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)	
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	

Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)	✓

3.3.3. g4 – Modified grassland

Secondary codes: 827 Garden

3.3.3.1. An area of enclosed grassland was present to the northeast of the barn buildings. The grassland was heavily dominated by perennial ryegrass (*Lolium perenne*). Approximately half of the grassland is included within the development boundary. The trees photographed are not included in the development boundary. It is likely that this area of grassland is an extension of the gardens belonging to the residential properties, although no ornamental or flowering species are present.

3.3.3.2. The table below shows the results of the "grassland – low distinctiveness" condition assessment. This area of neutral grassland habitat passes five out of seven criteria, and fails essential criteria A, leading to a "poor" result.

Condition Assessment Criteria		Criterion passed (Yes or No)
A	There are 6-8 vascular plant species per m² present, including at least 2 forbs (this may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.** Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m² (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	No
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	No

C	Some scattered scrub (including bramble *Rubus fruticosus* agg.) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Yes
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Yes
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	Yes
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Yes
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Yes
	Essential criterion achieved (Yes or No)	
	Number of criteria passed	

Condition Assessment Result (out of 7 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**
Passes 6 or 7 criteria including passing essential criterion A	Good (3)	
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)	
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)	✓

3.3.4. u1b – Developed land; sealed surface

Secondary codes: 839 Track

3.3.4.1. Hardstanding tracks for vehicles and storage/parking areas are present throughout the site. Occasional ephemeral species such as dandelion (*Taraxaxum officianalis* agg.) and broadleaf plantain (*Plantago major*) were growing through cracks in the hardstanding, but no significant areas of semi-natural vegetation were present.

3.3.5. h3 – Dense scrub

3.3.5.1. An undisturbed area adjacent to one of the barns had developed into scrub comprising bramble (*Rubus fruticosus* agg.), nettle (*Urtica dioica*), immature silver birch (*Betula pendula*), sycamore (*Acer pseudoplatanus*), willow (*Salix* sp.), wayfaring tree (*Viburnum lantana*), broadleaved dock (*Rumex obtusifolius*), and Himalayan balsam (*Impatiens glandulifera*).

3.3.5.2. The table below shows the results of the "scrub" condition assessment. This area of scrub habitat passes one out of five criteria, leading to a "poor" result.

Condition Assessment Criteria			Criterion passed (Yes or No)
A	The scrub is a good representation of the habitat type it has been identified as, based on its UKHab description (where in its natural range). The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type. At least 80% of scrub is native, and there are at least three native woody species[1], with no single species comprising more than 75% of the cover (except hazel *Corylus avellana*, common juniper *Juniperus communis*, sea buckthorn *Hippophae rhamnoides* or box *Buxus sempervirens*, which can be up to 100% cover).		Yes
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran[2]) shrubs are all present.		No
C	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]) and species indicative of sub-optimal condition[5] make up less than 5% of ground cover.		No
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.		No
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.		No
			Number of criteria passed
Condition Assessment Result (out of 5 criteria)		**Condition Assessment Score**	**Score Achieved ×/✓**
Passes 5 criteria		Good (3)	
Passes 3 or 4 criteria		Moderate (2)	
Passes 2 or fewer criteria		Poor (1)	✓

3.3.6. u1b5 – Buildings

Secondary codes: 833 Barn

There are four steel-framed barns and one stone-built barn within the site boundary. All are individually described in section 3.4.4.

3.3.7. u1 – Built-up areas and gardens

Secondary codes: 827 Garden

A residential garden comprising a short-mown lawn and unidentified ornamental species was present.

3.3.8. h2a6 – Other native hedgerow

3.3.8.1. A short hawthorn (*Crataegus monogyna*) hedgerow was present on the boundary between the site and the neighbouring property at the site entrance.

3.3.8.2. The table below shows the results of the "hedgerow" condition assessment. The hedgerow fails more than four attributes, leading to a "poor" result.

Attributes and functional groupings (A, B, C, D and E)	Criteria - the minimum requirements for 'favourable condition'	Description		Criterion passed (Yes or No)
Core groups - applicable to all hedgerow types				

A1.	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is >1.5 m height).	No
A2.	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (such as blackthorn *Prunus spinosa* suckers) are only included in the width estimate when they are >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).	No
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	This is the vertical 'gappiness' of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	No
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall 'gappiness' but are not subject to the >5 m criterion (as this is the typical size of a gate).	Yes
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow. Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow. This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	No
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles *Urtica* spp., cleavers *Galium aparine* and docks *Rumex* spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	No
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website[4], as well as the BSBI website[5] where the 'Online Atlas of the British and Irish Flora'[6] contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website[7].	Yes
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g., excessive hedgerow cutting).	No

The hedgerow condition assessment generates a weighting (score) ranging from 1 - 3, which is used within the metric. The scores for each are set out in the tables below.

Condition categories for hedgerows without trees

Category	Category Requirements	Metric Score
Good	No more than 2 failures in total; **AND** No more than 1 failure in any functional group.	3

Moderate	No more than 4 failures in total; **AND** Does not fail both attributes in more than one functional group (e.g. fails attributes A1, A2, B1 and C2 = Moderate condition).	2
Poor	Fails a total of more than 4 attributes; **OR** Fails both attributes in more than one functional group (e.g. fails attributes A1, A2, B1 and B2 = Poor condition).	1
	Score achieved:	A = Poor (1)

3.3.9. w1g – Other broadleaved woodland

Secondary codes: 33 Line of trees

3.3.9.1. A line of trees was present on the southern border of the site and comprised a row of planted whitebeam (*Sorbus* sp.) and copper beech (*Fagus sylvatica* f. *purpurea*) trees.

3.3.9.2. The table below shows the results of the "line of trees" condition assessment. The habitat passes two criteria, leading to a "poor" result.

Condition Assessment Criteria		Criterion passed (Yes or No)
A	At least 70% of trees are native species.	No
B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Yes
C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	No
D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice[2].	No
E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	Yes
		Number of criteria passed

Condition Assessment Result (out of 5 criteria)	Condition Assessment Score	Score Achieved ×/✓
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	✓

3.3.10. Individual trees

3.3.10.1. There are individual sycamore (*Acer pseudoplatanus*), beech (*Fagus sylvatica*), and unidentified conifer species scattered throughout the site as individual trees.

3.3.10.2. The table below shows the results of the "individual tree" condition assessment. All of the trees are of the same age and condition, and are therefore assessed together. The trees pass four criteria, leading to a "moderate" result.

Condition Assessment Criteria		Criterion passed (Yes or No)
A	The tree is a native species (or at least 70% within the block are native species).	Yes
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Yes
C	The tree is mature (or more than 50% within the block are mature).	Yes
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	No
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Yes
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	No
	Number of criteria passed	**4**

Condition Assessment Result (out of 6 criteria)	Condition Assessment Score	Score Achieved ×/✓
Passes 5 or 6 criteria	Good (3)	

Passes 3 or 4 criteria	Moderate (2)	✓
Passes 2 or fewer criteria	Poor (1)	
Note that 'Fairly Good and Fairly Poor' condition categories are not available for this broad habitat type.		

3.4. Description of Fauna.

3.4.1. No badger setts or badger field signs were identified within the survey area.

3.4.2. There are no watercourses within the survey area therefore there are no habitats present suitable for water voles, otters or crayfish.

3.4.3. There are no ponds or waterbodies within the survey area. However, there are four waterbodies within 500m of the survey area, shown in yellow on the map below.

3.4.3.1. Two of the waterbodies lie to the south of the B6118, which is subject to regular heavy traffic and provides an ecological barrier to the movement of great crested newts into the survey area from the south of this road. Furthermore, the pond furthest to the east of the survey area is also separated from the survey area by a road, providing an ecological barrier to movement of great crested newts from this pond.

3.4.3.2. The pond to the northwest of the survey area is ecologically isolated between roads and intensively farmed fields separated by walls. There are no other ponds with any ecological connectivity to this pond, and therefore it is highly unlikely that great

crested newts are present within this pond. Overall, it is unlikely that great crested newts are present within the survey area.

3.4.3.3. The terrestrial habitat on the site offers some potential for great crested newts with long grassland vegetation and line of trees present, and stored materials throughout the site to provide refugia.

3.4.4. There are five buildings within the survey area, all of which are assessed individually for bat potential below. The layout of the buildings can be seen in the drawing in Appendix VII.

3.4.4.1. Stone-built barn

3.4.4.1.1. A single-storey stone barn was present in the south of the site. The barn had a large open archway and window spaces, and solid stone walls. The barn had a pitched roof with overlapping slate tiles, timber beams, and lining.

3.4.4.1.2. The walls had a significant number of small defects, providing potential roosting features for bats. Ivy was present on the southern and eastern walls, potentially obscuring potential roost features within the walls, although the ivy was not dense enough to provide a feature itself.

3.4.4.1.3. Internally, there was no loft space or internal walls, and there were further defects within the stone walls which could be used by bats as potential roost features.

3.4.4.1.4. No bat field signs were found.

3.4.4.1.5. The barn was open and exposed, and the potential for bats was limited to features in the walls. No bat field signs were found. The building is also a non-classic hibernation site. Therefore, the building was assessed as having moderate potential for roosting bats according to the Bat Conservation Trust's 'Good Practice Guidelines'.

3.4.4.1.6. The stone has been assessed for potential for hibernating bats. Due to the nature and construction of the building providing some features that are not ideal for hibernating bats, but the presence of individual bats over the winter months cannot be

ruled out, it is assessed to have potential as a non-classic hibernation site. However, due to the poor connectivity to and from the site, the farmhouse is assessed to provide low potential for hibernating bats.

3.4.4.2. Building A

Building A was a steel-framed barn with corrugated metal walls and roof on a breeze block base. The steel frame and corrugated metal is completely unsuitable for roosting bats, and no potential roost features were identified. No bat field signs were found. The building was therefore assessed as having negligible potential for roosting bats according to the Bat Conservation Trust's 'Good Practice Guidelines'.

3.4.4.3. Building B

Building B was a steel-framed barn with corrugated metal walls and roof on a breeze block base. The steel frame and corrugated metal is completely unsuitable for roosting bats, and no potential roost features were identified. No bat field signs were found. The building was therefore assessed as having negligible potential for roosting bats according to the Bat Conservation Trust's 'Good Practice Guidelines'.

3.4.4.4. Building C

Building C was a steel-framed barn with corrugated metal walls and roof on a breeze block base. The steel frame and corrugated metal is completely unsuitable for roosting bats, and no potential roost features were identified. No bat field signs were found. The building was therefore assessed as having negligible potential for roosting bats according to the Bat Conservation Trust's 'Good Practice Guidelines'.

3.4.4.5. Building D

Building D was a steel-framed barn with corrugated metal walls and roof on a timber base. The steel frame and corrugated metal is completely unsuitable for roosting bats, and no potential roost features were identified. No bat field signs were found. The building was therefore assessed as having negligible potential for roosting bats according to the Bat Conservation Trust's 'Good Practice Guidelines'.

3.4.4.6. A sycamore (*Acer pseudoplatanus*) tree leaning against Building A has knotholes and a fracture within the stem which could be utilised by individual bats. Therefore, this was assessed as having low potential for roosting bats.

3.4.5. The site offers low value for foraging and/or commuting bats due to the lack of semi-natural vegetation. Far better value foraging and/or commuting habitat is offered by hedgerows and tree lines in the wider area outside of the site boundary.

3.4.6. The buildings and trees on site provided suitable nesting habitat for birds during the breeding season, which extends from March to September each year. Several

active and disused nests were found within all of the buildings, including woodpigeon, swallow, and corvid nests.

3.4.6.1. Furthermore, a barn owl nest box was fitted to the roof beams in the stone-built barn. A large number of barn owl pellets were found on the floor of the building, suggesting that the box is in frequent use, and many of the pellets were recent. A number of natal down feathers were also found, suggesting that the box had been recently used for breeding.

3.4.6.2. The open spaces within the site were subject to regular disturbance from farm traffic accessing all of the buildings and traffic to/from the residential properties neighbouring the site. Furthermore, there is a public footpath through the centre of the site, which is subject to regular use by pedestrians, often with dogs. Therefore, the open spaces are unlikely to provide suitable nesting habitat for ground-nesting birds.

3.4.7. The open ground and tall ruderal habitats within the site offered some potential for reptile species. However, the surrounding landscape is dominated by intensive agricultural fields and the site lacks connectivity to other areas of suitable habitat, and therefore the potential for reptiles is likely to be limited to low numbers of common reptile species.

3.4.8. There are no habitats suitable for hazel dormouse or red squirrel within the survey area, and the site lies outside the natural range for both these species.

3.4.9. The tracks through the site provide suitable commuting routes for hedgehogs through the site and neighboring properties, and the surrounding fields and hedgerows in the wider area provide suitable foraging habitat.

3.4.10. Himalayan balsam, an invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act (1981), was frequent throughout the survey area. The highest concentrations of Himalayan balsam were found around the edges of the buildings and lining the tracks.

3.5. Dusk emergence survey results.

3.5.1. The dusk emergence survey of the stone-built barn was carried out by two surveyors on the evening of 17th August 2023. Both surveyors hold a current Natural England class licence for surveying bats.

3.5.2. Two surveyors were positioned on opposite corners of the stone barn. Each surveyor was equipped with a Batbox Duet detector and a two-way radio for communications. In addition, two static Anabat recorders were deployed to record bat activity for subsequent computer analysis using Analook software. The positions of the surveyors (S1 and S2) and the Anabat recorders (shown in yellow) were as shown below.

3.5.3. The evening was fine, clear and still. There was a temperature of 15ºC at 20:00, which dropped to 13°C at the end of the survey. Sunset was at 20:31, therefore the survey commenced at 20:15 and was terminated at 22:00.

3.5.4. Surveyor 1 observed a common pipistrelle pass south to the fields south of the main road at 21:01, and a common pipistrelle foraging around the building at 21:21 and 21:23. A Noctule Bat was also heard on the Batbox Duet at 21:21 but could not be seen.

3.5.5. Subsequent analysis using Analook confirmed all of these occurences. No other calls were recorded on the Anabat device.

3.5.6. Surveyor 2 observed a Common Pipistrelle foraging over the courtyard to the north of the stone barn on five occasions between 20:57 and 21:22. Surveyor 2 also heard a Noctule Bat on a Batbox Duet at 21:21, but the bat was not seen.

3.5.7. Subsequent analysis using Analook confirmed all of these occurrences. No other calls were recorded on the Anabat device.

3.5.8. No bats were seen to emerge from or enter the building at any time during the survey.

3.5.9. Two adult barn owls were seen to emerge from the window spaces shortly after arriving on site, and one adult subsequently returned to the building.

3.6. Dawn re-entry survey results.

3.6.1. The dawn re-entry survey of the stone-built barn was carried out by two surveyors on the morning of 31st August 2023. One surveyor holds a current Natural England class licence for surveying bats and one is an experienced assistant.

3.6.2. Two surveyors were positioned on opposite corners of the stone barn. Each surveyor was equipped with a Batbox Duet detector and a two-way radio for communications. In addition, two static Anabat recorders were deployed to record bat activity for subsequent computer analysis using Analook software. The positions of the surveyors (S1 and S2) and the Anabat recorders (shown in yellow) were as shown below.

3.6.3. The morning was warm and still with occasional light showers. There was a temperature of 10ºC at 04:45, which dropped to 13°C at the end of the survey. Sunrise was at 06:15, therefore the survey commenced at 04:45 and terminated at 06:30.

3.6.4. Surveyor 1 observed a Common Pipistrelle touch up to the building three times and then enter a small defect in the wall on the southeast corner of the building at 05:21. The bat was not seen the leave the roost feature for the remainder of the survey. A second Common Pipistrelle was seen entering a different defect on the same wall at 05:50 after touching up to the building once. The location of the entry points are shown on the photographs below.

3.6.5. Subsequent analysis using Analook confirmed that both of these occurrences were Common Pipistrelle bats. No other calls were recorded on the Anabat device.

3.6.6. Surveyor 2 observed no bats throughout the survey.

3.6.7. Subsequent analysis using Analook confirmed that no bats were recorded.

3.6.8. Two adult barn owls were seen entering the surveyed building at different points through the survey. Neither were seen to leave the building after returning, and were believed to be roosting in the barn owl box positioned inside the building.

3.6.9. It was noted that the ivy on the southeastern wall of the building had been removed between the dusk emergence survey and dawn re-entry survey. The removal of the ivy exposed further defects within the wall, providing more potential roost features for opportunistic bats.

3.6.10. An aerial image showing the location of the bat roost in the building is provided below.

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4. EVALUATION OF FINDINGS.

4.1. The site lies over 2km from any statutory designated sites, and over 250m from any non-statutory designated Local Wildlife Sites. Due to the localised nature of the proposed works, there will be no impact on designated sites as a result of the proposed works.

4.2. The survey area is a farm complex dominated by mostly hardstanding and buildings with very little semi-natural vegetation present. The areas within the development plan are included in the Biodiversity Metric 4.0 below.

4.3. The baseline habitat Biodiversity Units (Bu) on the site were calculated at 2.3 Bu as shown in the table below.

Habitat Type	Extent (ha)	Condition	Distinctiveness	Biodiversity units
Modified grassland	0.0746	Poor	Low	0.15
Other neutral grassland	0.1473	Poor	Medium	0.59
Mixed scrub	0.0154	Poor	Medium	0.06
Developed land; sealed surface	0.4985	N/A - Other	V.Low	0.00
Vegetated garden	0.0195	Condition Assessment N/A	Low	0.04
Urban tree	0.1832	Moderate	Medium	1.47
Total area	0.76			**2.3**

4.4 The baseline hedgerow Biodiversity Units (Bu) on the site was calculated at 0.11 Bu as shown in the table below.

Habitat Type	Length (km)	Condition	Distinctiveness	Biodiversity units
Native hedgerow	0.014	Poor	Low	0.03
Line of trees	0.040	Poor	Low	0.08
				0.11

4.5. No badger setts or badger field signs were identified within the survey area therefore there will be no impact on badgers as a result of the development of the site.

4.6. There are no watercourses within the survey area therefore the development of the site will have no impact on water voles, otters or crayfish.

4.7. There are no ponds or waterbodies within the survey area. However, there are four waterbodies within 500m of the survey area, all of which are ecologically isolated and have no ecological connectivity with the site. There are no records of great crested newts in the nearby area. Therefore, it is highly unlikely that great crested newts are present within the survey area. With appropriate precautions in place, development of the site will have no impact on great crested newts.

4.8. There are five buildings within the survey area: four steel-framed barns and one stone-built barn.

4.8.1. All four steel-framed barns were assessed as having negligible potential for roosting bats. Therefore, development or demolition of these buildings will have no impact on roosting bats.

4.8.2. The stone-built barn was assessed as having moderate potential for roosting bats. A subsequent dusk emergence survey recorded no bats emerging from or entering the building. However, the following dawn re-entry survey recorded two Common Pipistrellebats entering roost features in one of the external walls on the southeast corner of the building. Therefore, as bats are confirmed to be roosting within the building, the development or demolition of this building will have a high impact on roosting bats. However, further survey work is required to determine the nature of the roost and potential impacts.

4.8.2.1. The farmhouse is assessed to offer low potential for hibernating bats, therefore, without suitable precautions in place the demolition of the farmhouse could impact on individual opportunistic hibernating bats.

4.8.3. One sycamore (*Acer pseudoplatanus*) tree was assessed as having low potential for roosting bats due to the presence of knot holes which could provide potential roost features for individual opportunistic bats. Therefore, the felling of this tree could have a high impact on roosting bats.

4.9. The site offers low value habitat for foraging and/or commuting bats due to the lack of semi-natural vegetation, and bat activity across the site was very low

throughout the two activity surveys. Therefore, with a sensitive lighting scheme in place, it is unlikely that there will be any impact on foraging or commuting bats as a result of the development of the site.

4.10. The vegetation on site and all of the buildings provided suitable nesting habitat for birds during the breeding season, which extends from March to September each year. Furthermore, barn owls were confirmed to be nesting within the stone-built barn. Therefore, any vegetation clearance or works to the buildings carried out within the nesting bird season is likely to have a high impact on nesting birds. Any works to the stone-built barn or nearby areas during the breeding season could potentially disturb a Schedule 1 bird at or near an active nest.

4.11. The open ground and tall ruderal habitats within the site offered some potential for reptile species. However, the surrounding landscape is dominated by intensive agricultural fields and the site lacks connectivity to other areas of suitable habitat, and therefore the potential for reptiles is likely to be limited to low numbers of common reptile species. With appropriate precautions in place, there will be no impact on reptiles as a result of the development of the site.

4.12. There are no habitats suitable for hazel dormouse or red squirrel within the survey area, and the site lies outside the natural range for both these species. Therefore, there will be no impact on either of these species as a result of the proposed works.

4.13 The habitats on site provide some potential habitat for western hedgehog. No evidence of hedgehog was identified during this survey, but the presence of this species cannot be ruled out. As the plans for the development of the site or proposed site layouts have not been provided, the potential impact on hedgehogs cannot be assessed at this time.

4.14. Himalayan balsam, an invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act (1981), was frequent throughout the survey area. Therefore, as this plant spreads through the dispersal of seeds, the development of this site could potentially cause the spread of this species through the dispersal of seeds on boots, tools and machinery.

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5. RECOMMENDATIONS.

5.1. This Preliminary Ecological Appraisal report is designed to advise the client of the initial survey results so that they may be considered within the site development plan.

5.2. Once any further surveys have been completed, all recommendations provided in this report have been considered and agreed and the development plans have been finalised, the report must be converted into an Ecological Impact Assessment (EcIA) where details of further survey results, mitigation and biological enhancements are included, to arrive at an assessment of the residual impact of the proposed development. This should include biodiversity calculation to demonstrate no net loss of biodiversity as a result of the development. This format will be suitable to submit to the Local Authority.

5.3. It is recommended that any vegetation clearance and any works to the stone building and steel-framed barn buildings are carried out outside of the nesting bird season. If it is necessary to undertake these works within the nesting bird season, it is recommended that these works are preceded by a nesting bird survey. Any active nests identified it must be left undisturbed until the young have fledged.

5.4. Once the final plans have been completed, it is recommended that a barn owl mitigation strategy is drawn up and implemented throughout the works. This should include measures to avoid disturbance to the barn owls before, during, and after development, and including permanent provisions for the replacement of the lost barn owl nest box. Current guidance states that this should be the provision of an owl loft within the roof space, although the local authority may accept the provision of at least two owl boxes on trees or poles at suitable locations around the site. It is recommended that the local ecologist is consulted on what their requirements will be.

5.5. As bats have been found to be roosting in the building, a licence will be required from Natural England to cover any works impacting the roost. However, this can’t be applied for until after planning permission has been granted.

5.6. In order to obtain a licence, three surveys are required in total, at least two of which should be within the bat survey season. As two surveys have already been carried out, is recommended that a third survey is carried out within the following bat survey season (May to August inclusive) to provide the required survey data to create

a mitigation strategy which would form part of a licence application. Full details of the development will be required in order to prepare a mitigation strategy.

5.7. The farmhouse provides low potential for hibernating bats over the winter months. In line with the current BCT Good Practice Guidelines, this is a non-classic hibernation site and surveys during the hibernation period are unlikely to return results. Therefore, there is no requirement for hibernation surveys to be carried out, but it is recommended that the building is demolished outside of the bat hibernation period, which extends from November to February, to avoid any impact on opportunistic hibernating bats.

5.8. If there is a requirement for the sycamore tree leaning on building A to be felled, it is recommended that this is soft felled in accordance with the Bat Conservation Trust's 'Good Practice Guidelines'. The sections of tree should be left on the ground for a minimum of 24 hours before being chipped or removed off site.

5.9. It is recommended that any permanent lighting associated with the development are down lit and directed away from the trees around the perimeter of the survey area.

5.10. It is recommended that the existing trees are retained to avoid any potential impacts on foraging and commuting bats. This will also contribute to biodiversity net gain on the site by avoiding any initial loss.

5.11. Although unlikely to be present, it is recommended that some general precautions are put in place to prevent any harm to reptiles and amphibians. Any stored materials moved from the ground must be carefully lifted and not dragged along the ground to prevent harm to any reptiles that may be sheltering beneath.

5.12. When disturbed in their natural habitat, reptiles will usually move away quickly. In the highly unlikely event that a reptile is found on site, work should be paused to allow the reptile to leave the area of its own accord. In the highly unlikely event that large numbers (5+) of reptiles are discovered, works should stop and Whitcher Wildlife should be contacted for further advice. A toolbox talk has been provided in the Appendix to aid with identification.

5.13. If it is necessary to carry out any vegetation clearance in the vegetated areas, it is recommended that this is first cut to a minimum of 200mm to make the area less

desirable to fauna species such as reptiles and hedgehogs and to encourage them to vacate the area before the area is then cleared down to ground level.

5.14. It is recommended that the proposed works are carried out when Himalayan balsam plants are not seeding (October – June). It is also recommended a method statement is put in place to prevent the spread of Himalayan balsam. This method statement should include the following precautions:

- All site personnel should be briefed on the presence of the identification of Himalayan balsam; a toolbox talk has been attached to the end of this report.
- A wash station to be present before leaving the buffer zone around the area of Himalayan balsam. All boots, tools and machinery should be cleaned before leaving the work site.
- Any materials being removed from the site, which cannot be cleaned, must be treated as controlled waste.

5.15. There is a requirement to provide an overall biodiversity net gain on the site. The local authority may require a net gain of at least 10% biodiversity units. It is recommended that semi-natural habitats are retained where possible in the first instance to avoid a net loss, and that native species are planted as part of any new landscaping to help achieve a net gain.

5.16. It is recommended that a copy of the landscaping proposals for the site are provided once they are drawn up so that the biodiversity calculations can be completed.

5.17. Information on what species will be planted in any landscaped areas will also need to be provided. It is recommended that native species are planted where possible and that any grass mixes that are of benefit to wildlife are considered with a relaxed mowing regime. In areas that would ordinarily be planted with ornamental shrubs, it is recommended that these are planted with native scrub species, and tree planting should be native trees.

5.18. In addition to ensuring a net gain of biodiversity units is achieved on the site, in line with the NPPF there will be an expectation to provide some biodiversity enhancements for fauna species on the site. This can be achieved by providing integrated bird and bat boxes in any new buildings on the site.

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Appendix I. NESTING BIRD INFORMATION.

Ecology

The nesting season will vary according to the weather each year but generally commences in March, peaks during May and June and continues until September. It is also worth remembering that some birds nest in trees and scrub, but others are ground nesting or prefer man- made structures or buildings.

Surveys

Nesting bird surveys search for potential nest sites in vegetation, buildings etc. Potential nesting sites are observed over a suitable period of time for bird movements or calling male birds that would indicate the presence of a nest. The presence of a nest can be identified from the field signs without the necessity to see the nest itself, thereby avoiding any disturbance of the nests. The best way to avoid this issue is to plan for vegetation clearance to be carried out outside the bird-nesting season.

Legislation

Nesting birds are protected under The Wildlife and Countryside Act 1981.

Part 1. -(1) Of the Act states that: - If any person intentionally: - kills, injures or takes any wild bird; takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or takes or destroys an egg of any wild bird, he shall be guilty of an offence.

Part 1. -(5) of the Act states that: - If any person intentionally: - disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on, or near a nest containing eggs or young; or disturbs young of such a bird, he shall be guilty of an offence and liable to a special penalty.

The Countryside and Rights of Way Act 2000 amends the above by inserting after “intentionally” the words “or recklessly”.

Appendix II. GREAT CRESTED NEWT INFORMATION.

Ecology

Great Crested Newts breed in ponds and other water bodies. They can begin to migrate to their breeding ponds as early as the first frost-free days in late January with the majority reaching their breeding ponds by mid-March. Timing will be influenced by several factors, primarily evening temperatures above 5^{o}C and rainfall.

The peak egg-laying period is from mid-March to mid-May. The newts will lay their eggs individually, mainly on the leaves of submerged plants. The larva hatch after three weeks and then take another 2-3 months to complete larval development. Adult newts generally leave their breeding ponds from late May onwards.

Once the larvae have completed metamorphosis (the transition from aquatic larvae, efts, to land-adapted juveniles), they emerge from the pond. This emergence begins in late August and generally continues until late October. It takes 2-4 years to reach sexual maturity, during which time the newts will be land based.

Adults and immature newts spend the winter in places that afford protection from frost and flooding. This will generally be underground amongst tree roots, in mammal burrows, or under suitable refuges above ground like deadwood or rubble piles. Hibernation may last from October to February.

Whilst on land, outside the hibernation period, great crested newts will forage at night, taking a wide range of invertebrate prey.

Great Crested Newts therefore spend the majority of their time on land and only visit the ponds for breeding purposes.

Great Crested Newts will travel large distances between ponds and terrestrial refuges. It is recommended that anywhere within 500m of a pond should be treated as potential Great Crested Newt habitat.

Surveys

Walkover surveys will identify the suitability of any ponds within the area for Great Crested Newts by using a HSI assessment. The terrestrial habitat and their links will also be assessed.

Aquatic surveys of newts can be carried out through the trapping of ponds in suitable weather conditions during the breeding season, although these surveys do not provide accurate population estimates.

Terrestrial surveys and exclusions can be conducted between March and September when newts are moving out of breeding ponds.

An experienced surveyor must carry out the surveys and must be in possession of an appropriate Natural England Great Crested Newt survey license.

It is essential that Great Crested Newt surveys are planned well in advance of any development and ideally before Planning Consent is sought. Surveys can only be carried out at the appropriate time of year and repeat surveys are essential.

Legislation

Great Crested Newts are protected under Appendix II of the BERN Convention (1982), Schedule 5 of the Wildlife and Countryside Act (1981), Annex II and IV of the Habitats Directive, Annex II of the Conservation and Wildlife Regulations (2010) and are listed under section 41 of the Natural Environment and Communities Act (2006) making them a species of principal importance.

This makes it an offence to kill, injure or take any Great Crested Newt, to interfere with any place used for shelter or protection, or to intentionally disturb any animal occupying such a place.

If Great Crested Newts are to be affected by any development, a thorough assessment of the population is essential followed by the design of a comprehensive mitigation package. Only when this has been done can a license application be submitted to Natural England for approval. It takes 30 working days for a license application to be determined and the period that mitigation measures take can be measured in months. It is therefore essential to plan well in advance of development commencing.

Appendix III. REPTILE INFORMATION.

Ecology

There are five main species of reptile that reside in the UK; Common or Viviparous Lizard (*Lacerta vivipara*); Sand Lizard (*Lacerta agilis*); Slow Worm *(Anguis fragilis*); Grass Snake (*Natrix natrix*) and Adder (*Vipera berus*). The Adder is the only native species that is venomous although this is rarely harmful to humans.

Reptiles occupy a wide range of habitats including woodland, marshes, heathland, moors, sand dunes, hedgerows and bogs. Sand Lizards are confined to moorland and coastal sand dunes where they lay their eggs in the warm sand. The range of the Sand Lizard in the UK is therefore very limited. Slow Worms can be found in a wide variety of habitats throughout Britain and is the most likely reptile to be found in urban and suburban environments.

Maintaining the right body temperature is vital to reptiles' survival. In the morning, they find a warm basking site to heat up their bodies, then later they may move back into the shade because they do not sweat and have to be careful not to overheat. During hot summers, Adders will try to move to damper, cooler sites.

Over winter reptiles will hibernate in burrows or under longs where they are protected from the cold and predators, emerging from February onwards as the weather warms up.

Reptiles generally begin to mate April to May with young born in late July to September. The Common Lizard gives birth to live young, hence the term viviparous, meaning live bearing.

Surveys

Reptile surveys involve the searching of refuge such as logs and stones for any animal sheltering below. Artificial refuge may be laid out on site for the purpose of reptile surveys.

Legislation

Reptiles are protected under Appendix II (sand lizards) and Appendix III (common lizard, slow worms, smooth snake, grass snake and adders) of the BERN Convention (1982), partially protected under Schedule 5 of the Wildlife and Countryside Act (1981), Annex IV of the Habitats Directive and are all listed under section 41 of the Natural Environment and Communities Act (2006) making them a species of principal importance.

This makes it an offence to disturb any reptile while it is occupying a structure or place it uses for shelter or protection or to obstruct access to such a place.

Appendix IV. BARN OWL INFORMATION.

Ecology

The diet of the Barn Owls consists almost entirely of small mammals such as mice, shrews and voles. Consequently, areas of moist, moderately long grassland are especially important for foraging with 90% of prey taken within a 1km radius of the nest site.

Their feathers are specially structured for silent flight and, by using their extremely sensitive hearing, Barn Owls can find and swoop noiselessly onto their prey. Although Barn Owls can see perfectly well in daylight, they tend to hunt mainly at night.

Suitable nest sites are predominantly in derelict buildings such as farm buildings, church towers and old chimneys. Nest sites must be dry and warm to prevent fatal chilling of the owlets in wet weather.

Barn Owls generally produce 4 – 7 eggs, laid at intervals of 2 – 3 days during the breeding season (March to August inclusive). This gives a staggered hatch, with the first hatchling being as much as a week older than the last. In poor prey years the youngest chicks are unlikely to fledge.

Habitat loss due to agricultural change and urbanisation has had the most significant impact on Barn Owl numbers. The drainage of grasslands, increases in cereal crops, autumn sowing, the decline in haymaking, the loss of wild grassland, edge habitats and hedgerows, the vermin proofing of grain storage and the fragmentation of habitats as a result of land take for new roads, factories and housing schemes have all had an influence on the availability of suitable foraging habitat.

This has been compounded by the loss of traditional nest sites as a result of building improvements and conversions for other uses including residential.

As birds are pushed to exploit prey rich roadside verges and railway embankments they increasingly become prone to deaths from collisions with trains and road vehicles. Death can also be caused by consuming prey items which contain residues of rat and mouse poison.

The effects of disturbance are more pronounced at different times of the year. The early stages of the breeding season are the most vulnerable and birds may abandon nest building or even eggs if disturbed. When the eggs have hatched, they tend to tolerate a higher level of disturbance before abandoning young birds in the nest. Generally, disturbance should be avoided between April and September.

Surveys

Walkover surveys will look identify areas of suitable foraging habitat for Barn Owls. They will also look for suitable nesting locations and any signs of pellets within these areas.

Legislation

Barn Owls are protected under Schedule 1 and Schedule 9 of The Wildlife and Countryside Act 1981.

It is therefore an offence to intentionally kill, injure or take any wild bird, take damage or destroy the nest of any wild bird while that nest is in use or being built, or to take or destroy an egg of any wild bird. Special penalties are available for offences related to birds listed on Schedule 1 of The Wildlife and Countryside Act (1981), for which there are additional offences for disturbing these birds at their nests, or their dependent young.

Appendix V. INVASIVE PLANT SPECIES INFORMATION.

Ecology

The Government has acknowledged the problems that can be caused by non-native invasive species. In 2008 the Government launched "The Invasive Non-Native Species Framework Strategy for Great Britain". The strategy provides a framework for a more co-ordinated approach to invasive species management. It seeks to create a stronger sense of shared responsibility across government, key organisations, land managers and the public.

The Non-Native Species Secretariat has been established to oversee the implementation of the strategy. Details of the secretariat including risk assessments and action plans for some species are available at www.nonnativespecies.org.

In general, there are four basic methods of controlling weeds; mechanical, chemical, natural and environmental.

- ***Mechanical control*** *includes cultivation, hoeing, pulling, cutting, raking, dredging or other methods to uproot or cut weeds.*
  Where this method is used all plant material must be considered "controlled waste" and must be disposed of properly.
- ***Chemical control*** *uses approved herbicides.*
- ***Natural control*** *uses pests and diseases of the target weed to weaken it and prevent it from becoming a nuisance.*
- ***Environmental control*** *works by altering the environment to make it less suitable for weed growth, for example by increasing or decreasing water velocity.*

Surveys

A site will be searched for invasive plant species growing on site, from mature plants to new shoots. A site will also be searched for dead stems indicating that plants that may have seasonally died back are present.

Legislation

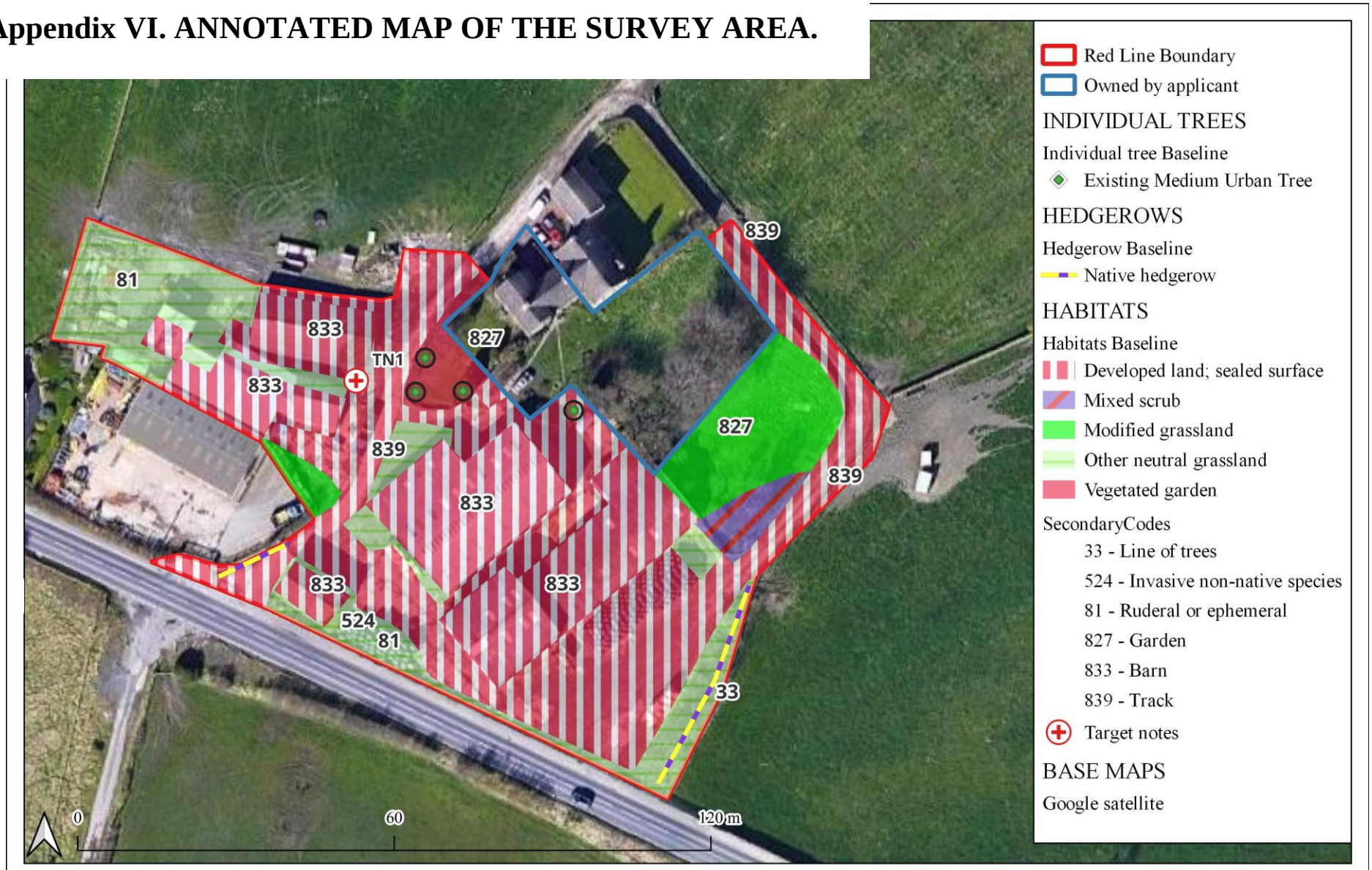
Invasive species listed under Schedule 9 are prohibited from release into the wild. Schedule 9, Section 14(2) prohibits 'planting' or 'causing to grow' in the wild of any plant listed in Part 2 of Schedule 9.

The following is a list of all the species of plant listed under Schedule 9 of The Wildlife and Countryside Act 1981.

Common Name	**Scientific Name**	**England & Wales**	**Scotland**
Alexanders, Perfoliate	*Smyrnium perfoliatum*	✓	
Algae, Red	*Grateloupia luxurians*	✓	
Archangel, Variegated Yellow	*Lamiastrum galeobdolon subsp. Argentatum*	✓	
Azalea, Yellow	*Rhododendron luteum*	✓	
Balsam, Himalayan	*Impatiens glandulifera*	✓	
Cotoneaster	*Cotoneaster horizontalis*	✓	
Cotoneaster, Entire Leaved	*Cotoneaster integrifolius*	✓	
Cotoneaster, Himalayan	*Cotoneaster simonsii*	✓	
Cotoneaster, Hollyberry	*Cotoneaster bullatus*	✓	
Cotoneaster, Small Leaved	*Cotoneaster microphyllus*	✓	
Creeper, False Virginia	*Parthenocissus inserta*	✓	
Creeper, Virginia	*Parthenocissus quinquefolia*	✓	
Dewplant, Purple	*Disphyma crassifolium*	✓	
False-acacia	*Robinia pseudoacacia*		✓
Fanwort	*Cabomba caroliniana*	✓	✓
Fern, Water	*Azolla filiculoides*	✓	✓
Fig, Hottentot	*Carpobrotus edulis*	✓	✓
Garlic, Three-Cornered	*Allium triquetrum*	✓	
Hogweed, Giant	*Heracleum mantegazzianum*	✓	✓
Hyacinth, water	*Eichhornia crassipes*	✓	✓
Kelp, Giant	*Macrocystis angustifolia*	✓	✓
Kelp, Giant	*Macrocystis integrifolia*	✓	✓
Kelp, Giant	*Macrocystis laevis*	✓	✓
Kelp, Giant	*Macrocystis pyrifera*	✓	✓
Kelp, Japanese	*Laminaria japonica*	✓	✓

Knotweed, Giant	*Fallopia sachalinensis*	✓	
Knotweed, Hybrid	*Fallopia japonica x Fallopia sachalinensis*	✓	
Knotweed, Japanese	*Fallopia japonica*	✓	
Knotweed, Japanese	*Polygonum cuspidatum*		✓
Leek, Few-flowered	*Allium paradoxum*	✓	✓
Lettuce, water	*Pistia stratiotes*	✓	✓
Montbretia	*Crocosmia x crocosmiiflora*	✓	
Parrot's-feather	*Myriophyllum aquaticum*	✓	
Pennywort, Floating	*Hydrocotyle ranunculoides*	✓	
Potato, Duck	*Sagittaria latifolia*	✓	
Primrose, Floating Water	*Ludwigia peploides*	✓	
Primrose, Water	*Ludwigia grandiflora*	✓	
Rhododendron	*Rhododendron ponticum*	✓	
Rhubarb, Giant	*Gunnera tinctorial*	✓	
Rose, Japanese	*Rosa rugosa*	✓	
Salvinia, Giant	*Salvinia molesta*	✓	✓
Seafingers, Green	*Codium fragile*	✓	
Seafingers, Green	*Codium fragile tomentosoides*		✓
Seaweed, Californian Red	*Pikea californica*	✓	✓
Seaweed, Hooked Asparagus	*Asparagopsis armata*	✓	✓
Seaweed, Japanese	*Sargassum muticum*	✓	✓
Seaweeds, Laver (except native species)	*Porphyra sp. except -* *P. amethystea* *P. leucosticta* *P. linearis* *P. miniata* *P. purpurea* *P. umbilicalis*	✓	✓
Shallon	*Gaultheria shallon*		✓
Stonecrop, Australian swamp	*Crassula helmsii*	✓	✓
Wakame	*Undaria pinnatifida*	✓	✓
Waterweed, Curly	*Lagarosiphon major*	✓	✓
Waterweeds	*All species of the genus Elodea*	✓	

Appendix VI. ANNOTATED MAP OF THE SURVEY AREA.



Site: Liley Hall, Grange Moor

Reference: 230833

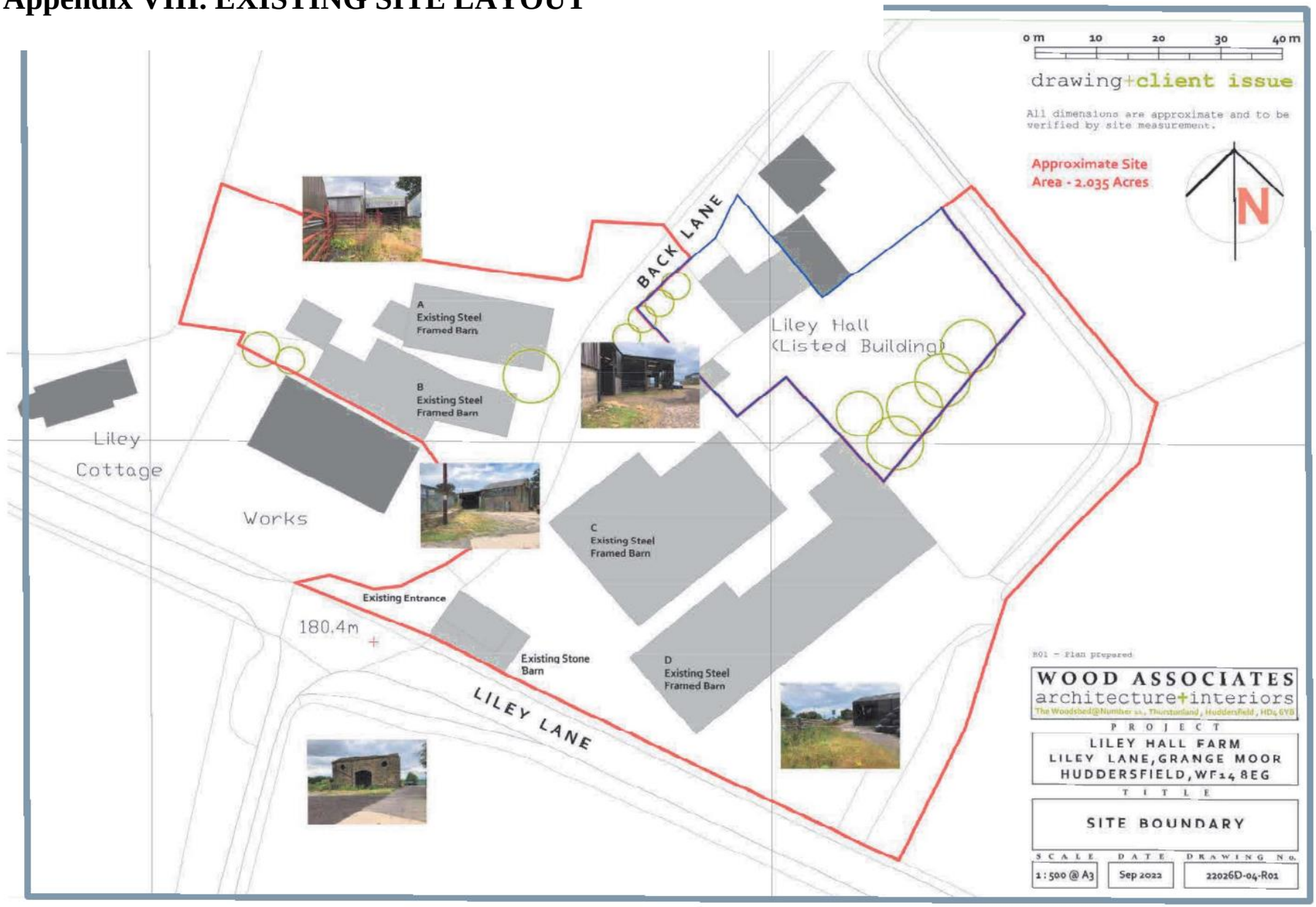
Date: 09.10.2023

Produced by: Jess Mason

Appendix VII. TARGET NOTES

TN1. Sycamore tree with low bat potential.

Appendix VIII. EXISTING SITE LAYOUT



EXISTING BUILDINGS