

Land at Alston's Dairy, Alston Lane, Preston PR3 3BN: Barn Development

**ECOLOGICAL SURVEY AND ASSESSMENT
(Including a Licensed Bat Survey)**

June 2024

ERAP (Consultant Ecologists) Ltd Reference: 2023-130

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CONTENTS

Summary	3
1.0 Introduction	4
1.1 Background and Rationale	4
1.2 Scope of Works.....	4
2.0 Method of Survey	5
2.1 Desktop Study and Data Search	5
2.2 Vegetation and Habitats	5
2.3 Animal Life.....	6
2.4 Survey and Reporting Limitations	9
2.5 Evaluation Methods	9
3.0 Survey Results	10
3.1 Desktop Study and Data Search	10
3.2 Vegetation and Habitats	14
3.3 Animal Life.....	15
4.0 Evaluation and Assessment	17
4.1 Introduction and Description of Proposals.....	17
4.2 Designated Sites for Nature Conservation	17
4.3 Vegetation and Habitats	17
4.4 Protected Species and Other Wildlife.....	17
5.0 Recommendations and Ecological Enhancement	18
5.1 Introduction	18
5.2 Protection of Habitats and Wildlife and Recommendations in Relation to Site Layout	18
5.3 Ecological Enhancements	19
6.0 Conclusion	22
7.0 References.....	23
8.0 Appendix: Tables, Photographs and Figures	25
8.1 Plant Species Lists	25
8.2 Photographs.....	27
8.3 Figures	29


List of Tables

Table 2.1: Consideration of Suitability of Foraging and Commuting Habitat for Bats	7
Table 2.2: Ponds within 500 metres of the Site	8
Table 2.3: Rapid Risk Assessment Result	8
Table 2.4: Important Habitat Characteristics for Reptiles	9
Table 3.1: BHS Within a 2 Kilometre Radius from the Centre of the Site	11
Table 3.2: Records of Protected Species Within a 2 Kilometre Radius from the Centre of the Site	12
Table 3.3: Bird species Detected on 24 th July 2023	16
Table 5.1: Suitable Native Species for Tree and Shrub Planting	21
Table 8.1: Plant Species List for Improved Grassland	25
Table 8.2: Plant Species List for Hedgerow 1	25
Table 8.3: Hedgerow Description and Assessment in Accordance with <i>The Hedgerows Regulations 1997</i>	26

List of Figures

Figure 1: Aerial Image of the Site and its Surroundings	29
Figure 2: Phase 1 Habitat and Vegetation Map	30

Document Control

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¹ Licence reference numbers		
Bats Brian Robinson Natural England Class Survey Licence (bats, Level 2) Registration Number 2015-13161-CLS-CLS		
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SUMMARY

- i. This ecological survey and assessment presents the ecological, biodiversity and nature conservation status of land at Alston's Dairy, Alston Lane, Preston PR3 3BN. The assessment was requested in connection with proposals to develop the site to a storage barn.
- ii. This report presents the results of a desktop study, data search, extended Phase 1 Habitat Survey and a licensed bat survey carried out in July 2023. The scope of survey undertaken is appropriate to identify potential ecological constraints, the remit of mitigation required and opportunities for biodiversity associated with the development proposals.
- iii. The site comprises a field of improved grassland and a hedgerow (Hedgerow 1). Three mature trees are present at the northern end of the site. A further hedgerow (Hedgerow 2) is located adjacent to, but beyond, the eastern site boundary.
- iv. The proposals will have no adverse direct or indirect effect on statutory or non-statutory designated sites for nature conservation.
- v. Only common and widespread plant species were found. None of the habitats present are representative of semi-natural habitat. The NVC communities present are typical of the geographical area and conditions present. Hedgerows 1 and 2 are Priority Habitat. No other Priority Habitats are present within the site. Measures for the protection of habitats within the site are presented at **Section 5.2**.
- vi. In terms of each habitat's importance in a geographical context, the hedgerows, trees and the improved grassland and are considered to be of 'site' importance.
- vii. No invasive plant species listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended) were detected within the site.
- viii. Hedgerows 1 and 2 and the trees are suitable for use by nesting birds; measures for the protection of nesting birds are presented at **Section 5.2**. Measures to enhance habitats within the site for nesting birds as part of the proposed development are presented at **Section 5.3**. The site supports suitable habitat for foraging hedgehog, which is a Priority Species. Measures for the protection of hedgehog and other wildlife during the construction phase of the proposed development are presented at **Section 5.2**. The presence of protected or notable species is otherwise reasonably discounted at the site.
- ix. The recommendations in **Section 5.0** outline all the mandatory measures and additional actions to be applied to ensure compliance with wildlife legislation, the National Planning Policy Framework (NPPF) and best practice.
- x. The proposals will secure an opportunity to implement beneficial measures such as habitat creation that will safeguard habitats for wildlife such as birds and bats, with the aim of providing a net gain in biodiversity in accordance with the principles of the NPPF.
- xi. It is concluded that the proposals are feasible and acceptable in accordance with ecological considerations and relevant planning policy. The proposed development at the site will provide an opportunity to secure ecological enhancement for wildlife associated with the wider area.

1.0 INTRODUCTION

1.1 Background and Rationale

- 1.1.1 ERAP (Consultant Ecologists) Ltd was commissioned by James Hall & Co (Properties) Ltd to carry out an ecological assessment of land at Alston's Dairy, Alston Lane, Preston PR3 3BN (hereafter referred to as the 'site'). The Ordnance Survey (OS) grid reference at the centre of the site is SD 60207 35608. An aerial image of the site and its surrounding habitats is appended at **Figure 1** (source image: ESRI World Imagery).
- 1.1.2 The assessment was requested in connection with a planning application to develop the site to a storage barn.

1.2 Scope of Works

- 1.2.1 The scope of ecological works undertaken in July 2023 comprised:
- A desktop study and data search for known ecological information at the site and the local area;
 - An Extended Phase 1 Habitat Survey and assessment;
 - Assessment of the ecological value of the habitats within the site with the use of the National Vegetation Classification (NVC) and the Ratcliffe criteria, as presented in *A Nature Conservation Review* (Ratcliffe, 1977);
 - Survey and assessment of all habitats for relevant statutorily protected species¹ and other wildlife including badger (*Meles meles*), bats, barn owl (*Tyto alba*), great crested newt (*Triturus cristatus*), bird species and reptiles;
 - The identification of any potential ecological constraints on the proposals and the specification of the scope of mitigation and ecological enhancement required in accordance with wildlife legislation, planning policy guidance and other relevant guidance; and
 - The identification of any further surveys or precautionary actions that may be required to inform the progression of the site through the planning process or prior to the commencement of any construction activities.

¹ In accordance with *Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and Their Impact on the Planning System* (Ministry of Housing, Communities & Local Government, 2005) developers should not be required to undertake surveys for protected species unless there is reasonable likelihood of the species being present and affected by the development. In this instance (for example) there are no water bodies or water courses within or adjacent to the site; there has been no requirement to consider water vole (*Arvicola amphibius*) or otter (*Lutra lutra*) as part of this assessment.

2.0 METHOD OF SURVEY

2.1 Desktop Study and Data Search

2.1.1 The following sources of information and ecological records were consulted:

- a. MAGiC Maps: A web-based interactive map which brings together geographic information on key environmental schemes and designations, including details of statutory nature conservation sites;
- b. Lancashire Environment Record Network (LERN); and
- c. Lancashire Biodiversity Action Plan (BAP).

2.2 Vegetation and Habitats

2.2.1 An Extended Phase 1 Habitat Survey of the site was carried out by Brian Robinson on 24th July 2023. The weather was dry and sunny with a light air (Beaufort scale 1) and an air temperature of 17°C.

2.2.2 A habitat and vegetation map was produced for the site and the immediate surrounding area at a scale of 1:1,000 and is appended at **Figure 2**. The mapping is based on the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC, 2010) with minor adjustments to illustrate and examine the habitats with greater precision.

2.2.3 On site habitat mapping was assisted via use of GPS technology using *ESRI World Imagery* as a base plan.

2.2.4 The plant species within the site boundary were determined with estimates of the distribution, ground cover, abundance and constancy of individual species. The estimation of abundance was based on the DAFOR system, where D = Dominant, A = Abundant, F = Frequent, O = Occasional and R = Rare, this being a widely used and accepted system employed by ecological surveyors. The terms L = Locally and V = Very were additionally used to describe the plant species distributions with greater precision.

2.2.5 Stands of vegetation and habitats were described and evaluated using the National Vegetation Classification (NVC). The NVC provides a systematic and comprehensive analysis of British vegetation and is a reliable framework for nature conservation and land-use planning.

2.2.6 Habitats within the site were assessed in accordance with the UK Habitats Classification / UKHab (Butcher, et al., 2020). The UKHab has been designed to function at two scales: fine scale (25m² or 5 metres length) and large scale (400m² or 20 metres length). It has been considered for the purposes of this survey that the fine scale of 25m² or 5 metres length is appropriate.

2.2.7 Hedgerows were assessed in accordance with *The Hedgerows Regulations 1997* wildlife and landscape criteria (H.M.S.O., 1997).

2.2.8 The tree, tree group and hedgerow references used in *Alston Dairy, Alston, Preston: Tree Survey and Root Protection Area Dwg No. 7274.01* (Trevor Bridge Associates Ltd, 2023) and *Alston Dairy, Preston Road, Longridge: Tree Survey Report* (Trevor Bridge Associates Ltd, 2023), hereafter the 'TBA tree survey report' are presented in the habitat descriptions of report for ease of cross-referencing between documents.

2.2.9 Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the *Wildlife and Countryside Act 1981* (as amended) and species which are indicators of important and uncommon plant communities. Plant nomenclature follows *New Flora of the British Isles 3rd Edition* (Stace, 2010).

2.2.10 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended), including Japanese Knotweed (*Fallopia japonica*), Indian Balsam (*Impatiens glandulifera*) and Giant Hogweed (*Heracleum mantegazzianum*).

2.3 Animal Life

Badger

- 2.3.1 The survey area for badger covered the site (as annotated on **Figure 2**) and extended to accessible land within a radius of 50 metres from the site boundary. Private gardens / land were excluded from the survey.
- 2.3.2 The survey was conducted in accordance with guidance presented within *Badgers and Development* (Natural England, 2007) and *Badgers: advice for making planning decisions* (Natural England, 2022).
- 2.3.3 The following signs of badger activity were searched for:
- a. Sett entrances, e.g. entrances that are normally 25 to 35cm in diameter and shaped like a 'D' on its side;
 - b. Large spoil heaps outside sett entrances;
 - c. Bedding outside sett entrances;
 - d. Badger footprints;
 - e. Badger paths;
 - f. Latrines;
 - g. Badger hairs on fences or bushes;
 - h. Scratching posts; and
 - i. Signs of digging for food.
- 2.3.4 Habitats within and surrounding the site were assessed in terms of their suitability for use by foraging and sheltering badger in accordance with their known habitat preferences as detailed in current guidance and *Badger* (Roper, 2010).

Bat Species

Daylight Survey: Trees

- 2.3.5 The site was assessed for its suitability to support roosting bats by Brian Robinson, Natural England Class Survey Licence WML CL18 (Bat Survey Level 2), Registration Number 2015-13161-CLS-CLS. The surveyor's qualifications and experience meet the criteria as defined in the *Technical Guidance Series Competencies for Species Survey: Bats* (CIEEM, 2013).
- 2.3.6 A preliminary assessment of the trees within and within proximity to the site was conducted to assess their suitability for use by roosting bats, and to inform whether further surveys or precautionary measures were required. Trees were assessed from the ground using binoculars and a high-powered torch. Each tree was searched for the presence of the following features:
- Woodpecker holes, rot holes, hazard beams, other vertical or horizontal cracks or splits in stems and branches, partially decayed platey bark, knot holes, man-made holes, tear-outs, cankers in which cavities have developed, other hollows or cavities, including butt-rots, double-leaders forming compression forks with included bark, gaps between overlapping stems or branches, partially detached Ivy (Hedera helix) with stem diameters in excess of 50mm and bat, bird or dormouse (Muscardinus avellanarius) boxes.*
- 2.3.7 Terms used to describe any features present follow (where possible) those outlined and described in *Bat Tree Habitat Key, 2nd Edition* (Andrews, H (ed), 2013) and *Bat Roosts in Trees: A Guide to Identification and Assessment for Tree-care and Ecology Professionals* (BTHK, 2018).

Habitat Assessment for Commuting / Foraging Bats

2.3.8 Habitats within and adjacent to the site were assessed for their value and suitability for commuting and foraging bats in accordance with Table 4.1 of *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn)*, (Collins, J. (ed), 2016). Reference has been made to the categories and descriptions / examples, presented in **Table 2.1**.

Table 2.1: Consideration of Suitability of Foraging and Commuting Habitat for Bats

Suitability	Commuting Habitat	Foraging Habitat
Negligible	Negligible habitat features on site likely to be used by commuting bats.	Negligible habitat features on site likely to be used by foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated i.e. not very well connected to the surrounding landscape by other habitat.	Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree or patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.	Habitat that is linked to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape and is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. Habitats close to and connected to known roosts.	High-quality habitat that is well-connected to the wider landscape and is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Habitats close to and connected to known roosts.

Bird Species

- 2.3.9 Bird species observed and heard during the survey were recorded.
- 2.3.10 Habitats throughout the site and in the immediate surrounding area were assessed for their value to roosting, feeding and nesting birds, as indicated by the amount of shelter, feeding value, woody vegetation structure and species diversity of tree and shrub species in the site.
- 2.3.11 All visible and audible birds were recorded during the site survey following the standard recording methodology and codes of the *British Trust for Ornithology (BTO) Common Birds Census* (Marchant, 1983).

Great Crested Newt

Desktop Search for Ponds

- 2.3.12 In accordance with *Great crested newts: advice for making planning decisions* (Natural England, 2022) all ponds within an unobstructed 500 metres of a site should be considered for their suitability to support breeding great crested newts. The potential of the proposed development to impact upon any great crested newt population(s) whose breeding ponds are within 500 metres must be considered.
- 2.3.13 The search of habitats in the wider area up to a distance of 500 metres from the site boundary revealed the presence of nine ponds, as detailed in **Table 2.2**.

Table 2.2: Ponds within 500 metres of the Site

Pond Reference	OS Grid Reference	Distance and Direction from the Site
Pond 1	SD 60165 35702	35 metres to the north-west
Pond 2	SD 60119 35608	46 metres to the west
Pond 3	SD 60085 35649	89 metres to the west
Pond 4	SD 59979 35697	193 metres to the west
Pond 5	SD 59933 35671	243 metres to the west
Pond 6	SD 59883 35633	287 metres to the west
Pond 7	SD 59896 35730	265 metres to the west
Pond 8	SD 60607 35349	433 metres to the south-east
Pond 9	SD 60560 35263	448 metres to the south-east

Consideration of Requirement for Further Survey

2.3.14 The requirement for further survey at each pond was then assessed using the following criteria:

- a. Presence of dispersal barriers to great crested newt movements between ponds and the site, as detected during the walkover survey;
- b. Distance of ponds from the site, and the potential influence of the proposed development of the site on any populations of great crested newt (if present at ponds), using the Natural England rapid risk assessment tool; and
- c. Presence of other ponds which may form metapopulations and / or alter the influence of the site on ponds at greater distances.

Presence of Dispersal Barriers

2.3.15 Preston Road is located to the west of the site and is a 10 metres wide main thoroughfare which supported a constant flow of traffic during the Phase 1 Habitat Survey. It is considered that the road presents a significant dispersal barrier to amphibian species; the road is likely to form a dispersal barrier to any amphibian species associated with Ponds 1 to 7, all of which are located to the west of the road.

2.3.16 No significant dispersal barrier is present between Ponds 8 and 9 and the site; although the ponds lie across the existing farm buildings and hard standing associated with Alston’s Dairy it is considered these buildings represent only a minor dispersal barrier.

Consideration of Distance of Ponds from Site and Relative Size of Site

2.3.17 To inform the requirement for further surveys, the Natural England Rapid Risk Assessment tool from *GCN Method Statement WML-A14-2 (Version April 2020)* (Natural England, 2020) has been completed, as presented in **Table 2.3**.

2.3.18 The tool has been completed based on the distances of the ponds from the site, and the size of the development site (0.65 hectares, or ‘ha’). The rapid risk assessment tool assumes that great crested newt are present.

Table 2.3: Rapid Risk Assessment Result

Component	Likely Effect	Notional Offence Probability Score
Great crested newt breeding pond(s)	No effect	0.00
Land within 100m of any breeding pond(s)	No effect	0.00
Land 100-250m from any breeding pond(s)	No effect	0.00
Land >250m from any breeding pond(s)	0.1 – 0.5 ha lost or damaged	0.03
Individual great crested newts	No effect	0
	Maximum:	0.03
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

2.3.19 The results of the Natural England Rapid Risk Assessment indicate that the site is sufficiently small and distant from all ponds (which do not lie across significant dispersal barriers) that any proposed development is highly unlikely to impact upon great crested newt populations (if present). Impacts to great crested newt are reasonably discounted.

Reptile Species

2.3.20 The site and its surroundings were assessed in terms of their suitability for use by reptile species using the important characteristics for reptiles outlined in the draft document ‘*Reptile Mitigation Guidelines*’ (Natural England, 2011), and the *Reptile Habitat Management Handbook* (Edgar, et al., 2010). These habitat characteristics are outlined in **Table 2.4**.

Table 2.4: Important Habitat Characteristics for Reptiles

1. Location (in relation to species range)	7. Connectivity to nearby good quality habitat
2. Vegetation Structure	8. Prey abundance
3. Insolation	9. Refuge opportunity
4. Aspect	10. Hibernation habitat potential
5. Topography	11. Disturbance regime
6. Surface geology	12. Egg-laying site potential

Other Wildlife

2.3.21 Evidence of other wildlife (including Priority Species) observed whilst on site (but for which specific surveys were not made) was recorded and has been included in this report where it is considered of relevance to the planning application. Habitats have been assessed for their suitability for Priority Species identified in the data search results where this is considered relevant to the application.

2.4 Survey and Reporting Limitations

2.4.1 The whole site was accessible and the survey was completed at a suitable time of year. No survey limitations were experienced.

2.4.2 All measurements within this report are approximate only, and have been either measured (using QField) or estimated whilst on site or calculated using mapping software (QGIS) or internet-based mapping services such as MAGIC Maps and Google Earth.

2.5 Evaluation Methods

2.5.1 The habitats, vegetation and animal life were evaluated with reference to standard nature conservation criteria as described in *A Nature Conservation Review* (Ratcliffe, 1977) and *Guidelines for the Selection of Biological SSSIs* (Bainbridge, et al., 2013). These are size (extent), diversity, naturalness, rarity, fragility, typicality, recorded history, position in an ecological or geographical unit, potential value and intrinsic appeal.

2.5.2 Habitats have been assessed to determine whether they meet those described in *UK Biodiversity Action Plan: Priority Habitat Descriptions* (Maddock, A (ed), 2008); these lists are used to help draw up the statutory lists of Priority Habitats, as required under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006*. Where suitable, the ecological value of the habitats present has been assessed using the terms outlined in *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018).

2.5.3 Government advice on wildlife, as set out in the *National Planning Policy Framework* (Ministry of Housing, Communities and Local Government, 2023) and associated government circulars has been taken into consideration. Legislation relating to protected species, such as those listed under Schedules 1, 5, 6 and 8 of the *Wildlife and Countryside Act 1981* (as amended) and *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019*, is referenced where applicable, and any impacts to protected species are evaluated in accordance with current guidance.

- 2.5.4 The presence of any Priority Species, as listed under Section 41 of the *Natural Environment and Rural Communities (NERC) Act 2006* is noted, and habitats are assessed in terms of their suitability and value for these species. The presence of habitats and / or species listed by the Lancashire BAP Provisional Long List has been taken into account in the evaluation of the site.

3.0 SURVEY RESULTS

3.1 Desktop Study and Data Search

Statutory Designated Sites for Nature Conservation and SSSI Impact Risk Zones

- 3.1.1 The site is not and does not form part of any statutory designated site for nature conservation.
- 3.1.2 The site lies within a Site of Special Scientific Interest (SSSI) Impact Risk Zone for Red Scar and Tun Brook Woods SSSI located 1.6 kilometres to the north-east of the site and are designated for Red Scar and Tun Brook Woods SSSI, which is located 1.8 kilometres to the south-west of the site.
- 3.1.3 The SSSI Impact Risk Zone requires the Local Planning Authority to consult with Natural England on likely risks from the following development categories (Ordnance Survey, 2023):
- Pipelines and underground cables, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.
 - Planning applications for quarries, including: new proposals, Review of Minerals Permissions, extensions, variations to conditions etc. Oil and gas exploration / extraction.
 - Large non-residential developments outside existing settlements / urban areas where the footprint exceeds 1 hectare.
 - Any residential development of 100 or more houses outside existing settlements / urban areas.
 - Any industrial / agricultural development that could cause air pollution (includes industrial processes, livestock and poultry units with a floorspace greater than 500m², slurry lagoons and digestate stores greater than 200m² and manure stores greater than 250 tonnes).
 - General combustion processes greater than 20 megawatts energy input. Includes energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis / gasification, anaerobic digestion, sewage treatment works and other incineration / combustion.
 - Landfill. Includes inert landfill, non-hazardous landfill and hazardous landfill.
 - Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Includes open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
 - Any discharge of water or liquid waste of more than 5m³ per day to ground (i.e. to seep away) or to surface water, such as a beck or stream.
 - Large infrastructure such as warehousing / industry where the total net additional gross internal floorspace following development is 1,000m² or more.
- 3.1.4 The proposals do not meet any of the development categories which would require the Local Planning Authority to consult with Natural England in relation to likely risks from the proposed development.

Non-statutory Designated Sites for Nature Conservation

- 3.1.5 The site is not and does not form part of any non-statutory designated site for nature conservation, called 'Biological Heritage Sites' or 'BHS' in Lancashire.

3.1.6 Twelve BHS are located within a 2 kilometres radius from the centre of the site, and are summarised at **Table 3.1**.

Table 3.1: BHS Within a 2 Kilometre Radius from the Centre of the Site

BHS Name	Distance and Direction from the Site	Reasons for Designation
Alston Reservoirs	0.22 kilometres to the north-east	Two neighbouring reservoirs which support high diversity and good numbers of wintering wildfowl. The embankments support species-rich grassland.
Grimsargh Reservoirs	1.13 kilometres south-west	Reservoir supports large numbers (over 60 species) of breeding and wintering birds and reservoir banks support species-rich grassland.
Norcross Grassland	1.15 kilometres east	Site runs along both sides of the stream to the north of Norcross Wood BHS. Supporting semi-improved grassland, much of which is species-rich.
Norcross Wood	1.25 kilometres south-east	Semi-natural woodland which is identified within Natural England's Inventory of Ancient Woodland.
Wood Top Wood	1.31 kilometres south-west	Semi-natural, broad-leaved woodland alongside Tun Brook. Part of the woodland is included in the <i>Lancashire Inventory of Ancient Woodland (Provisional)</i> .
College Wood	1.32 kilometres north-east	Semi-natural woodland with a stream running through. The woodland is listed in the <i>Lancashire Inventory of Ancient Woodland (Provisional)</i> .
Norcross Pond	1.40 kilometres east	Small pond with surrounding vegetation. Common Club-rush present at the pond margins and is included in the <i>Provisional Lancashire Red Data List of Vascular Plants</i> .
King Wood	1.51 kilometres south-east	Semi-natural woodland which is identified within Natural England's Inventory of Ancient Woodland.
Whittingham Mires and Ponds	1.65 kilometres west	Two areas of wetland complexes supporting great crested newt, common frog and a good range of invertebrates.
Gib Holme Wood	1.81 kilometres south	Ancient, semi-natural woodland which is included in the Lancashire Inventory of Ancient Woodland (Provisional). Three species included in the <i>Provisional Lancashire Red Data List of Vascular Plants</i> are present; yellow star-of-Bethlehem, thin-spiked wood-sedge and yellow archangel. Wet woodland is present, which is a UK BAP priority habitat.
Alston Wood	1.82 kilometres south	Steeply sloping, semi-natural wood situated on the bank of the River Ribble, listed in the Inventory of Ancient Woodland. The woodland is important for breeding birds.
Leece's Wood	1.84 kilometres east	Semi-natural woodland which is identified within Natural England's Inventory of Ancient Woodland.

3.1.7 The presence of the BHS is considered further at **Section 4.2**. The site is located within a Forestry Commission (FC) / British Trust for Ornithology (BTO) Wader Zonal Map. This is also considered further at **Section 4.2**.

Priority Habitats Inventory and Soilscape Information

3.1.8 The Priority Habitats Inventory² was checked via MAGiC Maps. No Priority Habitats are identified at the site by the inventory.

3.1.9 In accordance with *Soilscape (England)* as presented on MAGiC Maps (National Soil Resources Institute, 2005), the site supports '*slowly permeable seasonally wet, slightly acid but base-rich loamy and clayey soils*', and the characteristic semi-natural habitats associated with the soils comprise '*lowland seasonally wet pastures and woodlands*'.

² A spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.

Protected and Notable Species

- 3.1.10 LERN hold no records of protected and notable species for the site.
- 3.1.11 Records of protected and notable species for a 2 kilometre radius from the centre of the site are summarised at **Table 3.2**.

Table 3.2: Records of Protected Species Within a 2 Kilometre Radius from the Centre of the Site

Taxon Group	Species Name and Designations ¹ and Notes
Amphibians	Common frog (<i>Rana temporaria</i>): WCAs5 (sale only) & LBAP. 103 records, dated between 1997 and 2020. The closest record is 390 metres to the north-west, and from 2011.
	Common toad (<i>Bufo bufo</i>): WCAs5 (sale only), PS & LBAP. 62 records, dated between 2006 and 2011. The closest record is 435 metres to the north-west, and from 2011.
	Great crested newt (<i>Triturus cristatus</i>): EPS, WCAs5, PS & LBAP. 145 records, dated between 1997 and 2017. The closest record is 265 metres to the north-east, and from 2003.
	Palmate newt (<i>Lissotriton helveticus</i>): WCAs5 (sale only). 13 records, all from 2006. The closest record is 1865 metres to the south.
	Smooth newt (<i>Lissotriton vulgaris</i>): WCAs5 (sale only). 68 records, dated between 2006 and 2017. The closest record is 390 metres to the north-west, and from 2011.
Birds – WCAs1	Barn owl (<i>Tyto alba</i>): WCAs1. 2 records, dated 2006 and 2009. The closest record is 1465 metres to the south-west, and from 2009.
	Brambling (<i>Fringilla montifringilla</i>): WCAs1. 15 records, dated between 1995 and 1996. The closest record is 1660 metres to the south-east, and from 1996.
	Goldeneye (<i>Bucephala clangula</i>): WCAs1. 5 records, dated between 1990 and 2006. The closest record is 500 metres to the north-east, and from 1990.
	Green sandpiper (<i>Tringa ochropus</i>): WCAs1. 1 record from 2006, located 1465 metres to the south-west.
	Greenshank (<i>Tringa nebularia</i>): WCAs1. 1 record from 2006, located 1465 metres to the south-west.
	Hobby (<i>Falco subbuteo</i>): WCAs1 & LBAP. 1 record from 2009, located 1465 metres to the south-west.
	Little ringed plover (<i>Charadrius dubius</i>): WCAs1 & LBAP. 11 records, dated between 2006 and 2013. The closest record is 870 metres to the north, and from 2013.
	Long-tailed duck (<i>Clangula hyemalis</i>): WCAs1. 1 record from 1990, located 1095 metres to the north-east.
	Pintail (<i>Anas acuta</i>): WCAs1 & LBAP. 2 records, dated 1990 and 2006. The closest record is 1095 metres to the north-east, and from 1990.
	Redwing (<i>Turdus iliacus</i>): WCAs1. 11 records, dated between 1995 and 1997. The closest record is 1660 metres to the south-east, and from 1997.
	Ruff (<i>Calidris pugnax</i>): WCAs1 & LBAP. 1 record from 1990, located 1095 metres to the north-east.
	Scaup (<i>Aythya marila</i>): WCAs1 & PS. 1 record from 2006, located 1465 metres to the south-west.
	Whimbrel (<i>Numenius phaeopus</i>): WCAs1 & LBAP. 6 records, dated between 2006 and 2010. The closest record is 1465 metres to the south-west, and from 2010.
Birds – PS & LBAP	PS & LBAP: Skylark (<i>Alauda arvensis</i>), cuckoo (<i>Cuculus canorus</i>), reed bunting (<i>Emberiza schoeniclus</i>), herring gull (<i>Larus argentatus</i>), yellow wagtail (<i>Motacilla flava</i>), curlew (<i>Numenius arquata</i>), house sparrow (<i>Passer domesticus</i>), tree sparrow (<i>Passer montanus</i>), grey partridge (<i>Perdix perdix</i>), dunnock (<i>Prunella modularis</i>), bullfinch (<i>Pyrrhula pyrrhula</i>), starling (<i>Sturnus vulgaris</i>), song thrush (<i>Turdus philomelos</i>), and lapwing (<i>Vanellus vanellus</i>).
	PS Only: Lesser redpoll (<i>Acanthis cabaret</i>), linnet (<i>Linaria cannabina</i>) and marsh tit (<i>Poecile palustris</i>).
	LBAP Only: Common sandpiper (<i>Actitis hypoleucos</i>), shoveler (<i>Anas clypeata</i>), teal (<i>Anas crecca</i>), wigeon (<i>Anas penelope</i>), gadwall (<i>Anas strepera</i>), meadow pipit (<i>Anthus pratensis</i>), grey heron (<i>Ardea cinerea</i>), pochard (<i>Aythya ferina</i>), dunlin (<i>Calidris alpina</i>), knot (<i>Calidris canutus</i>), ringed plover (<i>Charadrius hiaticula</i>), black-headed gull (<i>Chroicocephalus ridibundus</i>), kestrel (<i>Falco tinnunculus</i>), snipe (<i>Gallinago gallinago</i>), oystercatcher (<i>Haematopus ostralegus</i>), lesser black-backed gull (<i>Larus fuscus</i>), great black-backed gull (<i>Larus marinus</i>), yellow wagtail (<i>Motacilla flava</i> subsp. <i>flavissima</i>), willow warbler

Taxon Group	Species Name and Designations ¹ and Notes
	<i>(Phylloscopus trochilus)</i> , whinchat (<i>Saxicola rubetra</i>), shelduck (<i>Tadorna tadorna</i>) and redshank (<i>Tringa totanus</i>).
Flowering plants	LBAP Only: Bog Pimpernel (<i>Anagallis tenella</i>), Barberry (<i>Berberis vulgaris</i>), Wild Cabbage (<i>Brassica oleracea</i>), Thin-spiked Wood-sedge (<i>Carex strigosa</i>), Wood Crane's-bill (<i>Geranium sylvaticum</i>), Sheep's-bit (<i>Jasione montana</i>), Bristly Oxtongue (<i>Picris echinoides</i>), Red Pondweed (<i>Potamogeton alpinus</i>), Blunt-leaved Pondweed (<i>Potamogeton obtusifolius</i>), Wintergreen (<i>Pyrola rotundifolia</i> subsp. <i>maritima</i>), Pond Water-crowfoot (<i>Ranunculus peltatus</i>) and Round-leaved Dog-rose (<i>Rosa obtusifolia</i>).
Insects Butterflies	PS & LBAP: Wall (<i>Lasiommata megera</i>).
Insects – Moths	<p>PS & LBAP: Garden tiger (<i>Arctia caja</i>), figure of eight (<i>Diloba caeruleocephala</i>) and brindled beauty (<i>Lycia hirtaria</i>).</p> <p>PS Only: Grey dagger (<i>Acronicta psi</i>), knot grass (<i>Acronicta rumicis</i>), green-brindled crescent (<i>Allophyes oxyacanthae</i>), ear moth (<i>Amphipoea oculea</i>), dusky brocade (<i>Apamea remissa</i>), centre-barred sallow (<i>Atethmia centrigo</i>), mottled rustic (<i>Caradrina morpheus</i>), haworth's minor (<i>Celaena haworthii</i>), latticed heath (<i>Chiasmia clathrata</i>), small square-spot (<i>Diarsia rubi</i>), small phoenix (<i>Ecliptopera silaceata</i>), dusky thorn (<i>Ennomos fuscantaria</i>), autumnal rustic (<i>Eugnorisma glareosa</i>), spinach (<i>Eulithis mellinata</i>), ghost moth (<i>Hepialus humuli</i>), rustic (<i>Hoplodrina blanda</i>), rosy rustic (<i>Hydraecia micacea</i>), dot moth (<i>Melanchnra persicariae</i>), powdered quaker (<i>Orthosia gracilis</i>), large wainscot (<i>Rhizedra lutosa</i>), shaded broad-bar (<i>Scotopteryx chenopodiata</i>), white ermine (<i>Spilosoma lubricipeda</i>), feathered gothic (<i>Tholera decimalis</i>), cinnabar (<i>Tyria jacobaeae</i>), oak hook-tip (<i>Watsonalla binaria</i>), dark-barred twin-spot carpet (<i>Xanthorhoe ferrugata</i>) and heath rustic (<i>Xestia agathina</i>).</p> <p>LBAP Only: Northern deep-brown dart (<i>Aporophyla lueneburgensis</i>), gold spangle (<i>Autographa bractea</i>), puss moth (<i>Cerura vinula</i>), burnet companion (<i>Euclidia glyphica</i>), netted pug (<i>Eupithecia venosata</i>) and chimney sweeper (<i>Odezia atrata</i>).</p>
Reptiles	Grass snake (<i>Natrix helvetica</i>): WCAs5, PS & LBAP 1 record from 1995. An accurate estimation of distance of the record to the site cannot be made due to the locational data being less than a six figure grid reference.
Spiders	LBAP: <i>Halorates distinctus</i> and <i>Moebelia penicillate</i> .
Terrestrial Mammals	<p>Brown long-eared bat (<i>Plecotus auritus</i>): EPS, WCAs5, PS & LBAP. 2 records, dated 2015 and 2019. The closest record is 1460 metres to the south-west, and from 2015.</p> <p>European otter (<i>Lutra lutra</i>): EPS, WCAs5, PS & LBAP. 2 records, dated 1970 and 2017. The closest record is 1285 metres to the south-west, and from 2017.</p> <p>Noctule bat (<i>Nyctalus noctula</i>): EPS, WCAs5, PS & LBAP. 5 records, dated between 2009 and 2019. The closest record is 1350 metres to the south-west, and from 2017.</p> <p>Bats (Order <i>Chiroptera</i>): EPS, WCAs5 & LBAP. 4 records, dated between 1999 and 2017. The closest record is 440 metres to the north, and from 2017.</p> <p>Daubenton's bat (<i>Myotis daubentonii</i>): EPS, WCAs5 & LBAP. 4 records, dated between 2009 and 2019. The closest record is 1350 metres to the south-west, and from 2017.</p> <p>Long-eared bat species (<i>Plecotus</i> sp.): EPS, WCAs5 & LBAP. 1 record from 2017, located 1350 metres to the south-west.</p> <p>Common pipistrelle (<i>Pipistrellus pipistrellus</i>): EPS, WCAs5 & LBAP. 8 records, dated between 1986 and 2018. The closest record is 550 metres to the south-west, and from 2013.</p> <p>Brown hare (<i>Lepus europaeus</i>): PS & LBAP. 11 records, dated between 1970 and 2020. The closest record is 375 metres to the north-east, and from 2012.</p> <p>West European hedgehog (<i>Erinaceus europaeus</i>): PS & LBAP. 12 records, dated between 2009 and 2020. The closest record is 440 metres to the north-west, and from 2011.</p> <p>Eurasian badger (<i>Meles meles</i>): PBA 1 record from 2019. An accurate estimation of distance of the record to the site cannot be made due to the locational data being less than a six figure grid reference.</p>
<p>¹Key to Designation Codes:: EPS = European Protected Species under <i>The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019</i>. WCAs1 = Species receives full protection under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). WCAs5 = Species receives full protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). PBA = Protection of Badger Act 1992. PS = Priority Species listed under Section 41 of the NERC Act 2006. LBAP = Species listed on the Lancashire Biodiversity Action Plan Provisional Long List.</p>	

3.1.12 The presence of these protected and notable species within the wider area has been taken into account throughout this report.

3.2 Vegetation and Habitats

General Description

3.2.1 The approximately 0.65 hectares site is located within rural surroundings and comprises a portion of a field of improved grassland. Hedgerow 1 is located to the west of the site and Hedgerow 2 is located beyond the eastern site boundary. Three mature trees are located at the northern site boundary.

3.2.2 The northern site boundary is defined by a wall beyond which lies Pinfold Lane and a further field of improved grassland. The eastern site boundary is defined by fencing, Hedgerow 2 and trees associated with a residential garden. The southern site boundary is not defined by any landscape feature but is located within a field of improved grassland. The western site boundary is defined by Hedgerow 1, beyond which lies Preston Road.

3.2.3 A Phase 1 Habitat Survey map is appended at **Figure 2**, and can be referred to for all habitat descriptions. Photographs are appended at **Section 8.2**.

Improved grassland

3.2.4 Refer to **Photo 1**. The improved grassland is characterised by constant and abundant Perennial Rye-grass (*Lolium perenne*), occasional and locally frequent Spear Thistle (*Cirsium vulgare*), Greater Plantain (*Plantago major*) and White Clover (*Trifolium repens*), occasional Common Bent (*Agrostis capillaris*), Creeping Bent (*Agrostis stolonifera*), Annual Meadow-grass (*Poa annua*) and Smooth Meadow-grass (*Poa pratensis*) and very locally frequent Pineappleweed (*Matricaria discoidea*), Broad-leaved Dock (*Rumex obtusifolius*) and Common Nettle (*Urtica dioica*). A plant species list is appended at **Table 8.1**.

3.2.5 The habitat is typical of the Phase 1 habitat type 'B4 Improved grassland' and is indicative of a *MG7 Lolium perenne leys and related grasslands* (Rodwell, 1992) of the NVC. The habitat is described by the UKHab as g4 modified grassland with the secondary code(s) 75 active management, 59 cattle grazed and 60 sheep grazed.

Hedgerow 1

3.2.6 Refer to **Photos 2 and 3**. Hedgerow 1 (22H) in the TBA tree survey report) is located at the western site boundary. The hedgerow is 1.5 metres tall and wide and 100 metres long.

3.2.7 The flailed hedgerow is characterised by constant and abundant Hawthorn (*Crataegus monogyna*), occasional and locally frequent Beech (*Fagus sylvatica*), occasional Ash (*Fraxinus excelsior*) and locally abundant Blackthorn (*Prunus spinosa*) with a ground flora characterised by occasional and locally frequent False Oat-grass (*Arrhenatherum elatius*) and Yorkshire-fog, occasional Ground-elder (*Aegopodium podagraria*), Cow Parsley (*Anthriscus sylvestris*) and Cock's-foot (*Dactylis glomerata*) and locally frequent Hedge Bindweed (*Calystegia sepium*). A plant species list is appended at **Table 8.2**.

3.2.8 The habitat is typical of the Phase 1 habitat type 'J2.1.2 Intact hedge, native species-poor' and is indicative of a *W21 Crataegus monogyna – Hedera helix scrub* (Rodwell, 1991) of the NVC. The habitat is described by the UKHab as h2a hedgerow (Priority Habitat) with the secondary code(s) 11 scattered trees and 81 flailed hedgerow.

3.2.9 The hedgerow is not 'important' in accordance with *The Hedgerows Regulations 1997* Wildlife and Landscape criteria. A full assessment of the hedgerow in accordance with *The Hedgerow Regulations 1997* is appended at **Table 8.3**.

Hedgerow 2

- 3.2.10 Refer to **Photo 4**. Hedgerow 2 (16H in the TBA tree survey report) is located outside the site but in proximity to its eastern boundary and has been included for completeness.
- 3.2.11 The 125 metres long section adjacent to the site boundary forms part of a 250 metres long hedgerow which is characterised by constant and abundant Hawthorn (*Crataegus monogyna*) with locally frequent Blackthorn (*Prunus spinosa*). A single mature Ash (*Fraxinus excelsior*) is located within the hedgerow to the south of the site. The hedgerow supports only 2 woody species on average and is therefore not 'important' in accordance with *The Hedgerows Regulations 1997* Wildlife and Landscape criteria. A full assessment of the hedgerow in accordance with *The Hedgerow Regulations 1997* is appended at **Table 8.3**. The hedgerow, being composed of 80% or more of a native woody species, is considered a Priority Habitat.
- 3.2.12 A group of Horse-chestnut (*Aesculus hippocastanum*), Silver Birch (*Betula pendula*), Cherry (*Prunus* sp.) and Pine species (*Pinus* sp.) are located within the garden at the northern end of the hedgerow.
- 3.2.13 Hedgerow 2 is described by the UKHab as h2a hedgerow (Priority Habitat) with the secondary codes 11 scattered trees and 75 active management, and holds characteristics of a *W21 Hawthorn - Ivy scrub* (Rodwell, 1991) NVC community.

Trees

- 3.2.14 Refer to **Photos 5, 6 and 7**. Two mature Ash, namely Trees 1 and 2 (18T and 19T in the TBA tree survey report respectively) and Tree 3, a mature Beech (20T) are present at the northern site boundary.
- 3.2.15 Tree 3 is associated with Hedgerow 1. Tree 1 and 2 are not considered not form a tree line as they are less than 20 metres in length, and are therefore described by the UKHab using the secondary code '154 open grown trees' under the primary 'g4 modified grassland' habitat type.

Invasive Plant Species

- 3.2.16 No invasive plant species listed under Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended) were detected within the site.

3.3 Animal Life

Badger

- 3.3.1 No badger or signs of badger were detected within the site or within the access 50 metres around the site. The presence of badger is reasonably discounted.

Bat Species

Daylight Survey: Trees

- 3.3.2 No features suitable for use by roosting bats were detected at any of the trees within the site. The potential for roosting bats at the trees within the site is reasonably discounted.

Habitat Assessment for Commuting and Foraging Bats

- 3.3.3 The hedgerow, trees line and grassland habitats present may be suitable for, and contribute to, the wider foraging area of low numbers of common species of edge-feeding foraging bats, such as common pipistrelle (*Pipistrellus pipistrellus*), and also low numbers of species known to forage over open habitats and over wide areas, such as noctule (*Nyctalus noctula*).

3.3.4 A diverse range of species and / or a large number of bats are considered unlikely at the site owing to the absence of habitats such as woodland or tree-lined watercourses within the site. The habitats within the site are considered to be of ‘low’ suitability for use by foraging and commuting bats.

Bird Species

3.3.5 Birds detected in the site and wider area in July 2023 are listed at **Table 3.3**.

Table 3.3: Bird species Detected on 24th July 2023

Scientific Name	Common Name	BOCC Status ¹
<i>Carduelis carduelis</i>	Goldfinch	Green
<i>Columba palumbus</i>	Wood pigeon	Amber
<i>Erithacus rubecula</i>	Robin	Green
<i>Hirundo rustica</i>	Swallow	Green
<i>Motacilla alba</i>	Pied wagtail	Green
<i>Panurus biarmicus</i>	Bearded tit	Amber
<i>Passer domesticus</i>	House sparrow	Red
<i>Streptopelia decaocto</i>	Collared dove	Green
<i>Troglodytes troglodytes</i>	Wren	Green
<i>Turdus merula</i>	Blackbird	Green

¹BOCC: Birds of Conservation Concern (Stanbury, et al., 2021).
Priority Species are presented in **bold**.

3.3.6 The trees and hedgerow in proximity to the site boundaries are all suitable for use by nesting passerine (i.e. perching) species, including those detected within the site during the survey. This is considered further at **Section 4.4**, below.

3.3.7 The improved grassland is considered to be of poor suitability for use by ground nesting species such as lapwing (*Vanellus vanellus*) and curlew (*Numenius arquata*), due to its proximity to existing buildings and grazing regime. The site is not considered to support any habitats typically used by wader species on a regular basis.

Reptiles

3.3.8 Debris suitable for sheltering and basking reptiles was examined during the survey; no reptile species were detected. The regularly disturbed and heavily managed habitats within the site provide poor quality habitat for sheltering, basking and hibernating reptiles. The site supports an even topography and there are no piles of garden waste or other suitable debris for use by sheltering or hibernating reptiles. The species-poor habitats within the site are reasonably unlikely to support a large population or a variety of invertebrate prey.

3.3.9 The site is not adjacent or linked to any areas of favourable habitat for reptile species, and there are no records of reptile for the site or the wider area. The presence of reptiles within the site is reasonably discounted.

Other Wildlife

3.3.10 The site supports habitats suitable for use by foraging hedgehog (*Erinaceus europaeus*), a Priority Species. It is considered that the site is unlikely to provide core or important habitat for hedgehog however. The species-poor habitats within the site are reasonably unlikely to support a large population or a variety of invertebrate prey, and there are limited opportunities for sheltering hedgehog within the managed habitats of the site.

3.3.11 The presence of hedgehog within the site is considered further at **Section 4.4**.

4.0 EVALUATION AND ASSESSMENT

4.1 Introduction and Description of Proposals

- 4.1.1 In accordance with *Alston Dairy: Proposed Site Plan PL-05* (Harry Walters & Livesey Ltd, 2023) it is proposed to develop the site to a single storage barn. In accordance with *Alston Dairy, Alston, Preston, Lancashire: Landscape Proposal Dwg. No, 7274.03 Rev. C* (TBA Landscape Architecture, 2024) Tree 2 (T19 in the TBA Landscape Proposals) will require removal to facilitate the development.
- 4.1.2 **Section 4.2** provides an assessment of any impacts of the proposed development on the designated sites for nature conservation present in the wider area. The ecological value of habitats within the site are evaluated at **Section 4.3**, and protected and notable species are considered at **Section 4.4**.

4.2 Designated Sites for Nature Conservation

- 4.2.1 It is considered that the site is sufficiently small and distant from all designated sites for nature conservation that the proposed development will have no adverse direct or indirect effect upon them.
- 4.2.2 The habitats are not complementary or linked to the Red Scar and Tun Brook Woods SSSI and will not contribute to the nature conservation value of the SSSI.
- 4.2.3 The site does not support suitable habitat for waders and the proposals will not impact upon the FC / BTO Wader Zone identified by the data search for the site.

4.3 Vegetation and Habitats

- 4.3.1 Only common and widespread plant species were found. None of the habitats present are representative of semi-natural habitat. The NVC communities present are typical of the geographical area and conditions present. Hedgerow 1 is a Priority Habitat.
- 4.3.2 In terms of each habitat's importance in a geographical context³, the improved grassland, hedgerows and mature trees are considered to be of 'site' importance as they are unlikely to contribute meaningfully to the nature conservation value of the local area but will provide habitats of some value to wildlife within the site.
- 4.3.3 The proposals will retain Hedgerow 1 (and its associated trees), Hedgerow 2 and Tree 1. Compensation for the loss of the tree is proposed via the planting of trees at shrubs at the southern site boundary.
- 4.3.4 Measures for the protection of the retained habitats within and adjacent to the site are presented at **Section 5.2**.

4.4 Protected Species and Other Wildlife

- 4.4.1 Habitats within and adjacent to the site are suitable for foraging and commuting bats. Recommendations relating to the retention of features suitable for use by foraging and commuting bats are presented at **Section 5.2**. Features to ensure the proposals do not impact upon habitats suitable for use by foraging and commuting bats during the operational phase of the proposed development, and to enhance habitats for roosting bats at the site, are presented at **Section 5.3**.
- 4.4.2 The trees and hedgerow provide suitable foraging and nesting habitat for the species of birds detected within the site and the wider area via the records search (including house sparrow, a Priority Species).

³ Using the terms presented at Section 4.7 of *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018), i.e. International and European, National, Regional, Local Authority-wide area, River Basin District, Estuarine system / Coastal cell or Local. The term 'site' value is additionally used to highlight ecological features considered to be of importance in the context of the wider site habitats, but which are of negligible value in the context of the local area.

Recommendations for the protection of nesting birds during the construction phase of the proposed development are presented at **Section 5.2**. Recommended enhancements for nesting birds are presented at **Section 5.3**.

- 4.4.3 Measures for the protection of hedgehog (and other wildlife) during the construction phase of the proposed development are presented at **Section 5.2**.

5.0 RECOMMENDATIONS AND ECOLOGICAL ENHANCEMENT

5.1 Introduction

5.1.1 These recommendations aim to ensure that the development is implemented in accordance with relevant wildlife legislation, Natural England guidance, the principles of the National Planning Policy Framework (NPPF), local planning policy and best practice.

5.1.2 In accordance with Chapter 15, paragraph 180(d) of the NPPF:

'opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate'.

5.1.3 Where possible, opportunities to enhance the ecological interest and habitat connectivity and seek biodiversity gain through appropriate landscape planting and habitat creation have been identified.

5.1.4 All recommendations are appropriate to the geographical area, the habitats in the wider area, the wildlife present in the local area (and likely to use the site post-construction) and take into consideration the end use of the site.

5.2 Protection of Habitats and Wildlife and Recommendations in Relation to Site Layout

Landscape Planting

5.2.1 To ensure the proposals seek to attain ecological enhancement as part of the development it is recommended that the proposals include replacement tree planting. Suitable woody species include Silver Birch or other native species such as Pedunculate Oak (*Quercus robur*), Alder (*Alnus glutinosa*) or Beech (*Fagus sylvatica*).

5.2.2 It is also recommended that, where possible, the proposal incorporate swales of wildflower grassland to compensate for the loss of improved to facilitate the development.

Protection of Trees and Shrubs

5.2.3 During the construction phase, temporary protective demarcation fencing will be used to protect the trees, shrubs and hedgerows within the site and at the site boundaries. The fencing must extend outside the canopy of the retained trees and must remain in position until all areas have been developed to ensure protection is provided throughout the construction phase.

5.2.4 The fencing will be in accordance with BS5837:2012 *Trees in Relation to Design, Demolition and Construction: Recommendations* (BSI, 2012).

Bats

Lighting During the Construction Phase

- 5.2.5 Any lighting to be used at the site during construction should be directional and screened where possible, this specification should be included within a Construction Environment Management Plan (CEMP), or similar.

Protection of Nesting Birds

- 5.2.6 All wild birds are protected under the *Wildlife and Countryside Act 1981* (as amended) while they are breeding. It is advised that any works such as vegetation clearance that will affect habitats suitable for use by nesting birds are scheduled to commence outside the bird nesting season. Commencement of works in the nesting season must be informed by a pre-works nesting bird survey, carried out by a suitably experienced ecologist. The bird breeding season typically extends between March to August inclusive.
- 5.2.7 If breeding birds are detected the ecologist will issue guidance in relation to the protection of the nesting birds in conjunction with the scheduled works. This may involve cordoning off an area of the site until the young birds have fledged.

Protection of Hedgehog and Other Wildlife

- 5.2.8 It is recommended that the following Reasonable Avoidance Measures (RAMs) for the protection of hedgehog and other wildlife are adopted during the construction phase of the proposed development.
- All site personnel must be made aware of this RAMs, and the RAMs should be made part of the site induction for all personnel involved in soil strip, ground clearance, or other relevant activities;
 - The improved grassland and amenity grassland will continue to be managed in a similar fashion to ensure they do not become tall, rank dense grassland which could provide greater shelter to hedgehog and other wildlife species;
 - Prior to any soil strip, vegetation will be strimmed to a height of no less than 0.15 metre and all arisings removed;
 - During construction, any holes, trenches or other pits which hedgehog (or other wildlife) could fall into will be covered overnight, or have sloped banks or ramps top allow escape; and
 - If any wildlife species (such as a hedgehog) is detected, it must be carefully picked up, placed in a clean bucket and moved to an area of suitable habitat beyond the development area.

5.3 Ecological Enhancements

Lighting

- 5.3.1 Paragraph 185(c) in Chapter 15 (conserving and enhancing the natural environment) of the NPPF states that development should:

'limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.'

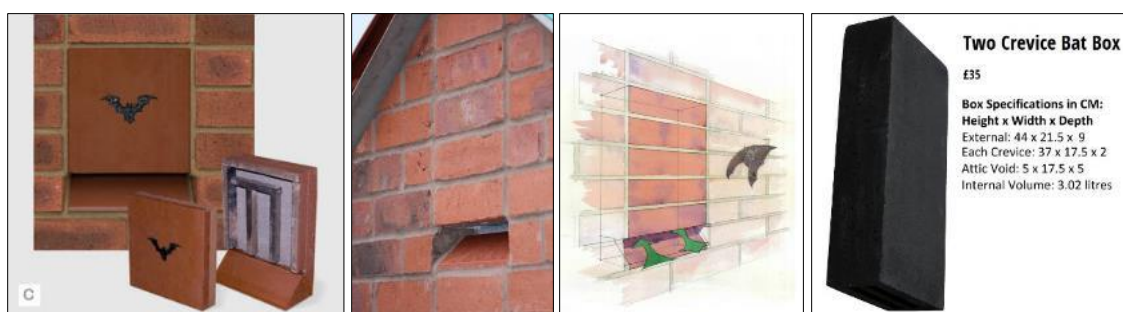
Development Lighting Design

- 5.3.2 The lighting scheme to be implemented at the developed site must involve the use of appropriate products and screening, where necessary, to ensure no excessive artificial lighting shines over the areas of ecological enhancement and any landscape planting, as lighting overspill may deter use by wildlife such as foraging bats.
- 5.3.3 The lighting scheme will be designed with reference to current guidance, namely:

- a. *Guidance Note 08/23: Bats and Artificial Lighting at Night* (Institution of Lighting Professionals & Bat Conservation Trust, 2023); and
- b. *Bats and lighting: Overview of current evidence and mitigation guidance* (Stone, 2014).

Enhancing Habitats for Roosting Bats

- 5.3.4 It is recommended that the development incorporates the installation of one bat access panel at the new barn.
- 5.3.5 The bat access panel should be sited at least 4 metres above ground level, ideally facing or close to areas of landscape planting or existing linear features. The access panel should not be positioned over windows or doorways where bat droppings may become a nuisance. Once the development layout has been finalised, an ecologist should advise on appropriate positions for the bat access panel. Suitable bat access panels are available from NHBS Ecology (www.nhbs.com), Wild Care (www.wildcare.co.uk) and / or Greenwood's Ecohabitats (www.greenwoodsecohabitats.co.uk) and are presented at **Insert 1**, below:



Insert 1: Examples of integrated bat access panels and an externally mounted box⁴

Enhancing Habitats for Nesting Birds

House Sparrow

- 5.3.6 House sparrows are associated with suburban areas. Monitoring suggests a severe decline in the UK house sparrow population, estimated as halving in rural areas, and dropping by 60% in towns and cities since the mid-1970's (RSPB, 2018).
- 5.3.7 The installation of one house sparrow terrace nest box is recommended at the proposed new barn. The box will not be positioned over windows or doorways where droppings may become a nuisance. RSPB advice states that boxes should ideally be sited facing north to east, to avoid exposure to direct sunlight, which may cause overheating of chicks in the nest.
- 5.3.8 Such bird boxes are available from the NHBS (www.nhbs.com) or Wild Care (www.wildcare.co.uk). ERAP (Consultant Ecologists) Ltd will advise on the siting of bird boxes.
- 5.3.9 An example of a suitable house sparrow bird box is given below at **Insert 2**:

⁴ Left to right: IBstock Enclosed Bat Box 'c' (left); Habitat Bat Access Panels (centre left and centre right) and Greenwood's Ecohabitats' two crevice bat box (right). Products with a brick face are illustrated, however the Habitat bat access panels can be supplied unfaced to enable the addition of matching material.



Insert 2: Schwegler 1SP House Sparrow Nesting Terrace

Maintenance of Habitat Connectivity Throughout the Developed Site

5.3.10 To ensure habitat connectivity is maintained as part of the development proposals, gaps within the proposed fencing to allow access by other wildlife (including hedgehog) should be incorporated across the site; example accesses are presented at **Insert 3**, below, as reproduced from *Hedgehogs and Development* (British Hedgehog Preservation Society / PTES, 2019). It is recommended that appropriate wildlife gaps (at least 0.1 metre tall and 0.15 metre wide) are installed at suitable intervals around the base of the proposed fencing.



Insert 3: Showing wildlife access gap within fencing

Landscape Planting

- 5.3.11 It is recommended that the landscape planting within the site is composed from native species and species known to be of value for the attraction of wildlife.
- 5.3.12 It is recommended that trees which support blossom and fruit which will attract insects are incorporated into the landscape planting. Suitable species are presented at **Table 5.1**, below.

Table 5.1: Suitable Native Species for Tree and Shrub Planting

Scientific Name	Common Name	Scientific Name	Common Name
<i>Acer campestre</i>	Field Maple	<i>Prunus spinosa</i>	Blackthorn
<i>Corylus avellana</i>	Hazel	<i>Rosa arvensis</i>	Field Rose
<i>Crataegus monogyna</i>	Hawthorn	<i>Rosa canina</i>	Dog-rose
<i>Ilex aquifolium</i>	Holly	<i>Sambucus nigra</i>	Elder
<i>Malus sylvestris</i>	Crab Apple	<i>Sorbus aucuparia</i>	Rowan
<i>Prunus avium</i>	Wild Cherry	<i>Ulmus glabra</i>	Wych Elm
<i>Prunus padus</i>	Bird Cherry	<i>Viburnum opulus</i>	Guelder Rose

5.3.13 The understorey and ground cover planting design should be prepared to optimise the attraction of invertebrates such as feeding bumblebees and butterflies. Where possible the use of native species should be maximised but where necessary non-native species known to be attractive to invertebrates should be used.

-
- 5.3.14 Planting schemes that include flowering species such as *Viburnum*, *Ceanothus*, *Hebe*, *Lavandula*, *Lonicera*, *Potentilla*, *Rosmarinus* and *Vinca* can maximise opportunities for feeding invertebrates and for the attraction of foraging bats and birds.
- 5.3.15 For further plants suitable for the attraction of pollinators please refer to the *Perfect for Pollinators Plant List* (Royal Horticultural Society, 2012). It is recommended that the selection of plant species at the site ensures that a variety of flowering species are available throughout the year.

6.0 CONCLUSION

- 6.1 This ecological assessment has demonstrated that the proposed development at the site is feasible and acceptable in accordance with ecological considerations and the National Planning Policy Framework.
- 6.2 It is possible to implement reasonable actions for the protection and long-term conservation of fauna such as nesting birds and commuting / foraging bats associated with the site.
- 6.3 Measures to conserve the habitat connectivity through the site are entirely feasible.
- 6.4 Development at the site will provide an opportunity to secure ecological enhancement for fauna typically associated with rural areas such as breeding birds and roosting bats.

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8.0 APPENDIX: TABLES, PHOTOGRAPHS AND FIGURES

8.1 Plant Species Lists

Table 8.1: Plant Species List for Improved Grassland

Scientific Name	Common Name	DAFOR	% Cover
<i>Agrostis capillaris</i>	Common Bent	O	<1%
<i>Agrostis stolonifera</i>	Creeping Bent	O	5%
<i>Cirsium arvense</i>	Creeping Thistle	R	<1%
<i>Cirsium vulgare</i>	Spear Thistle	O/LF	<1%
<i>Holcus lanatus</i>	Yorkshire-fog	R	<1%
<i>Lolium perenne</i>	Perennial Rye-grass	A*	90%
<i>Matricaria discoidea</i>	Pineappleweed	VLF	<1%
<i>Plantago major</i>	Greater Plantain	O/LF	<1%
<i>Poa annua</i>	Annual Meadow-grass	O	5%
<i>Poa pratensis</i>	Smooth Meadow-grass	O	5%
<i>Polygonum aviculare</i>	Knotgrass	R	<1%
<i>Rumex obtusifolius</i>	Broad-leaved Dock	VLF	<1%
<i>Trifolium repens</i>	White Clover	O/LF	<1%
<i>Urtica dioica</i>	Common Nettle	VLF	<1%

Key to DAFOR: D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare, L = Locally, V = Very and * denotes a constant species.

Table 8.2: Plant Species List for Hedgerow 1

Scientific Name	Common Name	DAFOR	% Cover
Woody Species			
<i>Crataegus monogyna</i>	Hawthorn	A*	90%
<i>Fagus sylvatica</i>	Beech	O/LF	<1%
<i>Fraxinus excelsior</i>	Ash	O	<1%
<i>Prunus spinosa</i>	Blackthorn	LA	10%
Herb Species			
<i>Aegopodium podagraria</i>	Ground-elder	O	<1%
<i>Alliaria petiolata</i>	Garlic Mustard	VLF	<1%
<i>Anthriscus sylvestris</i>	Cow Parsley	O	<1%
<i>Arrhenatherum elatius</i>	False Oat-grass	O/LF	10%
<i>Calystegia sepium</i>	Hedge Bindweed	LF	<1%
<i>Cirsium arvense</i>	Creeping Thistle	R	<1%
<i>Dactylis glomerata</i>	Cock's-foot	O	<1%
<i>Equisetum arvense</i>	Field Horsetail	R	<1%
<i>Heracleum sphondylium</i>	Hogweed	O	<1%
<i>Holcus lanatus</i>	Yorkshire-fog	O/LF	5%
<i>Lolium perenne</i>	Perennial Rye-grass	O	<1%
<i>Rubus fruticosus</i> agg.	Bramble	O	5%
<i>Rumex obtusifolius</i>	Broad-leaved Dock	O	<1%
<i>Sonchus asper</i>	Prickly Sow-thistle	R	<1%
<i>Taraxacum officinale</i> agg.	Dandelion	O	<1%
<i>Urtica dioica</i>	Common Nettle	O	<1%

Key to DAFOR: D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare, L = Locally, V = Very and * denotes a constant species.

Table 8.3: Hedgerow Description and Assessment in Accordance with *The Hedgerows Regulations 1997*

	Hedgerow Name	Hedgerow 1			Hedgerow 2		
Description	Height x width (metres)	1.5 x 1.5			1.5 x 1.5		
	Length (metres)	100			250		
	Continuity	99%			90%		
	Management	Failed			Failed		
Woody Species	Section number ¹	1	2	3	1	2	3
	Qualifying woody species	1	2	N/A	2	2	2
	Average Number	2			2		
Number of Features Present	(a) Bank or wall along at least ½ length	No			No		
	(b) Gaps which in agg. do not exceed 10%	Yes			Yes		
	(c)-(e) 1 standard tree per 50m	Yes			No		
	(f) At least 3 woodland species within 1m	No			No		
	(g) Ditch along at least ½ its length	No			No		
	(h) Connections scoring 4 points or more	No			No		
	(i) Parallel hedge within 15m	No			No		
	Total Features	2			1		
Hedgerow Importance	Criteria for Hedgerow Importance 1	No			No		
	Criteria for Hedgerow Importance 2:	No			No		
	Criteria for Hedgerow Importance 3:	No			No		
Hedgerow Important Criteria	Criteria for Hedgerow Importance 1: Hedgerow contains species listed as: (1) Part 1 of Schedule 1, Schedule 5 or Schedule 8 of <i>Wildlife and Countryside Act 1981</i> (as amended); (2) Declining breeders in 'Red Data Birds of Britain'; and / or (3) Categorized as 'endangered', 'extinct' or 'vulnerable'						
	Criteria for Hedgerow Importance 2: Hedgerow includes (Number of woody species required reduced by one in Lancashire): (i) At least 7 woody species (on average); (ii) At least 6 woody species (on average) and at least 3 features; (iii) At least 6 woody species (on average), including one of: Black Poplar, Large-leaved Lime, Small-leaved Lime or Wild Service Tree; and / or; (iv) At least 5 woody species (on average), and has 4 features						
	Criteria for Hedgerow Importance 3: Is adjacent to is adjacent to a bridleway, footpath or byway and includes at least 4 woody species on average and 2 features from (a) to (g).						
¹ Up to and including 100 metres length = 1 section required. 100 to 200 metres length = 2 sections required Greater than 200 metres length = 3 sections required.							

8.2 Photographs



Photo 1: Improved grassland



Photo 2: Hedgerow 1



Photo 3: Hedgerow 1



Photo 4: Hedgerow 2



Photo 5: Tree 1



Photo 6: Tree 2



Photo 7: Tree 3

8.3 Figures

Figure 1: Aerial Image of the Site and its Surroundings

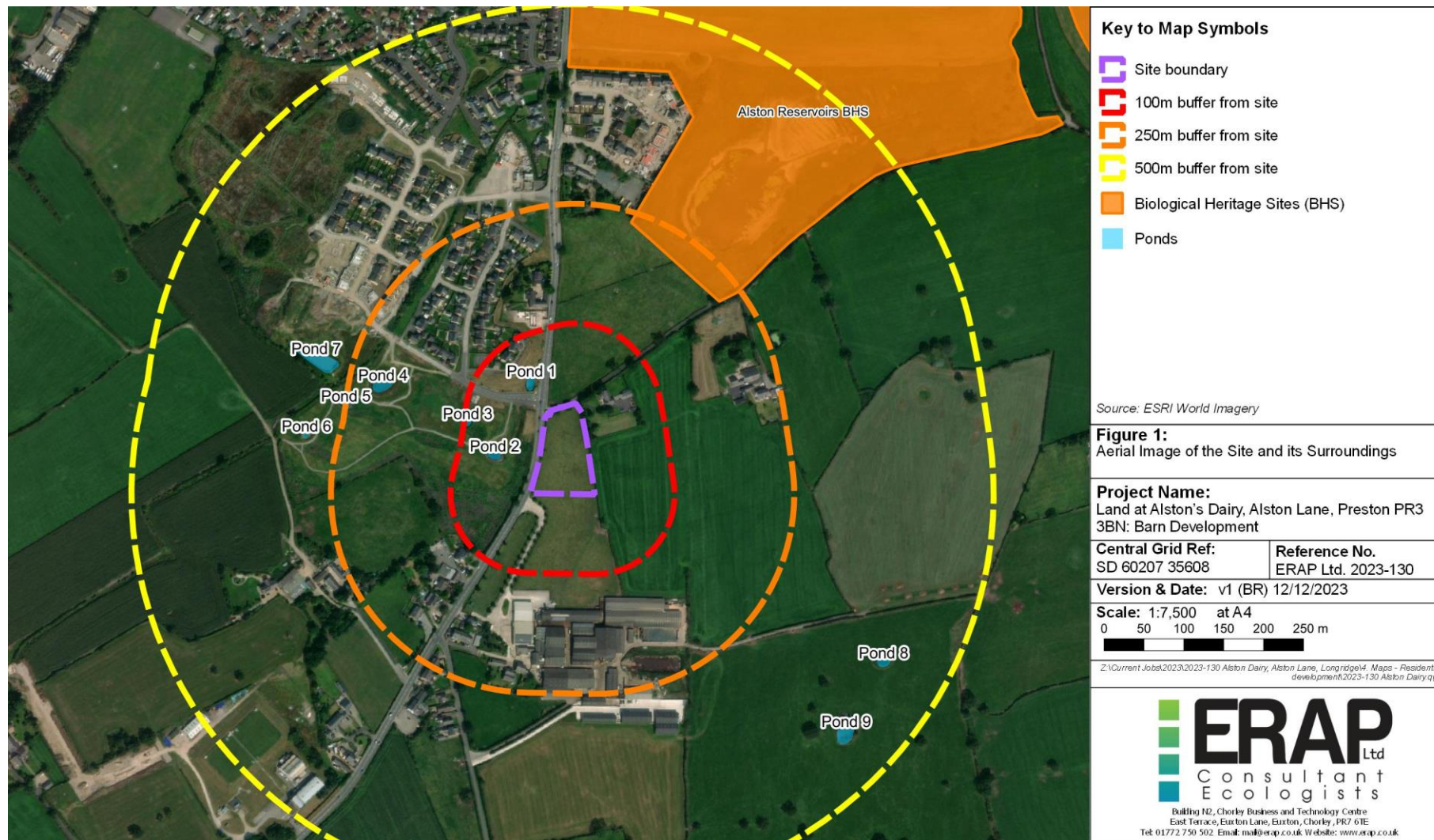


Figure 2: Phase 1 Habitat and Vegetation Map

