PRELIMINARY ECOLOGICAL APPRAISAL

JANUARY 2024

Bolton Fold Farm
Alston Lane
Alston
Preston
PR3 3BN

URBAN GREEN

QUALITY MANAGEMENT

Project No.:	UG2289				
Project:	Bolton Fold Farm				
Location:	Bolton Fold Farm, Alston Lane, Preston, PR3 3BN				
Title:	Preliminary Ecological Appraisal				
Document Type:	PEA	**Issue No.:**	01		
Date:	08/01/2024				
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Revision Status

Rev	Date	Comment	Prepared	Checked

NON-TECHNICAL EXECUTIVE SUMMARY

Mr S Forshaw and Sons are proposing to develop land at Bolton Fold Farm in Preston (hereafter referred to as 'the site'). The proposals include development of the site into two dwellings, alongside landscape improvements such as parking and soft landscaping.

Urban Green have been appointed to complete a Preliminary Ecological Appraisal of the site. The objectives of the assessment are to identify habitats on site and determine the suitability for any 'protected and/or notable' species that may occur on site. Further ecological surveys and mitigation are recommended to aim to minimise potential impacts on ecology, due to the proposed development.

Following the survey work, the key recommendations are summarised in the following table:

Current Site Use and Adjacent Site Use	The site is currently used for grazing livestock, surrounded by hedgerows, with residential buildings and arable land surrounding the site.
Potential Impacts on Designated Sites	No potential impacts on designated sites nearby to the site are anticipated to occur due to the proposed development. The site is located at a sufficient distance from nearby designated sites, and the proposed development activities have been considered.
Habitats	The site comprised predominantly livestock-grazed modified grassland, surrounded by hedgerows with incorporated trees.
Ecological Constraints	The following potential ecological constraints were identified during the assessment: • Suitable habitats identified for nesting birds. • Hedgerows on site are classed as habitats of principal importance. • A pond with a Good Habitat Suitability Index Score is located within 250m of site.
Recommended Ecological Mitigation	The following mitigation measures are recommended to minimise potential impacts due to the proposed development: • Precautionary Working Methods during the construction phase for badgers. • Reasonable Avoidance Measures for common amphibians and hedgehogs. • If any vegetation requires removal, it should be completed outside of the breeding bird season (March to September, inclusive). If this is not feasible, a Nesting Bird Check is to be completed by a qualified ecologist within 48 hours before removal is completed.
Recommended Further Surveys and Reports	Great crested newt eDNA surveys are to be completed on the pond located within 250m of site to identify presence of the species.
Recommended Ecological Enhancements	The National Planning Policy Framework (NPPF) (2023) highlights the requirement for planning policies and decisions to conserve and enhance the natural environment. The proposed development provides the opportunity to enhance the site and ecological enhancements have been recommended.

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1 Introduction

1.1 Background to the Scheme

Mr S Forshaw and Sons are proposing to develop land at Bolton Fold Farm in Preston (hereafter referred to as 'the site'). The proposals include development of the site into two dwellings, alongside landscape improvements such as parking and soft landscaping.

The author of the report is Toby Mills, BSc, QCIEEM, Assistant Ecologist at Urban Green. Toby has experience providing ecological consulting services for a range of development schemes across the UK, including residential and commercial schemes.

1.2 Site Context

The site is located at National Grid Reference SD 60090 35337 and comprises a total area of approximately 0.23ha (see Figure 1).

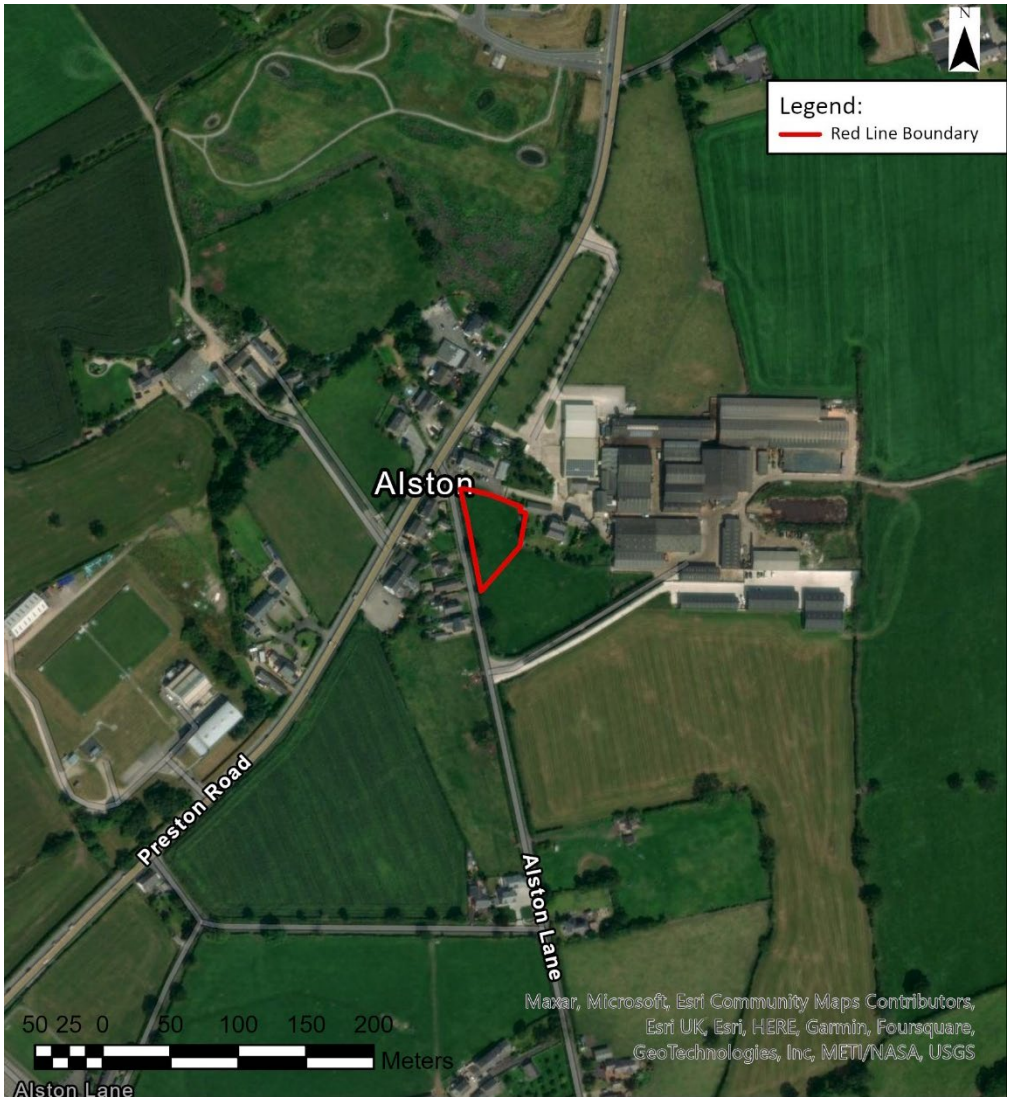

Figure 1 – Site Extent

The site is located off Alston Lane and comprises an arable grassland field, with hedgerow boundaries. The site is bounded by housing to the north and west, an industrial development to the east, and arable

land to the south. The wider landscape is predominantly comprised of arable land, with Longridge town located approximately 1km north and Preston City Centre 8.4km south-west.

1.3 Purpose of this Report

This report has been produced to set out the methods, results, and conclusions of a PEA. The purpose of the PEA report is to identify habitats on site and determine the sites potential value for protected and/or notable fauna and flora, with the addition of potential impacts on designated sites. This will inform the need for any further ecological surveys and/or mitigation to minimise the potential impacts on ecology on site and within the local area.

Further information and details of UK legislation for those species which are formally protected is defined in Appendix 1, which are considered throughout the assessment.

The National Planning Policy Framework (NPPF) (2023) and other Local Planning Policies are considered with the PEA. Ecological enhancements are advised to be in line with relevant Planning Polices.

2 Methods

The PEA assessment and Report follows the good practice methodology as detailed within the *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2019).

2.1 Desk Study

2.1.1 Online Resources and Local Records Centre

Due to the size and low impact of the proposed development, a 2km Local Data Search was conducted as it is deemed an appropriate distance for the Zone of Influence.

Sources of information used in the desk study are presented in Table 1.

Table 1 – Desk Study Sources of Information

Source	Date Consulted	Information Sought
MAGIC website (www.magic.gov.uk)	21/11/2023	Locations of statutory designated sites within 1km of the site boundary. Locations of Natura 2000 sites (Ramsar, Special Area of Conservation (SAC) and Special Protection Area (SPA)) within 5km of the site boundary. Locations of European Protected Species Licences (EPSL) and Class Licences within 1km.
Natural England (https://designatedsites/.naturalengland.org.uk/)	21/11/2023	Relevant statutory designated site citations.
JNCC (https://jncc.defra.gov.uk/)	21/11/2023	Information on European wildlife sites. Details of relevant Section 41 species and habitats.
Lancashire Environment Records Network	14/11/2023	Locally designated wildlife sites within 2km of site boundary. Records of protected and notable species within 2km of the site boundary.
Lancashire Local Biodiversity Action Plans	21/11/2023	Species and habitats which are given special conservation status at the local level.
Catchment Data Explorer	04/12/2023	Summary of data relating to river condition and catchment data, provided The Environment Agency.

2.2 Field Survey

2.2.1 Vegetation

The site was subject to a field survey on 08/11/2023, by Toby Mills, QCIEEM, Assistant Ecologist. The weather conditions were 11°c, dry and cloudy (5/8 oktas), and wind speed 3 Beaufort scale.

The methods were based on the standard methodology as detailed by The UK Habitat Classification User Manual (Butcher et al, 2020). A UKHab Habitat Plan has been produced to demonstrate habitats within the proposed development and the surrounding area. The mapping techniques are based on The UK Habitat Classification User Manual (Butcher et al, 2020) guidance.

Flora species listed as protected in the *Wildlife and Countryside Act 1981* (as amended) and species which are indicators of important and/or uncommon habitats, were searched for during the survey.

Species abundance is described using the DAFOR scale as shown in Table 2. Percentages are an approximate indication rather than a quantitative measure.

Table 2 – Key to Species Abundance

		Description	Indicative Percentage Ranges
D	Dominant	Covers most of the area	90% or greater
A	Abundant	Very common throughout the area.	50 – 90%
F	Frequent	Common or with many individuals.	20 – 50%
O	Occasional	Occurs in several places but not throughout. Populations are not large.	5 – 20%
R	Rare	Occurs in low numbers in relation to size of area.	Less than 5%
"L" will be used to indicate abundance in a localised area, e.g. LA = Locally abundant			

Any invasive species, including those listed on the revised (April 2010) Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended) were noted during the field survey when sighted.

2.2.2 Fauna

A site search for field signs of protected and notable fauna was undertaken, and incidental sightings are detailed. The searches completed were as follows:

- Suitability of any ponds to support notable and protected amphibians, and the suitability of the site's terrestrial habitats to support amphibians.
- Suitability of the site to support reptiles by way of habitat structure and refuge piles, as well as links to the wider landscape.
- Search of any watercourses for signs or suitability for white clawed-crayfish (*Austropotamobius pallipes*), water vole (*Arvicola amphibius*) and otter (*Lutra lutra*) by way of burrows, resting places, holts, and foraging signs.
- Suitability of the site to support notable bird species. Bird nests and droppings of notable and protected bird species.
- Suitability of the site to support notable invertebrates.
- Search of the site for any invasive species.
- Badger (*Meles meles*) field signs such as setts, mammal, paths, snuffle holes and latrines.
- Suitability of the site to support notable terrestrial mammals including harvest mouse (*Micromys minutus*) and brown hare (*Lepus europaeus*).

2.3 Bat Assessment

2.3.1 Preliminary Roost Assessment

A Preliminary Roost Assessment (PRA) was carried out on the site trees using close-focussing binoculars.

The PRA methodology is based on information contained within the Bat Conservation Trust (BCT) guidelines, 4th edition (Collins, 2023). The categorisation within this report is based on that set out in Table 3, which is used as a basis for determining the requirement for further surveys.

Table 3 – Suitability of Buildings and Trees for Roosting Bats (adapted from Collins, 2023)

Category of Suitability	Typical Characteristics	Further Survey Requirements
High Roost Suitability	A structure/tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. Surveys can be undertaken between May and September, with at least two surveys between May and August.
Moderate Roost Suitability	A structure/tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but are unlikely to support a roost of high conservation status.	Two separate survey visits. One dusk emergence and a separate dawn re-entry survey. Surveys can be undertaken between May and September with at least one survey between May and August.
Low Roost Suitability	A structure/tree with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate condition and/or suitable surrounding habitat to be used on a regular basis by larger numbers of bats.	**Structures:** one emergence/re-entry survey between May and August. **Trees:** No further survey required but precautionary methods of felling recommended.
Negligible Suitability	Negligible habitat features on site likely to be used by roosting bats.	No further work required.

2.3.2 Commuting and Foraging Bats

The site was assessed for its suitability for use by commuting and foraging bats.

The commuting and foraging assessment methodology is based on information contained within the Bat Conservation Trust guidelines 4th edition (Collins, 2023). The categorisation within this report is based on that set out in Table 4, which is used as a basis for determining the requirement for further surveys.

Table 4 – Suitability of Site for Foraging and Commuting Bats (adapted from Collins, 2023)

Category of Suitability	Typical Characteristics
High Suitability	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting or foraging bats such as; river valleys, streams, hedgerows, lines of trees or woodland edge. Site is close to or connected to known roosts.
Moderate Suitability	Continuous habitat connected to the wider landscape that could be used by commuting bats such as lines of trees, scrub or linked back gardens. Habitat connected to wider landscape that could be used for bats for foraging such as; trees, scrub, grassland or water.
Low Suitability	Habitat that could be used by small number of commuting bats such as; defunct hedgerow, isolated features not well connected to surrounding habitat or Isolated habitat that could be used by a small number of foraging bats such as a lone tree or patch of scrub.
Negligible Suitability	No features on site suitable for use by commuting and foraging bats.

2.4 Habitat Suitability Index

No ponds were present on site; however, one pond (P1) was identified within 250m of the site boundary, identified in Figure 2 (see Section 3.3.4 for further details). As great crested newts' upper dispersal limit is generally considered to be up to 250m from a waterbody (though occurrence of greater distances does exist), ponds beyond this distance were not assessed due to limited connectivity (English Nature, 2001).

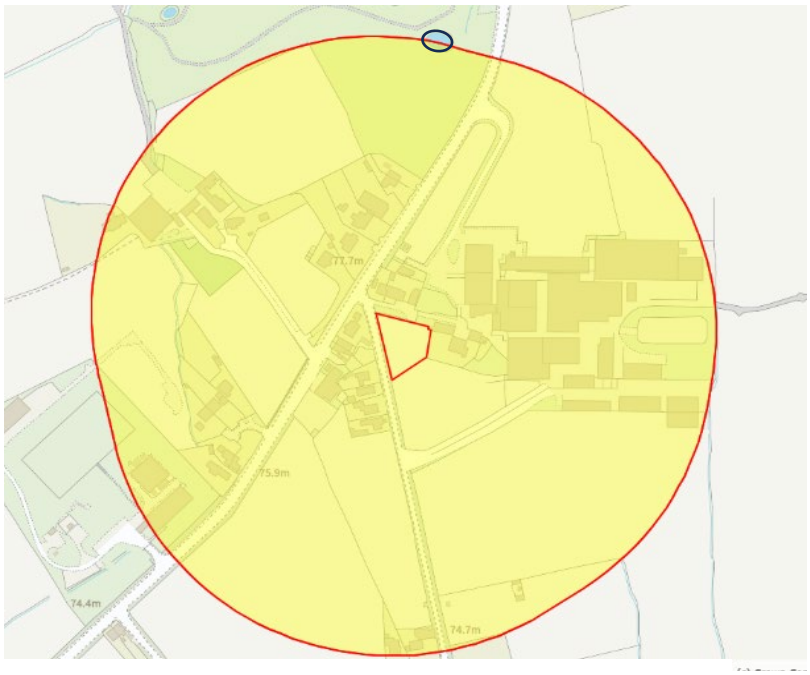

Figure 2 – Ponds located within 250m

This pond was considered for its suitability to support great crested newt (*Triturus cristatus*) and underwent a Habitat Suitability Index (HSI) assessment following the methodology set out in ARG UK Advice Notice 5 (Oldham *et al.*, 2010). Ten habitat suitability indices were assessed and inputted into the HSI equation, which generates a score between 0 and 1. The calculated score corresponds to the estimated pond suitability for great crested newt, as outlined in Table 5. Refer to Appendix 3 for further details.

Table 5 – Pond Suitability Scores for Great Crested Newts

HSI Score	Habitat Suitability
<0.5	Poor
0.5 – 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

2.5 Constraints to the Survey

Whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment.

This PEA does not constitute a full botanical survey. The protected species assessment provides a view of the likelihood of protected species occurring on the site based on the known distribution of species in the local area and the suitability of the habitat. It should not, however, be taken as providing a full and definitive survey of any protected species group.

November is a suboptimal time for carrying out UKHab Habitat Surveys due to being outside of the optimal plant growing season. Therefore, it is likely that some plants are present on the site but were not evident at the time of the survey and were not recorded. This is not considered to be a significant constraint with regards to the general UKHab Habitat Survey results as the habitats remained consistent with previous surveys, and due to the size and location of the site and limited extent of the habitats, it is considered very unlikely that any rare or priority plant species were missed.

Where a lack of records is found during the desk search for a defined geographical area, it does not necessarily mean that there is a lack of ecological interest; the area may be simply under-recorded.

The conclusions and recommendations detailed in this report are based upon the site redline boundary and the development proposals as outlined by the client at the time of writing. Should there be any changes to the site redline boundary or development proposals at a later stage, this assessment should be reviewed to determine whether any amendments or additional survey work is required.

The findings of this report represent the professional opinion of qualified ecologists and do not constitute professional legal advice. The client may wish to seek professional legal interpretation of the relevant wildlife legislation cited within this document.

2.6 Lifespan of Report

In accordance with CIEEM's Advice Note on the Lifespan of Ecological Reports and Surveys (CIEEM, 2019), the details of this report will remain valid for a period of **18 months** from the date of the survey (i.e. until 8th May 2025). After this date, this assessment should be reviewed to determine whether any updated surveys are required.

2.7 Definitions

For the purposes of this report, the term 'protected and notable species' relates to:

- Species included on Schedules 2 and 4 of *The Conservation of Habitats and Species Regulations 2017*;
- Species included on Schedules 1, 5 and 8 of the *Wildlife and Countryside Act 1981* (as amended), excluding species that are only protected in relation to their sale (see section 9[5] and 13[2]);
- Invasive non-native species included on Schedule 9 of the *Wildlife and Countryside Act 1981* (as amended);
- Species of principal importance for the conservation of/maintaining and enhancing biodiversity as required under: Section 41 of the *Natural Environment and Rural Communities Act 2006* (England), Section 7 of the *Environment (Wales) Act 2016*, Section 2[4] of the *Nature Conservation (Scotland) Act 2004*;
- Local species of importance as identified within various local biodiversity action plans; and,
- Badgers, which are protected under the *Protection of Badgers Act 1992*.

3 Baseline Ecological Conditions

3.1 Desk Study

3.1.1 Site Location

The site lies within a semi-urban area of Alston, north-west of Preston. The site is surrounded by agricultural land and small urban areas, with Longridge 350m away and Grimsargh 935m away. Five reservoirs are also located within 5km of site and the River Ribble within 2.3km, which is associated with areas of broadleaved woodland. Grimsargh Wetlands, a nature reserve with locally notable species populations, is located approximately 1km southwest of the site.

It is anticipated these habitats will provide suitable foraging, resting, and commuting resources within the local area for a variety of wildlife, such as birds, bats, and other terrestrial mammals.

3.1.2 Designated Sites

No sites that form part of the National Site Network were located within 5km of the site boundary. Five statutory sites were returned within 5km of site and are detailed within Table 6. No non-statutory sites are located within 2km of the site.

Table 6 – Designated Sites within the Search Areas

Designated Site	Approx. Distance from Site	Details
Statutory designated sites		
Red Scar and Tun Brook Woods Site of Special Scientific Interest (SSSI)	1.5km southwest	Multiple woodlands containing extensive examples of western valley ash-wych elm wood and valley alderwoods on neutral-alkaline soils, which are typical of woodlands in the Ribble and Hodder valleys on soils derived from glacial drift. They constitute one of the largest areas of deciduous woodland in Lancashire and provide a valuable refuge for wildlife, close to urban areas of Preston.
Pope Land Open Space Local Nature Reserve (LNR)	3.9km southwest	An area consisting of wildflower meadows (including orchids), marshy grassland and habitat for Great Crested Newts which breed in ponds outside the local nature reserve.
Grange Valley LNR	4.6km southwest	Adjoins Grange Park and consists of open green space and attracts a variety of birds.
Hills and Hollows LNR	4.6km southwest	A linear nature reserve, with a diverse mosaic of habitats along the open tributary valley of Savick Brook. The area is known for its wide variety of birds and butterflies.
Fishwick Bottoms LNR	1.8km west	Approximately 26ha of woodland, grassland, and wetland features.

Based on consultation with MAGIC, the site also falls within the Impact Risk Zone of the Red Scar and Tun Brook Woods SSSI. More details regarding this site can be found within Table 6.

3.1.3 Flora and Fauna

The following section summarises protected and/or notable species records that have been recorded within 2km of the site.

Vascular Plant

The data search returned eight records of notable vascular plant species including wild cabbage (*Brassica oleracea*), bluebell (*Hyacinthoides non-scripta*) and wintergreen (*Pyrola rotundifolia* subsp. *maritima*). The closest record is attributed to bluebell, located approximately 950m away, in 2017. Bluebell are protected under Schedule 8 of the Wildlife and Countryside Act (WCA) 1981, and wild cabbage and wintergreen are listed as priority species under the Lancashire Local Biodiversity Action Plan (LBAP).

Invertebrates

One record of notable butterfly was returned in the data search within 2km of site, attributed to wall butterfly (*Lasiommata megera*), located approximately 1.25km from site. Wall butterfly are listed as a priority species on the Lancashire LBAP and Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

642 records of notable moth were returned in the data search within 2km of site, attributing to several species of moth, including grey dagger (*Acronicta psi*), knot grass (*Acronicta rumicis*), green-brindled crescent (*Allophyes oxyacanthae*), ear moth (*Amphipoea oculea*), dusky brocade (*Apamea remissa*), northern deep-brown dart (*Aporophyla lueneburgensis*), garden tiger (*Arctia caja*), centre-barred sallow (*Atethmia centrago*), gold spangle (*Autographa bractea*), mottled rustic (*Caradrina Morpheus*), Haworth's minor (*Celaena haworthii*), broom moth (*Ceramica pisi*), puss moth (*Cerura vinula*), latticed heath (*Chiasmia clathrate*), sallow (*Cirrhia icteritia*), small square-spot (*Diarsia rubi*), figure of eight (*Diloba caeruleocephala*), small phoenix (*Ecliptopera silaceata*), dusky thorn (*Ennomos fuscantaria*), autumnal rustic (*Eugnorisma glareosa*), spinach (*Eulithis mellinata*), netted pug (*Eupithecia venosata*), ghost moth (*Hepialus humuli*), rustic (*Hoplodrina blanda*), rosy rustic (*Hydraecia micacea*), shoulder-striped wainscot (*Rhizedra lutosa*), brindled beauty (*Lycia hirtaria*), dot moth (*Melanchra persicariae*), dark brocade (*Mniotype adusta*), powdered quaker (*Orthosia gracilis*), large wainscot (*Rhizedra lutosa*), shaded broad-bar (*Scotopteryx chenopodiata*), white ermine (*Spilosoma lubricipeda*), buff ermine (*Spilosoma lutea*), feathered gothic (*Tholera decimalis*), cinnabar (*Tyria jacobaeae*), oak hook-tip (*Watsonalla binaria*), dark-barred twin-spot carpet (*Xanthorhoe ferrugata*) and heath rustic (*Xestia agathina*).

All species are protected under Section 41 of the NERC Act (2006) and/or listed as a priority species under the Lancashire LBAP. The closest records are approximately 629m north from site.

Amphibians

378 records of amphibians were returned in the data search, attributing to three species, including common toad (*Bufo bufo*), common frog (*Rana temporaria*) and great crested newt. The closest record appeared approximately 451m west of the site, attributing to common toad in 2006. All species are listed as a priority species under the Lancashire LBAP, common toad and great crested newt are protected under Section 41 of the NERC Act (2006), and great crested newt are protected under Schedule 5 of the WCA (1981) and Schedule 2 of the Conservation of Habitat and Species Regulations (Habs Directive) 2017.

A MagicMap search returned three areas of granted EPSL relating to great crested newts present within 2km of the site. Seven licenses were granted approximately 785m south-west of the site (Ref: 2014-3762-EPS-MIT-3, 2014-3762-EPS-MIT-1, 2017-31689-EPS-MIT, 2017-31689-EPS-MIT-1, 2014-3762-EPS-MIT-4,

2014-3762-EPS-MIT and 2014-3762-EPS-MIT-2). Five licenses were granted approximately 560m north of site (Ref: 2018-34556-EPS-AD2, 2018-34556-EPS-AD2-1, 2018-34556-EPS-AD2-2, 2018-34556-EPS-AD2-3 and 2018-34556-EPS-AD2-4). Two licenses were granted approximately 746m north from site (REF: 2014-4871-EPS-MIT and EPSM2013-5902). The closest licenses, approximately 560m north, were granted to allow the damage and destruction of a resting place in

Birds

A total of 136 records of protected or notable birds were returned within 2km of the site as detailed in Table 7.

Table 7 – Protected or notable birds recorded within 2km of the site.

Scientific Name	Common Name	Protection	Approx. Distance from Site (m)	Year
Tyto alba	Barn owl	Sch.1***	1250	2009
Pyrrhula pyrrhula	Bullfinch	BoCC5**, S41*****, LBAP	1250	2006
Actitis hypoleucos	Common sandpiper	LBAP	1250	2006
Numenius arquata	Curlew	BoCC5*, S41*****, LBAP	935	2014
Prunella modularis	Dunnock	BoCC5**, S41*****, LBAP	1800	2014
Anas strepera	Gadwall	LBAP	1200	2017
Bucephala clangula	Goldeneye	Sch.1***	1250	2006
Tringa ochropus	Green sandpiper	Sch.1***	1250	2006
Tringa nebularia	Greenshank	Sch.1***, BoCC5**	1250	2006
Perdix perdix	Grey partridge	BoCC5*, S41*****	970	2005
Motacilla cinerea	Grey wagtail	BoCC5**	1250	2006
Falco subbuteo	Hobby	Sch.1***, LBAP	1250	2009
Passer domesticus	House sparrow	BoCC5*, S41*****	24	2019
Falco tinnunculus	Kestrel	BoCC5**	764	2010
Calidris canutus	Knot	LBAP	1250	2006
Vanellus vanellus	Lapwing	BoCC5*, S41*****	764	2014
Acanthis cabaret	Lesser redpoll	BoCC5*, S41*****	1892	2004
Carduelis cannabina	Linnet	BoCC5*, S41*****	1250	2006
Charadrius dubius	Little ringed plover	Sch.1***, LBAP	947	2013
Haematopus ostralegus	Oystercatcher	BoCC5**, LBAP	935	2014
Anas acuta	Pintail	Sch.1***, LBAP	1250	2006
Aythya ferina	Pochard	BoCC5*, LBAP	1250	2006
Tringa totanus	Redshank	BoCC5**	1143	2006
Emberiza schoeniclus	Reed bunting	S41*****, LBAP	1250	2006

Charadrius hiaticula	Ringed plover	BoCC5*, LBAP	1229	2006
Aythya marila	Scaup	BoCC5*, S41*****, Sch.1****	1250	2006
Tadorna tadorna	Shelduck	BoCC5**, LBAP	1250	2008
Anas clypeata	Shoveler	LBAP	1197	2017
Gallinago gallinago	Snipe	BoCC5**, LBAP	1011	2020
Turdus philomelos	Song thrush	BoCC5**, S41*****, LBAP	1250	2006
Sturnus vulgaris	Starling	BoCC5*, S41*****	764	2014
Anas crecca	Teal	LBAP	1197	2017
Passer montanus	Tree sparrow	BoCC5*, S41*****	970	2005
Numenius phaeopus	Whimbrel	Sch.1****, BoCC5*, LBAP	1250	2010
Saxicola rubetra	Whinchat	BoCC5*, LBAP	970	2003
Anas penelope	Wigeon	LBAP	1222	2017
Motacilla flava	Yellow wagtail	BoCC5*, S41*****, LBAP	1197	2005

* Listed Red on the Bird of Conservation Concern 5 (2021)
** Listed Amber on the Bird of Conservation Concern 5 (2021)
*** Listed black on the Bird of Conservation Concern 5 (2021)
**** Wildlife & Countryside Act (Sch 1, 5 & 8)
*****Listed on Section 41 (NERC Act, 2009).

Bats

Seventeen records of bats were returned during the data search, including records of unidentified microbats (*Vespertilionidae* sp.) and records of unidentified bat (*Chiroptera* sp.), Daubenton's (*Myotis daubentonii*), noctule (*Nyctalus noctula*), common pipistrelle (*Pipistrellus pipistrellus*), long-eared bat species (*Plecotus* sp.), brown long-eared (*Plecotus auritus*) and an unidentified pipistrelle species (*Pipistrellus* sp.). The closest record was that of an unidentified pipistrelle species approximately 366m west of the site. All species are protected under Schedule 2 of the Habs Directive (2017), and Schedule 5 of the WCA (1981), all species listed except common pipistrelle are listed as a priority species under the Lancashire LBAP, and noctule and long-eared bats are protected under Section 41 of the NERC Act (2006).

MAGIC also detailed the presence of three granted EPSL's within 2km of the site (Ref: EPSM2013-6761, EPSM2013-6761B and 2019-43457-EPS-MIT). The first two licences were to allow damage and destruction of a resting place for common pipistrelle between 2014-2015, located approximately 200m of the site. The third licence was granted to allow for the impact and destruction of a breeding site for soprano pipistrelle (*Pipistrellus pygmaeus*), granted between 2019-2024, located approximately 1km southeast of the site.

Otter

One record of European otter was returned in the data search from 2017 located approximately 1.2km south-west of the site. This species is listed a priority species on the Lancashire LBAP, protected under Schedule 5 of the WCA (1981) and Section 41 of the NERC Act (2006).

Hedgehog

Ten records of European hedgehog (*Erinaceus europaeus*) were returned within 2km of the site, with the closest record located approximately 699m north of the site. Hedgehog are protected under Section 41 of the NERC Act (2006) and listed as a priority species under the Lancashire LBAP.

Brown Hare

Seven records of brown hare were recorded within 2km of the site. The closest record was located approximately 700m from site, recorded in 2012. Brown hare are protected under Section 41 of the NERC Act (2006) and are listed as a priority species under the Lancashire LBAP.

Invasive Non-native Species

Fauna

Eight records of invasive non-native fauna species were returned within 2km attributing to Canada goose (*Branta canadensis*) and eastern grey squirrel (*Sciurus carolinensis*). The closest record to site attributed to Canada goose, located approximately 970m from site.

Flora

Forty-seven records of invasive non-native plant species were returned within 2km of the site, comprising three-cornered garlic (*Allium triquetrum*), cotoneaster (*Cotoneaster* sp.), hollyberry cotoneaster (*Cotoneaster bullatus*), wall cotoneaster (*Cotoneaster horizontalis*), montbretia (*Crocosmia pottsii x aurea = C. x crocosmiiflora*), Canadian waterweed (*Elodea canadensis*), Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum*), Himalayan balsam (*Impatiens glandulifera*), yellow archangel (*Lamium galeobdolon* subsp. *argentatum*), *Rhododendron ponticum* and Japanese rose (*Rosa rugosa*).

All invasive non-native species are listed within Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

No Records Returned

The data search returned no records for:

- Badger
- Reptiles
- Hazel dormice (*Muscardinus avellanarius*)
- Red squirrel (*Sciurus vulgaris*)
- Water vole
- White-clawed crayfish

3.2 Field Survey

The site habitats and accompanying Target Notes are presented in the UKHab Habitat Map in Appendix 4.

Secondary codes are added to confirm the identity of a habitat (when necessary), and also to provide information on management and the environment relating to that habitat parcel. The number and type of secondary codes added to a primary habitat will vary depending on the habitats present. There is no limit to the number of secondary codes that can be used for a single parcel. More details regarding the secondary codes used can be found in Appendix 4.

3.2.1 Modified Grassland (g4 60)

Photograph 1 – Sheep-grazed modified grassland comprising most of the site

The majority of the site comprised of modified grassland, with a short sward, which has been kept to a low height by intensive sheep grazing. No sheep were present on site as of the survey, but fresh droppings were identified, suggesting that the field had recently hosted grazing livestock. Due to the short sward height and the time of year which the survey was conducted, plant identification was limited.

Grass species on site include meadow-grass (*Poa* sp.), fescue (*Festuca* sp.) and cock's foot (*Dactylis glomerata*). Herbs identified on site include hairy bittercress (*Cardamine hirsuta*), nettles (*Urtica diocia*), white clover (*Trifolium repens*), broadleaved dock (*Rumex obtusifolius*) and creeping buttercup (*Ranunculus repens*).

3.2.2 Hedgerows (h2b 82 80/75/11 75)

Three hedgerows were present on site, bordering all aspects bar the southern. The hedgerow on the eastern boundary of the site, H1, had appeared to be a laid hedgerow, with no signs of further

management. The hedgerow comprised of wood species, including hazel (*Corylus avellana*), hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*) and holly (*Ilex aquifolium*), with stands of nettles occasionally present.

The northern half of H1 had more prominent growth than the southern half, being twice as tall with more foliage present.

Photograph 2 – A southern section of h1, present in between fencing

Photograph 3 – Northern section of H1

The second hedgerow, H2, was present to the northern aspect of the site, and is much more prominent than H1. H2 had been flailed recently to two uniform height levels. Species within the hedgerow included shrub species such as hazel, holly, hawthorn, ash (*Fraxinus excelsior*), bramble (*Rubus fruticosus*), blackthorn and sycamore (*Acer pseudoplanatus*), with ivy (*Hedera helix*) and stands of nettles present throughout the hedgerow.

Photograph 4 – Eastern half of H2

Photograph 5 – Western half of H2

The final hedgerow, H3, located to the western aspect of the site, comprised of a hedgerow similar to H2, except with incorporated trees throughout the hedgerow. The hedgerow covers the entire western boundary of the site and continues southward. Shrub species include hawthorn, ash, sycamore, hazel, bramble, with herbs including common ivy, ground ivy (*Glechoma hederacea*) and stands of nettles present throughout the hedgerow. Within the hedgerow on site are two lone standing trees, T1 and T6, denoted as such within the Arboricultural Impact Assessment (Urban Green, 2023).

Photograph 6 – H3, covering most of the western aspect of the site, and T1

Photograph 7 – H3, at the southernmost point of the site, and T6

All hedgerows on site qualify as habitats of principal importance.

3.3 Site Suitability for Protected and Notable Species

3.3.1 Species Discounted from Assessment

Water vole, otter and white-clawed crayfish have been discounted from assessment as no aquatic habitats are located on site or within proximity. The River Ribble, the closest suitable aquatic habitat, is located approximately 2km south of the site.

Hazel dormouse mainly occur in southern counties, especially in Devon, Somerset, Sussex and Kent. There are few recorded localities north of the Midlands, though they are present in parts of the Lake District and in scattered Welsh localities (Matthews *et al*., 2018). The species are not generally known to be present within the area (Wembridge *et al*., 2016). The habitats on site are of limited value due to limited areas of extensive woodland and scrub. As such, the species are reasonably discounted from site.

Red squirrel have been discounted from the assessment. Red squirrel populations are limited to small areas of northern England and are not known to be present in the area; with no previous records returned in the data search. It is anticipated that high abundances of grey squirrel are present within this region (Shuttleworth/RSST n.d.), with multiple records also returned within the data search. This species will displace red squirrel through competition as well as cause increased red squirrel mortality through the spread of squirrel pox (The Mammal Society, 2020).

3.3.2 Vascular Plants

It is anticipated that the site does not offer suitable potential for notable plant species. The majority of the site comprised modified grassland which had been intensively grazed by sheep, and as such, the high level of disturbance is expected to limit the sites potential for the growth of notable plant species.

As such, notable plant species have been reasonably discounted from site and are not considered further within this report.

3.3.3 Invertebrates

No deadwood, aquatic habitats or high floristic diversity was located on site which would provide an important resource for invertebrates during their life cycle. It is anticipated common species will be present, due to the hedgerows on site and large number of results regarding moths returned within the data search.

Overall, the presence of notable invertebrates within the site is reasonably discounted.

3.3.4 Amphibians

No ponds were located within site, although one pond (P1) was located within 250m of the site. Great crested newts' upper dispersal limit is generally considered to be up to 250m from a waterbody (though occurrence of greater distances does exist), and although no ponds are present on site, the return of multiple records of GCN, as well as a large number of licenses returned within 1km of the site, there is potential for commuting and foraging newts on site. P1 is likely to have been created as GCN mitigation for nearby developments, is artificially lined and is likely to hold some potential for the species. A HSI assessment of this pond can be found within Appendix 3 and has been considered to have good potential.

The site comprised actively managed grassland and hedgerow which may provide suitable foraging resources and cover for common amphibians such as common toads. Ornamental water bodies may be located within nearby residential gardens which may provide suitable conditions for breeding common amphibians.

The presence of great crested newts within the site cannot be reasonably discounted, and common amphibians may occur on site.

3.3.5 Reptiles

The site was found to provide limited value for reptiles, given the majority of the site comprised modified grassland and hedgerows, which lack the structure and habitat quality to support the species group. The hedgerows may provide some commuting value for the species, though these are generally confined to the boundaries. Additionally, no records of reptiles were returned within 2km of the site.

Overall, the habitats on site were of limited value and no records of the species group were identified. Reptiles ate not considered to be present on site.

3.3.6 Birds

Ground Nesting

The grassland was actively managed, keeping a short sward and highly disturbed through sheep grazing. Records of ground-nesting birds, including lapwing and oystercatcher, were returned within the data search, however it is anticipated that they will use more favourable unmanaged habitat within the wider landscape.

The presence of ground-nesting birds onsite can be reasonably discounted.

Passerine

The site offers habitats for nesting passerine birds through the presence of hedgerows and scattered trees. Opportunities for nest building is present on site, and several passerine bird species were identified on site during the site visit, including house sparrow and wood pigeon (*Columbus palumba*). The data search results have also returned a large number of passerines within 2km of the data search.

As such, the site has been assessed as having potential for passerines.

Birds of prey

The presence of trees in the hedgerows provide suitable foraging opportunities through perching, although the grassland habitat on site is unlikely to host rodent prey, such as field vole (*Microtus agrestis*), due to the short grass sward and active management. Several records of birds of prey were returned

within 2km of the site, including hobby and kestrel. No potential for nesting for barn owl were identified on any trees on site.

Birds of prey may occasionally use the site for foraging, but overall are reasonably discounted.

3.3.7 Bats

Preliminary Roost Assessment

A PRA was completed on all trees located on site and adjacent. Please refer to Appendix 2 for the results of the PRA and imagery of Potential Roosting Features (PRFs) identified during the survey.

In summary, all trees on site and adjacent were assessed as having negligible bat roosting potential.

Commuting and Foraging Bats

The habitats on site are anticipated to provide some value for foraging bats due to comprising a mosaic of habitats that will attract common invertebrate prey. The hedgerows on the borders may provide suitable commuting conditions, with further connectivity offsite through extended hedgerows. The habitats on site, however, appear to be generally common within the local area due to the area of woodland habitats and nearby LWSs.

The site has potential to support roosting bats whilst the unmanaged habitats may provide foraging value.

3.3.8 Hedgehog

The hedgerows on site provide suitable cover and foraging habitats for the species.

Therefore, hedgehog are potentially present within the site.

3.3.9 Badger

No evidence of badger setts or field signs were identified within the site or within 30m of the site. Additionally, no records of badger were returned within 2km of the site. However, badgers are a widespread species within the UK and may construct setts at any time. The grassland and hedgerows provide suitable habitat for sett construction, albeit limited, and the grassland offers limited foraging potential for the species. Similar habitats are present in the surrounding environment.

As such, badger cannot be reasonably discounted from site.

3.4 Invasive Species

No invasive non-native species were present on site or within the local area, but several invasive species were returned within the data search and are known to be present within the area.

4 Ecological Constraints and Recommended Mitigation

4.1 Proposed Development

Mr S Forshaw and Sons are proposing to develop land at Bolton Fold Farm in Preston. The proposals include development of the site into two dwellings, alongside landscape improvements such as parking and soft landscaping.

4.2 Designated Sites

The site is located within the impact risk zone for one SSSI within the local area, attributed to Red Scar and Tun Brook Woods SSSI, located 1.5km away. It is anticipated that the designated sites are a sufficient distance away and are separated by anthropogenic barriers such as the residential areas, such that no impacts as a result of development are anticipated.

One statutory LNR is located within 2km of the site boundary, attributed to Fishwick Bottoms LNR. There may be a small increase of visitors to this site and other nearby sites, however, based on the size of the scheme, it is anticipated the potential impacts will not be of significance.

4.3 Habitats

The site comprised habitats that were found to be widespread within the local area; however, they did contain value for wildlife such as amphibians, bats, birds, and terrestrial mammals. The hedgerows and scattered broadleaved trees are of highest value, and P1 offsite may provide suitable habitat for GCN.

4.3.1 Hedgerows and Trees

The hedgerows on site are classed as habitats of principal importance and should be retained and protected where possible.

Generally, the protection measures of retained trees and hedgerows will be through the use of temporary protective demarcation fencing to protect the trees and shrubs. The fencing must extend outside the canopy of the retained trees and must remain in position until all plots have been developed to ensure protection is provided throughout the construction phase.

The fencing will be in accordance with BS 5837:2012 Trees in Relation to Design, Demolition and Construction: Recommendations.

It is recommended that replacement tree planting at a 1:3 ratio is required to compensate for loss of any trees. It is recommended that the planting comprises native species and species known to be of value for the attraction of wildlife. This will include fruiting and flowering species.

4.4 Fauna

4.4.1 Amphibians

Great crested newt are unlikely to be present on site but may still utilise the site for commuting and foraging, as one pond, P1, was identified as having good potential through HSI assessment. There is likely that common amphibians such as common toad may be present on site.

It is recommended that Reasonable Avoidance Measures are to be followed during site clearance. All site contractors are to be inducted to the potential presence of the species. Any debris is to be cleared by hand, and any common amphibians located moved carefully, by hand, to outside of the development area.

4.4.2 Birds

Tree and hedgerow removal should be undertaken outside of the breeding bird season (March to September, inclusive). If this is not possible, a suitably experienced ecologist should check the habitat for breeding bird activity no more than 48 hours before clearance. If nesting activity is found, nests must be left in situ until the young have fledged.

The site has been assessed to provide some suitable habitat for nesting birds, therefore it is recommended that the landscape scheme for this site contains a range of habitats such as scrub and trees, which will provide suitable shelter and nesting habitat for a range of bird species which are likely to be present in the surrounding area.

4.4.3 Bats

Foraging and Commuting Bats

The site was assessed as being of low value to commuting and foraging bats. It is recommended that the landscape designs for this site contain a mix of native plant species and those known to be of value to native invertebrate species, providing additional value to local bat populations as a foraging resource.

Slow-flying species such as brown long-eared and Myotis species, which are known to be in the local area, are sensitive to lighting and may be impacted by the proposed development, should no mitigation for lighting be considered.

Lighting mitigation should follow the guidance outlined in the Institute for Lighting Engineers document "Guidance for the Reduction of Obtrusive Lighting" (2005) and BCT's "Bats and Artificial Lighting in the UK" (2018).

Construction lighting should not be directed towards retained and surrounding habitats including the broadleaved woodland and grassland. The construction lighting may impact bats which are sensitive to light. Directional lighting will be achieved by angle and orientation of beam, use of a cowl, louvre or other light shield, or a combination of these.

An External Lighting Scheme had not been produced on the writing of this report. As such, the following recommendations are to be considered within the scheme during its condition, to minimise impacts of lighting. The recommendations are as follows:

- Keep site lighting to minimum levels.
- Luminaries should lack UV elements and preferably LED lighting with a warm white light should be used over cool white light (ideally <2700Kelvin).
- Lighting should feature peak wavelengths greater than 550nm.
- Internal lighting should be positioned away from windows to minimise light spill, where appropriate.
- Light placement should be downward facing to prevent excess horizontal or vertical light spill.
- The use of integrated fittings such as cowls, shields, louvres, and hoods, that effectively contain light spill from unintended areas, where appropriate.
- The use of hard landscaping features to block light and create dark corridors.

- Avoid illuminating any suitable retained bat habitats, particularly the hedgerows and trees, that are potential commuting and foraging habitat for bats.
- Use of timed security lights should be set on motion-sensors and using short, 1-minute timers, to minimise light use, where appropriate.
- Column heights of lighting can be considered to minimise light spill.

4.4.4 Hedgehog

Hedgehog may be present on site, as such checks for hedgehogs should be carried out prior to hedgerow removal to avoid harming this species during works.

4.4.5 Badgers

The following Precautionary Working Methods will be adhered to during construction phase to ensure that no badgers are impacted by the proposed development:

- All site operatives will be inducted to the potential presence of the species and the species legal protection.
- All site operatives will be inducted as to identifying potential badger setts and should be vigilant if they suspect they locate a new sett during works and inform the site manager immediately. A minimum 20m buffer will be maintained from the potential sett until an ecologist has been to site.
- All excavations will be battened at a 45-degree angle or ramps to be positioned to allow escape should animals become trapped.
- All site machinery and materials will be appropriately stored to avoid harm to the species, notably between July and November each year when extra care is needed to avoid potential impacts on pregnant females.

4.5 Invasive Species

No non-native invasive flora species were identified during the site walkover. However, invasive non-native species are fast-spreading and can develop at any time.

5 Further Surveys

5.1 Great Crested Newt

There is potential for GCN to be present on site. As such, two methods for further surveying and/or mitigation for the species have been outlined below:

5.1.1 EDNA

eDNA surveys would be carried out on the pond located within 250m of the site. The results of these surveys will inform the need for further GCN survey effort, including traditional surveys to determine population assessment and inform an EPSL.

5.1.2 District Level Licensing

As an alternative to eDNA surveys, District Level Licensing (DLL) may be sought to mitigate for any potential loss of habitat. Natural England provide a scheme for the Lancashire area that could be joined as part of this development. To join this DLL scheme, Natural England must be consulted on the size and scope of the development in order to obtain a quote for a 'Conservation Payment', required to gain the licence. This fee is used by Natural England to fund the creation/restoration, monitoring of and maintenance of ponds for GCN for at least 25 years.

Upon joining the scheme, further surveys relating to great crested newts would not be required as part of the development and mitigation strategies would not have to be considered or carried out.

This DLL route can be started immediately or after eDNA surveys have been undertaken. Undergoing eDNA surveys beforehand will potentially save costs if the ponds are found to be absent of GCN.

6 Opportunities for Enhancement

The National Planning Policy Framework (NPPF) (2023) highlights the requirement for planning policies and decisions to conserve and enhance the natural environment.

Paragraph 174 states that this should be achieved by (in terms of this assessment only):

a) *protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);*

d) *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*

Specific enhancement recommendations for the site include the following:

- Bat and bird boxes could be placed on the new buildings / retained trees. A plan to show the locations of these boxes and the specifications should be produced by a suitably qualified ecologist once the layout is finalised.
- Planting of linear features such as hedgerows and trees between garden plots where possible, to add commuting features withing the site.
- The inclusion of 'hedgehog highways' to facilitate movement across the site. This includes holes of 13 x 13cm at the bases of fence panels, leaving a sufficient gap beneath gates and/or leaving brick spaces at the bases of brick walls.
- An ecologically sensitive planting scheme could be incorporated on the site to promote invertebrate use of the site, which could benefit local bat and bird species.
- Incorporating habitats for moths that are potentially driven to site, such as the creation of a butterfly bank or a seeding/plug-planting scheme that provides important larval foodplants or nectar resources for butterflies and moths.

7 Conclusion

The PEA has met the objectives of the report, by demonstrating the following:

- The major habitats identified on site included modified grassland, hedgerows and trees and are detailed in Section 3.
- Potential ecological constraints identified included potential presence of common amphibians, great crested newts, nesting birds, bats, hedgehog and badger and are detailed in Section 4.
- Mitigation recommendations to be completed prior and during the construction phase for common amphibians, great crested newts, nesting birds, bats, hedgehog and badger have been detailed in Section 4.
- Great crested newt eDNA surveys are required to determine presence or absence and inform relevant mitigation requirements, detailed in Section 5.
- General ecological enhancements are listed within Section 6.

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Appendix 1 – Relevant Legislation

Legislation relating to European Protected Species (e.g. bats, otter, great crested newt)

European Protected Species and their resting places (e.g. bat roosts) are protected under the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way (CRoW) Act 2000, and the Conservation of Habitats and Species Regulations 2017.

The Conservation of Habitats and Species Regulations 2017 transpose the European Union's 'Habitats Directive' (Council Directive 92/43/EEC) on the Conservation of Natural Habitats and of Wild Fauna and Flora (EC Habitats Directive) into UK law. The Regulations provide for the designation and protection of 'European Sites', the protection of 'European Protected Species' (EPS), and the adaptation of planning and other controls for the protection of European Sites. EPS are listed on Schedule 2 of the Conservation of Habitats and Species Regulations 2017.

Under the Wildlife and Countryside Act 1981 (as amended) it is an offence to:

- Intentionally kill, injure or take certain animals listed in Schedule 5;
- Intentionally or recklessly damage or destroy any structure or place which any wild animal specified in Schedule 5 uses for shelter or protection;
- Intentionally or recklessly disturb any such animal while it is occupying a structure or place which it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any structure or place which any such animal uses for shelter or protection.

In addition, under this legislation there are offences relating to sale, possession and control of wild animals listed in Schedule 5.

Under the Conservation of Habitats and Species Regulations 2017 it is an offence to:

- Deliberately capture, injure or kill any wild animal listed as a European Protected Species;
- Deliberately disturb wild animals of any such species in such a way as to be likely:
- to impair their ability:
    - to survive, to breed or reproduce, or to rear or nurture their young, or;
    - in the case of animals of a hibernating or migratory species, to hibernate or migrate, or;
- to affect significantly the local distribution or abundance of the species to which they belong.
- Deliberately take or destroy the eggs of such an animal, or;
- Damage or destroy a breeding site or resting place of such an animal.

In addition, under this legislation there are offences relating to possession, control sale and exchange of an EPS.

Great crested newt, otter and several species of bat are listed as a SoPI under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

Legislation for white-clawed crayfish

White-clawed crayfish are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under this act it is an offence to:

- Intentionally take white-clawed crayfish from the wild; and,
- Sell or attempt to sell, any part of a white-clawed crayfish, alive or dead, or advertise that one buys or sells, or intends to buy or sell any part of a white-clawed crayfish.

The white-clawed crayfish is listed under Annex II and V of the EC Habitats Directive. The Conservation of Habitats and Species Regulations 2010 implements the European Union's 'Habitats Directive' (Council Directive 92/43/EEC (a) on the Conservation of Natural Habitats and of Wild Fauna and Flora) in Great Britain. Annex II requires that Special Areas of Conservation (SAC) are established specifically to conserve this and other listed species. In a SAC designated for white-clawed crayfish a precautionary principle must be applied when considering the potential impacts of any operations that may affect white-clawed crayfish and their habitat.

White clawed crayfish are listed as a SoPI under Section 41 of NERC Act 2006.

Legislation for amphibians (other than great crested newt)

Under the Wildlife and Countryside Act 1981 (as amended) the four widespread amphibian species, smooth newt (*Triturus vulgaris*), palmate newt (*Triturus helveticus*), common toad (*Bufo bufo*) and common frog (*Rana temporaria*) receive limited protection through section 9(5) only which makes selling, offering for sale, possessing or transporting for the purpose of sale (live or dead animal, part or derivative) an offence.

Common toad is listed as a SoPI under Section 41 of the NERC Act 2006.

Legislation relating to reptiles

All native reptile species have some degree of protection in the UK, through section 9(1) and (5) (specified in Schedule 5) of the Wildlife and Countryside Act 1981 (as amended). There are two different levels of protection afforded to reptiles through this legislation according to species and this is described in more detail below.

Full Protection

Sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*) are afforded protection under The Conservation of Habitats and Species Regulations 2010 (are species of European importance) and are fully protected under the Wildlife and Countryside Act 1981 (as amended) and the CRoW Act (2000). The Conservation of Habitats and Species Regulations 2010 implements the European Union's 'Habitats Directive' (Council Directive 92/43/EEC (a) on the Conservation of Natural Habitats and of Wild Fauna and Flora) in Great Britain. The relevant sections of this legislation make it an offence to:

- Intentionally kill, injure or capture or take a reptile;
- Possess or control (live or dead animal, part or derivative);
- Deliberately (intentionally) or recklessly damage, destroy or obstruct access to a breeding site or any structure or place used for shelter or protection by a reptile;
- Disturb whilst the reptile is occupying such a structure or place; and

- Sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative).

Sand lizard and smooth snake are listed as a SoPI under Section 41 of the NERC Act 2006.

Protection against killing, injuring and trade

This level of protection under section 9 (parts 1 and 5) applies to the four widespread species of reptile, namely the common lizard (*Zootoca vivipara*), slow-worm (*Anguis fragilis*), grass snake (*Natrix natrix*) and adder (*Viper berus*). Only part of sub-section 9(1) applies, which make it an offence to:

- Intentionally kill or injure, and
- Sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative).

Grass snake, slow-worm and adder are all listed as SoPI under Section 41 of the NERC Act 2006.

Legislation relating to breeding birds

All birds, their nests and eggs are protected by the Wildlife and Countryside Act 1981 (as amended) and it is an offence, with certain exceptions, to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built;
- Intentionally take or destroy the egg of any wild bird; and
- Intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building or is in, on or near a nest with eggs or young; or disturb the dependent young of such a bird.

Schedule 1 of the Wildlife and Countryside Act 1981 provides further protection for selected species (including peregrine falcon (*Falco peregrinus*), barn owl, little ringed plover and black redstart (*Phoenicurus ochruros*) during the breeding season. If any person intentionally or recklessly 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 disturb dependent young of such a bird. That person shall be guilty of an offence.

A number of bird species are listed as SoPI under Section 41 of the NERC Act 2006.

Conservation status - Birds of Conservation Concern (Eaton et al. 2015)

The UK's leading bird conservation organisations have worked together on the third quantitative review of the status of the birds that occur regularly in the UK, updating the last review in 2011. The status of birds within the UK have been regularly monitored through a series of surveys, including the national Breeding Bird Survey, Common Bird Census, sea bird monitoring programs and wetland monitoring programs. The result of this review and continued monitoring is The Population Status of Birds in the UK, Birds of Conservation Concern 4: 2015.

Birds are assessed against criteria to place each species on one of three alert lists, red, amber or green. Red list species are considered to be of high conservation concern, being either globally threatened, having historical UK population declines, having a rapid population decline or breeding range contraction of 50% or more in the last 25 years.

Amber list species are considered to be of medium conservation concern as they meet one or more of the following criteria (but none of the red list criteria):Red listed for historical decline in a previous review but with substantial recent recovery (more than doubled in the last 25 years), a UK breeding range contraction of between 25% and 49%, a reduction of breeding or non-breeding population of 25-49% in the last 25 years, a 5-year mean of 1-300 breeding pairs in the UK, an unfavourable European conservation status, at least 50% of the UK breeding population found in 10 or fewer sites, or where the breeding population in the UK represents 20% or more of the European breeding populations.

Green list species are considered to be of low conservation concern. They include all regularly occurring species that do not qualify under any of the red or amber criteria are green listed. The green list also includes those species listed as recovering from Historical Decline in the last review that have continued to recover and do not qualify under any of the other criteria.

Legislation relating to badger

Badgers are protected under the Protection of Badgers Act 1992 (as amended) which makes it an offence to:

- wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so;
- intentionally or recklessly damage, destroy or obstruct access to a badger sett; and
- disturb a badger when it is occupying a sett.

These provisions have implications for construction or preparation works undertaken in the vicinity of an active sett and may be confounded by distance from the sett entrance. Any works resulting in ground penetration, vibration or noise near an identified badger sett entrance/s have the potential to disturb badgers and advice should be sought from a suitably experienced ecologist under such circumstances. If disturbance to an active sett is probable, then a licence may need to be obtained from Natural England before any works commence.

Legislation relating to water vole

The water vole is fully protected under Section 9 of the Wildlife & Countryside Act 1981 (as amended) through its inclusion in Schedule 5. The legal protection makes it an offence to:

- Intentionally kill, injure or capture or take a water vole;
- Possess or control (live or dead animal, part or derivative);
- Deliberately (intentionally) or recklessly damage, destroy or obstruct access to a breeding site or any structure or place used for shelter or protection by a water vole;
- Deliberately (intentionally) or recklessly disturb a water vole whilst occupying such as structure or place, and
- Sell, offer for sale, possess or transport for the purpose of sale (live or dead animal, part or derivative).

Water vole is listed as a SoPI under Section 41 of the NERC Act 2006.

Legislation relating to invasive plant species

Several non-native invasive plant species such as Himalayan balsam, giant hogweed, Japanese rose, variegated yellow archangel, rhododendron and Japanese knotweed are listed under Schedule 9 of the

Wildlife and Countryside Act, 1981 (as amended), which makes it an offence to '...plant or otherwise cause the species to grow in the wild'. This includes spreading or transferring contaminated soil from one area to another.

Estate Managers and landowners have a duty to pro-actively treat knotweed outbreaks. Under the Natural Environment and Rural Communities Act 2006 (NERC), subsection 14ZA (1), makes it is an offence to sell, offer or expose for sale, or to have in one's possession or transport for the purpose of sale, any Schedule 9 animal or plant or anything from which such an animal or plant can be propagated, including rhizomes of Japanese knotweed. Under subsection 14ZA (2) it is also an offence to publish or cause to be published any advertisement for the purchase or sale of these animals and plants.

The Environmental Protection Act 1990 (EPA 1990) contains a number of legal provisions concerning controlled waste. Any Japanese knotweed contaminated soil or plant material that is intended for discard is likely to be classified as controlled waste.

The Environmental Protection (Duty of Care) regulations 1991 also imposes a 'duty of care' on persons concerned with controlled waste, which includes any materials incorporating Japanese knotweed including soil, grass cuttings, general wastes and ash arising from the burning of knotweed. The duty applies to any person, who produces, imports, carries, keeps, treats or disposes of controlled waste. Failure to appropriately dispose of any material containing Japanese knotweed may lead to prosecution under Section 33 and 34 of the EPA 1990 and Section 14 (2) of the Wildlife & Countryside Act 1981 (as amended).

If knotweed stands are to be treated with herbicides, The Control of Pesticides Regulations (1986) applies. These regulations require any person who uses a pesticide to take all reasonable precautions to protect the health of human beings, creatures and plants, safeguard the environment and in particular avoid the pollution of water. If pesticides are to be used in or near to a watercourse, the Environment Agency should be contacted, and approval must be sought (application to use herbicides in or near water).

Waste leaving the site must be handled responsibly and in accordance with the law at all stages between its production and final recovery or disposal. Waste must be transferred to an authorised person, who is either a registered waste carrier or exempted from registration by the Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations 1991.

Additional legislation regarding the transport of Japanese knotweed contaminated materials is covered by the Hazardous Waste Regulations 2005 (HWR 2005). This contains provisions about the handling and movement of hazardous waste. Consignment notes must be completed when any hazardous waste is transferred, which includes details about the hazardous waste properties and any handling requirements. Untreated Japanese knotweed is not classed as hazardous waste, but material containing knotweed which has been treated with certain herbicides, may be classified as hazardous waste.

If any waste soil or knotweed is sent for landfill either before or after treatment, it must go to a landfill that is authorised to receive it.

The Hedgerows Regulations 1997

The Hedgerows Regulations 1997 were introduced to protect hedgerows of importance from destruction. However, the legislation does not apply to any hedgerow (even if it is within the list above) which is within or marking the boundary of the curtilage of a dwelling house.

For the Regulations to be applicable, the hedgerow must be at least 20 metres in length or, if less than 20 metres, it must meet another hedgerow at each end. A hedgerow is deemed to be important if it is

more than thirty years old and meets at least one of the criteria listed in Part II of Schedule 1 of the Regulations.

If a hedgerow which qualifies under the Regulations is to be removed, the landowner must contact the Local Planning Authority (LPA) in writing by submitting a hedgerow removal notice. The LPA then has a period of 42 days to decide whether or not the hedgerow meets the importance criteria of the regulations.

Appendix 2 – Preliminary Roost Assessment

Tree Reference	Description	Evidence	Category of Suitability
T1	A large, mature pedunculate oak tree, with no visible knot holes, internal crevice entrances or ivy covering the tree trunk. No evidence of bat activity found on or near the tree.		Negligible

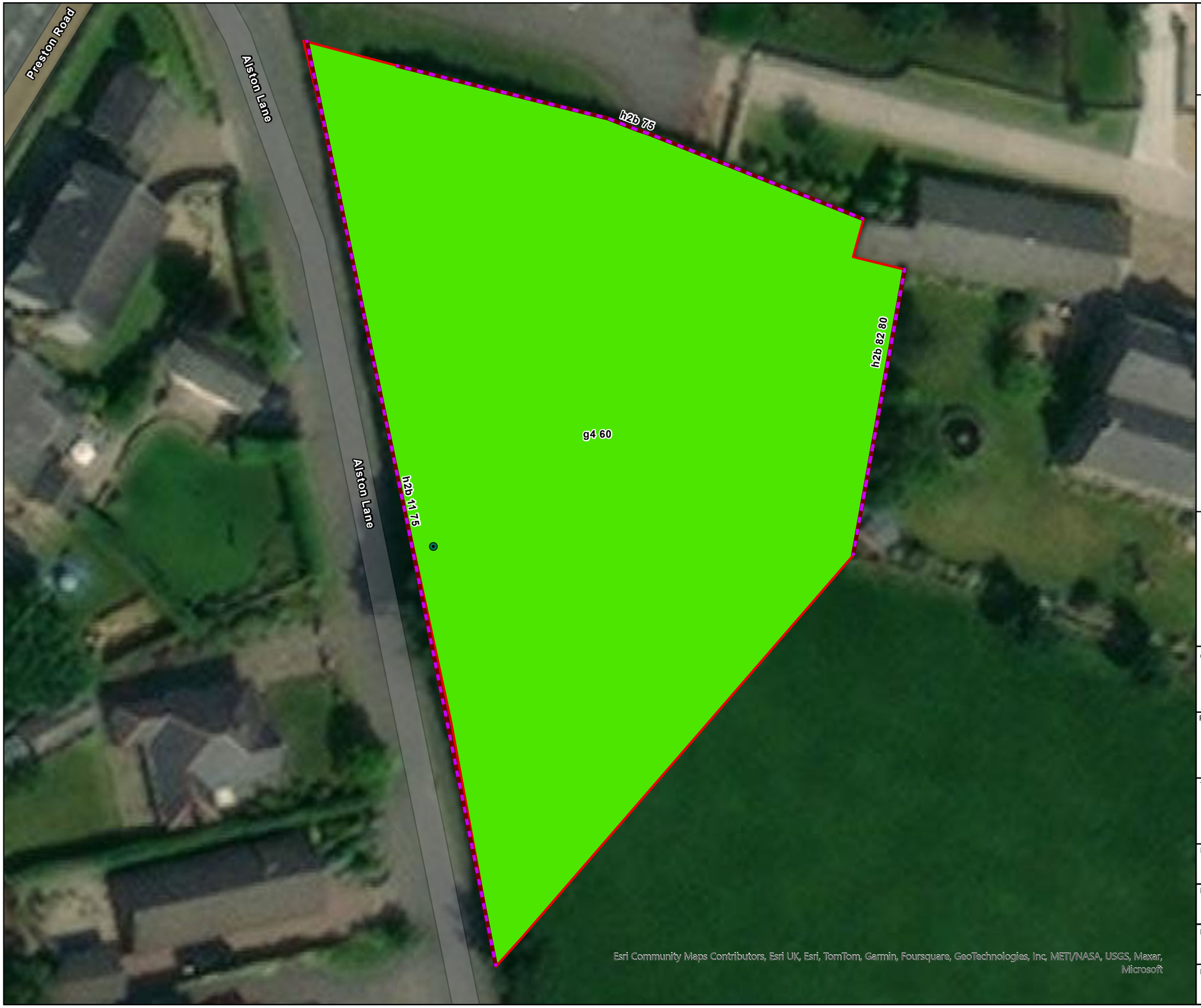
Tree Reference	Description	Evidence	Category of Suitability
T6	A moderately sized pedunculate oak tree, with no visible knot holes, internal crevice entrances or ivy covering the tree trunk. No evidence of bat activity was found on or near the tree.		Negligible

Appendix 3 - Habitat Suitability Index Assessment

HSI Score	Standing water (P1)	
Photo		
Description	Located approximately 250m from site. A modest sized, relatively new pond, surrounded by scrub and tall grassland. The terrestrial habitat surrounding the pond is suitable for amphibian species, with good connectivity to other ponds offsite.	
	Field Score	HSI Score
SI1 - Location	A	1
SI2 – Pond area	250m²	0.5
SI3 - Pond drying	Rarely Dries	1
SI4 – Water quality	Moderate	0.67
SI5 - Shade	0-60%	1
SI6 - Waterfowl	Absent	1
SI7 - Fish	Absent	1
SI8 - Ponds	5	0.75
SI9 - Terrestrial	Good	1
SI10 - Macrophytes	6-10%	0.4
Overall HSI score	**0.79 – Good**	

Appendix 4 – Habitat Map and Target Notes

Hierarchical code	Code	Meaning
Primary Code	h2b	Other hedgerows
	g4	Modified Grassland
Secondary Code	11	Scattered Trees
	60	Sheep Grazed
	75	Active Management
	80	Unmanaged
	82	Laid hedgerow



Legend

- Red Line Boundary
- Other hedgerows
- Modified grassland
- Urban Tree

N

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Project: **Bolton Fold Farm**

Title: **UKHAB Habitat Map**

Issue: **01**

Drawn:	Checked:	Approved:
CL	TM	JH

Project:	Scale @ A3:	Date:
UG2289	1:300	09/11/2023

Dwg No:	Revision:
UG_2289_ECO_HM_01	01