



Ecological Impact Assessment Advanced Proteins, Cheddleton

ISSUE RECORD

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The information and advice contained in this report has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.



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EXECUTIVE SUMMARY

Overview

An Ecological Impact Assessment was undertaken at Advanced Proteins, Bones Lane, Cheddleton, ST13 7BT by Peak Ecology Ltd on behalf of Sammons Architectural Ltd on the 14th January 2025. Proposals are for the construction of a food processing facility/edible bone factory on land adjoining the existing Food Ingredients England (FIE) site.

Full planning permission has been granted (Staffordshire Moorlands District Council - SMD/2022/0088) for which conditions relating to ecology require discharge including a Biodiversity Net Gain (BNG) assessment, Construction Ecological Management Plan (CEMP) and a Landscape and Ecology Management Plan (LEMP). As part of Peak Ecology's involvement in the conditions discharge, and to inform the BNG/LEMP and CEMP, an update Ecological Impact Assessment was undertaken.

Desk Study

A desk study was completed by Sterna Ecology as part of a Preliminary Ecological Appraisal report (Sterna Ecology, 2022) which is referenced throughout this report.

Habitats

The site itself comprised a modified grassland field with an area of plantation mixed woodland, a line of trees, a ditch, scrub (bramble dominated and mixed species) and scattered trees. Dry stone walls formed the site's south-eastern and south-western sides. Retained habitats (on-site trees and scrub) should be protected during and post works. Further details within Section 5.

A Biodiversity Net Gain Assessment has been completed by Peak Ecology which will be submitted alongside this report (Peak Ecology, 2025).

Implications and Recommendations

Designated sites:

The site falls within the Impact Risk Zone for the Churnet Valley Site of Species Scientific Interest (SSSI) therefore, given the type of development, consultation should be made with Natural England.

Amphibians and Reptiles:

Reasonable Avoidance Measures (RAMS) should be implemented prior to and during the construction period to minimise impacts on reptiles and common amphibians, which are detailed in Section 5.

Bats:

Two onsite trees were assessed to hold potential to support roosting bats; trees T1 and T2 both assessed as of low/PRF-I status. Under current proposals, these trees will be retained although may require maintenance through limb removal, crown lift etc. Any works to T1-T2 should be carried out following the guidance set out in Section 5.

The site offers value for foraging and commuting bats, as such a sensitive lighting scheme should be incorporated into the development to minimise impacts on local bat populations. Further details within Section 5.

Birds:

Vegetation clearance works should be completed outside of the main breeding bird season (March-September inclusive). If this is not possible, a suitably qualified ecologist should search all areas for active nests immediately prior to vegetation removal. Further details within Section 5.

Terrestrial Mammals (including badger *Meles meles* and hedgehog *Erinaceus europaeus*):

Reasonable Avoidance Measures should be implemented during the construction period to minimise impacts on terrestrial mammals which may pass through the site and are detailed in Section 5.

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1 INTRODUCTION

1.1 Scope of Report

This report has been prepared by Peak Ecology Ltd on behalf of Sammons Architectural Ltd. It provides the results of an Ecological Impact Assessment (EclA) associated with the proposed residential development at Advanced Proteins, Cheddleton. The purpose of this report is to:

- Describe the ecological baseline of the site, including existing habitats, presence of protected and priority species and nearby designated sites;
- Highlight potential significant ecological impacts associated with the proposals;
- Identify suitable mitigation measures and state how they will be secured;
- Assess the significance of any residual impacts;
- Highlight opportunities for ecological enhancement where appropriate; and
- Set out requirements for post-construction monitoring.

In relation to planning and development, this report provides all relevant details to accompany a planning application, however, it should be read in conjunction with any other ecological surveys that have been undertaken for the site (references).

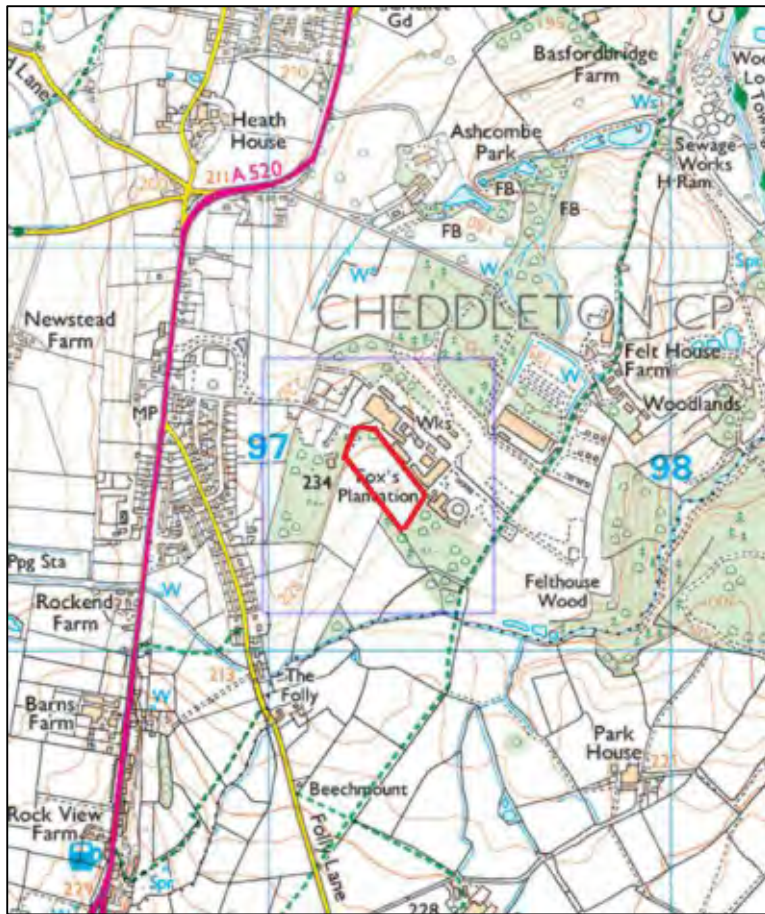
The approach to this assessment follows best practice published by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2013 & 2017) and the British Standards Institution (BSI, 2013). Details of individual survey methods and associated supporting information are provided in Section 2.

1.2 Site Description

The site comprised 2.37ha area of land within the village of Cheddleton, Staffordshire (central grid reference: SJ 97300 50437). The site itself was a modified grassland field with a plantation mixed woodland located on the site's northern boundary. A line of trees, scattered trees and scrub formed the boundaries alongside a ditch.

The surrounding land use comprised grazed pasture to the south-west, broadleaved woodland to the south with an industrial site to the north and north east. The survey boundary is as per the redline boundary on drawing CT-204-PP-1-02 provided by the client. The site location is illustrated below.

Figure 1: Location plan* - indicated by the red circle



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1.3 Development Proposals

Proposals are for the construction of a food processing facility/edible bone factory onsite to adjoin the existing Food Ingredients England (FIE) site and includes the following; a building, biofilter unit, office, attenuation pond, tanks, car park and access. Landscaping will include wildflower meadows, pond margin meadow, grassland areas, woodland planting and hedgerow planting.

1.4 Zone of Influence

The geographical extent of the potential impact of a proposed development is known as the Zone of Influence (ZOI). The ZOI is determined by the nature of the development, the habitat requirements and mobility of individual species relevant to the site, and the distances they typically cover as indicated in best practice guidelines.

In relation to great crested newts (GCN) *Triturus cristatus* the ZOI is considered to be up to 500m from the site. With regards to bats the ZOI is considered to be the site itself and any connecting habitat links suitable for use as commuting and foraging corridors. The ZOI regarding badgers *Meles meles* is considered to be up to 30m from the site boundary.

1.5 Planning Context and Legislation

The National Planning Policy Framework 2023 requires that when assessing a planning application all Local Planning Authorities (LPAs) must consider potential impacts on biodiversity that may result from the proposals. In addition to this, county and borough councils typically have biodiversity policies within their Local Development Frameworks that they must also comply with.

In practice, this means that potential impacts on designated sites, notable species and habitats such as those listed as habitats of principal importance in England (formerly the UK Biodiversity Action Plan) and species that receive legal direct protection (typically via the Conservation of Habitats and Species Regulations 2017 (as amended) and/ or the Wildlife and Countryside Act 1981 (as amended)) are all material planning considerations.

The presence of any European Protected Species (EPS) is a material planning consideration; therefore, the LPA have a duty to assess whether a development proposal is in breach of the legislation by the application of the three Habitats Directive test, as implemented by the Habitats Regulations. Sufficient information must be provided detailing likely impacts to the species in question as a result of the proposals, as well as any necessary mitigation or compensation measures. The test relevant to this report is that which relates to the Favourable Conservation Status of the species.

Appendix A provides a definition of “protected or priority species” for the purposes of this report.

2 METHODOLOGY

2.1 Desk Study

A desk study was undertaken by Sterna Ecology (Sterna Ecology, 2022) for which data was obtained from Staffordshire Ecological Record (SER). As this data still remains valid, it has not been updated as part of this assessment and is referred to throughout.

A “Site Check Report” was carried out using the online interactive mapping tools on the MAGIC (Multi-Agency Geographic Information for the Countryside) website to identify any statutory designated sites within the search radius.

2.2 Surveyors

The survey was undertaken on 14th January 2025 by Senior Ecologist Helen Staton BSc (Hons) ACIEEM, Natural England Class Level 1 licence holder for bats and great crested newts (2015-14490-CLS-CLS, 2015-18041-CLS-CLS, respectively). Helen has been a professional ecologist for over 14 years and is experienced in the use of the UK Habitat Classification survey methodology, identification of vascular plants and scoping assessments for protected species. Helen is appropriately qualified for this type of survey based on the CIEEM competencies guidance (CIEEM, 2013).

2.3 Habitat Survey

Following standard methodology (Butcher *et al*, 2020), the survey comprised a walkover of the site to classify and map the extent of recognised habitat types under the UK Habitat Classification (UKHab Ltd, 2023), based on the identification of individual plant species. Any evidence of invasive plants such as Japanese knotweed *Reynoutria japonica* was also noted. Nomenclature for vascular plant species follows the New Flora of the British Isles (Stace, 2019).

The extent of the habitats recorded is illustrated on the Habitat Plan in Figure 2, with target notes to provide supplementary information regarding any features of particular ecological interest.

The fine-scale Minimum Mapping Unit (MMU) was used throughout the survey area to allow the capture of small features and present any finer grain or mosaic of habitats. Minimum mapping units used were:

- 25m² for areas of habitat; and
- 1m wide and 5m length for linear habitat.

Features smaller than the MMU are denoted as point features.

2.4 Scoping for Protected and Priority Species

The habitats present were assessed for their potential to support any legally protected or otherwise notable species. Any incidental sightings or field signs discovered during the surveys were recorded.

All British wildlife and countryside legislation, policy and guidance were taken into consideration, including;

- The Wildlife and Countryside Act 1981 (as amended);
- The Conservation of Habitats and Species Regulations 2017 (as amended);
- EC Council Directive on the Conservation of Wild Birds 79/409/EEC;
- The Protection of Badgers Act 1992;
- The Countryside and Rights of Way Act 2000;
- The Hedgerow Regulations 1997;
- The Natural Environment and Rural Communities Act 2006; and
- The UK Post-2010 Biodiversity Framework (formerly known as UK BAP).

Appendix B provides greater detail on the legislation context relevant to this site.

In the case of bats, specific assessment methods have been adopted as the industry standard and these were followed during the survey, see Appendix C for detailed methodologies.

2.5 Limitations

2.5.1 Third Party Data

Desk study data obtained for this assessment is provided and validated by third parties therefore Peak Ecology has no control over any errors within the dataset. The data represents the information available at the date of request and a lack of records for any particular species does not necessarily indicate absence from the local area, as many species are under-recorded.

2.5.2 Survey Methods

Based on the identification of individual plant species, the Habitat Survey provides sufficient information to enable classification of broad habitat types; however, it does not constitute a detailed botanical survey. Plant species lists compiled by this type of survey should not be considered definitive as not all species will be apparent at all times of year.

Scoping surveys should be considered a means of assessing the suitability of a site for use by protected species and determining the scope for any more detailed follow-up surveys; it should not be interpreted as providing a comprehensive presence/ likely absence survey for any individual species.

It should be noted that if there were no records or observations of certain protected or rare species, this does not preclude their presence on site. There is always a risk of species being overlooked; either owing to the timing of the survey or the scarcity of the species occupying the site.

Survey Timing and Conditions

The survey was undertaken outside of the optimal survey window for habitat assessments (May – September inclusive) however due to the nature of the site, and because this assessment is an update to the one undertaken by Sterna Ecology in 2022 (Sterna Ecology, 2022) the survey timing is not considered to have limited the assessment of the habitats on site or their conditions.

2.6 Lifespan of Data

The results and recommendations contained within this report are considered to be valid for up to two years from the date of survey, assuming that there are no significant changes to the site condition or management within this period. After this period, or should the site conditions change, an update may be required in order to inform ecological constraints to development proposals and/or accompany a planning submission.

3 RESULTS

3.1 Desk Study

Sterna Ecology undertook a desk study including the acquiring of data from Staffordshire Ecological Record (SER) for sites and protected species within 2km. This information will be referenced within the evaluation section of the report but for full details please see the Preliminary Ecological Appraisal report (Sterna Ecology, 2022).

3.2 Habitat Survey

The individual habitat types recorded at the site are described under the sub-headings below, with the location and extent of each illustrated on the UKHab Habitat Plan (Figure 2). Representative photographs of the site are provided in Appendix D.

■2.1 g4 – modified grassland

The site comprised a grassland field (Photograph 1) located adjacent to the operational FIE Cheddleton site. The grassland at the time of the survey was tussocky and appeared unmanaged with an average sward height of 30-40cm. The northern end of the site was dominated by Yorkshire fog *Holcus lanatus* with occasional perennial ryegrass *Lolium perenne*, cocks foot *Dactylus glomerata* and red fescue *Festuca rubra*.

Across the site herbaceous species were limited to abundant creeping buttercup *Ranunculus repens*, occasional broadleaved dock *Rumex obtusifolius*, common hogweed *Heracleum sphondylium* and white clover *Trifolium repens*. Encroaching bramble *Rubus fruticosus* scrub was noted around site edges, alongside rare goat willow *Salix caprea* saplings.

■2.2 g4, 15, 504 – modified grassland, rushes dominant, waterlogged

Towards the southern end of the site the grassland became waterlogged with soft rush *Juncus effusus* becoming dominant (Photograph 2).

■2.3 g4, 15 – modified grassland, rushes dominant

On the sites north-eastern corner was a small area of modified grassland, dominated by rushes. The substrate of this area comprised hard core aggregate which was colonised with grasses and rushes (Photograph 2).

■2.4 h3d – bramble scrub

Bramble scrub (Photograph 4) was present along the site's north-eastern boundary growing on a tree lined embankment and encroaching onto the adjacent grassland.

w1h, 29 – other woodland; mixed, plantation

Located on the site's northern end was a 0.26ha plantation woodland, planted on an earth bund (Photograph 5). The earth bund and woodland were created/planted approximately 17 years ago to provide partial screening of the eastern boundary of the FIE Cheddleton site. This plantation comprised a mix of broadleaved and pine species, dominated by Scots pine *Pinus sylvestris* species, with silver birch *Betula pendula*, alder *Alnus glutinosa* and sweet chestnut *Castanea sativa*. Occasional ornamentals were also mixed in.

The plantation lacked a clear understorey with occasional bramble noted.

h3h – mixed scrub

On the sites south-eastern and south-western boundaries, were areas of mixed scrub dominated by bramble with frequent holly, goat willow and occasional saplings of silver birch and oak *Quercus* sp.

200 – tree

Three mature trees were recorded on the site's north-western side and comprised one pine and two oaks. Approximately 12 trees were located on the site's south-western boundary, amongst the mixed scrub. Species comprised oak, silver birch and holly.

u1c – artificial unvegetated, unsealed surface

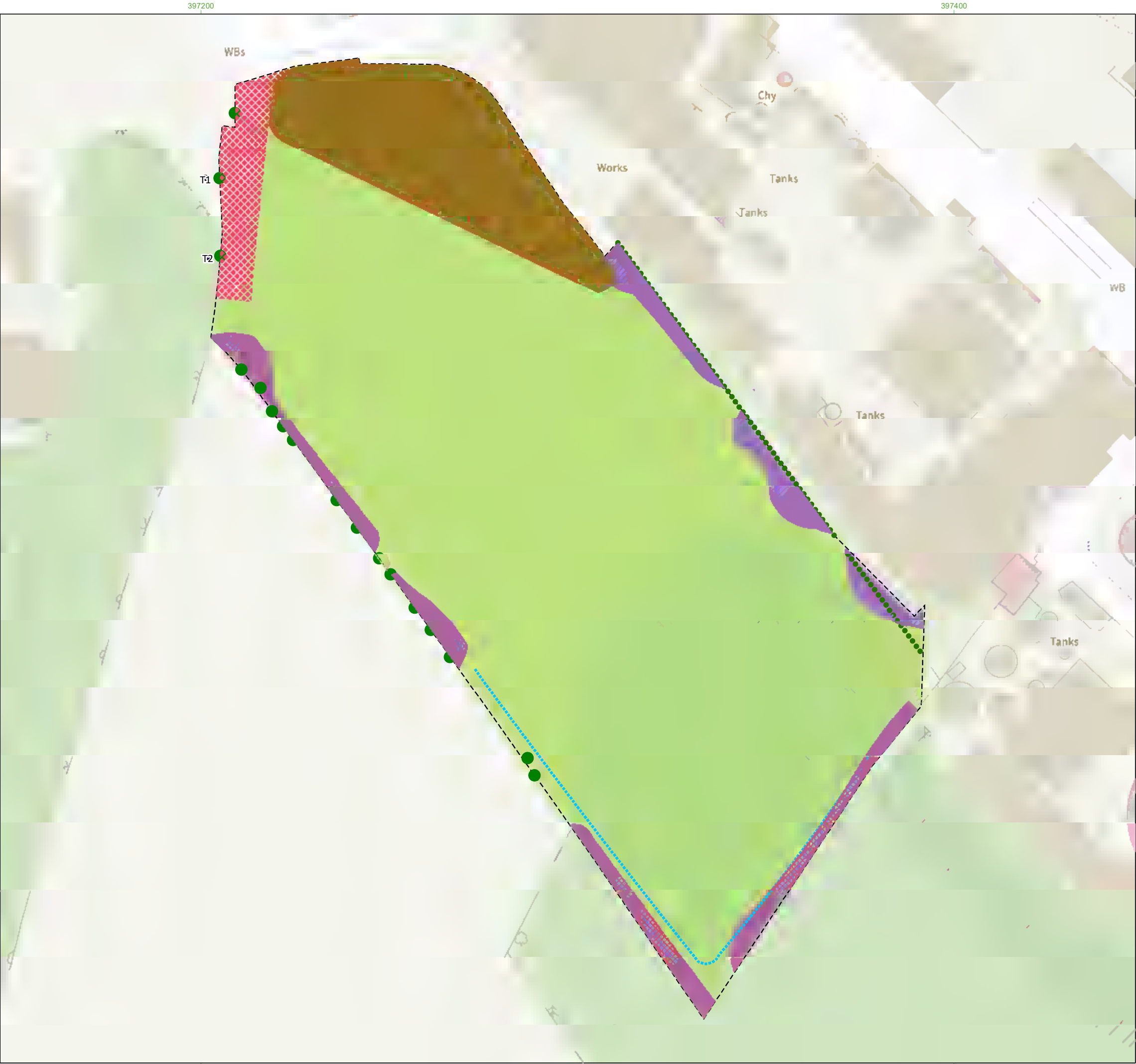
Located on the northern end of the site was an access track comprised of an unvegetated and unsealed surface.

g4, 50 – ditch

A drainage ditch was located on the site's southern corner, located towards the boundary. It measured approx. 182m in length and 1.5m width. At the time of the survey, it was partially dry with only a slow flow recorded towards the southernmost extent where the water pooled, likely as a result of recent snow melt prior to the survey. The ditch embankments comprised of grass, ruderals and bramble scrub. The base of the ditch was silted.

2.10 33 – line of trees

Along the site's north-eastern boundary is a line of trees planted atop an embankment, forming screening between the adjacent FIE site and the grassland field. Species recorded included silver birch, oak, laurel species, pine, alder and conifer species.



Survey Information	
	Site boundary (23,703.8m ²)
UKHab Habitat Survey	
	g4 - Modified grassland (11,973.2m ²)
	g4 - Modified grassland, 15 (325.8m ²)
	g4 - Modified grassland, 15, 504 (6,574.4m ²)
	h3d - Bramble scrub (581.0m ²)
	h3h - Mixed scrub (1,002.7m ²)
	u1c - Artificial unvegetated, unsealed surface (610.1m ²)
	w1h - Other woodland; mixed, 29 (2,636.6m ²)
	g4, 50 - Ditch (182.1m)
	33 - Line of trees (131.9m)
	200 - Tree (17)

Secondary Codes:

15 - Rushes dominant
29 - Plantation
50 - Ditch
504 - Waterlogged

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0 5 10 20
Metres

PROJECT TITLE

CHEDDLETON, STAFFORDSHIRE

DRAWING TITLE

Figure 2. Baseline Habitat Plan

VER	DATE	REMARKS	Drawn	Checked
1.2	25/06/25	UKHab	MP	AS

DRAWING NUMBER:

PeakEcology/UKHab

peakecology LIMITED

Littlewoods Park

Arden House,
Deepdale Business Park,
Bakewell,
Derbyshire.
DE45 1GT.
www.peakecology.co.uk

DATUM	OSGB
PROJECTION	BNG
PLOT SIZE	A3
SCALE	1:1,000

3.3 Protected and Priority Species

Amphibians

No waterbodies were present on-site. The southernmost extent of the drainage ditch had pooled, but this was attributed to recent snow melt prior to the survey. The drainage ditch itself was partially dry at the time of the survey, with only a very slow intermittent flow. The ditch was subject to a Habitat Suitability Index (HSI) assessment as shown in Table 1.

Using mapping software/aerial imagery, four waterbodies were identified within 500m of the site (Figure 3). Pond 1 was approximately 327m to the north-west, Pond 2, 3 and 4 approximately 350m, 400m and 448m (respectively). There are no barriers to dispersal between the off-site ponds and the site itself.

The terrestrial habitats on-site offered potential for foraging and shelter within tussocky grassland present towards the southern half of the site, bounding hedgerows, dry-stone wall bases, scrub and tree line.

Figure 3: Pond locations and distances away from the site boundary

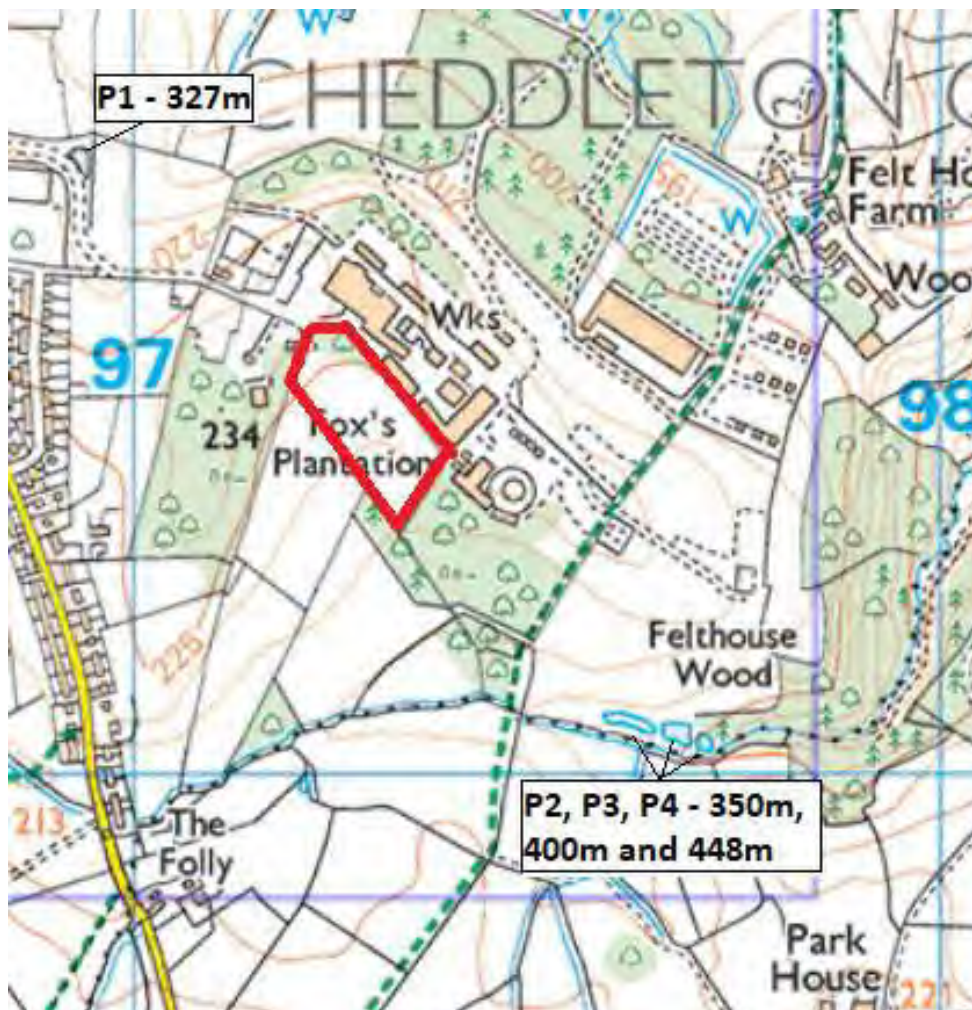


Table 1: Habitat Suitability Index assessment result

Pond Number	On-site ditch	
SI ₁ - Location	A	1.0
SI ₂ - Pond Area (m ²)	200	0.4
SI ₃ - Pond Drying	Annually dries	0.1
SI ₄ - Water Quality	Poor	0.33
SI ₅ - Shoreline Shade (1m from the shore) (%)	80	0.6
SI ₆ - Fowl	Absent	1
SI ₇ - Fish	Possible	0.67
SI ₈ - Pond Count	12+	1
SI ₉ - Terrestrial habitat	Moderate	0.67
SI ₁₀ - Macrophytes (% of the pond surface area occupied by macrophyte cover)	0	0.3
Habitat Suitability Index (HSI Score)		0.50
Pond Suitability		Below average

Badger

No evidence of badger occupation was recorded onsite. Mammal paths were noted across the site, traversing through the grassland with well-worn paths noted crossing beneath the stock fencing on the south western boundary. No other evidence was recorded (i.e. latrines, sets, snuffle holes).

The site has some, although limited potential for sett establishment within the plantation woodland and along the site's tree lined north-eastern boundary. Off-site to the south was a plantation woodland which was surveyed for badger evidence and no such evidence was recorded.

3.3.3 Bat Roosts – Trees

All trees on-site were assessed for their suitability to support roosting bats in accordance with current bat survey guidelines (Collins (ed), 2023) during a Ground Level Tree Assessment (GLTA). Two trees were identified as having potential for supporting roosting bats (Table 2) with the remainder of the onsite trees assessed to be of negligible roosting potential with no natural features suitable for roosting bats identified.

Table 2: GLTA results

Tree Reference	Description	Roost potential
T1	Semi mature, single stemmed, oak tree located on the site's western boundary. Dead wood noted within the canopy of the tree, with occasional split/damaged branches noted.	PRF-I Features: dead wood, split limbs
T2	Semi mature, single stemmed, oak tree located on the site's western boundary. Dead wood noted within the canopy of the tree, with occasional split/damaged branches noted.	PRF-I Features: dead wood, split limbs

Foraging and Commuting Bats

The site held moderate suitability for foraging and commuting bats with good connectivity to the wider landscape via on-site tree line, plantation woodland and hedgerows.

Breeding Birds

The on-site trees, hedgerow and scrub provided suitable nesting habitat for common bird species. The tussocky, rush dominated grassland offers potential for nesting pheasants *Phasianus colchicus*.

Several common species were identified on-site/adjacent to the site at the time of survey including long-tailed tit *Aegithalos caudatus*, black bird *Turdus merula*, wren *Troglodytes troglodytes*, pheasant, blue tit *Cyanistes caeruleus*, buzzard *Buteo buteo*, great tit *Parus major*, dunnoek *Prunella modularis*, goldfinch *Carduelis carduelis*, wood pigeon *Columba palumbus*, bullfinch *Pyrrhula pyrrhula*, magpie *Pica pica*.

Reptiles

The on-site tussocky grassland offered some potential for foraging/basking reptiles with the bounding scrub providing shelter opportunities.

Other Protected and/or Priority Species

The site was suitable to support foraging and commuting hedgehog *Erinaceus europaeus*.

4 EVALUATION

4.1 Designated Sites

One statutory designated site is present within 2km of the site; Churnet Valley Site of Special Scientific Interest (SSSI) which is located 1.45km to the east. The site falls within the Impact Risk Zone (IRZ) for this SSSI and while impacts on this SSSI as a result of the development are envisaged to be minimal, given the type of development proposed, consultation with Natural England will still be required.

There are eight Sites of Biological Importance within the 2km search area, the closest of which is Wetley Rocks located 814m south-west, and five Biodiversity Alert Sites the closest of which is Ashcombe Deer Park located 450m north-east (Sterna Ecology, 2022). Given the scale and nature of the development it is expected that any impacts from the works will be constrained to within the site boundary and will not impact upon the qualifying features of any nearby designated sites. Therefore, no impacts are envisaged.

4.2 Habitats & Botanical Interest

On-site semi-mature trees (including T1 and T2 which were assessed to be of PRF-I status for roosting bats) and the trees and scrub which forms the south-western boundary, along with the line of trees which form the site's north-eastern boundary, will be retained. Measures to ensure retention during and post development recommended within Section 5.

The development will result in the loss of modified grassland and plantation woodland both of which were assessed to be in a 'poor condition' and contained species common and widespread within the area.

4.3 Protected and Priority Species

4.3.1 *Amphibians*

Records of GCN were returned within the 2km search area (Sterna Ecology, 2022).

The on-site ditch was assessed to be of 'below average' suitability for supporting breeding GCN, primarily due to its shallow water depth and proneness to annual drying. Off-site, four ponds were identified using mapping software, all further than 250m away from the application boundary.

While terrestrial habitats on-site were considered suitable for GCN, due to pond distances, further surveys are not considered proportionate. This is further supported by Natural England's 'Rapid Risk Assessment' (Table 3) which assesses the risk to GCN as a result of the development, as 'Green: Offence Highly Unlikely'.

Table 1:

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	1 - 5 ha lost or damaged	0.04
Individual great crested newts	No effect	0
Maximum:		0.04
Rapid risk assessment result:		GREEN: OFFENCE HIGHLY UNLIKELY

However, given the presence of suitable terrestrial habitat onsite there is a risk that amphibians could be injured as part of the proposed works and Reasonable Avoidance Measures (RAMs) should be implemented during construction as a safeguard. RAMs are detailed in Section 5.

4.3 Badger

The site provided opportunities for badger foraging only, with opportunities for sett creation limited to the bounding scrub and tree line, although there may be opportunities within the wider landscape. It is therefore considered possible that badgers will pass through the site on occasion to forage. RAMs are provided in Section 5 to safeguard badgers during the construction phase.

4.4 Bats

Records of Daubenton's *Myotis daubentonii*, brown long-eared *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctule* and whiskered/brandts *Myotis mystacinus/brandtii* were returned within the 2km search area (Sterna Ecology, 2022).

Roosting

Under current proposals T1 and T2 (both of PRF-I status) will be retained onsite. However, in the absence of mitigation, any branch removal/modification/maintenance to the trees, could result in an offence under both the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended). A Precautionary Method of Works should be followed as detailed in Section 5.

Foraging and commuting

The site held moderate suitability for foraging and commuting bats. The proposals are unlikely to significantly impact the suitability of the site with the bounding hedgerow and tree line to be retained although an increase in site lighting/disturbance may indirectly impact the local bat population. Recommendations to minimise impacts to foraging and commuting bats are provided in Section 5.

4.3.4 Breeding Birds

The trees, scrub, hedgerow and grassland on-site provided suitable habitat for common bird species. The clearance of any suitable vegetation as part of the development has the potential to impact breeding birds, therefore timing of works should consider the nesting season as detailed in Section 5.

4.3.5 Reptiles

Records of common lizard *Zootoca vivipara*, adder *Vipera berus*, slow worm *Anguis fragilis* and grass snake *Natrix helvetica* were returned within the 2km search area (Sterna Ecology, 2022).

The site held some suitability for foraging and sheltering reptiles within the grassland, scrub and drystone walls. Therefore, there is the potential for reptiles to be present on-site. RAMs should be implemented to safeguard reptiles during the construction period which are detailed in Section 5.

4.3.6 Other Protected and/or Priority Species

It is possible that hedgehogs will pass through the site. As a result, there is a risk that individuals may become trapped in excavations during the construction phase.

5 MITIGATION, COMPENSATION AND ENHANCEMENT MEASURES

5.1 Designated Sites

The site falls within the Impact Risk Zone (IRZ) for the Churnet Valley SSSI, therefore Natural England should be consulted regarding the proposed development.

5.2 Habitats & Botanical Interest

The habitats within the site boundary that will be impacted by the proposed development occur frequently within the wider environment, and species recorded within these habitats were common and widespread. Detailed botanical surveys are not required, as the habitats and their conditions are considered to have been adequately assessed based on information gathered at the time of survey.

5.2.1 Protection of trees

All trees that will be retained throughout works should be adequately protected during the works in line with BS5837:2012 *Trees in relation to design, demolition and construction – Recommendations* (BSI, 2012). No materials should be stored under the canopy of the trees during construction works and all root protection areas marked out prior to commencement of work.

5.3 Protected and Priority Species

5.3.1 Reptiles and Amphibians

There is a low risk that common reptiles and amphibians may be present on site. Further surveys for these species are not considered proportionate to the scale of the proposed works. However, given the level of protection for these species, RAMs are considered to be an appropriate method for minimising the risk of harming reptiles or amphibians if present.

The following RAMs should be implemented prior to, and during the construction period to minimise impact on reptiles and common amphibians;

Reasonable Avoidance Measures for herptiles:

- On-site grassland should be maintained to a short sward (less than 100mm) prior to the commencement of works. This is to discourage reptiles and amphibians from using the site.
- Before any works commence, all site contractors/stakeholders will be briefed on the Reasonable Avoidance Measures during a 'Tool-box' talk of the potential for protected species to occur on site, what to look out for and what to do in the event that animals are found.
- During construction works, materials that require piling will be stored within areas of bare ground above ground level, using pallets to prevent reptiles or amphibians from seeking shelter below.

- Excavations/trenches should not be left open overnight to prevent reptiles and amphibians falling into them and becoming trapped. If trenches cannot be filled in after the working day for whatever reason, an escape mechanism such as wooden planks of 50mm wide as a minimum should be placed in them at a 45-degree diagonal angle.
- Open excavations should be checked in the morning on a daily basis for the presence of any animals that may have fallen in during the night.
- If a reptile or amphibian is found work must stop immediately, and contact should be made with a suitably experienced ecologist. At no point should any person handle a herptile without express consent from the ecologist. Any reptiles found should be left to leave the site of their own accord. Where this is not possible, they should be placed into a ventilated box using gloved hands and released into suitable nearby vegetation, away from the working area.
- If a suspected great crested newt is found at any point during construction, works must stop immediately and a suitably qualified ecologist should be contacted.

5.3.2 *Badgers and other large mammals*

As a number of terrestrial mammal species, including badger and hedgehog, may pass through the site, it is recommended that the following RAMS are implemented during vegetation clearance and construction:

Reasonable Avoidance Measures:

- During construction, it is recommended that deep, steep sided excavations are not left overnight without an escape route, either a ramp or sloping bank. Similarly, it is advised that any pipes stored on site are capped.
- Open excavations should be checked in the morning on a daily basis for the presence of any animals that may have fallen in during the night.
- If a hedgehog is found onsite, it should be picked up with gloved hands, placed in a ventilated box and released into suitable nearby vegetation that will be unaffected by the proposed works.
- It is important that any new fencing or walls installed as part of the development do not create a barrier to dispersal for wildlife. It is recommended that suitable holes are incorporated at the base of boundary structures to allow wildlife to commute through the site, such as specific "hedgehog holes" which are 13 x 13cm in size.

5.3.3 *Bats – Roosting*

T1 and T2 were assessed to be PRF-I and therefore has suitability to support individual roosting bats. Under current proposals they will be retained. However, should plans change the following Precautionary Method of Works should be adhered to where any felling/modification is required;

Precautionary Method of Works:

- Timing of the works should be considered in relation to the identified features. Potential Roosting Features identified on T1 and T2 were not considered suitable for bat hibernation. The works are recommended to be carried out during the winter - between November and March (inclusive) under supervision of a bat licenced ecologist.
- A temporary roost feature must be provided on site prior to the start of the works. A bat box suitable for crevice dwelling species is recommended to be installed upon a mature tree or structure within close proximity to T1 and T2, whilst also being suitably away from works which may cause disturbance. The location of the bat box will be determined by the supervising ecologist.
- PRFs will be removed as a whole including a buffer either side, where possible, and lowered to the ground in a slow and controlled manner. Where features cannot be removed as whole, they will be removed progressively, with each section re-inspected at the supervising bat licenced ecologist's discretion.
- Once removed, the features or sections will be carefully lowered and placed on the ground and left overnight to allow any bats that may be present but have not been found to disperse.
- Branches and trees where no potential roosting features have been identified, or where potential roosting features have been removed, can be felled without constraint.
- Should any bats or field signs of bats be recorded during works, the works will cease immediately, and the project ecologist contacted for advice on how to proceed. If a bat roost is confirmed by the ecologist, the works will be required to cease in that area until further survey is completed to properly assess the roost.
- All tree felling should also take into account nesting birds, with any felling within the core nesting season of March to September only taking place once a suitably qualified ecologist has confirmed the absence of active nests.

Bats – Foraging and Commuting

The lighting scheme should be designed to avoid illuminating habitats used by bats, such as scattered trees, in accordance with guidance set out in Bats and Artificial Lighting at Night (ILP, 2023). Consideration should also be given to the times automatic lighting will be on, to maximise the amount of time the area is in darkness throughout construction works and once construction is complete. Low intensity bulbs (sodium lamps) should be used, with lamps fitted with spill accessories to avoid upward spill.

Breeding Birds

All wild birds, their nests and eggs are protected under the Wildlife and Countryside Act 1981 (as amended). It is recommended that vegetation removal is undertaken outside of the main breeding bird season, which is generally considered to be March to September (inclusive), to minimise the risk of damaging active nests. If this is not possible, a suitably experienced

ecologist should search all areas for active nests prior to vegetation removal, preferably immediately prior to, and no more than 48 hours before removal. Any identified active nests must be protected from disturbance until the nest is complete and no longer in use, using suitable barriers where necessary.

Contractors should remain vigilant throughout the year as some species are known to breed year-round, especially in more urban areas or sites with buildings.

5.4 Ecological Enhancement

National planning policy recommends that all developments incorporate ecological enhancement in order to “pursue opportunities for securing measurable net gains for biodiversity” (NPPF, 2023), therefore consideration should be given to the following suggestions.

- Integrate suitable bird boxes in to new buildings, targeted at species most likely to use them, such as house sparrow, starling, house martin and tit species. The addition of a small number of bird boxes attached to suitable trees would also be beneficial. See <https://www.livingwithbirds.com/nest-boxes> for suitable examples.
- Integrate suitable bat boxes in to new buildings, targeting species such as pipistrelle and brown long-eared. Preferably a mixture of box types should be installed, including hibernation and maternity roost boxes. Alternatively, boxes could be positioned on to suitable trees within the site boundary. See [Fledermausschutz » Schwegler Natur \(schwegler-natur.de\)](https://www.fledermausschutz.de) for suitable examples.
- The creation of mixed native hedgerows would enhance to connectivity of the site for wildlife and provide resources, such as nectar, fruit and nest sites. Suitable native hedgerow shrubs include hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, hornbeam *Carpinus betulus*, beech *Fagus sylvatica*, field maple *Acer campestre* and dogwood *Cornus sanguinea*. Native shrubs can also be used in place of ornamental shrubs. Examples of hedge plant collections can be found here: <https://www.naturescape.co.uk/product-category/bareroot-trees-hedging/hedging-collections/>
- Create a wildflower meadow or flowering lawn instead of a short-mown amenity grassland. Once established these require less maintenance (and therefore less cost) than standard lawns as well as providing resources for wildlife. Seed mixes can be found here: [Complete Seed Mixtures - Emorsgate Seeds \(wildseed.co.uk\)](https://www.wildseed.co.uk)
- Use native species within soft landscaped areas, many native plants are suitable for inclusion in planting areas, including herbaceous perennials, annual plants, trees and shrubs. Suitable species are listed on the RHS website: <https://www.rhs.org.uk/science/pdf/conservation-and-biodiversity/wildlife/plants-for-pollinators-wildflowers.pdf>
- If native species are not practical it is recommended that species with known benefit to wildlife are considered as an alternative, suitable species are listed on the RHS

website: (<https://www.rhs.org.uk/science/conservation-biodiversity/wildlife/plants-for-pollinators>)

- Ongoing management of habitats can impact upon their value for wildlife, abstaining from the use of pesticides and relaxing the management of habitats, such as hedgerows can increase the resources provided to wildlife.

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APPENDICES

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APPENDIX A : Protected and Priority Species

Legal protection is afforded to particular habitats and species (as well as designated sites), see Appendix B. The legislation, and the habitats and species listed, vary between the different jurisdictions. Certain habitats and species are also considered to have some level of nature conservation importance, due to factors such as their rarity, vulnerability or declining population/status. This document uses the term 'priority habitats' and 'priority species', as they are those which should be considered as priorities for conservation (it should not be confused with priority habitats and species as listed in the EU Habitats Directive). Priority habitats and species are defined as those which are:

- 1) listed as a national priority for conservation (such as those listed as habitats and species of principal importance for the conservation of biodiversity);
- 2) listed as a local priority for conservation, for example in the relevant local Biodiversity Action Plan (BAP);
- 3) Red Listed using International Union for the Conservation of Nature (IUCN) criteria (e.g. in an all-Ireland Red List, in one of the UK Species Status Project reviews, in the Species of Conservation Concern Red List, Birds of Conservation Concern in Wales, or BWI/ RSPB Red List for Ireland and Northern Ireland (Birds of Conservation Concern in Ireland 2014 to 2019) or, where a more recent assessment of the taxonomic group has not yet been undertaken, listed in a Red Data Book);
- 4) listed as Near Threatened or Amber Listed e.g. in an all-Ireland Red List, in one of the UK Species Status Project reviews, in Birds of Conservation Concern in Wales, in the Species of Conservation Concern Amber List or BirdWatch Ireland (BWI)/RSPB Amber List for Ireland and Northern Ireland (Birds of Conservation Concern in Ireland 2014 to 2019);
- 5) listed as a Nationally Rare or Nationally Scarce species (e.g. in one of the Species Status Project reviews) or listed as a Nationally Notable species where a more recent assessment of the taxonomic group has not yet been undertaken; and/or
- 6) endemic to a country or geographic location (it is appropriate to recognise endemic sub-species, phenotypes, or cultural behaviours of a population that are unique to a particular place).

Most protected species are also considered to be priority species, although there are some exceptions. There are numerous priority habitats and species which do not receive any legal protection.

Note that the terms 'priority habitat' and 'priority species' used in this document differ from the following uses of the same terms:

- a) These terms were previously used to denote those habitats and species afforded the highest level of priority for conservation under the UK BAP; this has been superseded by the lists of habitats and species of principal importance for the conservation of biodiversity in England under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006, Section 7 of the Environment (Wales) Act 2016, or their equivalents in Scotland (Nature Conservation (Scotland) Act 2004, Scotland's Biodiversity Strategy and the

Scottish Biodiversity List¹⁵) and Ireland (Actions for Biodiversity – Ireland's National Biodiversity Plan 2017 -2021¹⁶; and Valuing Nature – A Biodiversity Strategy for Northern Ireland to 2020).

b) The terms 'Priority Natural Habitat Type' and 'Priority Species' are used to denote specific lists of habitats and species under The Conservation of Habitats and Species Regulations 2017; these are defined in Articles 1(d) and 1(h) respectively of the Habitats Directive.

APPENDIX B : Relevant Legislation

The following text provides information on the key legislation, which is applicable to this survey.

The main wildlife legislation in the UK is as follows:

European Legislation

The relevant sections of the EC Directives and international conventions are summarised below:

- EC Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitat Directive 1992) as amended (92/43/EEC)

The Directive requires Member States to introduce a range of measures including the protection of species listed in the Annexes. The 189 habitats listed in Annex I of the Directive and the 788 species listed in Annex II, are to be protected by means of a network of sites. Once adopted, these are designated by Member States as Special Areas of Conservation (SACs), and along with Special Protection Areas (SPAs) classified under the EC Birds Directive. The Habitats Directive introduces the precautionary principle; that disturbance to the designated sites can only be permitted having ascertained no adverse effect on the integrity of the site.

- EC Directive on the Conservation of Wild Birds (Birds Directive 1979) as amended (79/409/EEC)

The main provisions of the Directive includes; the maintenance of the favourable conservation status of all wild bird species across their distributional range.

- Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979)

The Convention imposes legal obligations on contracting parties, protecting over 500 wild plant species and more than 1000 wild animal species.

UK Legislation

The sections of UK legislation considered to be of relevance include:

- The Conservation (Natural Habitats, and c.) Regulations 2017 (as amended)

This transposes the Habitats Directive into national law. The Regulations provide for the designation and protection of 'European sites', and the protection of 'European protected species'.

- The Wildlife and Countryside Act 1981 (as amended) (WCA)

This consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive) in Great Britain.

- The Countryside and Rights of Way Act 2000 (CRoW)

This act strengthens wildlife enforcement legislation.

- The Protection of Badgers Act 1992

Species-Specific Legislation

Species specific legislation is provided in the Table below:

Table 2: Species-Specific Wildlife Legislation

Feature/Species	Legislation	It is an offence to:
Breeding birds	Wildlife and Countryside Act 1981 (as amended). Countryside and Rights of Way Act 2000.	• Kill; • Injure; or • Take Any wild bird, their eggs or nest (with the exception of those on Sch. 2).
Badgers	The Protection of Badgers Act 1992	• Wilfully kill, injure, take, or cruelly ill-treat a badger, or attempt to do so; • Possess any dead badger or any part of, or anything derived from, a dead badger; or • Intentionally or recklessly interfere with a sett by disturbing badgers whilst they are occupying a sett, damaging or destroying a sett, causing a dog to enter a sett, or obstructing access to it. A badger sett is defined in the legislation as “any structure or place, which displays signs indicating current use by a badger”.
Bats	Sch. 5 Wildlife and Countryside Act 1981 (as amended). Conservation of Habitats and Species Regulations 2017 (as amended).	• Intentionally kill, injure or take a bat; • Possess or control a live or dead bat; • Damage, destroy or obstruct access to a roost; • Disturb a bat (whether in a roost or not); • Sell or advertise for sale a live or dead bat.
Common reptiles	Sch. 5 Wildlife and Countryside Act 1981 (as amended). Countryside and Rights of Way Act 2000.	Deliberate or reckless: • Killing; • Injuring; or • Sale.
Common amphibians	Sch. 5 and Sch. 9 Wildlife and Countryside Act 1981 (as amended). Countryside and Rights of Way Act 2000.	• Sell; • Transport; or • Advertise for sale.
Great crested newt	Sch. 5 Wildlife and Countryside Act 1981 (as amended).	• Intentionally kill, injure or take a GCN; • Possess or control a live or dead GCN;

Feature/Species	Legislation	It is an offence to:
	Conservation of Habitats and Species Regulations 2017 (as amended).	• Damage, destroy or obstruct access to a structure or place used for breeding, shelter or protection; • Disturb a GCN whilst occupying such a place; • Sell or advertise for sale a live or dead GCN.

In addition, species and habitats listed on the UK Post-2010 Biodiversity Framework (formally the UK BAP) are also considered. Details on these species and habitats can be found at: <http://jncc.defra.gov.uk/page-5705>.

Protected Sites

A network of protected sites, at varying levels, have been put in place across the UK. Further details are provided below;

International importance

- Natura 2000

Natura 2000 is the name of the European Union-wide network of nature conservation sites established under the EC Habitats and Birds Directives. This network will comprise Special Areas of Conservation (SACs) and Special Protection Areas (SPAs).

- Special Areas of Conservation (SAC)

SACs are designated under the EC Habitats Directive. The Directive applies to the UK and the overseas territory of Gibraltar. SACs are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs in terrestrial areas and territorial marine waters out to 12 nautical miles are designated under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). New and/or amended Habitats Regulations are shortly to be introduced to provide a mechanism for the designation of SACs and SPAs in UK offshore waters (from 12-200 nm).

National importance

- Sites of Special Scientific Interest (SSSI)

The SSSI series has developed since 1949 as the national suite of sites providing statutory protection for the best examples of the UK's flora, fauna, or geological or physiographical features. Most SSSIs are privately-owned or managed; others are owned or managed by public bodies or non-government organisations. The SSSIs designation may extend into intertidal areas out to the jurisdictional limit of local authorities, generally Mean Low Water in England and Northern Ireland; Mean Low Water of Spring tides in Scotland. In Wales, the limit is Mean Low Water for SSSIs notified before 2002, and, for more recent notifications, the limit of Lowest Astronomical Tides, where the features of interest extend down to LAT. There is no provision for marine SSSIs beyond low water mark. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs have been renotified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were

introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and the Nature Conservation (Scotland) Act 2004.

Regional/local importance

- Wildlife Sites

Local authorities for any given area may designate certain areas as being of local conservation interest. The criteria for inclusion, and the level of protection provided, if any, may vary between areas. Most individual counties have a similar scheme, although they do vary. These sites, which may be given various titles such as 'Listed Wildlife Sites' (LWS), 'County Wildlife Sites' (CWS), 'Local Nature Conservation Sites' (LNCS), 'Sites of Importance for Nature Conservation' (SINCs), or Sites of Nature Conservation Importance' (SNCIs), together with statutory designations, are defined in local and structure plans under the Town and Country Planning system and are a material consideration when planning applications are being determined.

APPENDIX C : Methodologies

Assessment Method for Bats

Following current good practice guidelines (Collins (ed) 2023), the assessment comprised a visual inspection of each of the trees. For ease of reference, trees were numbered as per the arboriculture tree plan T1, T2, T3 etc.

The location and description of any features such as holes, crevices or internal voids that could potentially be used by roosting bats was recorded and a search was made for any evidence of bat presence such as droppings or feeding remains. Binoculars, ladders, high powered torches and endoscopes were used where necessary to facilitate more detailed inspection of individual features.

Based on the number, location and type of any potential roost features, structures trees were categorised as having negligible, PRF-I, or PRF-M potential for roosting bats, or confirmed roost where direct evidence of bat presence was encountered. Evaluation of roost potential is necessarily subjective and relies on the professional judgment of the surveyor; however, the table below provides a useful guide to how this is informed.

Table 3: Examples of characteristics that inform assessment of roost potential

Status	Typical characteristics
Negligible potential	• Immature trees • Lack of access points for bats • Situated within very poor-quality foraging habitat • High levels of external lighting
PRF-I	• Small number of minor hole / crevice features suitable for opportunistic roosting • Features obscured by dense cobwebs • Unlikely to support breeding or hibernating bats • Situated within poor-quality foraging habitat
PRF-M	• One or more hole / crevice features suitable for roosting • Trees with small fissures and crevices in dead wood suitable for day roosting • Situated within or near to moderate/good quality foraging habitat • Mature or veteran trees • Trees with woodpecker holes or deep fissures and crevices in dead wood • Features suitable for large numbers of bats and/or several different species • Low level of disturbance by humans • Little / no external lighting • Situated within good quality foraging habitat

Status	Typical characteristics
Confirmed Roost	- Bats seen or heard within the roost feature during the survey - Bat droppings, particularly if piled rather than scattered - Feeding remains such as moth wings - Existing record of roost at that location

Table 4: Guidance for assessing the overall value of potential development sites for bats (Collins (ed), 2023)

Site Status	Description
 Increasing site value for bats	- No features likely to be used by bats - Small number of potential roost sites but unlikely to be suitable for maternity roosts or hibernacula - Isolated habitat that could be used by foraging bats - Isolated site not connected by prominent linear features to suitable other/adjacent foraging habitats - Several potential roost sites in buildings, trees or other structures - Habitat suitable for foraging bats (e.g. trees, water, scrub, grassland present) - Site is connected with the wider landscape by features that could be used by foraging/commuting bats (e.g. gardens backed by scrub or line of trees) - Buildings, trees or other structures (e.g. caves or underground structures) of particular significance for roosting bats - Site includes high quality foraging habitat (e.g. broadleaved woodland, tree-lined watercourses, parkland with mature trees and rough grass) - Site is connected with the wider landscape by strong linear features that could be used by commuting bats (e.g. hedgerows, river valleys) - Site is close to known roosts - Bats recorded or observed using an area for foraging or commuting close to a potential roost

APPENDIX D : Site Photographs

No.	Description	Photograph
1	g4 – modified grassland	
2	g4, 15 – modified grassland, rushes dominant	
3	h3d – bramble scrub and line of trees	

No.	Description	Photograph
4	h3h – mixed scrub	
5	u1c – artificial unvegetated, unsealed surface	
6	w1h, 29 – other woodland; mixed, plantation	

No.	Description	Photograph
7	Ditch	