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Preliminary Ecological Appraisal

Survey site:
Land North of Crabmill Farm Overton Wrexham LL13 0LE

Client:
Mark and Katie Matthews

Survey date:
14/09/2026

Project:
This report is prepared to inform a planning application with Wrexham County Borough Council. The porposal can be described as "a single residential dwelling".

On the assumption that site conditions and habitats remain unchanged, the results of this assessment will remain valid for 18 months from the date of this survey i.e. until March 2028, in accordance with CIEEM guidance in the lifespan of Ecological Reports and Surveys. This survey and report should be updated if a planning application has not been submitted within this timeframe.

EXECUTIVE SUMMARY

The following is work you will need to commission to obtain planning permission and to comply with legislation. Further information, along with opportunities for biodiversity enhancement, are outlined in the proceeding sections of this report.

Table 1: Summary of key findings arising from this survey.

Key Findings
• Green Infrastructure Assessment Planning Policy Wales (2024) requires all developments within Wales to conduct a Green Infrastructure Assessment to deliver Net Biodiversity Benefit and maintain biodiversity during development. Therefore, the planning application must be accompanied by a Green Infrastructure Statement to detail how the site is maintaining biodiversity and include recommendations to further enhance the site biodiversity. • A Construction Environmental Management Plan (CEMP) may be requested by the LPA via condition. • A low impact lighting strategy will be adopted for the site during and post-development, which will be designed to incorporate the measures laid out in the latest (2023) bat lighting guide Guidance Note 8 Bats and Artificial Lighting[1]. • GCN Mitigation Plan will be implemented for amphibians including GCN during construction. • Various precautionary working methods have been recommended which have been fully detailed within the fauna section of this report.

1. INTRODUCTION

The aim of the PEA was to obtain data on existing ecological conditions, and to conduct a preliminary assessment of the likely significance of ecological impacts on the proposed development.

No previous ecology reports have been produced for this site by Arbtech Consulting Ltd or, to the author's knowledge, by any other consultancy.

Methodology

PEA survey methodology and legislation can be found in the Arbtech Supplement: PEA Methodology and Legislation - 2025.

Survey Details

The site survey was undertaken on 14/09/2026 by Kayleigh Davies BSc (Hons), MSc, Consultant Ecologist accredited on Natural Resource Wales License (S094455/2) and holder of Level 1 GCN NRW license (S094823/1).

Table 2: The weather conditions during the survey.

Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
19.6	88.0	99	10.4	Light rain

Survey Limitations

It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the wider landscape, the ecology and biology of species as currently understood.

There were no specific limitations to the survey.

2. SITE LOCATION AND LANDSCAPE CONTEXT

2.1 Summary of Survey Findings

Site Location & Context

The site is centred at National Grid reference SJ 37368 39755 and has an area of approximately 0.39ha. The site comprises other neutral grassland and native hedgerow.

Priority Habitats

There are 11 priority habitats within 2km of the site. These comprise ancient semi natural woodland, plantation on ancient woodland site, traditional orchards, restored ancient woodland site, lowland meadows, deciduous woodland, lowland fens and reedbeds, ancient replanted woodland, ancient & semi-natural woodland, ancient woodland site of unknown category and wood pasture and parkland. The closest priority habitat comprises ancient semi natural woodland, located 260m N from the site.

The site is well connected to nearby habitats via field margins, hedgerows and tree lines.

Designated Sites

Statutory Designations within 2km

There are three statutory designations within 2km of the site, as detailed below:

Table 3: The statutory designated sites within 2km of the site boundary.

Designation	Reason	Distance from Site
Shell Brook Pastures Site of Special Scientific Interest (SSSI)	Botanical interest. A series of unimproved calcareous clay pastures, largely developed on the steep valley side of the Shell Brook and representing a type of habitat that survives only as isolated fragments in the Maelor. The pastures are botanically rich, the variety of plants present being enhanced by the presence of springs in the valley side and areas of marsh adjacent to the Shell Brook, together with scrub and woodland edge communities.	735m SW

Afon Dyfrdwy (River Dee) Site of Special Scientific Interest (SSSI)	Afon Dyfrdwy (River Dee) is of special interest for its fluvial geomorphology, Carboniferous geology, range of river habitat types, saltmarsh transition habitats, populations of floating water plantain Luronium natans, slender hare's-ear Bupleurum tenuissimum, sea barley Hordeum marinum, hard-grass Parapholis strigosa, otter *Lutra lutra*, salmon Salmo salar, bullhead Cottus gobio, brook lamprey Lampetra planeri, river lamprey Lampetra fluviatilis, sea lamprey Petromyzon marinus, club-tailed dragonfly Gomphus vulgatissimus and other aquatic invertebrates.	1790m NW
Afon Dyfrdwy A Llyn Tegid (Wales) Special Area of Conservation (SAC)	Designated for marine mammals and other wildlife.	1790m W

Statutory Designations within 10km

There are five additional national network sites (SAC, SPA, Ramsar) located within 10km, as detailed below:

Table 4: The additional national network sites within 10km of the site boundary.

Designation	Distance from Site
River Dee And Bala Lake Special Area of Conservation (SAC)	2690m W
West Midlands Mosses Special Area of Conservation (SAC)	7635m SE
Johnstown Newt Sites Special Area of Conservation (SAC)	8500m NW
Midland Meres & Mosses Phase 2 Ramsar Site	7545m E
Midland Meres & Mosses - Phase 1 Ramsar Site	7570m SE

SSSI Risk Zone

The site does fall within the impact risk zone for Shell Brook Pastures SSSI however, the proposed development type is not listed as possible high risk with regard to this designation.

Non-Designated Sites

Wildlife sites within 2km of the site are summarised below from COFNOD:

Table 5: The non-statutory designated sites.

Designation	Reason	Distance from Site
Lightwood and Queensbury Dingle Local Wildlife Site	This site is mainly a conifer plantation with areas of deciduous woodland. These areas have an ash and beech canopy. The understorey trees are hawthorn, elder and hazel, the latter particularly in the Dingle. The field layer is sparse under the conifers but in the remaining natural areas it is diverse. Species include dog's mercury, primrose, pendulous sedge, yellow pimpernel, wood-sorrel, yellow archangel,soft shield fern, black bryony, wood melick, woodruff and broad-leaved helleborine.	190m N
Shell Brook Grassland Local Wildlife Site	A series of semi-improved fields along the northern slopes of the Shell Brook. The site borders the similar Shell Brook S.S.S.I. The grassland is dominated by grasses such as common bent and red fescue. There is a high diversity of herbs amongst the sward, including devil's-bit scabious, agrimony, meadow vetchling, spring sedge and field wood-rush. There are small patches of scrub, bracken and rushes within the site.	930m SW
Neile's Wood Local Wildlife Site	A coppiced woodland with a low canopy. The most common tree is sycamore, but there is much copppiced hazel and sweet chestnut. Other trees present include elder and wych elm. The ground flora is fairly poor, mostly bramble, dog's mercury and nettle. Other species found include wood meadow-grass, primrose, opposite-leaved golden saxifrage, pendulous sedge and sweet violet. To the north is small semi-improved neutral grassland. There is a good herb content; some agrimony, lesser stitchwort, common fleabane and black knapweed.	1210m N

Llan-y-Cefn Local Wildlife Site	A long stretch of woodland along the banks of the River Dee. The eastern end (Whooter's Hall Wood and Blakeswood) is a mixed conifer and beech plantation, but the remaining woodland is predominantly ash with some oak and sycamore. The understorey has hawthorn, hazel and wych elm. The field layer is rich, with some damp areas dominated by pendulous sedge and rocky areas by hairy wood-rush. The remaining field layer contains species such as dog's mercury, wood melick, opposite-leaved golden saxifrage, wood-sorrel, woodruff, primrose, sanicle, yellow archangel, giant fescue and hartstongue fern. There are a couple of areas of regenerating woodland present, a small deciduous plantation and a patch of marsh with abundant monkey flower.	1257m NW
Nantclimbers Grassland and The Dukes Local Wildlife Site	A strip of neutral grassland and broad-leaved woodland along the Shell Brook. The grassland is very diverse in some areas and fairly improved in others. The dominant grasses are common bent and crested dog's-tail with frequent yorkshire fog and Timothy grass. The diversity of herbs is great; oxeye daisy, cowslip, burnet saxifage, zigzag clover, sneezewort, wild carrot, milkwort and fairy flax are all present. The Dukes woodland has a mainly ash canopy with hazel and elder beneath. There is a good ancient woodland ground flora with woodruff, yellow pimpernell, wood-sorrel and yellow archangel.	1608m SE
Caerowlin Wood and Meadows Local Wildlife Site	Along the banks of a brook, this a secondary woodland with a short canopy of oak and much hazel coppice beneath. Cherry is also an abundant tree. The field layer is diverse with much dog's mercury, false brome, tufted hair-grass, herb robert and soft grass. Other species present include wood sedge, primrose, bluebell and thin-spiked wood sedge. To the south there is a bank of semi-improved neutral grassland. Common bent, crested dog's-tail and rye grass are the dominant species, but devil's-bit scabious, quaking grass, agrimony and tormentil are also found here.	1890m NE

2.2 Foreseen Impacts

No direct impacts to any designated sites will occur as a result of the proposed development. However, due to the proximity of the site to Lightwood and Queensbury Dingle (LWS), and ancient woodland, indirect effects such as pollution during construction, or increased recreational pressure, could occur.

2.3 Recommendations

Best practice measures to minimise the possibility of pollution, damage to adjacent habitats must be implemented during construction. A Construction Environmental Management Plan (CEMP) may be requested by the LPA via condition. This should include the following measures:

- Retained trees adjacent to the site will be protected in line with the measures outlined in the British Standard 'Trees in Relation to Design, Demolition and Construction to Construction - Recommendations' (BS 5837) (2012).
- Appropriate buffering between the development zone and retained habitats (e.g. 15m for ancient woodland)
- Use of Heras or other appropriate fencing to prevent encroachment by contractors onto adjacent habitats.

A Construction Ecological Management Plan (CEMP) may be required, outlining best practice measures to delineate the construction zone and to minimise the possibility of pollution and damage to nearby habitats during construction.

3. ONSITE HABITATS

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

3.1 Summary of Survey Findings

Grassland - Other neutral grassland (g3c)

The site is covered with grassland comprised of a variety of common grassland species. The grass has a varied sward length and no signs of compaction or damage are present, resulting in areas of bare ground totalling <10% of the site. The site is utilised for cattle and therefore there are areas of bare ground due to the use of the field.

Table 6a: Species abundance for other neutral grassland.

Abundance	Species
Dominant	Yorkshire-fog *(Holcus lanatus)*
Abundant	Broad-leaved Dock *(Rumex obtusifolius)*
Frequent	Common Nettle *(Urtica dioica)*, Smooth Sow-thistle *(Sonchus oleraceus)*
Occasional	White Clover *(Trifolium repens)*, Common Sorrel *(Rumex acetosa)*
Rare	Creeping Buttercup *(Ranunculus repens)*, Dandelion *(Taraxacum)*

Hedgerows and lines of trees - Native hedgerow (h2a)

The site is enclosed by native hedgerow along sections of the southern and western site boundaries. The hedgerow is actively maintained at ~2m(h) and ~1.5m(w). The hedgerow appears densely vegetated at canopy level.

Table 6b: Species abundance for native hedgerow.

Abundance	Species
Dominant	Hawthorn *(Crataegus monogyna)*
Abundant	-
Frequent	Bramble *(Rubus fruticosus)*
Occasional	Common & Atlantic Ivy *(Hedera helix)*
Rare	Leyland Cypress *(Cupressus x leylandii)*

3.2 Foreseen Impacts

No direct impacts to any notable habitats will occur as a result of the proposed development. However, indirect effects such as pollution or habitat damage could occur during construction, whilst encroachment on the grassland and garden areas by contractors and machinery could result in plants and biodiversity value being dug up or trampled on.

3.3 Recommendations

Best practice measures to minimise the possibility of pollution must be implemented during construction. This should include the following measures:
• Remove only the minimum of habitat required to facilitate the development
• Use of Heras or other appropriate fencing to prevent encroachment by contractors onto retained habitats.
• Protect retained turf and soil resource from destruction and compaction using plastic matting and wooden boarding. Do not store skips and other heavy materials on retained turf.
• Grasscrete, cell web or any other porous surface treatment facilitating recovery of vegetation is preferred to hard standing.

A Construction Ecological Management Plan (CEMP) may be required, outlining best practice measures delineate the construction zone and to minimise the possibility of pollution and habitat damage during construction.

Green Infrastructure Assessment
Planning Policy Wales (2024) requires all developments within Wales to conduct a Green Infrastructure Assessment to deliver Net Biodiversity Benefit and maintain biodiversity during development. Therefore, the planning application must be accompanied by a Green Infrastructure Statement to detail how the site is maintaining biodiversity and include recommendations to further enhance the site biodiversity.

4. INVASIVE SPECIES

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

4.1 Summary of Survey Findings

No non-native invasive or otherwise problematic plants were recorded on site or are considered likely to be on site, but, given seasonal limitations and the sites wider context, may be visible at other times of year.

4.2 Foreseen Impacts

None.

4.3 Recommendations

No further surveys but remain vigilant.

5. FAUNA: BATS

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

5.1 Summary of Survey Findings

EPSL data and local records

No records of bats were returned within 2km of the site from COFNOD.

The site is not within the zone of influence of a bat-designated SAC.

Foraging and commuting habitat

Habitats recorded on site are assessed to provide foraging and commuting opportunities for bats in the form of other neutral grassland and native hedgerow, and offsite within 2km including ancient semi natural woodland, plantation on ancient woodland site, traditional orchards, restored ancient woodland site, lowland meadows, deciduous woodland, lowland fens and reedbeds, ancient replanted woodland, ancient & semi-natural woodland, ancient woodland site of unknown category and wood pasture and parkland. These habitats are likely to provide micro-climatic conditions that support invertebrates that will in turn provide foraging opportunities for local bat populations. Most notably, the hedgerows on site are mature and extend beyond the site adding to the continuity of vegetated

linear features present in the wider landscape. Bats are well known to utilise linear features to aid navigation whilst travelling between foraging resources and roost sites.

Roosting habitat
There are no buildings or trees on the site to provide suitable roosting habitat.

5.2 Foreseen Impacts

Roosting habitat [Buildings]
There are no buildings on site, therefore no impacts are foreseen.

Roosting habitat [Trees]
There are no trees on site, therefore no impacts are foreseen.

Foraging and commuting habitat
The proposed development will result in the loss of small areas of grassland, and small amounts of hedgerow but given the presence of more extensive areas of foraging and commuting habitat in the locality, this is likely to be inconsequential for bats.

Artificial lighting
The proposed development may lead to an increase in the amount of current lighting of surrounding habitats or the retained building without mitigation. This may disturb commuting bats.

5.3 Recommendations

Roosting habitat [Buildings]
None.

Roosting habitat [Trees]
None.

Foraging and commuting habitat
No further surveys are required.

Artificial lighting

A low impact lighting strategy will be adopted for the site during post-development which outlines the areas of the site that will be retained as dark corridors. Parameters can be found on the Bat Conservation Trust website: https://www.bats.org.uk/news/2023/08/bats-and-artificial-lighting-at-night-ilp-guidance-note-update-released

Suggested biodiversity enhancements
The installation of two bat boxes at the site will provide additional roosting habitat for bats.

The bat boxes will be incorporated into the fabric of the new dwelling. Suitable bat boxes include Habibat Bat Box, Ibstock Enclosed Bat Box or similar alternative brand.

Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light.

6. FAUNA: BIRDS

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

6.1 Summary of Survey Findings

Buildings
There are no buildings on site.

Trees and vegetation
No bird nests were identified within the vegetation on-site, however other neutral grassland offers foraging opportunities, and native hedgerow offers both nesting and foraging opportunities.

Due to the small size of the site and the extent and type of the habitats recorded, the site is not considered suitable to support a significant assemblage of protected and/or notable birds.

The following are records of birds within 2km of the site from COFNOD:

Sparrowhawk – 1 record – closest distance: 675 m
Reed Bunting – 1 record – closest distance: 675 m
Kestrel – 1 record – closest distance: 675 m
Chaffinch – 3 records – closest distance: 675 m
House Sparrow – 2 records – closest distance: 675 m
Collared Dove – 1 record – closest distance: 675 m
Coot – 1 record – closest distance: 1,061 m
Dunnock – 2 records – closest distance: 1,272 m
Skylark – 1 record – closest distance: 1,708 m
Mallard – 1 record – closest distance: 1,337 m
Redwing – 1 record – closest distance: 1,337 m
Stock Dove – 1 record – closest distance: 1,355 m
Woodpigeon – 1 record – closest distance: 1,355 m
Rook – 1 record – closest distance: 1,355 m
Grey Wagtail – 2 records – closest distance: 1,355 m
Magpie – 3 records – closest distance: 1,355 m
Starling – 1 record – closest distance: 1,355 m
Garden Warbler – 1 record – closest distance: 1,355 m
Wren – 3 records – closest distance: 1,272 m
Song Thrush – 1 record – closest distance: 1,355 m
Mistle Thrush – 1 record – closest distance: 1,355 m
Red Kite – 1 record – closest distance: 1,663 m
Black-headed Gull – 1 record – closest distance: 1,663 m
Goldcrest – 1 record – closest distance: 1,663 m
Tawny Owl – 1 record – closest distance: 1,663 m
Skylark – 1 record – closest distance: 1,708 m
Sedge Warbler – 1 record – closest distance: 1,854 m
Meadow Pipit – 1 record – closest distance: 1,854 m

Barn Owls

The site does not appear to provide any suitable nesting sites for barn owls.

6.2 Foreseen Impacts

Buildings / trees
No impacts are anticipated on nesting birds as a result of the proposed development.

Trees and vegetation
None foreseen.

Barn Owls
None foreseen.

6.3 Recommendations

Buildings / trees
Precautions should be taken with machinery and noise levels when working close to any retained habitats so as not to disturb any nearby nesting birds during construction works.

Trees and vegetation
No additional surveys required.

Barn Owls
No further barn owl surveys required.

Suggested biodiversity enhancements
The installation of a minimum of two bird boxes on mature trees around the site boundaries or integrated bird boxes on the new dwelling will provide additional nesting habitat for birds e.g. Schwegler No 17 Swift Nest Box (buildings), Schwegler 1SP Sparrow Terrace (buildings), Schwegler 1B Nest Boxes (trees), Schwegler 2H Robin Boxes (trees), Woodstone Nest Box (buildings or trees) or a similar alternative brand.

Tree boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole.

Swift and sparrow boxes should be positioned at the eaves of a building and can be incorporated into the fabric of the building during construction.

7. FAUNA: REPTILES

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

7.1 Summary of Survey Findings

EPSL data and local records

No records of reptiles were returned from COFNOD within 2km of the site.

Habitat suitability

The dominant habitat onsite (other neutral grassland) is considered unsuitable for reptiles due to the species content (common and widespread species with minimal diversity) and associated management regime, where at the time of the survey the grassland was recorded as being a relatively short sward.
Given the management regime employed on the grassland, as well as the species composition, it is considered unlikely that this faunal group would be present within this habitat.
However, the hedgerow provide sheltering opportunities for reptiles. In any case, the hedgerow will be retained insofar as possible as part of the development proposals, albeit loss of a small section to the southwestern corner to facilitate access.

Wider landscape

The adjacent sections of the stream (to the north) and woodland are of elevated ecological value within the wider landscape and may represent important resources for local reptile populations. These adjacent habitats provide optimal foraging, commuting, and refuge opportunities for reptiles and are well connected to further suitable habitat in the wider landscape. The presence of reptiles utilising these adjacent habitats cannot be discounted.

7.2 Foreseen Impacts

Although a small area of suitable habitat is being removed as part of the development, there is a low risk that a low number of reptiles could be present in the vicinity of the works. These could be injured or killed without mitigation.

7.3 Recommendations

A precautionary working method will be implemented for widespread reptiles during construction, including the following measures:

- Vegetation will be maintained at a short sward (5cm) to discourage reptiles.
- Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape.
- Best practice pollution prevention measures will be implemented to minimise impacts to nearby habitats.
- Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.
- If any reptiles are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance.
- In the unlikely event that a reptile is identified, works must cease and advice must be sought from a suitably qualified ecologist.

8. FAUNA: AMPHIBIANS

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

8.1 Summary of Survey Findings

EPSL and survey data

The following are records from COFNOD within 2km of the site:
Smooth Newt – 6 records – closest distance: 884 m
Great Crested Newt – 5 records – closest distance: 884 m

The site is located in an area where no District Level Licensing scheme for GCN is available.

Aquatic habitat suitability (including ponds within 500m)

Great crested newts (GCN) exist in metapopulations and are known to utilise ponds and their connecting terrestrial habitat during their life cycle; great crested newts are typically found within terrestrial habitats up to 500m from breeding ponds (Langton et al. 2001).

There are no ponds on the site, but a review of aerial imagery (MAGIC and OS Maps) indicates the presence of 24 ponds within 500m. The closest pond is located 30m S.

Pond 1 that is located to the north of the surveyed boundary, but within the wider context of the field was observed to be dry at the time of survey, and likely dry throughout the year due to the dense cover of the pond and the damage via cattle use.

A pond map showing approximate pond locations is provided in Appendix 6.

Terrestrial habitat suitability
The site provides limited suitable terrestrial habitat for amphibians given the lack of optimal habitat (i.e. scrub, rank grassland). The areas of short grass offer sub-optimal habitat for terrestrial amphibians. Furthermore, the site is utilised for cattle, therefore there is a large presence of bare ground and regular disturbance of the field. Therefore, due to the short grass, if present, GCN are only likely to utilise the fields for short periods of time, for commuting purposes. The hedgerows may offer refuge for these species, however these will be largely retained for the proposed works. A small section of hedgerow will be removed to facilitate access, but this is considered inconsequential due to the further hedgerow throughout the field boundaries.

8.2 Foreseen Impacts

When georeferencing the proposed development plans over scaled mapping of the site, it is noted that the development area is likely to result in the loss or significant disturbance of 0.3ha of grassland. If great crested newts are present within P2, when completing the rapid risk assessment published by Natural England (Natural England 2015), the proposed development produces an amber risk score, which states: Offence likely. Without appropriate mitigation the proposed development would likely result in impacts to great crested newts.

However, the grassland to be impacted for the proposed works consists of heavily grazed grassland, which is suboptimal for GCN, and the proposed development will not result in the permanent loss of shelter habitat (such as the onsite hedgerows). If present within the onsite pond, GCN will be unlikely to be present on the modified grassland, and if present will only be for commuting.

8.3 Recommendations

Owing to the nature of the proposed development and the low potential for impacts to great crested newts, further surveys are considered to be disproportionate. A GCN Mitigation Plan will be implemented for amphibians including GCN during construction, to include the following measures:

- Works will be undertaken during the active period for amphibians (March to October inclusive) and will avoid the amphibian hibernation period (November to February inclusive)
- Delivery of a Toolbox Talk to all contractors by a GCN licenced ecologist or accredited agent.
- Supervision of vegetation clearance by GCN licenced ecologist or accredited agent. Whereby a staged approach will be adopted for vegetation clearance, with vegetation strimmed to 15cm and left overnight to allow any amphibians to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter amphibians from the working area.
- Any rubble piles will be dismantled by hand under supervision by a GCN licenced ecologist or accredited agent and debris and brash will be stored on pallets or removed from the site to prevent amphibians from utilising these areas.
- Vegetation will then be maintained at a short sward (5cm) to discourage amphibians.
- Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape.
- Best practice pollution prevention measures will be implemented to minimise impacts to nearby aquatic habitats that amphibians could use.
- Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.
- If any common amphibians are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance.
- In the unlikely event that a great crested newt is identified, works must cease and advise must be sought from a suitably qualified ecologist.

9. FAUNA: RIPARIAN ANIMALS

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

9.1 Summary of Survey Findings

No records of riparian mammals were returned from COFNOD within 2km of the site.

Habitat suitability

There are no water courses on site. There are also no riparian habitats present directly within the development area, however, there is a stream located ~200m N which is further connected to watercourses and rivers. There is a stream on MAGIC 30m to the E which was assessed to be dry on the day of survey. Therefore, although there are watercourses near to site, there is a suitably low risk of riparian mammals using the site for foraging.

9.2 Foreseen Impacts

No impacts are anticipated on riparian animals as a result of the proposed development.

9.3 Recommendations

No further surveys for riparian animals required.

10. FAUNA: HAZEL DORMOUSE

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

10.1 Summary of Survey Findings

EPSL data and local records

No records of hazel dormice were returned from COFNOD within 2km of the site.

Habitat suitability

Dormice typically utilise a three-dimensional habitat structure as to commute between feeding and breeding sites whilst avoiding predation. As such habitats on site are considered unsuitable for hazel dormice and therefore the likelihood of this species being present on site is considered acceptably low.

10.2 Foreseen Impacts

No impacts are anticipated on hazel dormice as a result of the proposed development.

10.3 Recommendations

No further hazel dormouse surveys required.

11. FAUNA: [redacted]

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

11.1 Summary of Survey Findings

[redacted]

[redacted] – 4 records – closest distance: 935 m

[redacted]

11.2 Foreseen Impacts

[redacted] Grassland will be removed during construction. The loss of such habitats is likely to be inconsequential to local [redacted] populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of [redacted] if present.

11.3 Recommendations

Owing to the nature of the proposed development and the low potential for impacts to [redacted] further [redacted] surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures:

- Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape.

- [redacted]
- Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.
- [redacted]

12. FAUNA: INVERTEBRATES

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

12.1 Summary of Survey Findings

The habitats present on-site, including hedgerow and grassland, likely provide common invertebrates with opportunities to forage and shelter. The site contains no further notable habitats which may provide niches for specialised or protected invertebrates.

12.2 Foreseen Impacts

Grassland will be removed during construction. The loss of such habitats is likely to be inconsequential to local invertebrate populations owing to their low value and the presence of more extensive habitat locally.

12.3 Recommendations

No further surveys.

Suggested biodiversity enhancements

The incorporation of bee bricks (e.g. Ibstock BeeHabitat or similar alternative brand) into the fabric of the new buildings would provide sheltering opportunities for pollinators. These should be installed 0.5m above ground level on a south-facing elevation with no obscuring vegetation. The site could be further enhanced via the provision of native wildflowers or wildflower turf, which would provide foraging opportunities for invertebrates.

13. FAUNA: OTHER NOTABLE SPECIES

This section may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.

13.1 Summary of Survey Findings

Hedgehogs

The other neutral grassland and native hedgerow offer foraging and commuting opportunities for hedgehogs and other small mammals. The structural diversity within these habitats is beneficial for hedgehogs, providing dense cover for shelter and open spaces that support a variety of invertebrate species essential to the hedgehog diet. The availability of such shelter and food resources makes the site favourable for hedgehog activity, even for transient periods.

As the site is located near to woodland, the site's proximity and connectivity further enhance its value for hedgehogs. The woodland and LWS (Queensbridge Dingle) offers extensive habitat resources and serves as an ecological corridor, linking the site to the wider landscape and supporting the movement of local hedgehog populations.

The site is bordered by hedgerows, allowing hedgehogs to commute freely without hindrance.

13.2 Foreseen Impacts

Hedgehogs

Grassland and small sections of hedgerow will be removed during construction. The loss of such habitats is likely to be inconsequential to local hedgehog populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of hedgehogs, if present.

13.3 Recommendations

Hedgehogs

Similar to the [redacted] a precautionary working method will be implemented during construction, including the following measures:

- Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape.

- The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which hedgehogs could use.
- Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.

If any hedgehogs are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance.

13.4 Suggested Biodiversity Enhancements

Hedgehogs

The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs:

- Planting species-rich grassland to increase foraging opportunities.
- Creation of brash piles or installation of hedgehog houses in shady areas.
- Installation of gaps under boundary fencing to enable hedgehogs to move freely through the site.

APPENDIX 1: SURVEY/HABITAT MAP



APPENDIX 2: LOCATION MAP



APPENDIX 3: PROPOSED PLAN



APPENDIX 4: HABITAT IMAGES



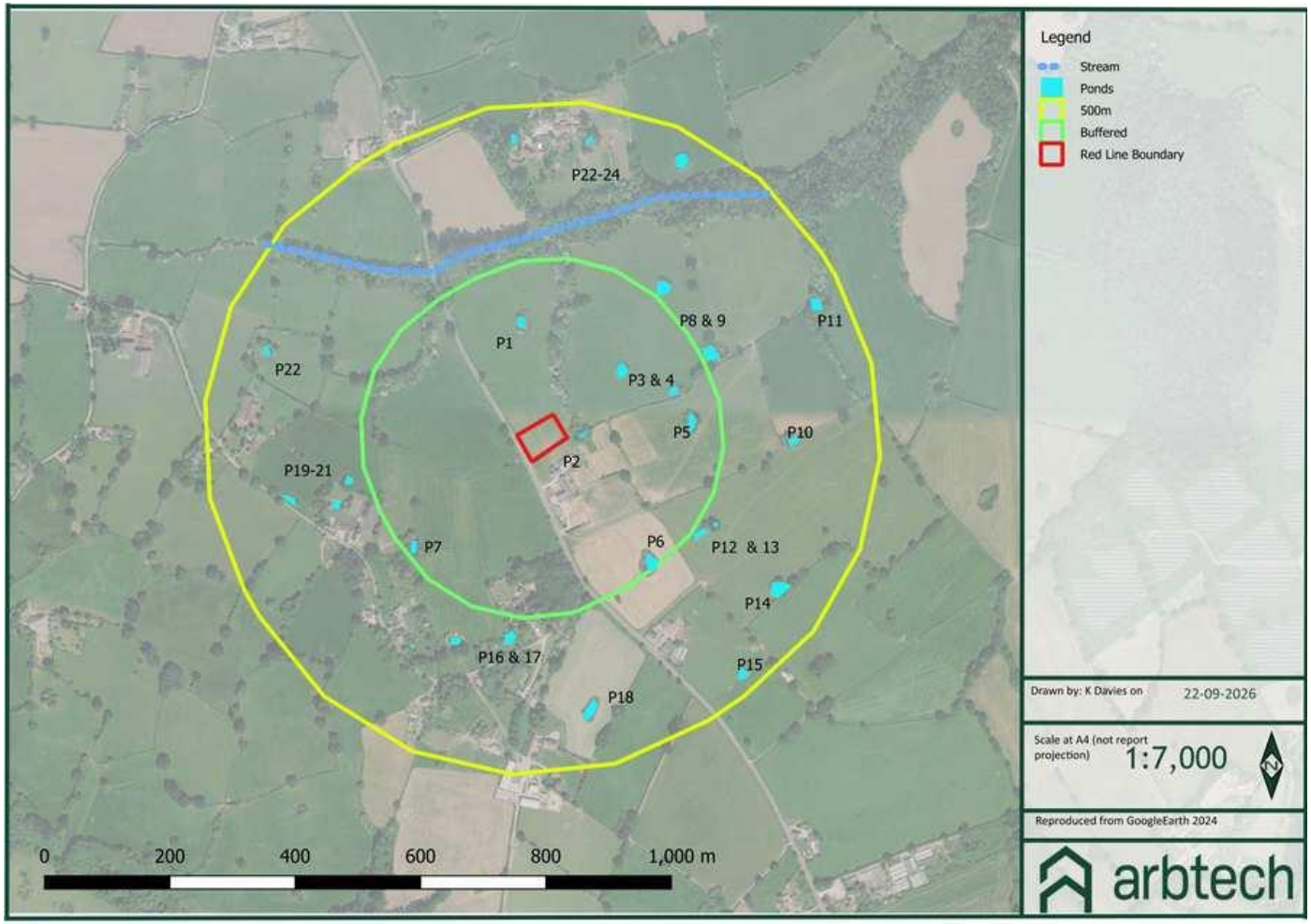
Other neutral grassland



Native hedgerow

APPENDIX 5: PONDS

Pond Map



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