



ARBOR VITAE

ECOLOGY • FORESTRY • LAND USE



PRELIMINARY ECOLOGICAL APPRAISAL

LAND AT HONKLEY DAIRY UNIT

Project name: Land at Honkley Dairy Unit, Wrexham, LL12 0AL

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1 INTRODUCTION

1.1 BACKGROUND TO DEVELOPMENT

Planning permission will be sought for the construction of a residential building and all associated work on a grassland monoculture field.

Arbor Vitae were commissioned by Roger Parry & Partners to undertake a Preliminary Ecological Appraisal in order to assess the impact of the development on habitats and protected species.

1.2 SCOPE OF SURVEY

The survey is primarily designed to:

- Identify and record habitats and important ecological features on site;
- Evaluate the potential of the proposed development site to provide opportunities for protected species;
- Determine any likely impact which the development and landscape proposals may have on these.
- Identify opportunities for the enhancement of habitats and biodiversity features on site.

1.3 KEY PRINCIPLES

All ecological surveys conducted by Arbor Vitae Environment Ltd are underpinned by the following key principles, as outlined by CIEEM (2018):

Avoidance - Seek options that avoid harm to ecological features (for example, by locating on an alternative site).

Mitigation - Adverse effects should be avoided or minimized through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.

Compensation - Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.

Enhancements - Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

2 SITE DESCRIPTION

2.1 LOCATION, LANDSCAPE, AND BACKGROUND

The area to be developed is near the Honkley Dairy Unit, Rossett, Wrexham. The landscape surrounding the site is characterised by permanent pasture, arable agriculture, several blocks of broadleaved woodland, small areas of residential property and a waterway within 0.2 km of the site.

The proposal will include the construction of a residential property and all associated work.

3 SURVEY METHODOLOGY

3.1 DESK STUDY

An initial desk study was composed to gain background information regarding any protected species or designations within the area. The main sources of information were MagicMap, NBN Atlas and Data Map Wales.

3.2 SITE SURVEY

A site visit was made on 03/04/2023. The survey was carried out in accordance with CIEEM (2017) best practice guidelines. The objective of the survey was to find and record any signs of use by protected species and to note the habitat features present.

An assessment of the available habitats both on and adjacent to the site led to consideration of the potential of the site for the following protected species:

- Badger
- Bats
- Breeding birds
- Great Crested Newt

The survey methodology was tailored to evaluate the area for these species in the following ways:

Badger

An area within 50 metres of the site was closely searched for the following signs of badger activity:

- Setts,
- Tracks and footprints,

- Latrines,
- Snuffle holes.

Bats

The site was assessed in terms of its suitability to support bat species. Hedgerow habitat and nearby potential habitat were assessed and recorded and potential impacts from the proposals considered.

Breeding birds

The site was assessed in terms of its suitability to support breeding bird populations. Hedgerow habitat and nearby potential habitat were assessed and recorded.

Great crested newt

A desk study and a ground search were conducted to search for any areas of open water within 250 metres. Waterbodies were then assessed based on the Habitat Suitability Index for great crested newts (Oldham et al., 2000 and ARG UK, 2010).

3.3 PERSONNEL

The survey was carried out by Phillipa Stirling MSc ACIEEM: Ecologist, Natural Resources Wales bat licence number: S091037-1 and GCN licence number: S089109-1 and Molly Isherwood BSc Hons: Assistant Ecologist.

3.4 CONSTRAINTS

There were no constraints to the survey being carried out successfully.

4 SURVEY RESULTS

4.1 DESK STUDY

The desk study found that there were no designated sites within 1km of the site. The search included Ramsar, SSSI, SAC, SPA, NNR and LNR.

Results from the desk study revealed that within a 1km radius of the proposed development site the following protected species have been recorded:

Species	Distance	Protection
Mammals		
Noctule Common pipistrelle	1 km	European Protected Species, Wildlife and Countryside Act 1981.

Birds		
Fieldfare Kingfisher	0.8-1km	Wildlife and Countryside Act 1981.
Amphibians		
Great Crested Newt	1km	European Protected Species, Wildlife and Countryside Act 1981.

4.2 HABITATS ON SITE

All habitats are classified using JNCC's Phase 1 Habitat Survey Handbook (JNCC, 2010).

Improved grassland

The area to be developed is situated in an improved grassland field. The sward is uniform and appears to have been drilled and seeded. Perennial rye grass is the dominant species identified on site with some annual meadow grass.

Hardstanding

An existing tarmac private access track lies on the north-west boundary of the area to be developed. This connects the site to a minor road to the south-west.

4.3 ADJACENT HABITATS

Hedgerow with trees

A mature, mixed species native hedgerow lies on the west side of the access track. Species present in the hedgerow include: hawthorn, elder, bramble and dog rose. The ground floral consists of: dandelion, nettle, cleaver, ivy, perennial rye grass, lesser celandine, eyebright, groundsel and hogweed. This hedge is in good condition and has a box profile, at 2 metres tall and 1 metre wide. Native hedgerows are designated as BAP priority habitat in the UK.

A mature oak tree and a dead oak tree lie within the hedge near the access track. The mature oak has some ivy growth on the trunk and has no aged features. The deadwood oak tree is in poor condition and the hollow trunk has been split.

Another mature, mixed species native hedgerow lies to the north of the site, on the field boundary. The hedgerow consists of hawthorn and holly.

There are several young oak trees in the field boundary hedge, which are in good condition.

Buildings

A dairy unit is situated to the north west of the site.

Hardstanding

There is a concrete yard adjacent to the dairy unit to the north west of the site.

4.4 PROTECTED SPECIES

Badgers

There are no historical records of badger at the site and no field signs were found within the search area. No further study work is required with regard to this species.

Bats

The improved grassland habitat does not provide any features which could offer a roosting site for bat species.

Whilst both hedgerows provide valuable foraging habitat, they do not possess any features which may provide potential roosting opportunities for bat species.

The mature oak tree in the hedgerow near the access track has some small crevices and hollows which bat species could utilise as a bat roost. However, no evidence that bat species were using this tree as a roost were visible from the ground. The mature oak tree provides low potential as a bat roost.

The dead oak tree is in poor condition and is split, creating light and drafty conditions within. Hence, the dead oak tree has negligible potential for bat roosting opportunities.

The young oak trees in the field boundary hedge do not possess any aged features which could provide roosting opportunities for bat species. Hence, they provide negligible potential as a bat roost.

Breeding birds

The hedgerows and in-hedge mature oak tree provide potential habitat for breeding birds due to the presence of dense vegetation. However, no evidence that these features have been previously used for nest building by breeding birds was found during the field survey.

Great Crested Newt

No ponds were identified within 250m of the proposed development site and therefore no further survey work is required with regard to this species. Furthermore, the site provides sub-optimal opportunities for GCN.

5 POTENTIAL ECOLOGICAL IMPACT

5.1 HABITAT ASSESSMENT

The proposal will result in the loss of a portion of improved grassland. Inevitably this will result in the loss of habitat for invertebrates and small mammals, although the area is small and the loss is of local significance only. Therefore, no mitigation for this loss of habitat will be required.

Native hedgerows are considered a BAP priority habitat and provide valuable nesting habitats for breeding birds, and valuable commuting and foraging habitat for bird and bat species. There are no current plans to remove any hedgerows or the in-hedge trees but construction work should try to avoid damage to these features.

5.2 PROTECTED SPECIES ASSESSMENT

Badger

There are no historical records of badger at the site and no field signs were found within the search area. Hence, this proposal will not result in an impact on badgers.

Bats

The proposal will have no impact upon suitable or potential roosting features and therefore no impact upon bat species.

The retention of hedgerows and trees will retain the foraging habitat for bats. Any increase in external lighting may have an impact of bat foraging behaviour and this requires mitigation.

Breeding birds

The proposal is unlikely to have any impact upon breeding birds but precautionary measures will be adopted due to the rural location of the site. The retention of hedgerows and trees will retain the nesting, foraging and commuting habitat for breeding birds.

Great crested newt

No ponds were identified within 250m of the proposed development site and the site provides sub-optimal opportunities for GCN.

6 AVOIDANCE, MITIGATION AND ENHANCEMENT

6.1 HABITAT MITIGATION

The proposal will result in the loss of a small area of improved grassland which does not provide any valuable habitat.

There are no current plans to remove any hedgerows or the in-hedge trees and so no habitat mitigation will be necessary. Native hedgerows are considered a BAP priority habitat and so construction work should try to avoid damage to these features.

6.2 PROTECTED SPECIES MITIGATION

Badger

This proposal will not result in an impact on badgers and no mitigation will be required with regard to this species.

Bats

Any artificial lighting will be designed with nocturnal wildlife in mind. The following measures will be incorporated into lighting plans for the site:

- Hedgerows and key habitat features including mature trees on the site will not be illuminated in order to retain dark movement corridors for nocturnal wildlife. Illuminance along these features should be below 0.2 lux on the horizontal plane, and 0.4 lux on the vertical plane.
- Security lighting will be set on motion sensors with short timers (<1 minute) and should be LED lighting.
- External lights will be hooded and directed toward the ground to reduce upward light spill.
- A warm white spectrum will be adopted throughout the scheme to reduce blue light component (<2700Kelvin).
- Internal luminaires will be recessed where installed in proximity to windows to reduce glare and light spill. LED luminaires should be used internally where possible due to their sharp cut-off, lower intensity, and dimming capability.
- Luminaires will always be mounted horizontally with an upward light ratio of 0%.

Breeding birds

A thorough ground inspection will be completed prior to works commencing on site if works start between 1st March and 31st August (inclusive) in any given year. If breeding

birds are found, an exclusion zone of 5 metres should be implemented and maintained until breeding is complete and the fledglings have left the nest.

Great crested newt

The proposals will have no impact upon this species and mitigation will not be required.

General Avoidance Measures

The following measures should be implemented to decrease the likelihood of killing/injuring small animals:

- If piles of rubble, logs, bricks, other loose materials or other potential refuges are to be disturbed, this should be done by hand and carried out during the active season (March to October) when the weather is warm to allow animals to disperse naturally.
- The grassland areas should be kept short prior to and during construction to avoid creating attractive habitats for wildlife.
- All building materials, rubble, bricks and soil must be stored on raised platform (e.g. wooden pallets) to prevent their use as refuges by wildlife.
- Where possible, trenches should be opened and closed in the same day to prevent any wildlife becoming trapped. If it is necessary to leave a trench open overnight then it should be provided with a means of escape in the form of a shallow ramp.
- Any open pipework should be capped overnight. All open trenches and pipework should be inspected at the start of each working day to ensure no animal is trapped.
- Any common reptiles or amphibians discovered should be allowed to naturally disperse. Advice should be sought from an appropriately qualified and experienced ecologist if large numbers of common reptiles or amphibians are present.

6.3 ECOLOGICAL ENHANCEMENT

A new species-rich native hedgerow will be planted along the boundaries of the property. Species to be included are: hawthorn, hazel, holly, field maple, oak, wild privet and elder.

In order to provide opportunities for a variety of wildlife, we recommend that a nest box scheme is adopted as follows:

- Two Woodcrete general purpose bat boxes, suitable for crevice-dwelling species should be installed into mature trees within the boundary hedgerows. No lighting

should be installed in the vicinity of the boxes. They should be at least 3m from the ground and face south or south west.

- Two Woodcrete cavity nesting bird boxes with 28mm or 32mm access holes. These should be positioned within mature trees on the boundary of the site and the access should face away from the prevailing wind.

7 SUMMARY

Planning permission will be sought for the construction of a residential building and all associated work on an area of improved grassland. Arbor Vitae were commissioned by Roger Parry & Partners to undertake a Preliminary Ecological Appraisal in order to assess the impact of the development on habitats and protected species.

The proposal will result in the loss of a small area of improved grassland which does not provide any valuable habitat.

Native hedgerows are considered a BAP priority habitat and so construction work should try to avoid damage to these features.

There are no historical records of badger at the site and no field signs were found within the search area. Hence, this proposal will not result in an impact on badgers.

The proposal will have no impact upon suitable or potential roosting features and therefore, no impact upon bat species. Given the rural position of the site, a Wildlife Sensitive Lighting Plan will be adopted.

The proposal is unlikely to have any impact upon breeding birds but precautionary measures will be adopted due to the rural position of the site.

No ponds were identified within 250m of the proposed development site and therefore the proposals will have no impact upon GCN.

In order to provide ecological enhancement on site, a new species-rich native hedgerow will be planted along the boundaries of the property.

The following features will also be installed on site following completion of works in order to provide enhanced opportunities for wildlife: two Woodcrete general purpose bat box and two Woodcrete cavity nesting bird boxes.

8 REFERENCES

ARG UK (2010). ARG UK Advice Note 5: Great Crested Newt Habitat Suitability Index. Amphibian and Reptile Groups of the United Kingdom

Bat Conservation Trust (2018) Bats and artificial lighting in the UK. Bats and the Built Environment series, Guidance Note 08/18. Institution of Lighting Professionals. .

CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

Collins, J. (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

GOV.UK. (2015) Badgers: surveys and mitigation for development projects. [online] Available at: [Accessed 29 October 2021].

Harris, S., Creswell, P. and Jefferies, D. (1989) Surveying Badgers. 1st ed. London: The Mammal Society, pp.3-21.

Hundt L (2012) Bat Surveys: Good Practice Guidelines, 2nd edition, Bat Conservation Trust.

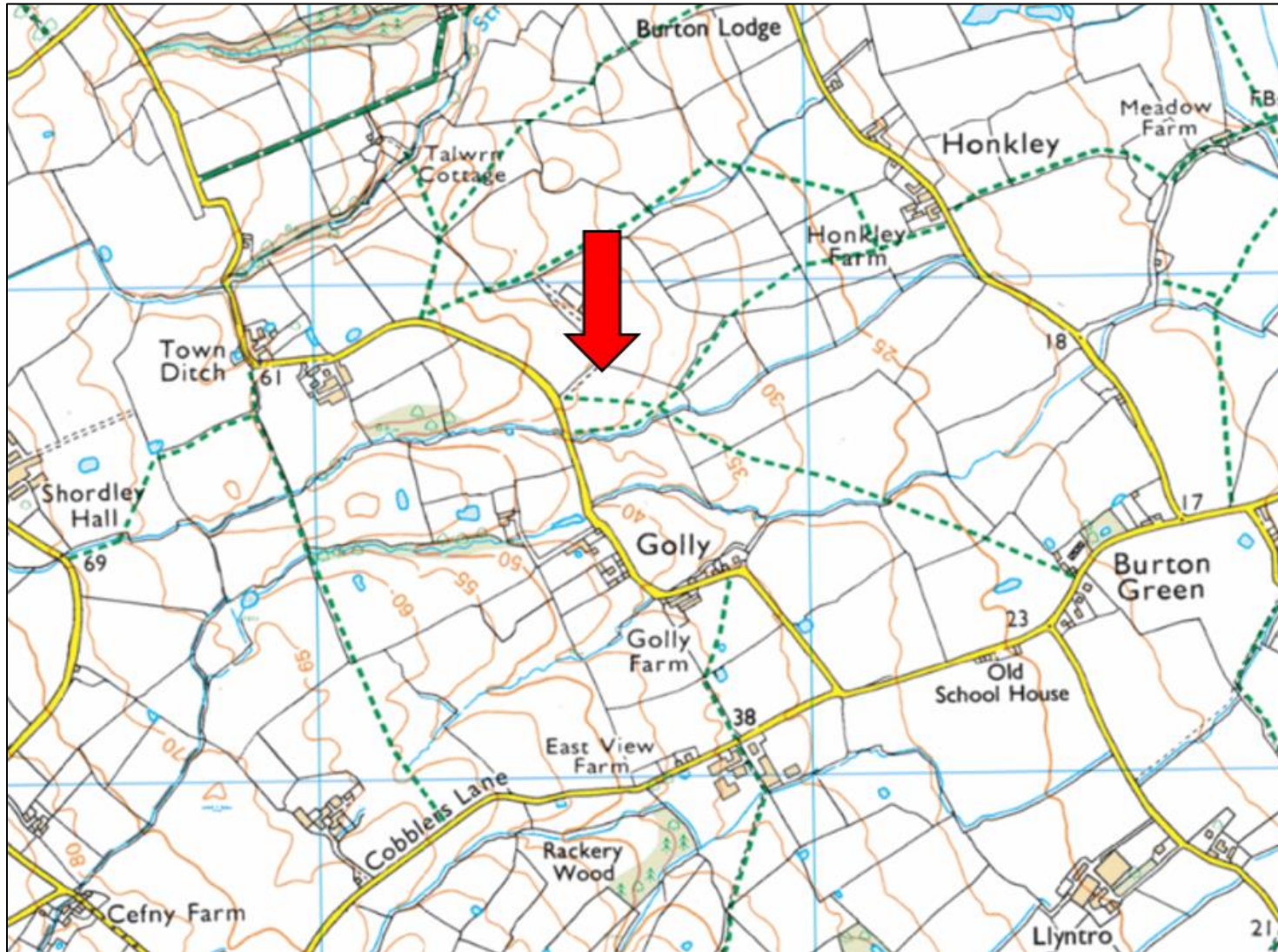
JNCC (2010) Handbook for Phase 1 habitat survey - a technique for environmental audit, ISBN 0 86139 636 7.

Mitchell-Jones, T. (2004) Bat mitigation guidelines. External Relations Team, English Nature.

Natural England (2002) Badgers and Development. 1st ed. Peterborough: Natural England, pp.2- 12.

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10(4), 143-155.

FIGURE 1 LOCATION



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FIGURE 2 AERIAL PHOTOGRAPH



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APPENDIX 1 PHOTOGRAPHS



Existing access track and adjacent NW hedge.



The site.



Dead oak in hedge.



Hedge along NE boundary of the field.

