

PRELIMINARY ECOLOGICAL APPRAISAL

KNOLTON HALL

GRID REF: SJ35214060

FOR

MOSS AND CO.

Arbor Vitae Environment Ltd
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Cross Houses
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SY56JD



ARBOR VITAE

ECOLOGY • FORESTRY • LAND USE

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1 INTRODUCTION

1.1 BACKGROUND TO DEVELOPMENT

A planning application will be submitted for the demolition of an agricultural storage building, demolition of a garden store, alteration and extension to traditional outbuildings and erection of a car-port.

Such operations have the potential to disturb protected species, if present, and therefore Arbor Vitae were commissioned by Moss and Co. to undertake a Preliminary Ecological Appraisal.

1.2 SCOPE OF SURVEY

The survey is primarily designed to evaluate the potential of the proposed development site to provide opportunities for protected species and to determine any likely impact which the development and landscape proposals may have on these.

2 SITE DESCRIPTION

2.1 LOCATION, LANDSCAPE, AND BACKGROUND

The proposed development site is 2km south west of the village of Overton (Figure 1) and approximately 100 metres on the Welsh side of the national boundary. The Hall lies in a remote rural location within a landscape of parkland, woodland and grass fields. The River Dee lies 500 metres to the north.

The agricultural buildings were once used as part of a small farm but have been unused agriculturally for some years. Several of the buildings are used as stores or in connection with management of the shoot.

2.2 BUILDING DESCRIPTION

See Figure 1 below for building location

BUILDING NO.	DESCRIPTION
1	A garden shed, single storey with 3 stone walls and one rear brick wall, corrugated iron roof. Open and light.
2	Two storey outbuilding with arched throughway for access to rear yard. Two rooms to either side of archway are sealed and locked with no access for birds or bats. Long central (single storey) vaulted room, open to roof which is lined with (recent) felt lining. No access for bats or birds. South end: one single storey room and end two storey section (store room with loft above). Well- sealed and no access to birds or bats. Overall, roof is slated and in good repair with no obvious crevices or gaps.
3	Part (east) two storey outbuilding with large garage below and loft above. Garage sealed with large wooden doors. Loft accessed by ladder to former loading hatch. No windows. Roof slated, good condition. West section, open, light, vaulted space.
4	Brick outbuildings constructed in ?1950s used as stables. Includes four stalls with shallow open lofts above. The roof is slated and lined.

Figure 1



3 SURVEY METHODOLOGY

3.1 DESK STUDY

An initial desk study was carried out to gain background information regarding any protected species or designations within the area. The main sources of information were Magic Map and NBN Atlas.

3.2 SITE SURVEY

A visit was made to survey the proposed development site on 28.02.2019. The buildings and site were surveyed and all habitat features present were noted. The objective of the survey was to find and record any signs of use by protected species.

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:

- Bats
- Breeding birds
- Great Crested Newts

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

Bats

The site/buildings on site were evaluated based on a preliminary roost assessment. The interiors of the buildings were accessed where possible and surveyed using torches where necessary, by a licensed ecologist. The objective of the survey was to find and record any signs of use by bats, for example:

- Droppings
- Feeding remains
- Grease staining/urine marks
- Potential access points to internal roosts
- Potential roost sites

The site was assessed in terms of nearby connecting habitat and other features which could be of value to bats.

Breeding birds

The site was assessed in terms of its suitability to support breeding bird populations. A search was made for disused birds' nests. Hedgerow habitat and nearby potential habitat were assessed and recorded.

Great crested newts

A desk study and a ground search were conducted to search for any areas of open water within 250 meters and to assess the habitat suitability of any ponds present.

3.2 PERSONNEL

The survey was carried out by Will Prestwood BSc: an experienced ecologist with NE licences to survey bats and GCN.

3.3 CONSTRAINTS

There were no constraints on the survey being carried out according to accepted best practice guidelines and standards, although two small sheds were locked and were therefore inaccessible. At the time of year of the survey, no birds would be nesting but evidence of previous nesting would be apparent.

4 SURVEY RESULTS

4.1 DESK STUDY

The Magic Map website indicates that one SSSI (River Dee) lies approximately 500 metres to the north of the house and buildings. The search included Ramsar, SSSI, SAC, LNR, and CSAC. ¹

Results from the desk study revealed that within a 1km radius of the proposed development site there were no records of protected mammal, amphibian or reptile species. A number of bird species which are listed on the Red List Birds of Conservation Concern have been recorded within one kilometre – these are mainly associated with the River Dee.

4.2 SITE SURVEY

The results of the external and internal inspection of the buildings were as follows:

BUILDING NO.	POTENTIAL FOR BATS	POTENTIAL FOR BREEDING BIRDS
1	No evidence of bats. Building is not suitable for roosting bats.	No evidence of birds.
2	No evidence of bats was found and there appears to be no access to any internal space. Building is not suitable for bats due to lack of access.	No access for birds
3	No evidence of bats on ground floor. However, the loft floor was littered with many thousands of bat droppings indicating long-term use as a roost. Droppings resemble those of brown long-eared bats.	No evidence of breeding birds
4	No evidence of bats. Probable low to moderate suitability as a roost site.	Evidence of former use by swallows.

¹ *SSSI: Site of Special Scientific Interest, SAC: Special Area of Conservation, LNR: Local Nature Reserve, CSAC: Candidate Special Area of Conservation.

4.3 POTENTIAL FOR BATS

Evidence of bats was found only in the loft of Building No. 3. The large number of droppings including recent and much older droppings probably indicates long and habitual use of this space for roosting, possibly including a maternity roost.

The assessment of other buildings concluded that only the stable block held potential to support roosting bats internally.

4.4 POTENTIAL FOR BREEDING BIRDS

Any of the open buildings hold potential for nesting birds, particularly swallows. The only evidence for this species was in the Stables where former nests were recorded.

4.5 ADJACENT HABITATS

One pond was found within 120m of the proposed development. This lies at the southern edge of the garden, 105 metres from the house and 120 metres from the nearest point of the building works.

The pond was assessed using the Habitat Suitability Index for great crested newts and an eDNA test carried out.

5 EVALUATION OF RESULTS AND POTENTIAL ECOLOGICAL IMPACT

5.1 POTENTIAL FOR BATS

The PBRA concluded that the loft of Building 3 is regularly used by bats as a roost but that the Stable block was the only other building to hold potential for bats.

The proposed building works for Building 3 involve internal refurbishment and creation of additional fenestration and door openings. The loft space will not be affected by these works. Access by bats will not be impeded and no additional sourced of light will be created in this space. No disturbance to bats or their roost will result from this work.

The Stables block will undergo some refurbishment to doors and windows but will otherwise remain unchanged. No disturbance to bats or their potential roost will result from this work.

No further survey work for bats is required.

5.2 POTENTIAL FOR BREEDING BIRDS

Evidence of swallows nesting was found in the Stable block. Access to swallows will be maintained. No impact on breeding birds will result from the proposals.

5.3 POTENTIAL FOR GREAT CRESTED NEWTS

The Habitat Suitability Index calculation for the pond to the south of the site gave a score of 0.758. This indicates that the pond has 'good' suitability as a breeding site for GCN. An eDNA test has been carried out which confirmed that great crested newts are present.

The majority of the proposed works do not involve any disturbance to ground outside the footprint of the buildings. The demolition of Building 1 and its replacement with a car port will involve work on existing hard-standing which is unsuitable terrestrial habitat for GCN and no impact is expected on this species.

6 MITIGATION AND ENHANCEMENT

6.1 HABITAT MITIGATION

The only habitat (other than farm buildings) to be impacted by the proposed development will be existing hardstanding and therefore habitat mitigation will not be required.

6.2 PROTECTED SPECIES MITIGATION

The loft in Building 3 is an important roost site for bats. Disturbance of this during the months May-October by loud power tools, percussion, dust or increased light would constitute an offence and must be avoided.

Although evidence of nesting birds was found only in the Stables block, several other accessible buildings have potential to provide nest sites for swallows or species such as house sparrow, wren or blackbird.

Mitigation to avoid disturbance to nesting birds should be as follows: clearance/demolition of buildings should be undertaken from September to the end of February outside of the nesting season. Otherwise a pre-commencement survey should be carried out to ensure that no birds are nesting.

Mitigation for GCN will involve the adoption of Reasonable Avoidance Measures (RAMS) incorporated into a Method Statement. Although the risk to GCN from the building works is negligible, RAMS will ensure that any small residual risks are avoided.

6.3 ECOLOGICAL ENHANCEMENT

It is recommended that, in order to provide additional roosting sites for bat species using surrounding habitat and landscape features, two bat boxes are attached to the refurbished buildings. The recommended model would be the Schwegler 1FF.

7 SUMMARY AND CONCLUSION

A planning application will be submitted for the demolition of an agricultural storage building, demolition of a garden store, alteration and extension to traditional outbuildings and erection of a car-port.

Such operations have the potential to disturb protected species, if present, and therefore Arbor Vitae were commissioned by Moss and Co. to undertake a Preliminary Ecological Appraisal.

The protected species considered during the survey were: bats, great crested newts, and breeding birds. Evidence of bats was found in the loft of Building 3 where there were abundant droppings. This loft will be unaffected by improvement works and no impact on bats is expected. No other evidence of the use of buildings by bats was recorded. The proposed works will not affect roofs or any potential roost sites.

Several buildings have potential to support swallows although only Building 3 was found to support a swallow nest.

A pond is situated in the garden of the property and is within 150 metres of the proposed works. An HSI index was calculated for the pond and this demonstrated that the pond held 'good' potential for GCN. An eDNA test has subsequently been carried out which confirms that GCN are present. However, the building works pose no threat to GCN as they involve predominantly internal works. Small areas

of ground disturbance effect hard-standing and gravel which are sub-optimal for GCN.

Protected species mitigation is not necessary for bats although care must be taken not to cause any disturbance to roosting bats in the loft of Building 3. Mitigation for breeding birds should be as follows: removal of buildings between September and the end of March to avoid disturbing breeding/nesting birds, and installing suitable bird boxes following completion of the development (Schwegler No. 10 Swallow cups).

Mitigation for GCN includes adoption of RAMS (see Appendix) which will ensure that any small risk to this species is avoided.

Ecological enhancement is recommended in the form of bat boxes to provide potential roosting sites for any bats using the surrounding landscape and habitat features. Recommended models include Schwegler 1FF.

FIGURE 1 LOCATION. 1:50,000.

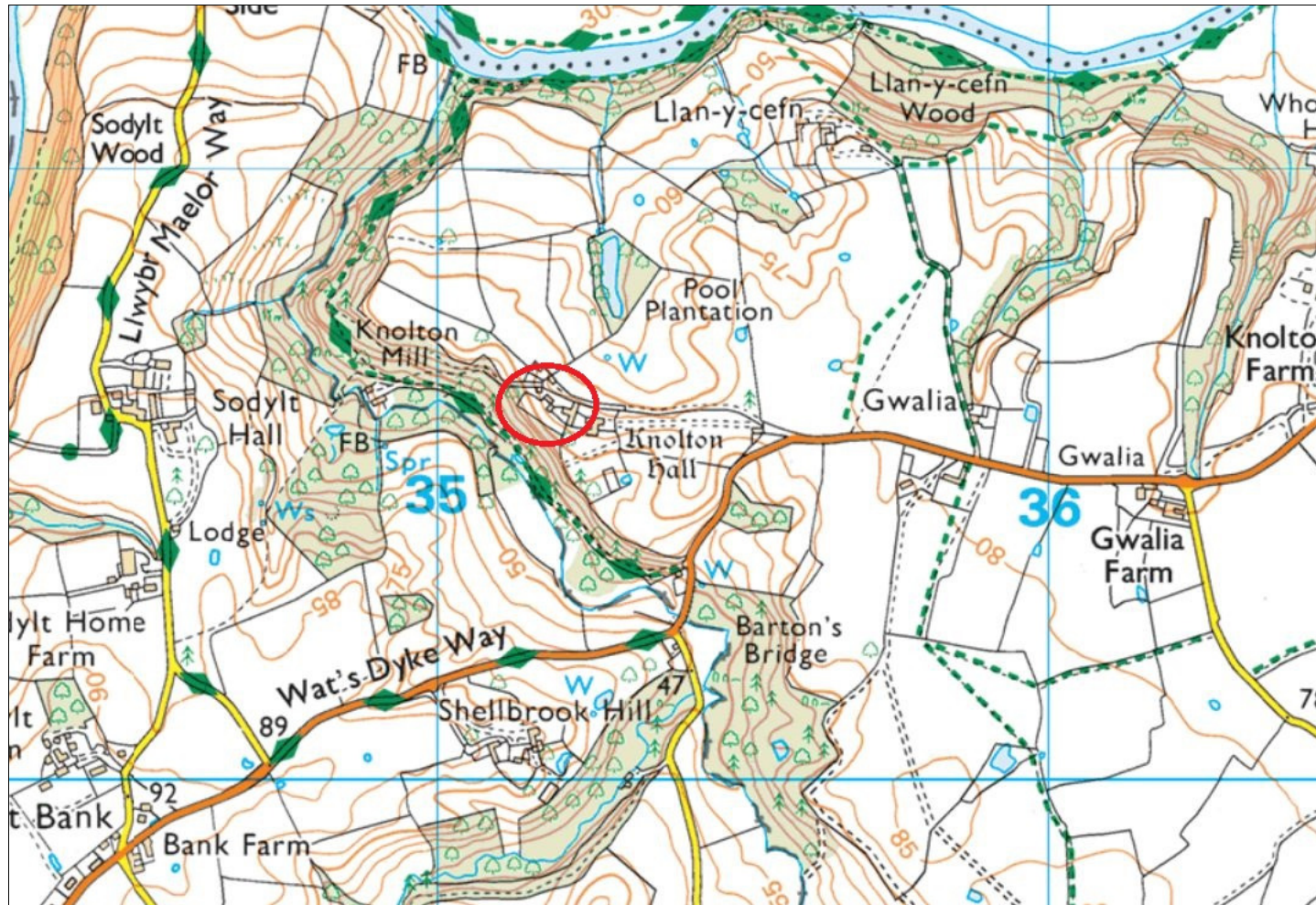


FIGURE 2 AERIAL PHOTOGRAPH.



APPENDIX 1 PHOTOGRAPHS



BUILDING 1



BUILDING 2



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BUILDING 2 INTERNAL



BUILDING 2 INTERNAL



BUILDING 2 INTERNAL AT SOUTHERN END



WEST END BUILDING 3



BUILDING 3



ACCESS TO LOFT IN BUILDING 3



ABUNDANT BAT DROPPINGS ON LOFT
FLOOR BUILDING 3



BUILDING 4 STABLE BLOCK



STABLE BLOCK INTERNAL SHOWING
SHALLOW LOFT ABOVE PART-CEILING



SWALLOW NEST IN STABLES



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APPENDIX 2 GCN REASONABLE AVOIDANCE MEASURES

KNOLTON HALL

REASONABLE AVOIDANCE MEASURES

Introduction

The proposed building works will mainly involve internal operations and will have no impact of potential GCN habitat. The removal of a garden shed and erection of car port involves working in an area of hard standing and gravel-surfaced drive. These are not optimal GCN terrestrial habitats and the risk to GCN is negligible. The Reasonable Avoidance Measures outlined below are designed to remove any residual risk to individual GCN.

Induction of contractors

A toolbox talk will be given to all site personnel in order to make them aware of the possible presence of GCN, how to identify this species and the avoidance measures to be used on site. A paper copy of the avoidance measures will be retained on site together with the contact details of the GCN licensed ecologist.

Site inspection

The site will be checked thoroughly by a qualified ecologist in order to confirm that no GCN are present e.g. beneath rubble, stones, logs or other potential refuges (if present). Work will only commence once clearance is given.

Timing & duration

The length of groundworks will be kept as short as possible and groundworks will only be undertaken during the day when newts are not active.

Construction methods and special precautions

All excavations on site will be covered at night or ramps will be provided to allow amphibians to exit excavations. All excavations will be checked for amphibians each morning prior to the re-commencement of works.

All exposed new pipework and drains will be capped at night so as to avoid trapping amphibians.

All stored buildings materials that might be used as temporary resting places by amphibians will be stored off the ground on pallets or similar.

Drainage

All new gully pots will be installed with an ACO wildlife kerb stone or similar on the adjacent kerb in order to minimise the risk of trapping of amphibians in the long term.

Discovery of a great crested newt

If a GCN is discovered at any point during the works all work will cease immediately and the retained licensed ecologist will be contacted for further guidance. Contractors are prohibited from handling GCN.

APPENDIX 3 HSI RESULT

Habitat Suitability Index assessment								
Site	KNOLTON HALL					Date	28.2.2019	
							Score	SI
1 Location	OPTIMAL							1
2 Pond Area	150 SQ M							0.2
3 Pond drying	RARELY DRIES							1
4 Water quality	MODERATE							0.67
5 Shade	5%							1
6 Fowl	ABSENT							1
7 Fish	POSSIBLE							0.67
8 Number of ponds within 1km	5							0.7
9 Terrestrial Habitat	GOOD							1
10 Macrophytes	80%							1
						Product	0.06285	
						HSI score		0.758
Pond suitability for great crested newts is				GOOD				

