



ARBOR VITAE

ECOLOGY • FORESTRY • LAND USE



PRELIMINARY ECOLOGICAL APPRAISAL

TORRIAD FARM, HOSELEY

Project name: Torriad Farm, Wrexham, LL13 9RT.

Grid Reference: SJ40864917

Date: 20/07/2021

Prepared by: Phillipa Stirling MSc ACIEEM

Reviewed by: William Prestwood BSc Director

Requested by: Roger Parry and Partners

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1 INTRODUCTION

1.1 BACKGROUND TO DEVELOPMENT

Planning permission will be sought for construction of a residential dwelling at Torriad Farm.

Arbor Vitae were commissioned by Roger Parry and 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

Torriad Farm is located 1.5km east of Wrexham Business Park and 1km west of the River Dee (Figure 1). The landscape surrounding the farm is intensively managed for the most part with improved grassland and arable dominant (Figure 2).

The proposal will include the construction of a residential dwelling within an agricultural grassland field adjacent to the existing farm yard.

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, Lle Geoportal and NBN Atlas.

3.2 SITE SURVEY

A site visit was made on 09/06/2021. 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 newts

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. NRW GCN survey licence no.: S089109-1.

3.4 CONSTRAINTS

Pond 3 was not accessible at the time of the survey.

4 SURVEY RESULTS

4.1 DESK STUDY

The desk study found that within 1km of the site there were the following designations:

Name	Designation	Distance from site
River Dee	SSSI SAC	0.5km
Suttongreen Fox Covert	Ancient Semi Natural Woodland	0.6km
The search included Ramsar, SSSI, SAC, SPA, NNR and LNR. ¹		

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
Otter	0.8km	European Protected Species, Wildlife and Countryside Act 1981.
Kingfisher	0.9km	
Brambling	0.5km	
Redwing	0.4km	
Fieldfare	0.7km	

4.2 HABITATS ON SITE

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

Improved grassland

The proposed site is an agricultural field which is grazed and cut regularly, creating a short (10cm) and uniform sward. Species recorded within the field include: perennial ryegrass, Yorkshire fog, white clover and curled dock. There are frequent patches of bare earth throughout the field and an existing field gate access from the main farm yard.

4.3 ADJACENT HABITATS

Hedgerow

¹ SSSI: Site of Special Scientific Interest, SAC: Special Area of Conservation, SPA: Special Protection Area, LWS: Local Wildlife Site NNR: National Nature Reserve, LNR: Local Nature Reserve.

A roadside hedgerow sits at the north boundary of the site and consists of hawthorn and wild privet with large areas dominated by bramble and common nettle. The hedge is low and patchy in places.

Buildings

The adjacent farmyard is made up of several steel framed agricultural buildings with open sides and box profile rooves and cladding.

Hardstanding

The ground throughout the farmyard is concrete with some areas of stone chippings.

4.4 PROTECTED SPECIES

Badgers

There are no historical records of badger at the site or within 1km and no field signs were found within the search area.

Bats

The improved grassland on site does not provide any roosting opportunities for bat species nor do any of the adjacent habitats.

The peripheral hedgerows could provide foraging opportunities for individual bats in the landscape.

Breeding birds

The grassland on site is not suitable for ground nesting birds given the management regime. The sward is permanently short and patchy in places and no evidence of wild nesting birds was recorded during the survey.

Adjacent hedgerows could provide nesting sites for breeding birds.

Great Crested Newt

Three ponds were identified within 250m of the site. Pond 1 is a small field pond which is fed by run-off from the farmyard. There is a buffer around the pond which consists of rough grassland. Emergent vegetation covers around 70% of the pond and includes: foals watercress, creeping buttercup, yellow iris, cursed crowfoot and water plantain.

During the survey, an egg search was carried out amongst the emergent vegetation. No newt eggs were found during the inspection. Fish are known to be present in the pond. Overall, the pond scored 'good' in terms of its suitability to support breeding GCN. The pond sits approximately 50m from the proposed development site.

Pond 2 is a slurry lagoon and was therefore discounted from the survey.

Pond 3 was not accessible at the time of the survey as it lies on neighbouring land.

GCN HSI Calculator

	Pond Name	Pond 1
	Position	SJ40884908
SI No	SI Description	
1	Geographic location	0.5
2	Pond area	1
3	Pond permanence	0.9
4	Water quality	0.67
5	Shade	1
6	Water fowl effect	1
7	Fish presence	0.33
8	Pond Density	1
9	Terrestrial habitat	0.67
10	Macrophyte cover	1
HSI Score		0.76
Pond suitability (see below)		<i>Good</i>

5 POTENTIAL ECOLOGICAL IMPACT

5.1 HABITAT ASSESSMENT

The proposed development will result in the loss of a small area of improved grassland which is of little ecological significance. Overall, the impact upon habitats will be negligible.

5.2 PROTECTED SPECIES ASSESSMENT

Badger

The survey revealed no signs of use by badger and there are no historic records of badger at the site. The proposals will have no impact on this species.

Bats

The proposed development will not result in the loss of any potential foraging or roosting habitat and therefore is unlikely to have any impact upon bat species.

The roadside hedgerow could be used occasionally by opportunistic individuals and therefore the residential property will be accompanied by a Wildlife Sensitive Lighting Plan.

Breeding birds

The site does not provide any suitable opportunities for breeding birds and no nesting activity was observed whilst carrying out the survey.

The adjacent hedgerow at the north boundary of the field could conceal wild nesting birds

Great crested newt

The proposed development site offers poor terrestrial habitat to GCN and it is unlikely that the species would be found on site. The nearest pond is 50m away and studies have shown that 95% of GCN summer refuges are within 63m of their breeding pond (Jehle, 2000). Given that Pond 1 is immediately surrounded by rough grassland which links to hedgerow to the south, it is reasonable to assume that the species would favour these optimal habitat types over short, improved grassland with regular bare earth patches. Therefore, it would be highly unlikely that individual GCN would stray onto the proposed development site.

No newt eggs were found amongst the vegetation in Pond 1 during the inspection and the area of land to be disturbed is small in size (approximately 350m²). The likelihood of an offence being committed, unmitigated, under the relevant legislation is low and in order to further reduce any residual risk, enabling and ground works will take place during months when amphibians are not active above ground i.e. November-February. The proposed development site does not offer any brumation opportunities for GCN and therefore would not be disturbed by groundworks in the field.

A full Reasonable Avoidance Measures Method Statement will be adopted on site and throughout the duration of the project to ensure that the proposed development does not result in an offence. The proposed development will have no impact on the favourable conservation status of GCN in this area.

6 AVOIDANCE, MITIGATION AND ENHANCEMENT

6.1 HABITAT MITIGATION

The proposed development will impact a small area of improved grassland and therefore mitigation is not required.

6.2 PROTECTED SPECIES MITIGATION

Bats

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

- The hedgerow to the north of the site will not be illuminated in order to retain dark movement corridors for nocturnal wildlife. Illuminance along these features will 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

The proposed development will have no impact on habitat features which may be used by breeding birds and therefore mitigation will not be required.

Great crested newt

For the reasons outlined in 5.2 *Great crested newt* the risk of causing an offence to GCN under the relevant legislation is low and in order to remove any residual risk, a Reasonable Avoidance Measures Method Statement will be adopted for all work on site. This will include enabling and ground works taking place between November and February when amphibians are unlikely to be active above ground. Appendix 2 contains further details.

6.3 ECOLOGICAL ENHANCEMENT

The new boundary line of the residential property will be planted partially with a native species hedgerow. A minimum of 20m will be planted and will include: hawthorn, hazel, holly, dog rose, wild privet and guelder rose.

7 SUMMARY

Planning permission will be sought for construction of a residential dwelling at Torriad Farm.

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

The proposed development will result in the loss of a small area of improved grassland which is of little ecological significance. Overall, the impact upon habitats will be negligible.

The survey revealed no signs of use by badger and there are no historic records of badger at the site. The proposals will have no impact on this species.

The proposed development will not result in the loss of any potential foraging or roosting habitat and therefore is unlikely to have any impact upon bat species.

The roadside hedgerow could be used occasionally by opportunistic individuals and therefore the residential property will be accompanied by a Wildlife Sensitive Lighting Plan.

The site does not provide any suitable opportunities for breeding birds and no nesting activity was observed whilst carrying out the survey.

The proposed development site offers poor terrestrial habitat to GCN and it is unlikely that the species would be found on site. No newt eggs were found amongst the vegetation in Pond 1 during the inspection and the area of land to be disturbed is small in size.

The likelihood of an offence being committed, unmitigated, under the relevant legislation is low and in order to further reduce any residual risk, enabling and ground works will take place during months when amphibians are not active above ground i.e. November-February.

A full Reasonable Avoidance Measures Method Statement will be adopted on site and throughout the duration of the project to ensure that the proposed development does not result in an offence. The proposed development will have no impact on the favourable conservation status of GCN in this area.

In order to enhance conditions on site for wildlife, the new boundary line of the residential property will be planted partially with a native species hedgerow.

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.
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- Collins, J. (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.
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- Mitchell-Jones, T. (2004) Bat mitigation guidelines. External Relations Team, English Nature.
- 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. 1:50,000



FIGURE 2 AERIAL PHOTOGRAPH



FIGURE 3 PONDS WITHIN 250M

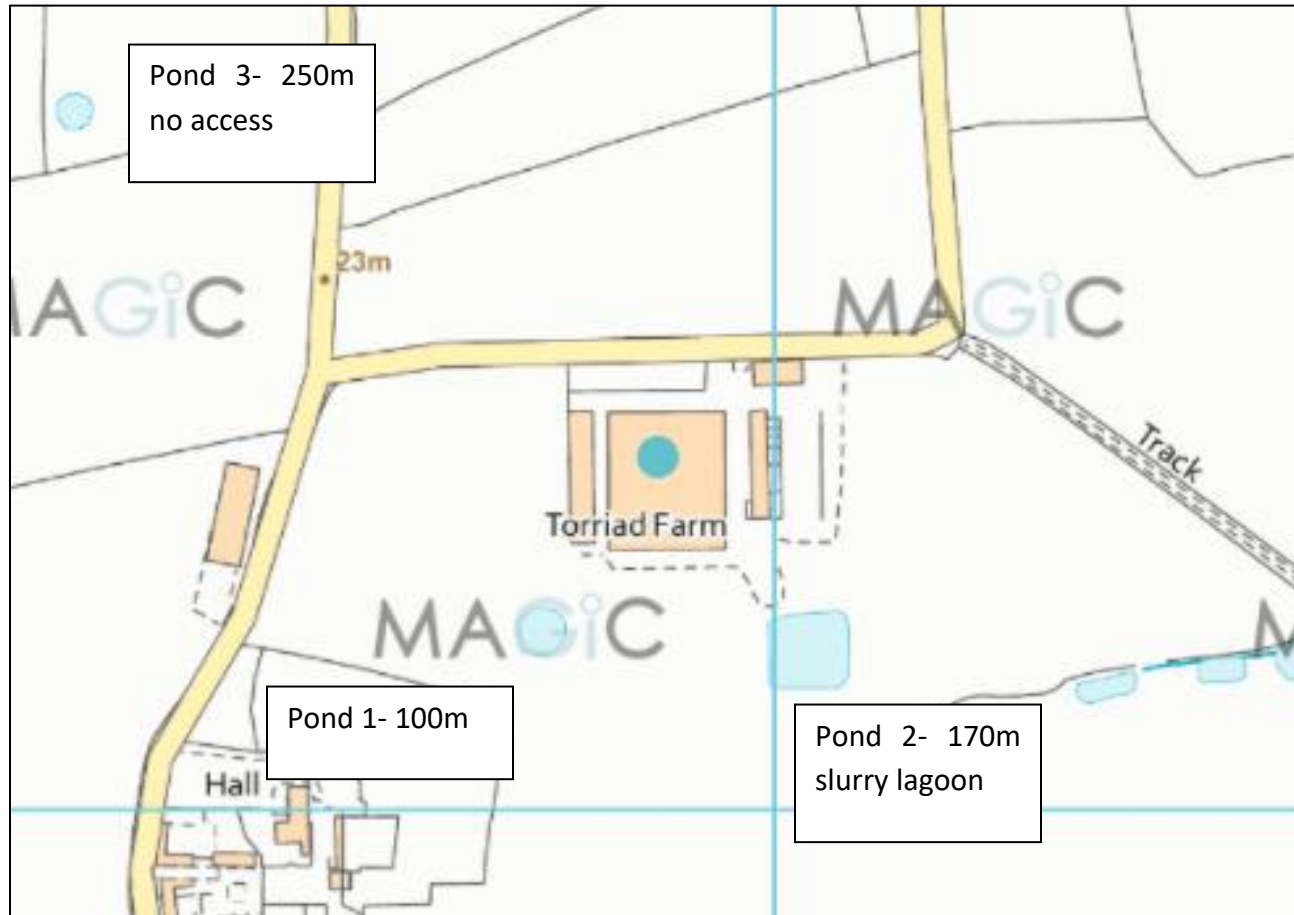
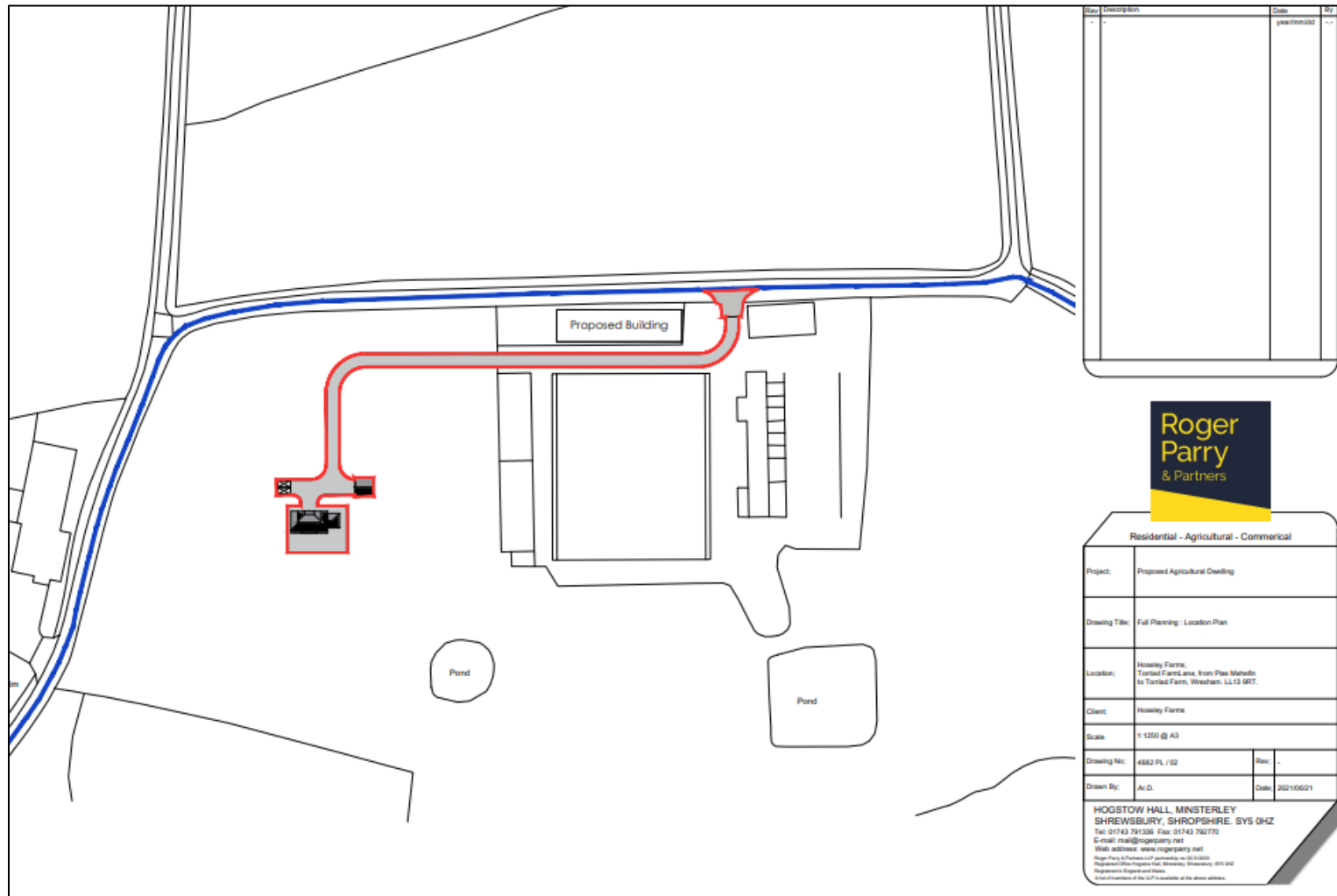


FIGURE 4 PROPOSED DEVELOPMENT PLAN



APPENDIX 1 PHOTOGRAPHS

	Proposed development site
	Field site is grazed and cut. Patches of bare earth are present throughout and there is a short sward throughout the year.
	Pond 1





Habitat surrounding Pond 1 is maintained as rough grassland.



Pond 2 slurry lagoon.



APPENDIX 2. REASONABLE AVOIDANCE MEASURES METHOD STATEMENT

Legislation

Great Crested Newts (GCN) are a European Protected Species (EPS) and they and their habitats are fully protected under national (Wildlife & Countryside Act 1981 (as amended)) and European law (The Habitats and Species Regulations 2017 (as amended)). The combined legislation makes it illegal to:

- deliberately capture, kill or injure a great crested newt;
- damage or destroy a breeding site or resting place
- intentionally or recklessly obstruct access to any place used for shelter and protection including resting and breeding places, whether occupied or not;
- deliberately, intentionally or recklessly disturb a great crested newt when in a place of shelter;
- possess a great crested newt, or any part of it, unless acquired lawfully;
- sell, barter, exchange or transport or offer for sale great crested newts or parts of them.

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.

Timing & duration

- All ground works/excavations will be undertaken between November and February when GCN are rarely active above ground.

Site clearance

- Any improved grassland to be disturbed on site will be cut to, and maintained at, a height of 10cm before March (in any given year) in order to reduce the number of potential resting/feeding opportunities on site.
- Any stored materials will be removed from site during the GCN active season. This will aim to remove any materials which could act as a refuge for GCN.

Site compound

- The site compound will be situated on an area of existing hard-standing within the adjacent farm yard to avoid creating GCN resting places beneath stored materials etc.
- All site materials will be stored on pallets or other raised objects to avoid creating resting places/refuges for GCN.
- Any toxic or poisonous materials will be safely stored within a locked container.

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 excavated materials/waste will be stored in skips or similar and not on the ground where it could be used as a refuge/resting area by amphibians. Alternatively, all waste will be removed from site daily.
- All stored building materials that might be used as temporary resting places by amphibians will be stored off the ground on pallets or similar.

If GCN are found at any point during the development or activities outlined above, works must stop and an appropriately qualified ecologist should be contacted for advice, as well as Natural Resources Wales.

Contractors are prohibited from handling GCN.