

Greenscape Environmental Ltd

PROBIN

ECOLOGICAL APPRAISAL

**DRURY LANE FARM
DRURY LANE
TY BROUGHTON
WHITCHURCH
WREXHAM
SY13 3BD**

OCTOBER 2019

2292 1910R

Report by Chloe Sheil MZool (Conservation)

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	Name	Signature	Date
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The report should be read in its entirety.

Questions arising from the survey report should be directed to the author of this report who will be pleased to clarify any technical issues raised.

Whilst the surveyors make every reasonable effort, Greenscape Environmental Ltd cannot guarantee that all protected species have been identified and survey results are definitive. Many species are cryptic and transitional in habit.

Reports are considered valid for two years for planning purposes after which time further survey information may be required.

Greenscape Environmental Ltd can provide advice and support for recommendations and planning conditions.

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1 Summary

1.1 Purpose of the Report

Greenscape Environmental Ltd was commissioned by ARH Architectural Design to undertake a preliminary ecological appraisal (PEA) of buildings at Drury Lane Farm to provide supporting information for a planning application for the conversions of three buildings to residential.

The survey report has three principal aims:

- to provide an initial appraisal of the ecological value of the site in local context
- to provide details supporting further surveys that may be required
- to identify potential ecological constraints relating to the development and recommend measures to avoid, reduce or manage negative effects and to provide a net ecological gain

1.2 Methodology

The appraisal of the site included a desk study of the area, reviews of other surveys previously conducted in the area by Greenscape Environmental and a phase 1 environmental appraisal undertaken at the site, OS grid reference SJ47034237 on 26th September 2019 by P Marshall and C Sheil.

1.3 Key Issues

A desktop data search including a search for nearby designated sites, EPS licences and previously recorded protected species was conducted. Of significance for this site is bats, nesting birds and great crested newts.

The site extends to 0.5ha, of which 0.3ha will be developed. The site comprises buildings set around a yard of hardstanding and amenity grassland. Three buildings will be converted, one building and two Dutch barns will be demolished.

Evidence of bats was found in buildings 1 and 3. Low roost potential was found in building 2. Work on these buildings cannot commence until further surveys have been conducted.

Evidence of nesting birds was found in all buildings. The Dutch barns had no evidence of nesting birds, but did offer potential habitat. It is therefore recommended that works on the buildings commence outside of the bird nesting season (February to August inclusive). Evidence of tawny owl was found in buildings 1 and 2. A tawny owl box will therefore be erected on a nearby tree.

Great crested newts have been recorded by Greenscape Environmental within 600m of the development site. A network of ponds surrounds these sites. Pond 1 scored 0.85 on the HSI assessment and lies directly adjacent to the site. Given that the development involves the demolition of some existing buildings and there is no alternative terrestrial habitat in the area, it is likely that an offense will be committed. Further surveys for newts are therefore required.

1.4 Impacts and Mitigation Measures

It is recommended that the biodiversity is enhanced post-construction with the inclusion of bat and bird boxes. It is also recommended that the landscaping be improved with the inclusion of native species hedgerows and trees.

Further surveys for newts and bats will be conducted. With suitable enhancements installed and works being done at a suitable time of year there will be no further ecological constraints to the development.

1.5 Timing of Works

To avoid wildlife offences the following timing schedule will be adhered to.

Action	When	Justification
Update survey information	After date 1 year from survey issue date	EPS licences require information to be from within the past 12 months.
Demolish Dutch barns and building 4	September -end of February	To reduce the potential to disturb nesting birds.
Convert buildings 1, 2 and 3	After further surveys conducted and EPS licence issued (if required)	Evidence and potential for roosting bats in building 1,2 and 3.

2 Introduction

This report has been compiled by Chloe Sheil who has 1 year of experience conducting ecological appraisals. It has been reviewed in line with Greenscape's Quality Management System.

For details of surveyors and licences please see Appendix A.

2.1 Project Background

Greenscape Environmental Ltd was commissioned by ARH Architectural Design on behalf of the client, Mr Probin, to conduct a survey to determine the presence of protected species and potential for the damage or destruction of habitats of ecological value, as part of the planning application for the development of land at Drury Lane Farm, Ty Broughton.

The project involves the conversion of three barns and the demolition of one outbuilding and two Dutch barns. Additionally the development includes the construction of garages and the clearance of an area of hardstanding.

2.2 Purpose of the Report

The aim of this survey is to locate and describe, as far as reasonably practicable, evidence of wildlife, including all protected and UK Post-2010 Biodiversity Framework priority species, which may be disturbed or lost in the event of development.

The purpose of the report is to:

1. Identify the key ecological constraints to the proposed development
2. Inform planning to allow significant ecological effects to be minimised or avoided wherever possible
3. Allow any necessary mitigation or compensation measures to be developed following the Mitigation Hierarchy
4. Identify any additional surveys that may be required to inform the ecological assessment
5. Identify the opportunities offered by a project to deliver ecological enhancement

The Local Planning Authority (LPA) will require further information regarding bats as the site meets at least one of the trigger points set out in section 1.2.3.2 of the Bat Surveys for Professional Ecologists: Good Practice Guidelines, Bat Conservation Trust (2016). The trigger point of relevance in this development is the conversion modification or removal of buildings which are agricultural buildings of traditional brick or stone construction and/or with exposed wooden beams.

2.3 Planning Policy and Legislation

This section provides a brief summary of the key national and local planning policies and legislation with an intention to identify those to be of most relevance to ecology and provide context to the surveys conducted. Survey findings were considered in line with the following.

The Conservation of Habitats and Species Regulations (2017) – as listed in:

- Schedule 2. European protected species of animals
- Schedule 5. European protected species of plants

The Wildlife and Countryside Act (1981) – as listed in:

- Schedule 1. Birds protected by special penalties at all times
- Schedule 5. Protected animals
- Schedule 8. Protected plants

Countryside and Rights of Way Act (2000)

Natural Environment and Rural Communities Act 2006 (NERC 2006)

The Nature Recovery Plan for Wales: Setting the course for 2020 and beyond (2015)

Section 7 of the Environment Act (Wales) 2016

ODPM Circular 06/2005: Biodiversity and Geological Conservation-Statutory obligations and their impact within the Planning System

Wrexham Unitary Development Plan – EC6 Biodiversity Conservation

2.4 Site Context and Location

The site is located to the southeast of Ty Broughton, OS grid reference SJ47034237. It is set in a rural environment surrounded by open fields. There is low connectivity to the surrounding countryside via field hedgerows which may provide foraging or commuting opportunities for bat, nesting birds, great crested newts or small mammals.

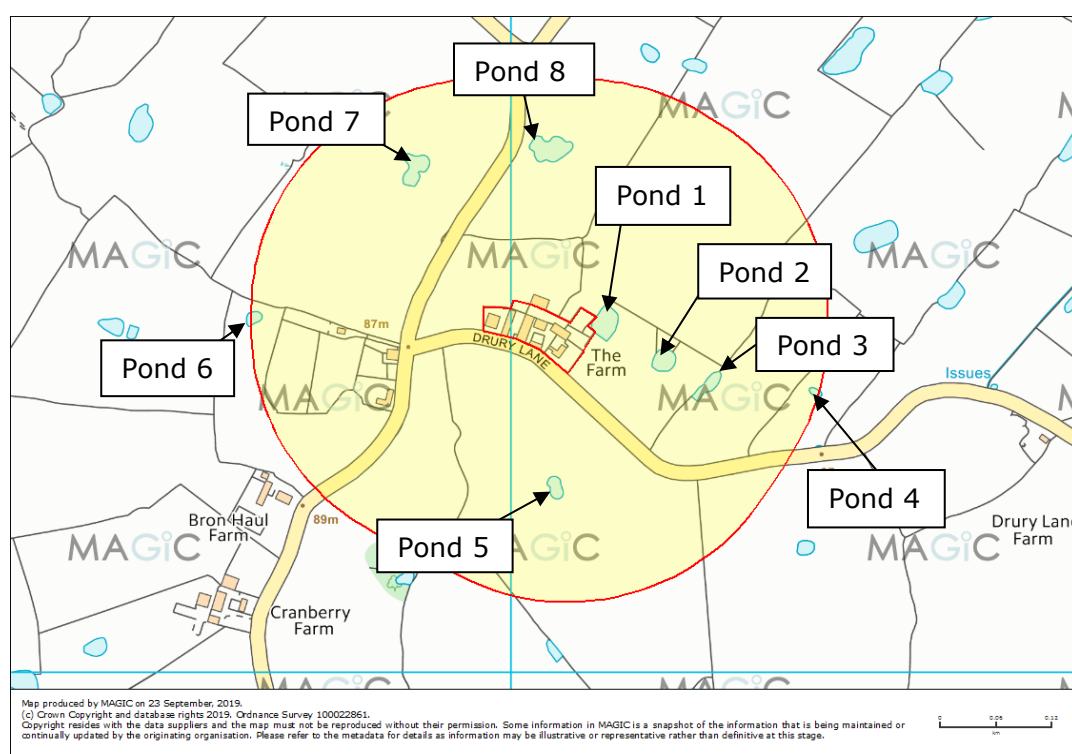


Figure 2.1. An OS map showing the site (centre, highlighted) with a 250m buffer

Scrutiny of the OS map (Fig 2.1) and a walk around the locality showed there are 8 ponds within 250m of the site.

2.4.1 Date and Survey Conditions

The phase 1 ecological appraisal was undertaken at the site on 26th September 2019 by C Sheil and P Marshall. The conditions on the survey dates were optimal for the type of survey conducted.

Table 2.1: Survey date and conditions

Date	Time	Temp °C	Condition
26/09/2019	13:30	15	Sunny, F1-2 breeze, dry

3 Methodology

Broad methodologies for data collection and interpretation were informed by guidance outlined in CIEEM (2017) Guidelines for Preliminary Ecological Appraisal.

3.1 Desk Study

The desk study provides contextual information such as the site's proximity to designated areas and known records of protected/notable species. This assists with the evaluation of the ecological value of the site. This was undertaken in September 2019.

A review of other surveys conducted in the area by Greenscape Environmental was also conducted.

This level of desk study is considered adequately proportionate to the development proposals, the low complexity of the site and its surrounding landscape context.

3.2 Field Survey

3.2.1 Habitats

The level of survey is aimed to identify field signs of, or habitats with the potential to support protected species and therefore assist in the determination for detailed phase 2 surveys.

3.3 Species Survey

Buildings were assessed for potential for bat roosts, foraging and commuting. This was conducted in accordance with Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition, BCT, Collins (ed.) (2016).

Buildings were assessed for potential for nesting birds.

The assessment of aquatic habitat for great crested newts is based on the Habitat Suitability Index (HSI).

The terrestrial habitats at the application site were surveyed and assessed with respect to their suitability and potential value in supporting great crested newts.

3.4 Constraints of the Survey

All areas were accessible for this survey. It was not conducted at an optimal time of the year for the assessment of maternity roosts of bats, but this is not seen as a constraint as evidence of bats can often be seen year round, and phase 2 surveys for bats will be conducted in 2020. Phase 2 surveys for newts were not possible at this time of the year. Not all ponds were accessible as there was significant hedge growth adjacent to the ponds.

4 Site Description

4.1 Field Survey

The site comprises several buildings, mostly of red brick and slate tile roofs, set around a yard of hardstanding and amenity grassland.

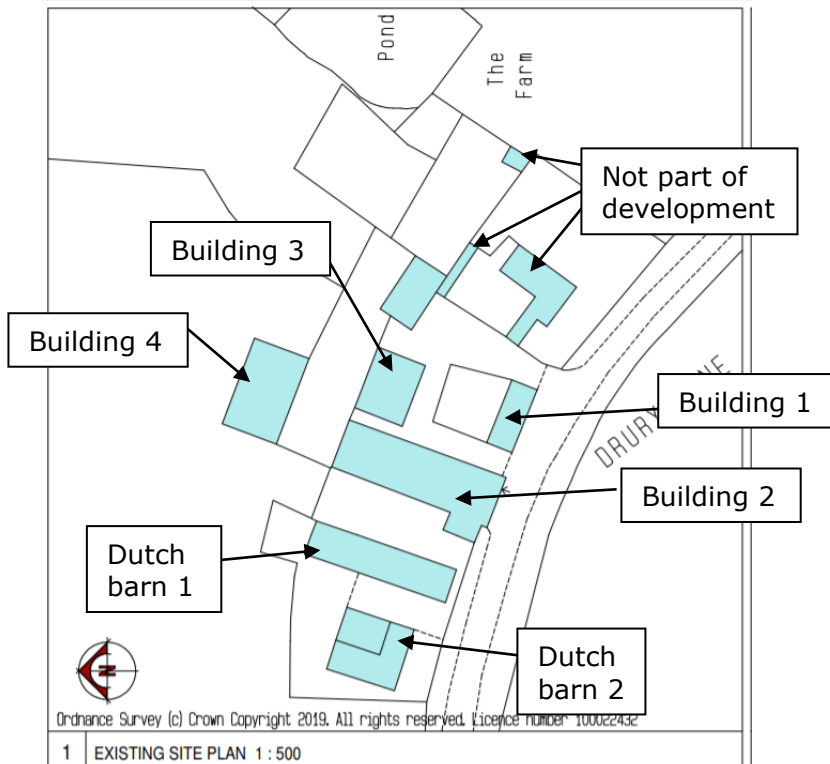


Figure 4.1 Existing site plans showing building locations

A map showing phase 1 habitat codes is not considered necessary for this site due to its lack of complexity and size.

4.1.1 Building 1

Building 1 is a barn constructed of red brick with slate tile roof. The roof has vents on top which offer potential bat access into the building. Potential access was also available through open windows.



Figure 4.2 External view of building 1 from northwest

Internal inspection of building 1 found that the roof is unlined and is supported by wooden beams, including a central ridge beam. The beams are relatively old but have no obvious cracks or crevices. The building is bright inside.



Figure 4.3 Roof space of building 1

Evidence of nesting birds was found inside the building. Nesting material was found on the wall plate of the gable end and swallow nests were seen. A tawny owl pellet was also found on the floor.



Figure 4.4 Bird nest on wall plate



Figure 4.5 Tawny owl pellet

Evidence of bats was found scattered through the building. These were indicative of pipistrelles and brown long-eared bats.



Figure 4.6. Bat dropping found on site

4.1.2 Building 2

Building 2 is a barn constructed of red brick with steel doors. The roof is built of slate tile and cement-bonded fibreboard. Potential access points were found via holes in the roof, open windows and under the steel doors.



Figure 4.7 External view of building 2 from south

Internal inspection of the building found that the roof is not lined and is supported by metal beams including a wooden central beam. Large skylights are in the roof which let in a lot of light.



Figure 4.8 Roof space of building 2

Evidence of tawny owl was found in the form of droppings and pellets. No evidence of bats was found. This building offers low roost potential for bats.



Figure 4.9 Evidence of birds

4.1.3 Building 3

Building 3 is a barn of red brick with roofs of slate tile and profile sheet metal. Potential access points were found in holes in the roof and walls, under eaves and through gaps in doors.



Figure 4.10 External view of front of building 3 from southwest with potential access points



Figure 4.11 External view of building 3 from north

Internal inspection of the building found that the roof is lined with damaged bitumen felt. Potential access points were found via gaps in the roof sheeting and under eaves. The first floor is used as a chicken coop and the ground floor is used for storage.



Figure 4.12 Roof space of building 3



Figure 4.13 Potential access points

Evidence of nesting birds was found on the first floor. Evidence of bats was found in the form of droppings.



Figure 4.14 Birds nest

4.1.4 Building 4

Building 4 is a barn built of breeze block, wooden panels and cement bonded fibreboard. It is open to the elements and the roof is not lined. The roof is supported by metal and wooden beams, none of which have any cracks or crevices. No evidence of roosting bats or nesting birds was found.



Figure 4.15 External view of building 4 from southwest



Figure 4.16 Interior of building 4

4.1.5 Dutch Barn 1

This is built of corrugated sheet metal and is open to the elements. It is used for storage and offers negligible roost potential for bats. It only offers foraging habitat for bats. No evidence of nesting birds was seen.



Figure 4.17 External view of Dutch barn 1 from southeast

4.1.6 Dutch barn 2

This is also built of corrugated sheet metal and is open to the elements. It only offers foraging habitat for bats and no evidence of nesting birds was found.



Figure 4.18 External view of Dutch barn 2 from southeast

4.1.7 Site

The buildings are set on a yard of hardstanding with an area of amenity grassland in the centre. No notable species were found in this area and it was mown to a short sward.



Figure 4.19 Area of amenity grassland

Bird species found on site include robin (*Erithacus rubecula*) and pied wagtail (*Motacilla alba*). No evidence of barn owl or badger was found on site.

4.1.8 Surrounds

The site is surrounded by a farmhouse to the east, a country lane along the south, and open fields to the west and north. There is anecdotal evidence of a large roost of approximately 60 bats in the roof of the farmhouse.



Figure 4.20 Farmhouse to east



Figure 4.21 Open field to the northwest



Figure 4.22 Country lane along south

The surroundings up to a distance of 30m+ were examined for potential for badger activity. No setts were observed.

4.1.9 Open Water

Ponds within 250m have been taken into consideration.

Table 4.1: Ponds within 250m

Pond Number	OS Grid Reference	Distance from Site	HSI Score	Amphibian Evidence
1	SJ47094238	0m	0.85 – Excellent	Palmate newt eft
2	SJ47164234	70m	0.38 – Poor	None
3	SJ47214231	130m	Dried up	-
4	SJ47324230	240m	Dried up	-
5	SJ47044220	110m	0.65 - Average	None

Each of these ponds was assessed using the Habitat Suitability Index (HSI) unless it was found to be dry or extinct. Access was not gained to ponds 6, 7 or 8.

The results from the HSI calculations and justifications for each value can be seen in Appendix E.

Pond 1



Figure 4.23 Overview of pond 1

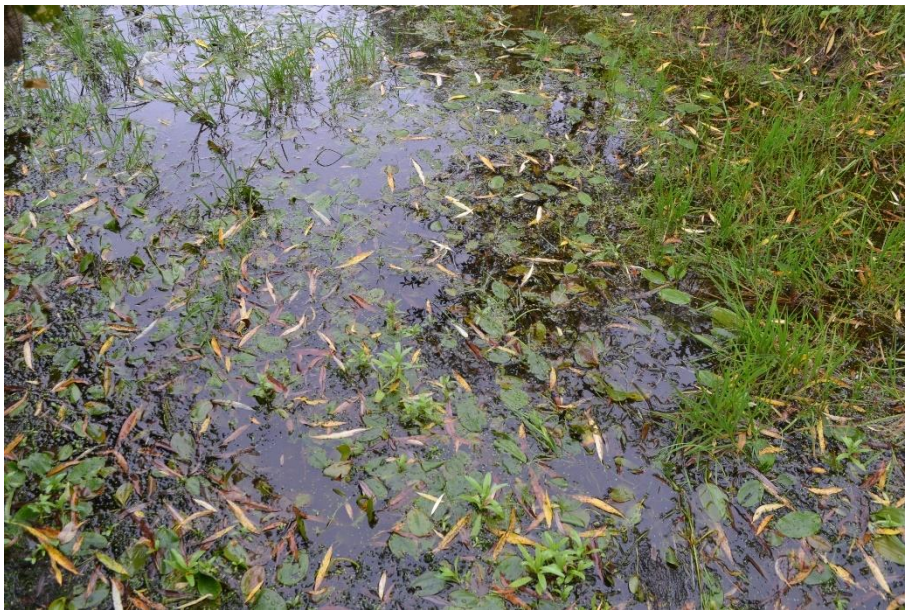


Figure 4.24 Egg laying material



Figure 4.25 Palmate newt eft

Pond 1 is adjacent to the development site and was found to be good habitat for newts on arrival. It was full of pondweed, providing egg laying material for newts, and wasn't too shaded. It was found to be relatively deep and netting revealed invertebrates such as dragonfly larvae and backswimmers as well as a palmate newt eft.

Table 4.2: Details of HSI score for Pond 1

Pond 1 Grid reference: SJ47094238		
Geographic Location	1	Zone A
Pond Area	1	The pond was approximately 750m ²
Permanence	0.9	Never dries
Water Quality	1	Abundant and diverse invertebrate community
Shade	1	There was estimated to be 30% shading of the area within 1m of the perimeter
Waterfowl	1	No waterfowl were observed on the pond
Fish	0.67	No evidence of fish but local conditions suggest they may be present
Pond Count	1	There were 60 ponds within a 1km radius which were not separated by major barriers
Terrestrial Habitat	0.33	The immediate surrounding land is mostly open fields and farmland.
Macrophytes	1	There was a lot of floating or emergent vegetation in this pond, cover was estimated to be 80%
HSI Score	0.85 - Excellent	

Pond 2

This pond was completely shaded by the hedge that runs around the entire pond. It is set in the middle of a field of semi-improved grassland and there is anecdotal evidence that it has carp in it. It is very difficult to access this pond and it appears deep.

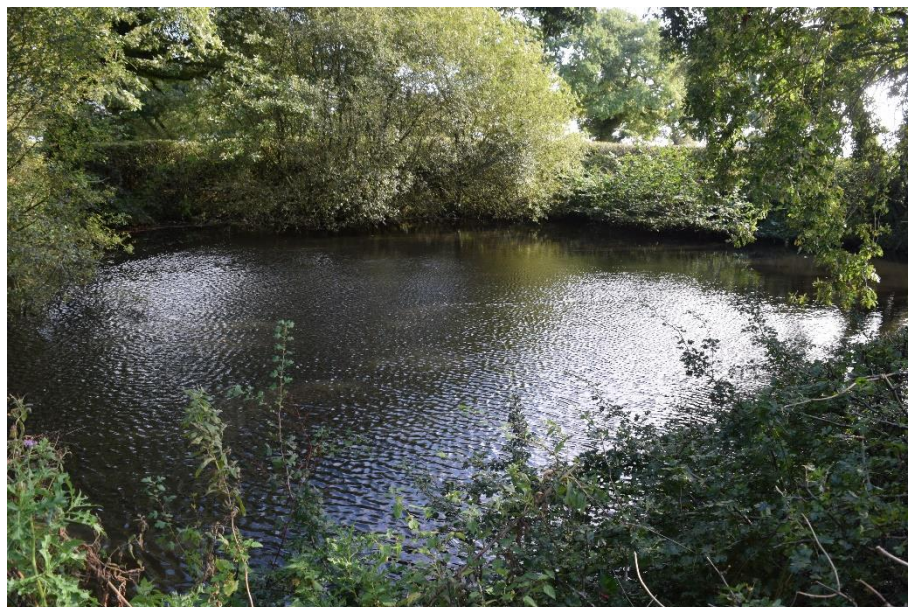


Table 4.3: Details of HSI score for Pond 2

Pond 2 Grid reference: SJ47164234		
Geographic Location	1	Zone A
Pond Area	1	The pond was approximately 500m ²
Permanence	0.9	Never dries
Water Quality	0.01	No invertebrates found when netting
Shade	0.2	There was estimated to be 100% shading of the area within 1m of the perimeter
Waterfowl	1	No waterfowl were observed on the pond
Fish	0.33	Stocked with carp
Pond Count	1	There were 62 ponds within a 1km radius which were not separated by major barriers
Terrestrial Habitat	0.33	The immediate surrounding land is mostly open fields and farmland
Macrophytes	0.3	There was no floating or emergent vegetation in this pond
HSI Score	0.38 - Poor	

Pond 3

This was found to be completely dried up.



Figure 4.26 Area where pond 3 used to be

Pond 4

This was also found to be dried up. A depression in the ground shows where it once was.



Figure 4.27 Area where pond 4 used to be

Pond 5**Table 4.4: Details of HSI score for Pond 5**

Pond 5 Grid reference: SJ47044220		
Geographic Location	1	Zone A
Pond Area	0.6	The pond was approximately 300m ²
Permanence	1	Rarely dries
Water Quality	0.33	Low invertebrate diversity, few submerged plants
Shade	1	There was estimated to be 30% shading of the area within 1m of the perimeter
Waterfowl	1	No waterfowl were observed on the pond
Fish	0.67	No evidence of fish but local conditions suggest they may be present
Pond Count	1	There were over 60 ponds within a 1km radius which were not separated by major barriers
Terrestrial Habitat	0.33	The immediate surrounding land is mostly open fields and farmland.
Macrophytes	0.3	There was no floating or emergent vegetation in this pond
HSI Score	0.65 - Average	

Ponds 1, 2 and 5 offer excellent, poor and average suitability, respectively, for great crested newts.

5 Evaluation of Results

5.1 Potential Impacts on Designated Sites and Recorded Species

5.1.1 Designated Area or Priority Habitat

Figure C.1 shows that there are no SSSIs within 1km. The nearest SSSI is approximately 3km away. This is Llyn Bedydd and is a series of open water bodies and peatland.

5.1.2 Habitats on Site

Table 5.1: Summary of habitats on site

Habitat type	Is the habitat capable of supporting protected species	Impact without consideration
Hardstanding	Concrete pad of no ecological value	No negative impact
Amenity grassland	Of no ecological value	No negative impact
Buildings	Buildings 1 and 3 had evidence of bats. Building 2 had low roost potential for bats All 3 buildings to be converted had evidence of nesting birds. Building 4 and Dutch barns had no evidence of protected species and negligible roost potential for bats	High negative impact on bats Low potential impact on bats Potential negative impact on nesting birds No negative impact

The main habitats of value on site are buildings 1 to 3. Buildings 1 and 3 had evidence of bats and building 2 offered low bat roost potential. All three of these buildings had evidence of nesting birds. Building 4 had no evidence of protected species but offers potential habitat to nesting birds.

5.2 Ecologically Important Species

The following species of relevance to the proposed development area were identified in the data search (full details in Appendix C): Whiskered/ Brandt's bat, common pipistrelle, soprano pipistrelle and brown long-eared bat within 600m, hare within 700m, hedgehog within 800m, badger within 900m, barn owl within 1km and great crested newts within 600m

The potential for the site to support bats, nesting birds and great crested newts was therefore taken into consideration.

Table 5.2: Summary of protected species on site with recommendations

Species	Observations	Impact without consideration	Recommendations
Mammals			
Bats	Evidence found in buildings 1 and 3. Low roost potential in building 2.	Potential negative impact	Further surveys required on buildings 1, 2 and 3.
Badgers	No evidence found around site	No negative impact	No action required
Birds			
Barn Owl	No evidence on site	No negative impact	No action required
Nesting birds	Evidence in buildings 1, 2 and 3. Evidence of tawny owl in buildings 1 and 2.	Potential negative impact	All clearance to be undertaken outside nesting period Feb-Aug inclusive. New nest box provision and barn owl to be erected
Herpetofauna			
Reptiles	No suitable habitat around site	No negative impact	No action required
Great Crested Newts	8 ponds found within 250m. Pond 1 adjacent to site scored 0.85 – Excellent on HSI assessment. Negligible value terrestrial habitat on site.	Potential negative impact	Phase 2 newt surveys required.

5.2.1 Bats

All bat species are protected under the Conservation of Habitats and Species Regulations 2017 which implements the EC Directive 92/43/EEC in the United Kingdom. It is an offence, with certain exceptions, to:

- deliberately capture or kill any wild animal of a European Protected Species.
- deliberately disturb any such animal.
- damage or destroy a breeding site or resting place of such a wild animal.
- keep (possess), transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal or plant of a European Protected Species, or any part of, or anything derived from such a wild animal or plant.

A person found guilty of an offence is liable on summary conviction to imprisonment for a term not exceeding six months or to an unlimited fine or to both.

To allow a development that might result in an offence, a derogation licence can be sought via the implementation of a European Protected Species Licence. This is provided by Natural Resources Wales.

Work can be conducted under a derogation licence from Natural Resources Wales providing suitable compensation and mitigation is provided and the "three tests" can be met. These are:

1. Regulation 55(2)(e) states: a licence can be granted for the purposes of "preserving public health or public safety" or other imperative reason of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.
2. Regulation 55(9)(a) States: the appropriate authority (Natural Resources Wales) shall not grant a licence unless they are satisfied "that there is no satisfactory alternative"
3. Regulation 55(9)(b) states that the appropriate authority shall not grant a licence unless they are satisfied "that the action licensed will not be detrimental to the maintenance of the population of the species concerned at favourable conservation status in its natural range."

Recommendations are made in line with the mitigation hierarchy as outlined in the NPPF (2012). The intention is to first avoid, then mitigate or compensate for any potential breaches in legislation as outlined in the Habitats Directive. Recommendations for proportional enhancement measures as required under section II of the NPPF and section 40 of the NERC Act 2006 are also provided.

Evidence of bats was found in buildings 1 and 3 with the droppings in building 1 being indicative of brown long-eared bats and pipistrelles. Building 2 offers low roost potential for bats as it has several potential access points and a wooden central ridge beam. Further surveys are required on these three buildings prior to any work commencing. These surveys will provide essential information which will likely be used to obtain a licence from Natural Resources Wales.

No evidence of, or potential for bats was found in building 4 or the Dutch barns. Work can commence on these buildings without further surveys or a licence from Natural Resources Wales.

5.2.2 Other Mammals

Badgers

Badgers and their setts are specifically protected under the Protection of Badgers Act 1992. The act was primarily brought into force to prevent the deliberate injury to or death of badgers. Some aspects of the act affect developers. It is important that developers are aware of any badger setts located on the land they intend to develop.

All personnel working on sites where there are badgers should be aware of the Protection of Badgers Act 1992. Under this legislation it is an offence to:

- Damage a badger sett or any part of it.
- Destroy a badger sett.
- Obstruct access to, or any entrance of a badger sett.
- Causing a dog to enter a badger sett.
- Disturbing a badger when it is occupying a badger sett.

A badger sett is defined by the Act as “any structure or place, which displays signs indicating current (within the last 12 months) use by a badger”.

No evidence of badgers was found on or around the site. No negative impact is expected.

5.2.3 Birds

Under Section 1 of the Wildlife and Countryside Act 1981 (as amended), birds, their nests and young are all protected from damage, particularly during the breeding season. The Act allows for fines or prison sentences for every bird, egg or nest destroyed. It makes it an offence to:

- Intentionally kill, injure or take any wild bird.
- Take, damage or destroy the nest of any wild bird whilst it is in use or being built.
- Take damage or destroy the egg of any wild bird.
- To have in one’s possession or control any wild bird, dead or alive or egg or any part of a wild bird or egg.

Work at this site will include the demolition and conversion of buildings which may have a negative impact on nesting birds. It will therefore be recommended that these works will be conducted out of the bird nesting season (February to August inclusive). It will be recommended that nesting boxes are erected post-construction to provide a minor enhancement.

Evidence of tawny owl was found in building 1 and 2. It is therefore recommended that a barn owl box is erected on site.

Barn Owls

Barn owls are listed on Schedule 1 which gives them special protection.

It is an offence to:

- Intentionally kill, injure or handle any wild barn owl.
- Intentionally take, damage or destroy any wild barn owl nest whilst in use or being ‘built’.
- Intentionally take or destroy a wild barn owl egg.
- Have in one’s possession or control a wild barn owl (dead or alive) or egg (unless one can show it was obtained legally).
- Intentionally or recklessly disturb any wild barn owl whilst ‘building’ a nest or whilst in, on, or near a nest containing young.
- Intentionally or recklessly disturb any dependent young of wild barn owls.

It is not an offence to:

- Take a disabled wild barn owl solely for the purpose of tending it until fully recovered and then returning it to the wild.
- Kill, injure, take or disturb barn owls if these were incidental results of a lawful operation and could not reasonably have been avoided.

No evidence of barn owl was found in any of the buildings on site. No negative impact is expected.

5.2.4 Amphibian and Reptiles

All species of amphibians receive a measure of protection under legislation.

The Wildlife and Countryside Act 1981 has been amended by the Countryside and Rights of Way Act (CROW) 2000. This applies to England and Wales only. The key relevant fact is:

- Section 9(4) is amended to create an additional offence of reckless damage to, destruction of, or obstruction of access to, any structure or place used for shelter or protection; and reckless disturbance while occupying such a structure or place.

This means that any application for planning permission has to offer mitigation to the planners to alleviate any potential damage (i.e. provide reasonable avoidance).

Great Crested Newts

Great crested newts are protected under the Conservation of Habitats and Species Regulations 2017 which implements the EC Directive 92/43/EEC in the United Kingdom. It is an offence, with certain exceptions, to:

- Deliberately capture or kill any wild animal of a European Protected Species.
- Deliberately disturb any such animal.
- Deliberately take or destroy eggs of any such wild animal.
- Damage or destroy a breeding site or resting place of such a wild animal.
- Keep (possess), transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal or plant of an European Protected Species, or any part of, or anything derived from such a wild animal or plant.

Great crested newts are listed as a priority species on the UK BAP and Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

A person found guilty of an offence is liable on summary conviction to imprisonment for a term not exceeding six months or to an unlimited fine, or to both.

Work can be conducted under derogation licence from Natural Resources Wales providing suitable compensation and mitigation is provided and the "three tests" can be met. These are:

1. Regulation 55(2)(e) states: a licence can be granted for the purposes of "preserving public health or public safety" or other imperative reason of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.
2. Regulation 55(9)(a) States: the appropriate authority (Natural Resources Wales) shall not grant a licence unless they are satisfied "that there is no satisfactory alternative"
3. Regulation 55(9)(b) states that the appropriate authority shall not grant a licence unless they are satisfied "that the action licensed will not be detrimental to the maintenance of the population of the species concerned at favourable conservation status in its natural range."

The site offers negligible value terrestrial habitat for GCN. The yard of hardstanding and amenity grassland offers no foraging or shelter. There are no features on site of any value for newts in their terrestrial phase. The total area of the site is approximately 0.5ha.

Eight ponds were found within 250m of the site. Pond 1 is adjacent to the site and scored 0.85 – Excellent on the HSI assessment and a palmate newt eft was found when netting

it. Pond 2 scored 0.38 – Poor on the HSI assessment and pond 5 scored 0.65 – Average. Ponds 3 and 4 were dried up. Ponds 6, 7 and 8 were not assessed.

Approximately 0.23ha of the site falls within 50m of pond 1. This area is very sensitive to newts as they may easily travel this distance to forage or shelter. There is no good terrestrial habitat nearby for newts to travel to for foraging or shelter so it is considered likely that great crested newts will cross the site.

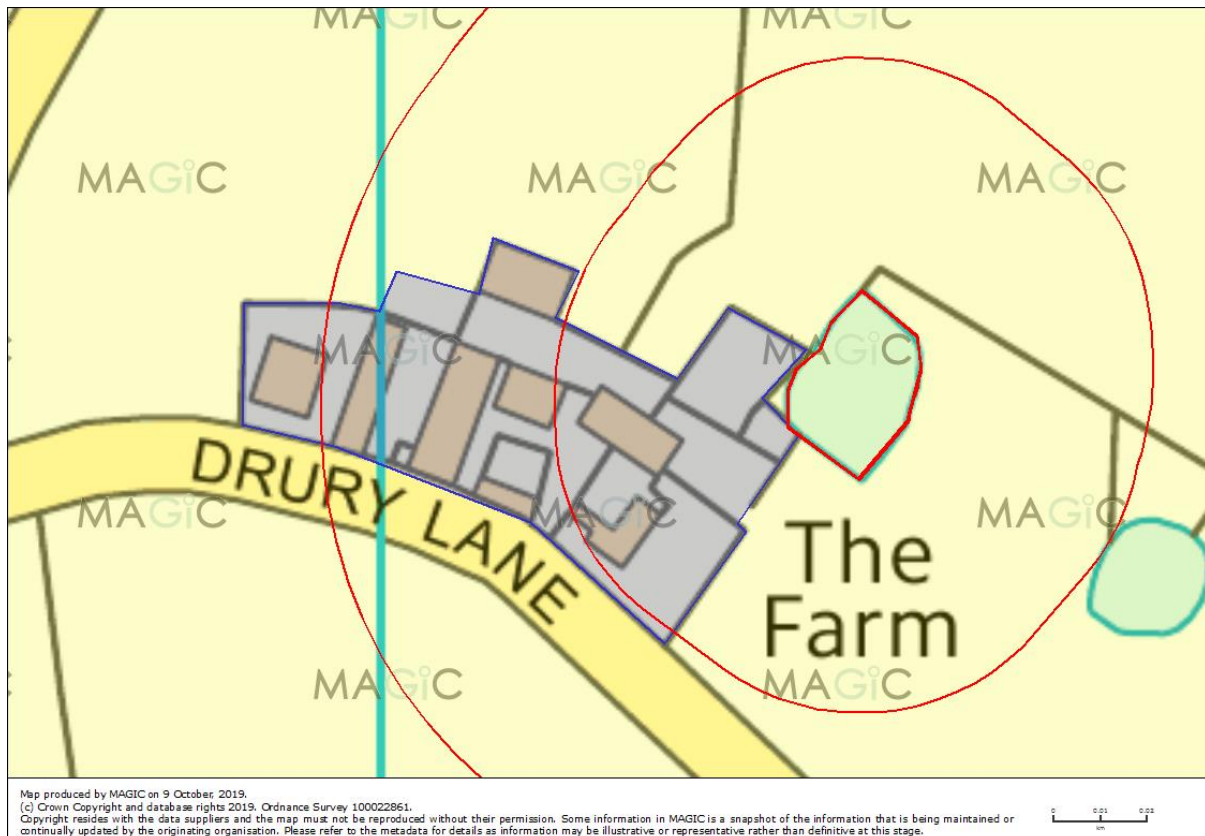


Figure 5.1 50 and 100m buffers around the nearest pond

The proposed development would see the demolition of existing buildings on site which could kill or individual newts. With an excellent pond for newts so close to the site and records of a dead newt found on a different site within 600m (by Greenscape Environmental Ltd in 2015), it is highly likely that the development would lead to an offense.

Further surveys for newts are therefore required. These surveys will provide essential information which will likely be used to obtain a licence from Natural Resources Wales.

6 Impacts and Mitigation Measures

To reduce or minimise negative impact on biodiversity, the following recommendations have been made.

6.1 Landscaping

1. It is recommended that the landscaping around the new buildings will include some hedging and tree planting to enhance the area for biodiversity.
2. Plants to use for landscaping will include locally sourced native species. These will be planted in accordance with BS3936 (part 1, 1992, Nursery Stock, Specifications for trees and shrubs). Planting will occur between November and April of the following year depending on timing of development.

Table 6.1: Recommended plants for landscaping

Plant	Latin Name
Blackthorn	<i>Prunus spinosa</i>
Crab apple	<i>Malus sylvestris</i>
Field rose	<i>Rosa arvensis</i>
Field maple	<i>Acer campestre</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Spindle	<i>Euonymus europaeus</i>
Wild cherry	<i>Prunus avium</i>
Wild pear	<i>Pyrus communis</i>
Wild service tree	<i>Sorbus torminalis</i>

3. Trees to be used should be from the list below. Oak should particularly be encouraged as it is the dominant species in the vicinity and it supports a large diversity of invertebrates.

Table 6.2: Recommended trees for landscaping

Common Name	Latin Name
English oak	<i>Quercus robur</i>
Sessile oak	<i>Quercus petraea</i>
Lime	<i>Tilia cordata</i>
Rowan	<i>Sorbus aucuparia</i>
Silver birch	<i>Betula pendula</i>

6.2 Bats

The demolition of building 4 and the Dutch barns can be conducted immediately once planning permission has been granted.

The conversion of buildings 1, 2 and 3 cannot commence until further surveys are conducted. Three surveys will be required on buildings 1 and 3 and one survey will be required on building 2.

6.2.1 Enhancements for Bats

1. It is recommended that provision will be made for roosting opportunities for bats with the erection of at least one woodcrete bat box suitable for maternity roosts in the nearby trees or the new building. These will be erected at a height of 3-4m and in a southerly, westerly or easterly facing direction.



Figure 6.1. Example woodcrete maternity bat box: Schwegler 3FF

2. It is recommended that permanent provision will be made for roosting opportunities for bats with the inclusion of an integral bat box in the new building. This will be erected at a height of 3-4m and in a southerly, westerly or easterly facing direction.



Figure 6.2. Example integral bat box

Enclosed Bat Box (B and C)

- Designed specifically for the pipistrelle bat
- Available in all brick types
- Discrete home for bats
- Various sizes
- Several roosting zones are created inside the box
- Bats are contained within the bat box itself
- Maintenance free with entrance at the base
- Ideal for new build & conservation work



Bat Box B



Bat Box C

Eco Habitats for Bats	Sizes (mm)	Durability
Bat Box Type A	215 x 65	F2 S2 – Fully Frost Resistant
Bat Box Type B	215 x 215 or 215 x 290	F2 S2 – Fully Frost Resistant

Figure 6.3: Bat Boxes from Ibstock Bricks Ltd**6.2.2 Lighting**

1. A lighting scheme will be drawn up in line with ILP and BCT Guidance Note 08/18.
2. All of the newly proposed external lighting will be directed away from any vegetated boundary features to retain dark corridors for commuting bats across the site.
3. There will be no direct illumination of any of the enhancements erected for bats.
4. There will be no illumination of the trees to the west of the site.
5. All domestic external lighting will be below 10 lux, orientated towards the ground and set on a short timer, controlled by PIR (Passive Infra-Red).

6.3 Birds

6.3.1 Reasonable Avoidance Measures

1. Any building demolition or conversion will commence out of the bird nesting season, which is February to August inclusive. If this is not possible, a suitably experienced ecologist will conduct a check within the 24 hours prior to work commencement to ensure no nesting birds will be affected.
2. All nesting birds will be left undisturbed until young have fledged. A 4m buffer will be left.
3. Once work has commenced on the building, and it is confirmed that there are no nesting birds the building can be sealed to prevent birds gaining access during works.

6.3.2 Enhancements for Birds

1. It is recommended that a range of artificial woodcrete boxes are erected around the site to provide an enhancement for passerine birds. A selection of the following nest boxes is recommended.



Figure 6.4: Provision for bird boxes

6.4 Tawny Owl

6.4.1 Enhancement for Tawny Owl

1. A tawny owl box will be erected near the site to provide an enhancement for tawny owls.
2. This can be positioned on a large tree, preferably facing open countryside and near a woodland.
3. The nest box should be located at least 3m off the floor.
4. The entrance should be no less than 200mm² and will be kept clear and visible.
5. The box should have a large drainage hole at the bottom no less than 12mm in diameter.

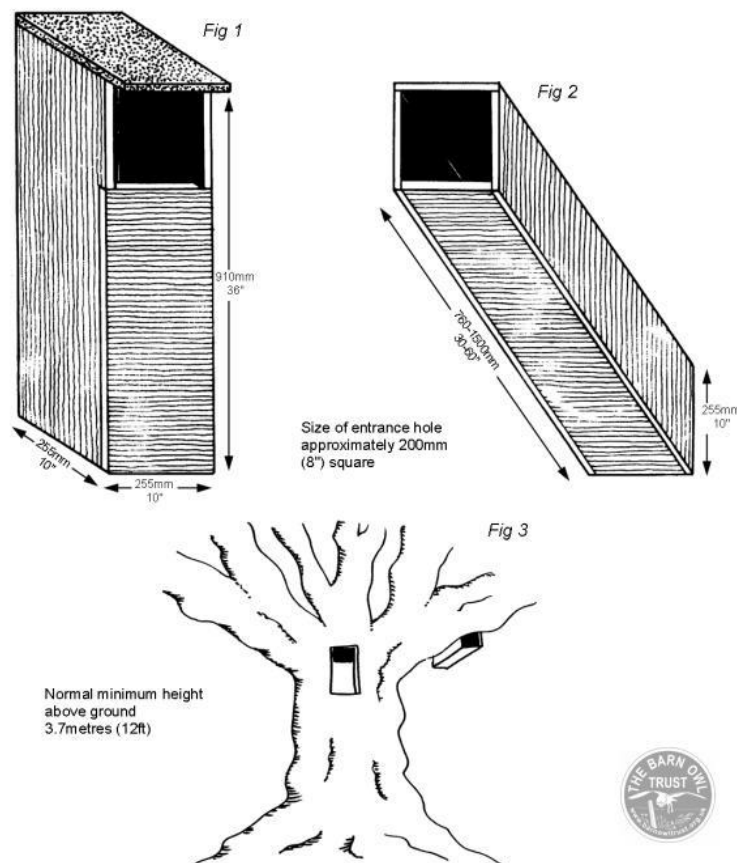


Figure 6.5. Tawny owl box example

Details on tawny owl box design can be found on the Barn Owl Trust's website - <https://www.barnowltrust.org.uk/>

6.5 Invertebrates

1. Invertebrate bricks or (bug houses) will be erected in the new gardens to enhance the area for nesting bees.



Figure 6.6: Invertebrate brick and bug house

6.6 Amphibians

Further survey for newts must be conducted prior to work commencing on this site. This will help ascertain population levels in the area, if present, which will allow further recommendations to be made to mitigate against any potential impacts from the development as proposed.

7 Concluding Remarks

The survey has focused on habitats to be damaged or destroyed as part of this development and the potential for disturbance or damage of protected species.

Evidence of bats was found in buildings 1 and 3. Low roost potential was found in building 2 due to there being several access points and a wooden central ridge beam. Work on these buildings cannot commence until further surveys have been conducted. Building 4 and the Dutch barns had negligible roost potential for bats and work on these can commence without bat activity surveys being done. It is recommended that the site is enhanced with the erection of bat boxes.

Evidence of nesting birds was found in buildings 1, 2 and 3 and building 4 and the Dutch barns offer potential habitat for nesting birds. It is therefore recommended that works on the buildings commence outside of the bird nesting season (February to August inclusive) and bird boxes are erected to provide an enhancement. Evidence of tawny owl was found in buildings 1 and 2. A tawny owl box will therefore be erected on a nearby tree, facing the open countryside.

Great crested newts have been recorded by Greenscape Environmental at a location within 600m of the development site. A network of ponds surrounds both the development site and the site at which great crested newts were recorded. Pond 1 scored 0.85 on the HSI assessment and lies directly adjacent to the site. Given that the development involves the demolition of some buildings and there is no alternative habitat in the area to provide foraging and shelter away from the site, it is highly likely that an offense will be committed. Further surveys for newts are therefore required before any works can take place.

Further surveys for newts and bats will be conducted. With suitable enhancements installed and works being done at a suitable time of year there will be no further ecological constraints to the development.

Appendices

- A** **Details of Surveyors**
 Sheet(s): 1
- B** **Detailed Methodology**
 Sheet(s): 2
- C** **Desktop Study**
 Sheet(s): 3
- D** **Site Plans**
 Sheet(s): 1
- E** **Bibliography**
 Sheet(s): 1

A Details of Surveyors

Table A.1: Surveyor experience and licences

Name	Membership of associations/ experience	Licenses
Peta Marshall BSc(hons)MA	Principal Consultant MCIEEM PIEMA Peta has a degree in Applied Biology and has been working in commercial environmental assessment for over 10 years. She has 10+ years' experience surveying for protected species. As a member of the CIEEM she is bound by professional conduct.	Holder of survey licenses for bats and newts in England and Wales. Registered Consultant for Low Impact Class Licence for Bats <u>England:</u> Bats - 2015-12200-CLS-CLS BMCL - RC084 GCN - 2015-18939-CLS-CLS Dormice - 2017-29225-CLS-CLS <u>Wales:</u> Bats - 77554:OTH:CSAB:2017 GCN - 77574:OTH:SA:2017
Logan Maggs BSc(hons)	Lead Consultant Logan has a degree in Conservation and Land Management. He has 10 years' experience conducting environmental appraisals and phase 2 surveys for bats and newts in England and Wales.	Holder of survey licenses for bats and newts in England and Wales. <u>England:</u> Bats - 2016-24901-CLS-CLS GCN - 2017-29218-CLS-CLS <u>Wales:</u> Bats - S086874/1 Newts - 79665:OTH:SA:2018
Ben Jones BSc(hons) MSc	Lead Consultant Ben has a degree in Marine and Freshwater biology and a Master's degree in "Managing the Environment". He has 4 years' experience conducting environmental appraisals and phase 2 surveys for bats and newts in England and Wales.	Holder of survey licenses for bats and newts in England and Wales. <u>England:</u> Bats - 2017-29112-CLS-CLS GCN - 2016-25209-CLS-CLS <u>Wales:</u> Bats - S085098/1 GCN - 78716:OTH:SA:2018
Chloe Sheil MZool (Conservation)	Chloe has a master's degree in Zoology with Conservation from Bangor University. She has one years' experience assisting with surveys.	

B Detailed Methodology

Desk Study

Table A: Data sources

Organisation/Resource	Information Assessed
COFNOD	Protected/UK BAP Species records (2km)
MAGIC website	International statutory designations (1km) • Special Protection areas (SPA) • Special Areas of Conservation (SAC) • RAMSAR sites National statutory designations (1km) • Sites of Special Scientific Interest (SSSI) • National Nature Reserves (NNR) EPS Licenses for protected species (2km)

A data search was purchased from the COFNOD on the 25th September 2019.

A search on Multi Agency Geographic Information for the Countryside (Magic Maps) determined nearby designated areas. The map is presented in Appendix C.

A review of other surveys conducted in the area by Greenscape Environmental was also conducted.

Survey reports include:

Phase 1 & 2 Surveys – Ty Broughton Hall, 2016 (Ref: 1448 002R) (EPS licence 75785:OTH:EPS:2017)

Phase 1 & 2 Surveys at Kiln Green (EPS licence 68440:OTH:EPS:2015)

Phase 1 & 2 Surveys at Iscoyd Park

Field Survey

The level of survey is aimed to identify field signs of or habitats with the potential to support protected species and therefore assist in the determination for detailed phase 2 surveys.

Determination of Ecological Value is based on the general criteria provided by IEEM (IEEM 2006).

Table B.1 Criteria of ecological values

Ecological Value	Description and Examples
High	Habitats or features that have high importance for nature conservation, such as statutory designated nature conservation sites of international or national importance or sites maintaining viable populations of species of international or national importance (e.g. Red Data Book species; European protected species).
Medium	Sites designated at a county or district level, e.g. Local Wildlife Site (LWS), ancient woodland site, ecologically 'important' hedgerows or ecological features that are notable within the context of a region, county or district (e.g. a viable area of a Priority Habitat on the county BAP or a site that supports a viable population of a county BAP species).
Low	Sites of nature conservation value within the context of a parish or neighbourhood, low-grade common habitats, such as arable fields and improved grasslands and sites supporting common, widespread species.

Species Surveys

Bats

Buildings were assessed for potential for bat roosts and feeding perches.

An external assessment of all structures on site was undertaken to determine potential roost features (PRF) The potential suitability of the structures assessed was assigned a rating of low to high in accordance with table 4.1 of Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition, Collins (2016).

An internal assessment of all structures was undertaken by a Natural Resources Wales licensed surveyor for evidence of roosting bats such as droppings, feeding remains and staining.

Daytime surveys were conducted with the aid of a strong torch. Bat species may leave little evidence of their presence.

Evidence for the presence of bats includes:

- Holes, cracks and rot holes used as roosts, marked by streaks of urine and faeces.
- Smoothed, darkened edges where bats have rubbed and left natural body oils when entering and exiting a space.
- Faeces under a roof access point, a well-used feeding point or a resting spot.
- Feeding signs such as discarded insect wings under a feeding point.
- Lack of cobwebs around eaves, roof spaces, beams or ceilings where routes are kept clear by bats or presence of droppings in a cobweb.
- Presence of roosting or dead bats in or behind any object.

Methodology used is in accordance with recommendations by BCT, Bat Surveys for Professional Ecologists: Good Practice Guidelines 3rd edition, Collins (2016).

Birds

Evidence of nesting birds, including barn owls using a building, hedge or tree involved looking for:

- Presence of nests
- Collections of droppings and/or feathers
- Highly distinctive droppings or splats under roosting points.
- Presence of owl pellets/feathers
- Listening for bird song
- Recording bird activity

Amphibians and Reptiles

The assessment of aquatic habitat is based on the Habitat Suitability Index (HSI) and is applied according to guidance set out by the Oldham 2000, superseded by ARG in 2010, ARG UK Advice note 5. The HSI is a quantitative method of assessing the potential quality of a body of water in terms of its ability to sustain a population of great crested newts.

The terrestrial habitats at the application site were surveyed and assessed for their suitability and potential value for the support of GCN. The general topography, ground conditions and presence or absence of vegetation were recorded. A refugia search was conducted for amphibians and reptiles by looking under any logs, large stones and other debris.

Nets were used to look for the presence of efts.

C Desktop Study

Designated Sites

MAGiC

Drury Lane Farm

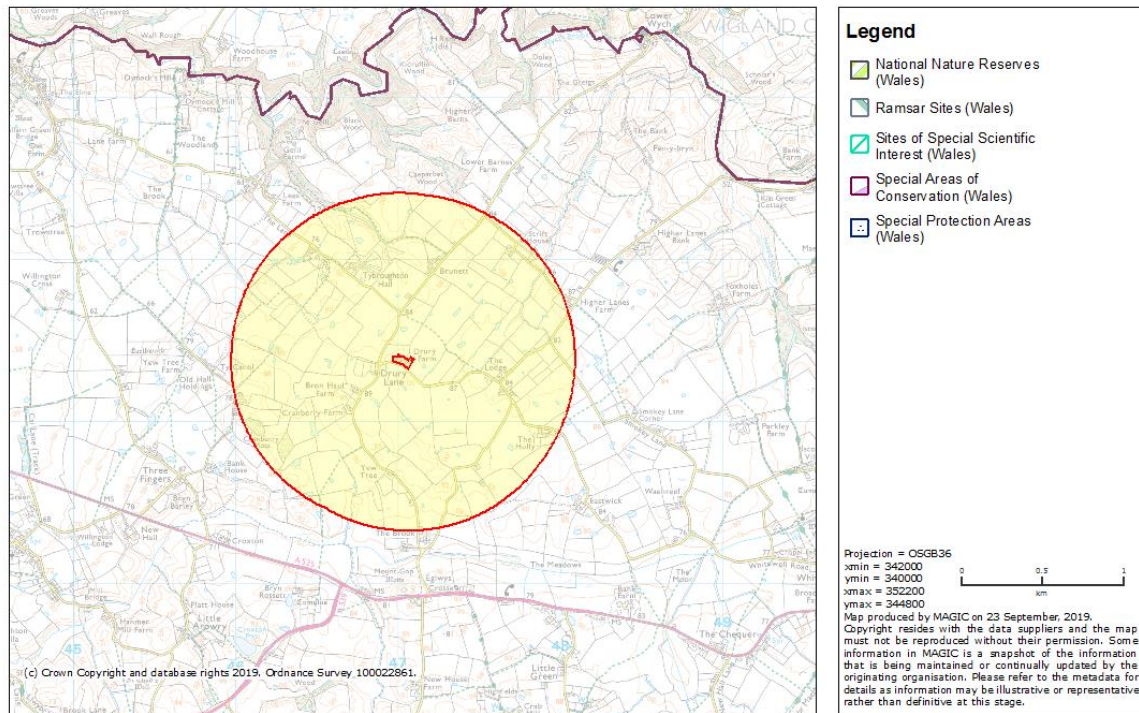


Figure C.1: Designated sites within 1km of Drury Lane Farm, Ty Broughton

The map from Natural England presented in Figure C.1 indicates that the site is not within 1km of a designated area.

The nearest SSSI is approximately 3km south of the site. This is Llyn Bedydd and is a series of open water bodies and peatland. The site overlaps with the Ramsar site Midland Meres & Mosses Phase 2 (Wales).

Records

A desk search was conducted focussing on the area within 2km of the site. The following species have official records in that area:

Bat species:

- Common pipistrelle (*Pipistrellus pipistrellus*)
- Unknown bat (Chiroptera spp.)

The nearest records of unknown bats and common pipistrelles are approximately 1.2km away and are from 2005.

Previous surveys done by Greenscape Environmental in 2015 (Ref:1448 002R) found the following species using a site approximately 600m to the northwest.

- Whiskered/ Brandt's bat (*Myotis mystacinus/ M. brandti*)
- Noctule (*Nyctalus noctula*)
- Common pipistrelle
- Soprano pipistrelle (*Pipistrellus pygmaeus*)
- Brown long-eared (*Plecotus auritus*)

Other mammals:

- Water vole (*Arvicola amphibius*)
- Hedgehog (*Erinaceus europaeus*)
- Hare (*Lepus europaeus*)
- Otter (*Lutra lutra*)
- Badgers (*Meles meles*)
- Hazel dormouse (*Muscardinus avellanarius*)
- Polecat (*Mustela putorius*)

The nearest records of hare are approximately 700m to the southeast and are from 2015. The nearest records of hedgehog are approximately 800m away and are from 2018. The nearest records of badger are approximately 900m away and are from 2005.

Birds

- House martin (*Delichon urbicum*)
- Kestrel (*Falco tinnunculus*)
- Swallow (*Hirundo rustica*)
- House sparrow (*Passer domesticus*)
- Starling (*Sturnus vulgaris*)
- Barn owl (*Tyto alba*)

The nearest records are of house sparrow and starling are approximately 500m away and are from 2008. The nearest record of barn owl are within 1km and are from 2012. The nearest records of house martin are within 1.5km and are from 2009.

Previous surveys done by Greenscape Environmental in 2015 (Ref:1448 002R) found the following species using a site approximately 600m to the northwest.

- Swallow

Amphibians and Reptiles

- Common toad (*Bufo bufo*)
- Palmate newt (*Lissotriton helveticus*)
- Smooth newt (*Lissotriton vulgaris*)
- Common frog (*Rana temporaria*)
- Great crested newt (*Triturus cristatus*)

The nearest records are of great crested newt approximately 1km to the southeast, near the Hully, and are from 2004. The nearest records of smooth newt are approximately 1.7km to the southeast, near Eastwick, and are from 2008.

Previous surveys done by Greenscape Environmental in 2015 (Ref:1448 002R) found the following species at a site approximately 600m to the northwest.

- Great crested newt
- Common frog

Invasive species

- Himalayan balsam (*Impatiens glandulifera*)
- Rhododendron (*Rhododendron ponticum*)

The nearest records of rhododendron approximately 1km to the northeast and are from 2015. The nearest records of Himalayan balsam are approximately 1.6km to the north, near the Gelli, and are from 2014.

Figure D.1: Existing and proposed plans with building numbers

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Natural England – Nature on the Map, Magic Maps. Copyright Natural England, containing Ordnance Survey data, crown copyright and database right 2018:

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