

Greenscape Environmental Ltd

DYKE

ECOLOGICAL APPRAISAL

**LAND AT GUTTER HILL
RHOSLLANERCHRUGOG
WREXHAM
LL14 1LT**

JUNE 2019

2205 1906R

Report by Ben Jones BSc (hons) MSc

Report Classification:		Ecological Appraisal	
Report Status:		Final	
Report Reference:		2205 1906R	
	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 one year 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 Gareth Edwards to undertake an Ecological Appraisal of land at Gutter Hill to provide supporting information for a planning application for the construction of commercial units.

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 and a phase 1 environmental appraisal undertaken at the site, OS grid reference SJ29874638 on 16th May 2019 by B Jones and C Sheil.

1.3 Key Issues

Two designated sites were found within the vicinity of the site and will be protected from disturbance at all times throughout the development.

Records of protected species within 2km include typical bat species, badger, barn owl and great crested newt. Of particular interest for this site was nesting birds and great crested newts.

The site comprises approximately 0.33 ha of hardstanding, rubble and concrete. A pile of chippings is present on site from the clearance of trees and scrub. The site is bound by walls, fences and gates, some backed with semi-mature trees. The site is considered to be of low ecological value, but the trees beyond the boundaries are higher.

Ponds within 250m to the south have been taken into consideration as they fall within the potential impact zone, but no negative impact on the favourable conservation status of newts is anticipated due to the lack of terrestrial value of the site. Further surveys are not considered necessary. A method statement outlining reasonable avoidance measures for newts is provided. This is deemed sufficient to create a scenario in which the risk to individual newts is negated.

1.4 Impacts and Mitigation Measures

It is considered the development can proceed without the loss of habitat of significant value and without the loss of favourable conservation status of any protected species.

It is recommended that the biodiversity is enhanced post-construction by erecting bat and bird boxes around site.

There are no further ecological constraints to the development as currently proposed.

2 Introduction

This report has been compiled by Ben Jones BSc (hons) MSc who has 4 years' 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 Gareth Edwards of Design & Planning Associates on behalf of the client, Mr Dyke, 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 construction of commercial units on approximately 0.33 ha of land at Gutter Hill, Rhosllanerchrugog.

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 Biodiversity Action Plan (BAP) 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) require in particular further information regarding great crested newts as the site boundary is less than 10m from the boundary of Johnstown Newt Sites SAC – a site specifically designated for the great crested newt populations. However the pond is on the 250m boundary of the area.

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)

The Protection of Badgers Act 1992

Natural Environment and Rural Communities Act 2006 (NERC 2006)

National Planning Policy Framework (2018): Policy 15 - Conserving and Enhancing the Natural Environment.

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 Rhosllanerchrugog, OS grid reference SJ29874638. It is set in an urban environment surrounded by woodland to the north and south and the rest of Johnstown to the east and west. There is moderate connectivity to the surrounding countryside via woodland which may provide foraging/commuting opportunities for bats, nesting birds, GCN and small mammals.

Entrance to the site is currently gained from Gutter Hill. This is likely to remain the same.

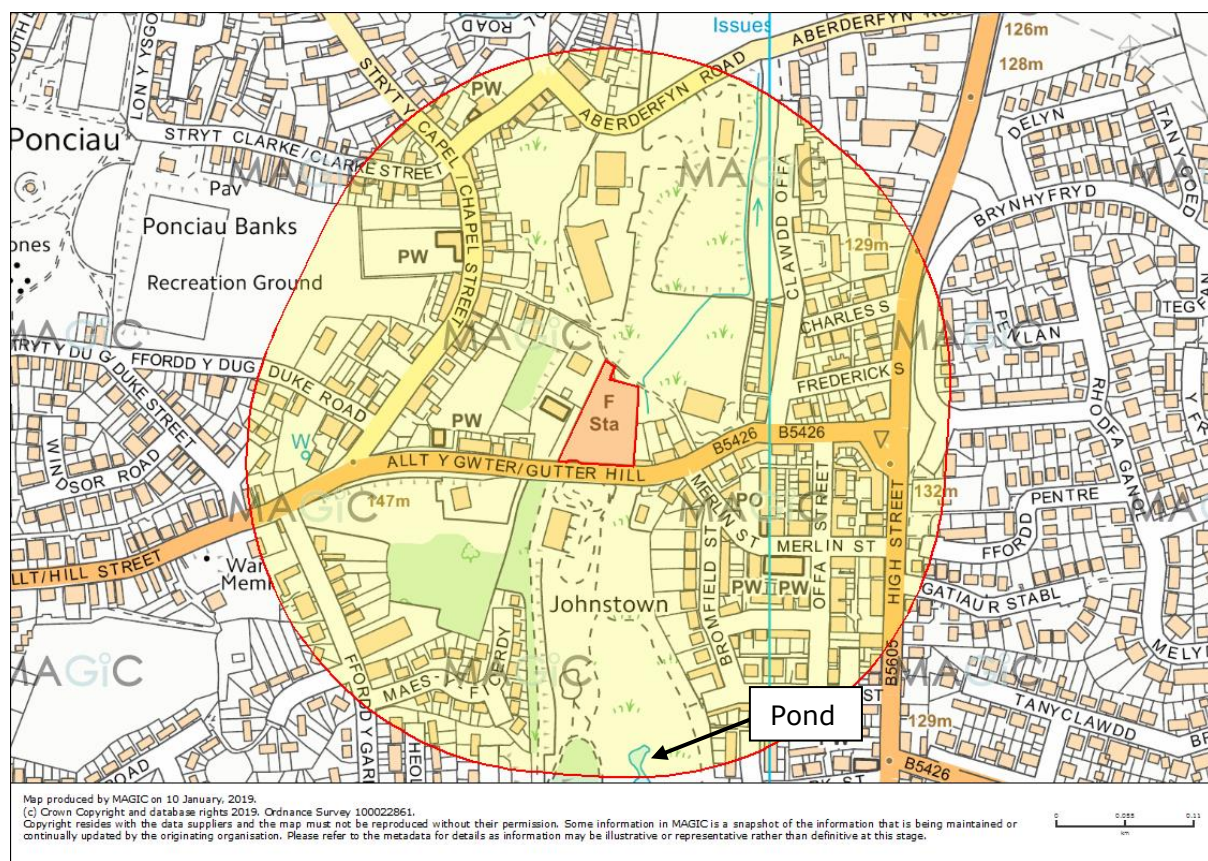


Figure 2.1. An OS map showing the site (centre, highlighted) with a 250m buffer

Scrutiny of the OS map (Fig 2.1) and a walk around the locality showed there is 1 pond within 250m of the site.

2.4.1 Date and Survey Conditions

The phase 1 ecological appraisal was undertaken at the site on 16th May 2019 by B Jones and C Sheil. 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
16/05/19	11:45	19	Clear sky, warm, 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 May 2019 with data being requested from COFNOD.

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

Trees 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).

Badgers surveys were conducted using guidance from Scottish Natural Heritage commissioned Report No. 096 (2003).

Trees 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 regarding 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 conducted at an optimal time of the year for the assessment of flora and fauna. Standard techniques were followed, as outlined in Appendix B. No specific constraints have been identified.

4 Site Description

4.1 Field Survey-Phase 1 Description and Observations

The site comprises an area of hardstanding and rubble.

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 Site

The brownfield site comprises approximately 0.33 ha of hardstanding and loose rubble with no botanical interest.



Figure 4.1. The site

Along the western boundary there is a raised area where site clearance has not been so intense. This contained a number of slabs and bricks, many of which were overturned to checked for newts or reptiles. No great crested newts were found.

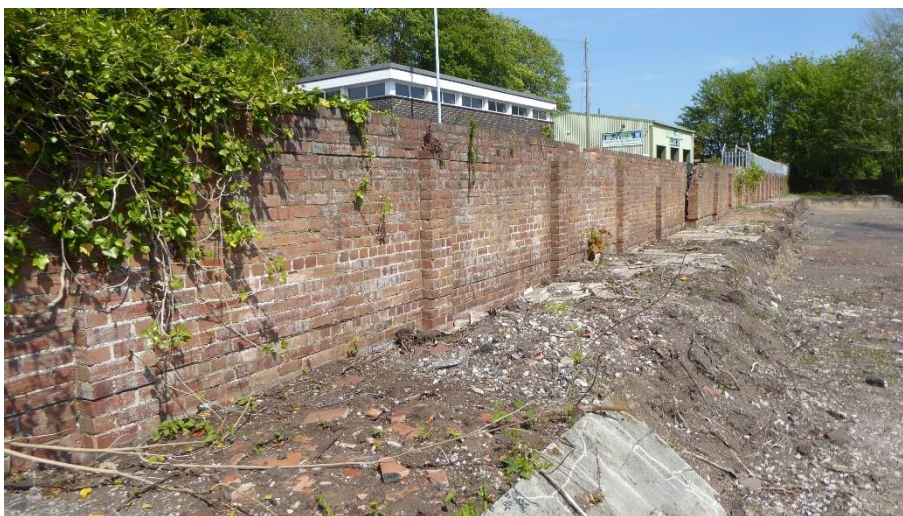


Figure 4.2. Raised area with slabs

No evidence of, or habitat for, badgers was found on the site. There is potentially valuable habitat off site to the north.

4.1.2 Boundaries

The site is bound to the south by a wall around the access gate and then heras panel fencing of no ecological value. To the west there is a brick wall. The bricks were not seen to support any features of bryophytic interest, and no significant cracks or gaps that might support nesting birds or roosting bats. The wall is seen in Figure 4.2. To the north of site there is another brick wall with a large section missing, replaced with Heras panels. There are ash (*Fraxinus excelsior*) and sycamore (*Acer pseudoplatanus*) overhanging the boundary. A large hazard beam is on one of the ash limbs, which may provide potential roost features for bats.



Figure 4.3. North of site



Figure 4.4. Hazard beam on ash limb

The eastern boundary is a low brick wall backed with semi-mature trees and ornamental shrubs towards the south alongside nearby domestic gardens.



Figure 4.5. Eastern boundary

4.1.3 Surrounds

The site is situated within Johnstown and is surrounded to the east, south and west by a mixture of domestic and commercial properties.



Figure 4.6. Land west of site

To the north of site is a wild slope covered in vegetation. The ecological value of land to the north is significantly higher than that of site.

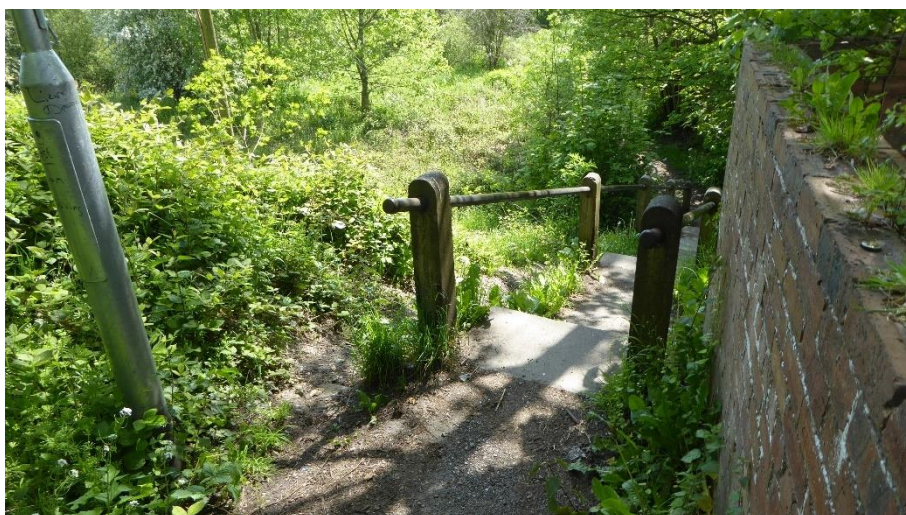


Figure 4.7. Land north of site

4.1.4 Open Water

One pond is found within 250m and is found to the south within Johnstown Newt Sites SAC.

Table 4.1: Ponds within 250m

Pond Number	OS Grid Reference	Distance from Site
1.	SJ29894607	230m

The pond was assessed using the Habitat Suitability Index (HSI), the results of which can be seen in the following table.

Pond 1

Only the northernmost point of the pond falls within 250m of the site. The pond is sited within the SAC designated for great crested newts and so is almost guaranteed to support a population of newts at least in some places. It is set back from the pathways through the site and is separated by marshy grassland and scrub, so access to the banks was limited, but where access was possible no eggs were seen.

Table 4.2: Details of HSI score for Pond 1

Pond 1 Grid reference: SJ29894607		
Geographic Location	1	Zone A
Pond Area	0.93	The pond was approximately 1100m ²
Permanence	0.9	Never dries
Water Quality	0.67	Moderate invertebrate diversity
Shade	1	There was estimated to be 40% shading of the area within 1m of the perimeter
Waterfowl	0.67	Swans and geese were seen towards the southern part of the pond.
Fish	0.67	No evidence of fish but local conditions suggest they may be present
Pond Count	0.95	There were 10 ponds within a 1km radius.
Terrestrial Habitat	1	The pond is situated within an SAC and so is largely green. Long grasses and blocks of woodland are abundant.
Macrophytes	0.8	There were varying heights of floating or emergent vegetation in this pond, cover was estimated to be 50%
HSI Score	0.85 – Excellent	

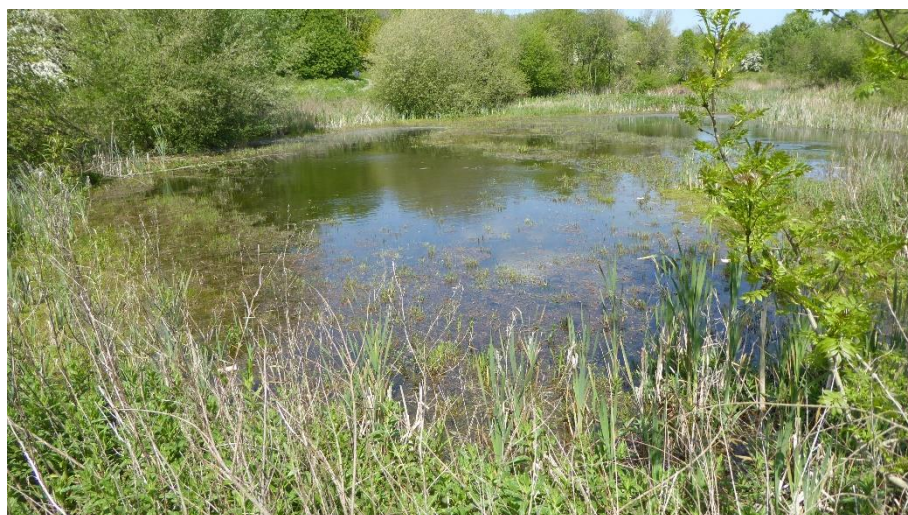


Figure 4.8. Accessible end of pond 1

The ponds identified are considered to offer below average suitability for great crested newts, but newts are known to be present in the area.

5 Evaluation of Results

5.1 Potential Impacts on Designated Sites and Recorded Species

5.1.1 Designated Areas

Figure C.1 shows that the nearest SSSI is less than 15m away. This is Stryt Las A'r Hafod and is an area of woodland, grassland and open water designated for newts. The same area is the Johnstown Newt Sites SAC. Potential impacts on this include airborne dust.

Prior to Development

The site has already been cleared so no further work is expected prior to development.

During Development

Development work might result in increased aerosolised dust which may blow toward the SSSI, which may cause a minor negative impact on the protected species recorded in the area. However, standard working practise utilises dust suppression which would eliminate this impact. The road between the sites with drainage gullies are likely to act as barriers to any liquified contamination or silt that may flow off-site.

Post-Development

Post-development no negative impact is considered likely on the SSSI and SAC. The site offers only limited terrestrial value for commuting newts. There is terrestrial habitat of much greater value within the bounds of the SAC. The site is separated from the designated area by the busy road with gullies, which will act as a barrier to a certain degree.

Given the current ecological value of the site, little to no impact is expected from this development.

5.2 Habitats on Site

Table 5.1: Summary of habitats on and around site

Habitat type	Is the habitat capable of supporting protected species	Impact without consideration
Trees	Trees beyond the site boundary, some value to bats, good value to nesting birds. No further tree removal required	No negative impact
Wall	Brick wall around the entrance to site and three site boundaries	No negative impact
Hardstanding	Site base with no vegetation	No negative impact

The site has been cleared of successional growth prior to this survey taking place. There is currently no vegetation on site of any value to protected species and no protected species were found under any slabs or rubble on site.

5.3 Ecologically Important Species

Table 5.2: Summary of protected species on site with recommendations

Species	Observations	Impact without consideration	Recommendations
Mammals			
Bats	No suitable habitat on site, potential roost features in trees on site boundary	Low negative impact	Lighting plan to protect corridors and potential roost features around site boundaries
Badgers	No evidence found around site	No negative impact	No action required
Birds			
Nesting birds	Some suitable habitat around site, no evidence seen	Low negative impact	New nest box provision
Herpetofauna			
Great Crested Newts	No suitable habitat on site. SAC for newts <15m to the south	No negative impact	No action required
Invasive species			
Japanese knotweed	No evidence found on or around site	No negative impact	No action required
Himalayan balsam	No evidence found on or around site	No negative impact	No action required
Giant hogweed	No evidence found on or around site	No negative impact	No action required

The relevant records for this site are typical bat species such as Brown long-eared bats and common pipistrelles within 300m, hedgehogs within 200m, polecat within 500m, badger within 600m, barn owl within 1.5km and great crested newts within 50m. The potential for the site to support bats, nesting birds and great crested newts was therefore taken into consideration.

Full records from the desk study can be found in Appendix C.

5.3.1 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.

There are no potential roost features on the site itself. There are trees on the site boundaries, some of which have potential roost features such as the hazard beam in the ash tree to the north. No more clearance is required for the development to proceed. The

site boundaries will be protected with a lighting plan that will retain dark corridors around the site, as well as ensuring the continued ecological functionality of potential roost features for bats.

There is opportunity to enhance the area for roosting bats by erecting an artificial bat box on the new buildings.

5.3.2 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, or habitat for, badgers was found on site. No negative impact is expected on the species.

5.3.3 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.

The site has already been cleared, and no more clearance is expected or necessary prior to development.

It will be recommended that nesting boxes are erected post-construction to provide a minor enhancement.

5.3.4 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 England) 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 Johnstown Newt Areas SAC is almost immediately south of the proposed development area. The nearest body of water within the SAC is approximately 230m south.

The proposed development site has already been cleared of vegetation, and the site has been levelled, including groundworks most notably on the western side of site to achieve a level base. No further major groundworks are anticipated.

The site is currently entirely hardstanding, providing no value to commuting newts, and very limited potential shelter. The slabs and stones were overturned where possible and no great crested newts were found.

It is considered unlikely that the development as proposed will have any notable impact on the SAC or on any newts known to be in the area.

The rapid risk assessment tool from Natural England has been used to assess the potential impact from the development. Approximately 0.11 ha of the site falls within 250m of the nearest pond, and the remaining 0.22 ha falls outside the 250m boundary.

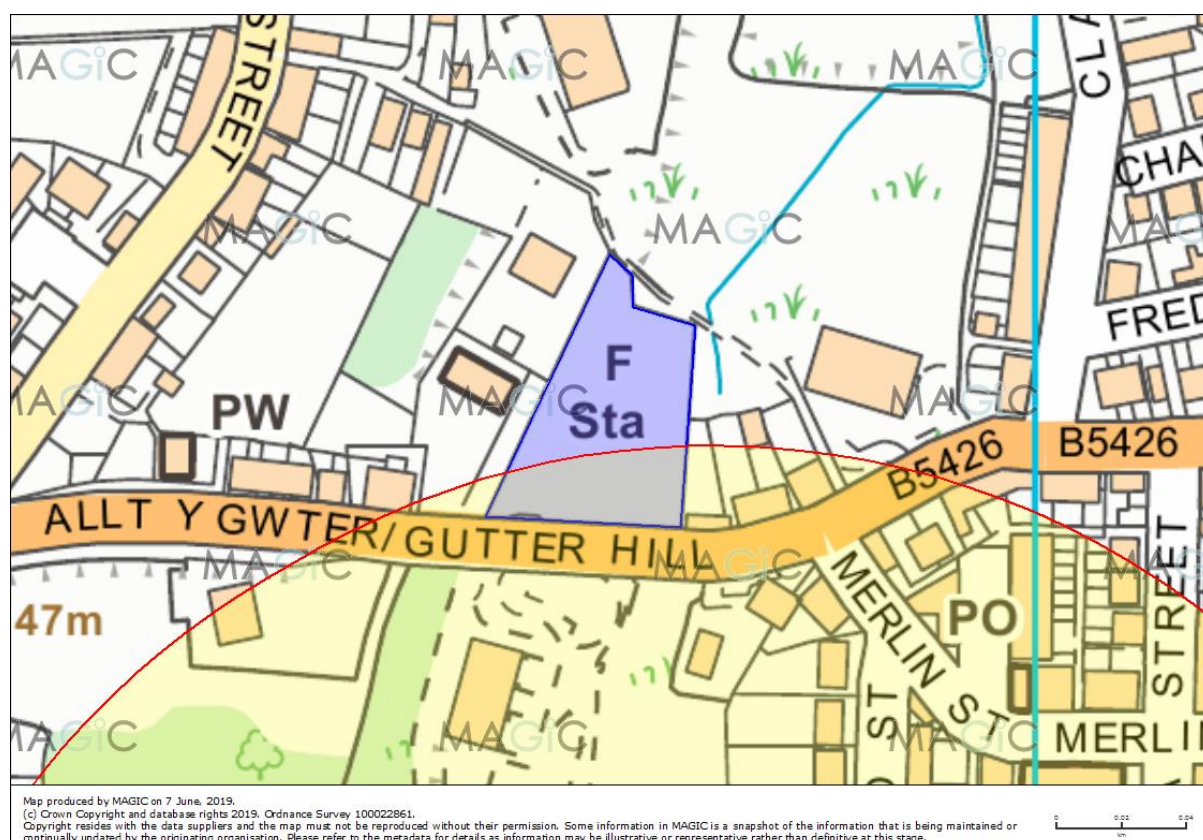


Figure 5.1. Site and 250m buffer around pond

Table 5.3: Rapid Risk Assessment tool results

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.1
Land >250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.005
Individual great crested newts	No effect	0
Maximum:		0.1
Rapid risk assessment result:		GREEN: OFFENCE HIGHLY UNLIKELY

It is considered likely that the favourable conservation status of newts will be maintained in the area.

D2. Pre-and mid-development impacts

i. Core terrestrial habitat (0-50m)

The area immediately around pond 1 will not be affected by the development.

ii. Intermediate Terrestrial habitat (50-250m)

There is no habitat of value for newts on this site as clearance has already been undertaken.

Depending on what foundations are considered necessary for the type of buildings being erected, the creation of trenches and other building infrastructure could lead to killing and injury of individual newts.

iii. Distant Terrestrial Habitat (>250m)

There is no habitat of value for newts on this site as clearance has already been undertaken.

Depending on what foundations are considered necessary for the type of buildings being erected, the creation of trenches and other building infrastructure could lead to killing and injury of individual newts.

D3 Long-term Impacts

The core terrestrial habitat around the pond will be retained and remain unaffected by the development.

The site is currently of no ecological value for newts, and the proposed construction on this site will not change this.

There is not likely to be a loss of connectivity for newts in the area as the site does not offer any commuting value for newts.

D4 Post-development interference impacts

Post-development there is unlikely to be any interference with the population of newts. The pond to the south of the site is within the SAC and no significant increase in footfall is anticipated from this development.

E1 The Mitigation Solution

There is currently no value for newts on site. The development cannot decrease the site value further, and so no long-term negative impact is anticipated from the development.

Work will follow a strict method statement outlining reasonable precautions for securing the safety of individual newts.

Summary

The development will not need to be conducted under licence from Natural Resources Wales as no negative impact is expected and favourable conservation status can be maintained.

5.3.5 Invasive Species

Himalayan Balsam

Himalayan Balsam is identified as an invasive non-native plant. It is listed under Section 9 schedule 14 of The Wildlife and Countryside Act. It is illegal to plant or otherwise cause Himalayan Balsam to grow in the wild in the UK.

No evidence of Himalayan Balsam on or around the site was seen during this survey.

Japanese Knotweed

The management of Japanese knotweed (*Fallopia japonica*) is regulated by several pieces of legislation

- The Wildlife and Countryside Act (as amended) 1981
- The Environment Protection Act 1990
- The Waste (England & Wales) Regulations 2011
- Third party litigation where damages may be sought for allowing Japanese knotweed to spread onto other properties.

Japanese Knotweed is listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). It is an offence to plant, cause the plant, or allow the plant to grow in the wild.

No evidence of Japanese Knotweed was found on or around the site.

Giant Hogweed

Giant hogweed is a non-native invasive species originally introduced as an ornamental plant. It is now listed under Schedule 9 of the Wildlife and Countryside Act 1981. This means it is an offence to plant or otherwise cause this species to grow in the wild.

No Giant hogweed was seen on or around the site.

6 Impacts and Mitigation Measures

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

6.1 Bats

Work can be conducted immediately once planning permission has been granted.

6.1.1 Enhancements for Bats

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



Figure 6.1. Schwegler 1FF bat box

6.1.2 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 the ash containing the hazard beam to the north of site.
4. All external lighting will be below 10 lux, orientated towards the ground and set on a short timer, controlled by PIR (Passive Infra-Red).

6.2 Birds

6.2.1 Reasonable Avoidance Measures

1. Though none is anticipated, any further tree or hedge removal will occur 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.

6.2.2 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 6.2: Example bird boxes

6.3 Newts

6.3.1 Reasonable Avoidance Measures

Pre-construction Phase

1. The site will be kept clear prior to construction. This will reduce the potential for newts to cross the land and reduce the potential for the terrestrial features to improve. Any plants that begin to grow will be kept short (<10cm) to ensure there is no shelter for great crested newts on the site.

Site set up

2. All cabins and equipment will be located on firm compacted ground, preferably a stone or concrete base.
3. Contractors are advised not to handle newts at any time.

Construction phase

4. The Site Foreman will be responsible for ensuring all contractors are aware of the potential to find newts and that they are familiar with the appearance of newts. If in doubt the ecologist will be contacted.
5. Contractors are advised NOT to handle newts at any time.
6. Any plants around the site will be kept short to stop the development of a long sward suitable for the terrestrial habitat for newts.
7. All work will be conducted during daylight hours as newts are least likely to move during this time.
8. Trenches will be dug and filled in on the day created or will be covered over with close fitting boards at the end of each working day and checked the following morning. This is particularly important when newts are most active, between March and November.
9. If necessary, a ramp will be placed in trenches to allow newts and small mammals to escape.
10. Any heavy machinery will be stored on an area of hardstanding to avoid refugia being created.
11. Stored material will be raised on pallets to reduce the potential they might act as a temporary resting place. This reduces the potential for damage or destruction of individual newts
12. All waste will be placed straight into skips to reduce the potential of creating refugia.
13. If a newt is found, then work WILL stop immediately and the ECoW contacted for advice.
14. Great crested newts will not be handled or moved without express permission from Natural Resources Wales as this would constitute an offence.
15. It is recommended that regular site visits are carried out by the ECoW to ensure compliance with the legislation and the Method Statement. A record of these visits will be made as part of the audit trail.

16. The SAC will be used as a receptor area should any amphibians be found on site.

Personnel awareness and emergency procedures

17. It will be ensured all construction workers and personnel are aware of great crested newts legal protection. This will be by a toolbox talk and the ongoing briefing of contractors by the site foreman.

18. A copy of this document will be on site at all times during construction work.

19. If any great crested newts are found on site at any time, the consultant will be contacted immediately for advice.

20. If a great crested newt is found on site, all construction activities should be stopped immediately until the consultant has advised how to proceed.

21. If a great crested newt is found on site, the animal should not be handled or moved from its resting place and any sheltering material should be carefully replaced. If there is immediate danger of injury (e.g. if the newt is found on a road) then the animal will be placed in a clean lidded bucket and stored in a cool but frost-free place for the ecologist to attend to. The SAC will be used as a receptor area.

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.

The Johnstown Newt Sites SAC is <15m to the south of site, with the nearest body of water ~230m south. Approximately 0.1 ha of the site falls within 250m of this water body. The site has been cleared of successional growth and so there is no terrestrial value for newts currently on site. The construction of commercial buildings cannot lower the terrestrial value further. A method statement is provided which will protect any newts that are crossing the site, by detailing safe working practices. For example, trenches will be dug and filled on the same day to prevent entrapment of dispersing newts.

The habitat for bats is limited to foraging and commuting around site, save for one hazard beam in an ash tree along the northern boundary, which might provide potential roosting features. The site boundaries will be protected by a lighting scheme, and the roosting potential of the site enhanced by erecting an artificial bat box on the nearby trees or on the side of the new building.

The habitat for nesting birds is also limited to the surrounding trees. No further removal of trees is expected prior to the development commencing. A method statement is provided as a precaution, outlining suitable times of year in which vegetation can be cleared.

The method statements provided in this report will be followed, and works will be done at a suitable time of year. This will result in there being 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 BLICL - 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 - 75748:OTH:CSAB:2017 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
Brian Marshall	Technical Director FIEMA CEnv PEA Consultant with over 35 years in the Environmental Sector	
Chloe Sheil MZool	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
Local Records Centre	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 Cofnod on the 7th May 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 reports for sites in the area by Marches Ecology was also conducted. Survey reports include:

Proposed Housing Development at the Former Gittins Yard, Gutter Hill, Johnstown, Wrexham – Great Crested Newt Reasonable Avoidance Measures Method Statement (Ref: C144/GCN Method Statement)

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

Trees were assessed for potential for bat roosts, foraging and commuting.

All trees examined were categorised on their potential roost features. These features include cracks, splits in limbs, cavities, loose bark and thick stemmed ivy. Where appropriate these features were assessed using binoculars and/or endoscopes.

Daytime surveys were conducted with the aid of a strong torch and a pair of Pentax Papilio 8.5x21 close focus binoculars. 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 well-used feeding point or a resting spot.
- Feeding signs such as discarded insect wings under a feeding point.
- 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).

Badgers

Surveys were conducted using guidance from Scottish Natural Heritage commissioned Report No 096 (2003).

Daytime surveys for badgers involved looking for:

- Scrapings where badgers have dug for food or used as latrines.
- Signs of a sett, including signs of use such as presence of badger hair
- Tracks and prints.

Birds

Evidence of nesting birds, including barn owls using a 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

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.

C Desktop Study

Designated Sites

MAGiC

Land at Gutter Hill rhos

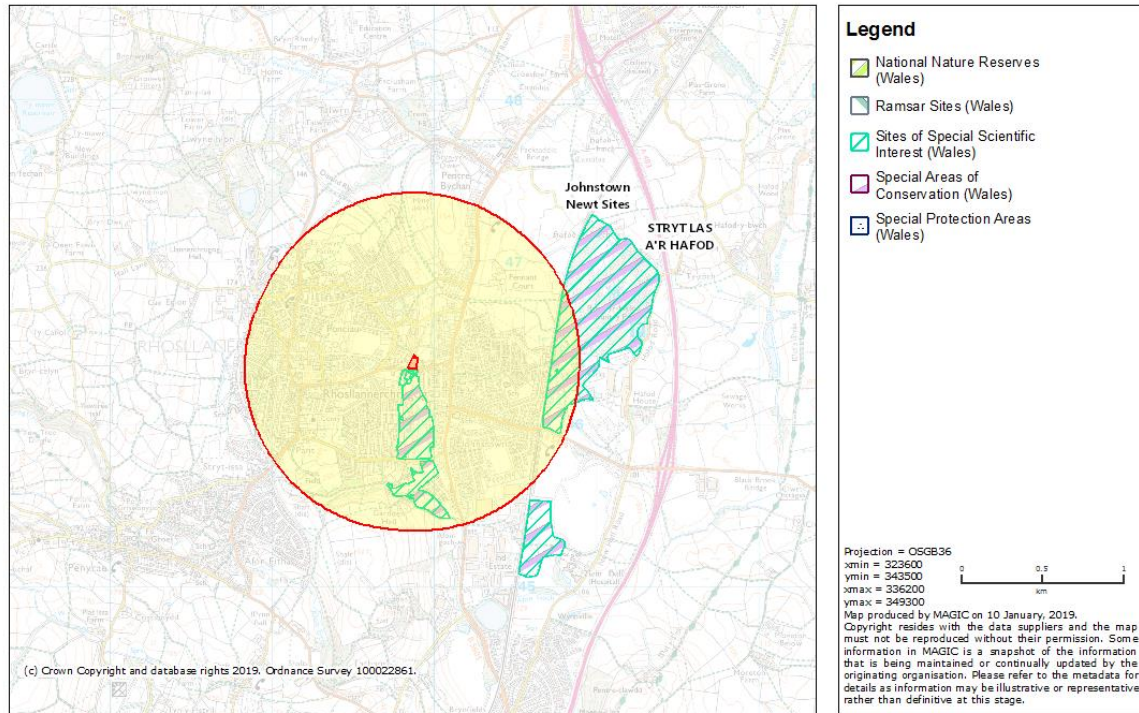


Figure C.1: Designated sites within 1km of Gutter Hill, Rhosllanerchrugog

The map from Natural England presented in Figure C.1 indicates that the site is within 1km of a designated area.

Table C.1: Table of designated sites

Type of Designation	Name of Site	Reason for Designation	Features	Distance & Direction
Statutory - SSSI	Stryt Las A'r Hafod	Breeding population of GCN	Grassland, Woodland, Ponds	<15m South
Statutory - SAC	Johnstown Newt Sites	Breeding population of GCN	Grassland, Woodland, Ponds	<15m South

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:

- Brandt's bat (*Myotis brandti*)
- Daubenton's (*Myotis daubentonii*)
- Whiskered (*Myotis mystacinus*)
- Natterer's (*Myotis nattereri*)
- Noctule (*Nyctalus noctula*)
- Common pipistrelle (*Pipistrellus pipistrellus*)
- Soprano pipistrelle (*Pipistrellus pygmaeus*)
- Brown long-eared (*Plecotus auritus*)
- Unknown pipistrelle (*Pipistrellus* sp.)
- Unknown myotis (*Myotis* sp.)
- Unknown bat (Chiroptera)

The nearest records of all species listed above, except the whiskered bat, are approximately 300m away. The nearest records of whiskered bat are approximately 1.3km away.

Other mammals:

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

The nearest records are of hedgehogs approximately 200m to the east, near Clawdd Offa. The nearest records of polecat are approximately 500m to the northwest. The nearest records of badger are within 600m.

Birds

- Long-tailed tit (*Aegithalos caudatus*)
- Lesser spotted woodpecker (*Dendrocopus minor*)
- Hobby (*Falco subbuteo*)
- Kestrel (*Falco tinnunculus*)
- Red kite (*Milvus milvus*)
- Tree Sparrow (*Passer montanus*)
- Honey-buzzard (*Pernis apivorus*)
- Green woodpecker (*Picus viridis*)
- Barn owl (*Tyto alba*)

The nearest records are of long-tailed tit approximately 300m to the south. The nearest record of kestrel are approximately 900m away. The nearest records of barn owl are within 1.5km.

Amphibians and Reptiles

- Slow-worm (*Anguis fragilis*)
- Common toad (*Bufo bufo*)
- Palmate newt (*Lissotriton helveticus*)
- Smooth newt (*Lissotriton vulgaris*)
- Grass snake (*Natrix helvetica*)
- Common frog (*Rana temporaria*)
- Great crested newt (*Triturus cristatus*)

The nearest GCN record is approximately 50m to the northwest, near a woodland. The nearest records of common frog, smooth newt and palmate newt are approximately 60m to the south, near a woodland.

A previous report for a site in the area done by Marches Ecology (Ref: C144/GCN Method Statement) states that 2 ponds approximately 200 and 300m to the south contain breeding populations of GCN.

Plants

Bluebells (*Hyacinthoides non-scripta*)

The nearest records of bluebells are approximately 900m away.

Invasive species

Japanese knotweed (*Fallopia japonica*)

Giant hogweed (*Heracleum mantegazzianum*)

Himalayan balsam (*Impatiens glandulifera*)

American mink (*Neovison vison*)

The nearest records of Japanese knotweed approximately 200m to the south. The nearest records of giant hogweed approximately 1.3km to the east.

D Site Plans



Figure D.1: Proposed location plans

E Bibliography

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

Chartered Institute of Ecology and Environmental Management (CIEEM), (2006). EcIA Guidance (Terrestrial, Freshwater and Coastal 2006).

Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn).

Bat Conservation Trust

Conservation of Habitats and Species Regulations 2017:

http://www.legislation.gov.uk/uksi/2017/1012/pdfs/uksi_20171012_en.pdf

English Nature (2001) *Great crested newt mitigation guidelines*
English Nature

HMSO (2000) *Countryside and Rights of Way Act 2000*

HMSO, London

<http://www.legislation.gov.uk/ukpga/2000/37/contents>

HMSO (1981) *Wildlife and Countryside Act 1981*

HMSO, London

<http://www.legislation.gov.uk/ukpga/1981/69>

HMSO (1992) The Protection of Badgers Act

HMSO, London

<http://www.legislation.gov.uk/ukpga/1992/51/contents>

ILP (2018) Guidance Note 08/18 Bats and artificial lighting in the UK, The Institute of Lighting Professionals

Mitchell-Jones A.J. (2004) Bat Mitigation guidelines, English Nature

National Planning Policy Framework 2018:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/728643/Revised_NPPF_2018.pdf

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

<http://magic.defra.gov.uk/magicmap.aspx>

Natural Environment and Rural Communities Act 2006:

<http://www.legislation.gov.uk/ukpga/2006/16/contents>