

Greenscape Environmental Ltd

BRIAN WILLIAMS

ECOLOGICAL APPRAISAL

**LAND OPPOSITE
MAESLLWYN CLOSE
BRONINGTON
WHITCHURCH
SY13 3JB**

OCTOBER 2018

2081 1810R-v2

Report by Ben Jones BSc (hons) MSc

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Reviewed by:	L. Maggs BSc(hons) Lead Consultant		October 2018

Greenscape Environmental Ltd: Registered Office Long Acres, Lyth Bank, Shrewsbury, Shropshire SY3 0BW. Company Reg no 5364283

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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 David Parker on behalf of the client, Mr B Williams, to undertake an Ecological Appraisal of land opposite Maesllwyn Close, Bronington to provide supporting information to a planning application for the construction of 5 dwellings across four buildings.

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.

The phase 1 ecological appraisal was undertaken at the site, OS grid reference SJ48442959 on 23rd August 2018 by B Jones.

1.3 Key Issues

No designated sites were found within the vicinity of the site and therefore no negative impact is expected from the development.

Records of protected species within 2km include typical bat species, badger, otter, hare and great crested newt.

The site comprises a strip of overgrown scrubby land surrounded by hedgerows and trees. Three of the trees had potential roost features for bats. The hedgerows and scrub within the site have potential for nesting birds and great crested newts. There are two extant ponds within 250m, both of which scored poorly on the HSI.

No further surveys are considered necessary.

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 considered that the conservation status of birds and great crested newts may be affected by the removal of hedgerows and clearance of scrub. A method statement outlining reasonable avoidance measures for birds and newts will be followed.

The site will be enhanced for bats and birds by erecting and including artificial roost and nest boxes.

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

2 Introduction

This report has been compiled by Ben Jones BSc (hons) MSc who has 3 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.

Greenscape Environmental Ltd was commissioned by David Parker on behalf of the client, Mr B Williams, 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 opposite Maesllwyn Close, Bronington.

2.1 Project Background

The project involves the construction of five dwellings across four new buildings.

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 BAP 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 newts as the site is within 250m of ponds and GCN have been previously recorded within 1km of the site.

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)

Hedgerow Regulations 1997

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.

Shropshire Core Strategy (2010): Policy CS17 - Environmental Networks.

2.4 Site Context and Location

The site is located in the northwest periphery of Bronington, OS grid reference SJ48442959. It is set in a suburban environment surrounded by open fields to the east, with the rest of Bronington to the south and west. There is some connectivity to the surrounding countryside via field boundary hedgerows. Entrance to the site is currently gained from pedestrian access to the northwest, but two new vehicular accesses are planned along the western boundary.

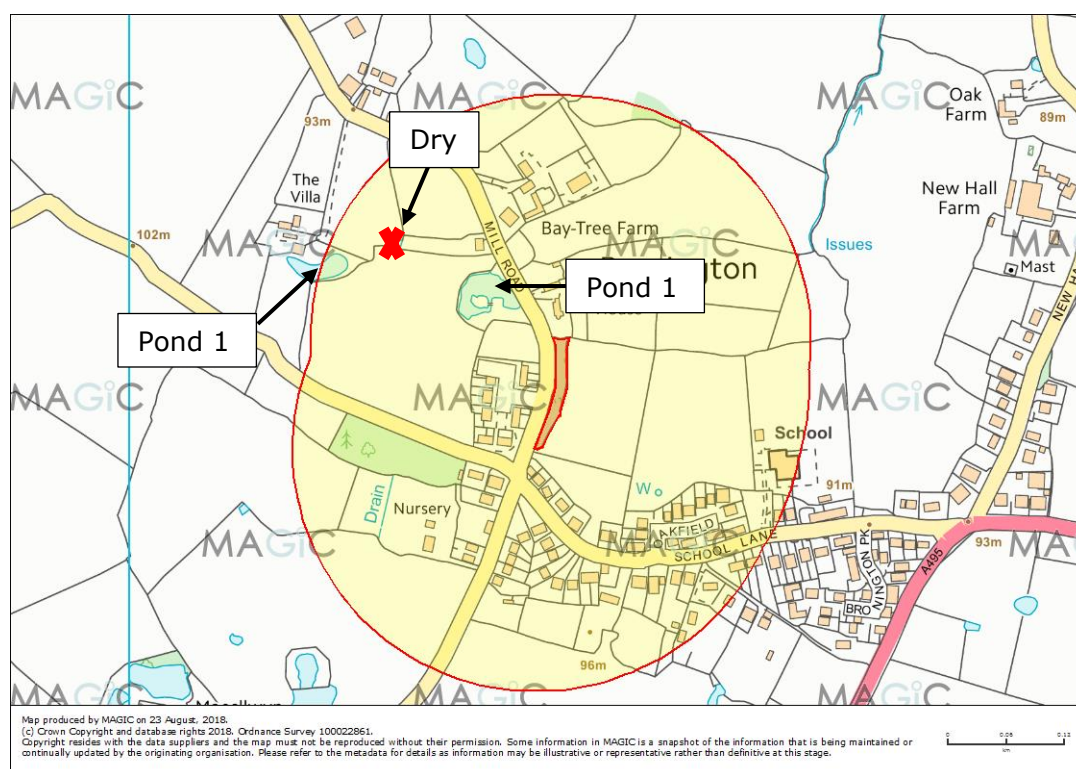


Figure 2.1. An OS map showing the site (centre, highlighted) with 250m buffer

2.4.1 Date and Survey Conditions

The phase 1 ecological appraisal was undertaken at the site on 23rd August 2018 by B Jones. 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 Start- Finish	Sunset / Sunrise	Condition
23/08/18	12:30	n/a	n/a	Overcast, 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.

The appraisal of the site included a desk study which took place in October 2018.

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

An assessment of habitats was conducted following the "Extended Phase 1 Methodology" (Institute of Environmental Assessment 1995) and broadly the JNCC Handbook for Phase 1 Surveys 2010. Target notes were used to identify potential for protected or notable species or habitats, and to give more detailed site descriptions.

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.

3.2.2 Hedgerows

The aim of the assessment is to ascertain whether the hedgerow could be classified as important according to the definitions listed in the Hedgerow Regulations 1997.

3.3 Species Survey

Trees and hedgerows were assessed for potential for bat roosts, foraging and commuting. In accordance with 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).

Trees and hedgerows were assessed for potential for nesting birds.

The assessment of aquatic habitat for GCN 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 GCN.

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 Desk Study

4.1.1 Designated Sites

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

4.1.2 Records

The relevant records for this site are GCN within 500m and common bats within 1km.

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

4.2 Field Survey-Phase 1 Description and Observations

The site is situated alongside a road and comprises an overgrown strip of land surrounded by hedgerows with trees. The field adjacent is semi-improved grassland.

The habitats on and around the site can be summarised as follows:

Table 4.1: Summary of habitats on and around site

	Habitat	JNCC code
i.	Hard Standing	J4
ii.	Semi-improved grassland (species poor)	B6
iii.	Dense scrub	A2.1
iv.	Hedgerow with trees	J2.3

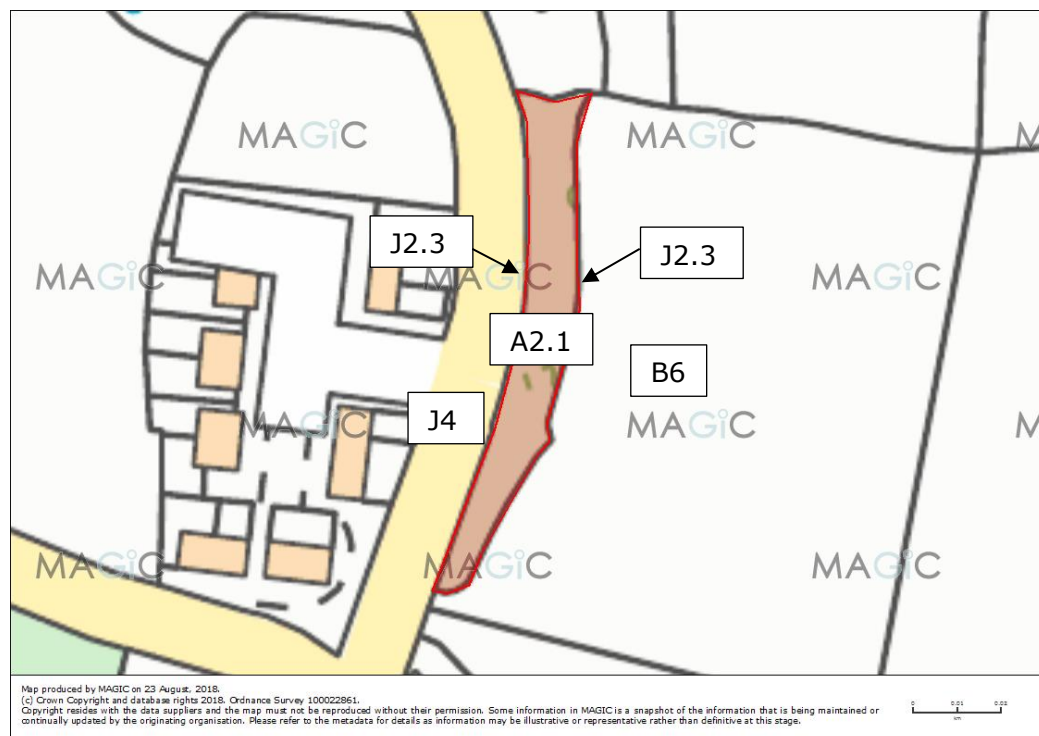


Figure 4.1. A map showing the JNCC phase 1 habitat classification codes for the site

4.2.1 Field

The site is an overgrown strip of continuous scrub consisting of species including bramble (*Rubus fruticosus*), elder (*Sambucus nigra*), blackthorn (*Prunus spinosa*), rosebay willowherb (*Chamaenerion angustifolium*), hogweed (*Heracleum sphondylium*), broad-leaved dock (*Rumex obtusifolius*), nettle (*Urtica dioica*) ragwort (*Senecio jacobaea*), rose (*Rosa sp.*), sycamore (*Acer pseudoplatanus*) saplings, ash (*Fraxinus excelsior*) saplings and hazel (*Corylus avellana*).



Figure 4.2. A view over the site



Figure 4.3. Another view over the site

The site is overgrown and so a detailed walkover was not possible. No evidence of badgers could be seen from the areas of site accessible.

4.2.2 Boundaries

The northern boundary of the site is a short strip of fence backing onto an adjacent dwelling. Along this boundary is also mature conifers and one small oak (*Quercus sp.*) tree. These have no potential roost features for bats, but will present some suitable nesting habitat for birds during the breeding season.



Figure 4.4. Northern boundary

The western boundary separates the site from the road and is an intact hedgerow with trees. Species include hazel, honeysuckle (*Lonicera sp*), ash, willow (*Salix sp*), sycamore and a small oak tree.



Figure 4.5. Road and western hedge

The oak tree has a small area of lifted bark on one limb which might provide suitable roosting habitat for individual bats, though the potential is low.



Figure 4.6. Area of lifted bark

The verge along the roadside at the base of this hedge is species poor and of very low ecological value.

The eastern hedgerow is more mature and less managed than the roadside hedge. It is dominated by hazel, and contains two mature oaks, one on the southeast corner and one mid-way up the boundary. Both of these oaks contain some potential roost features for bats.



Figure 4.7. Eastern boundary

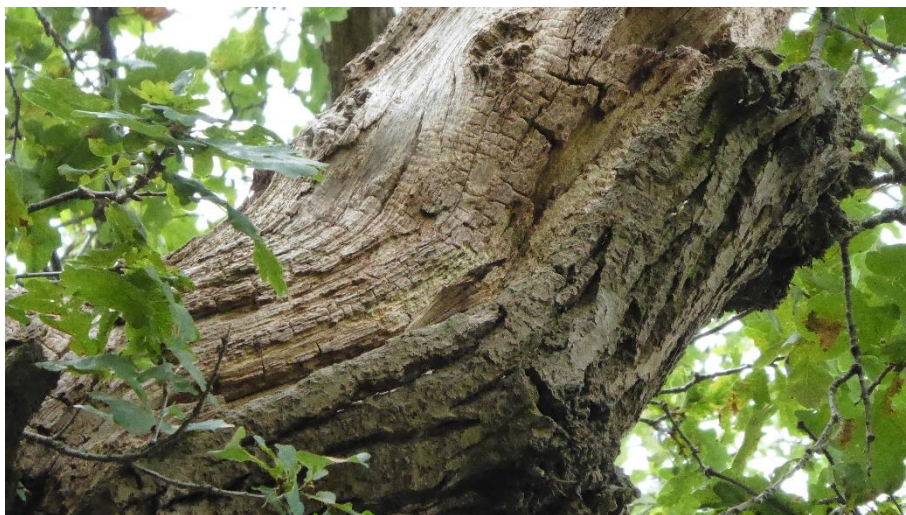


Figure 4.8. Cracks and crevices in southeast oak



Figure 4.9. Hole in mid-way oak

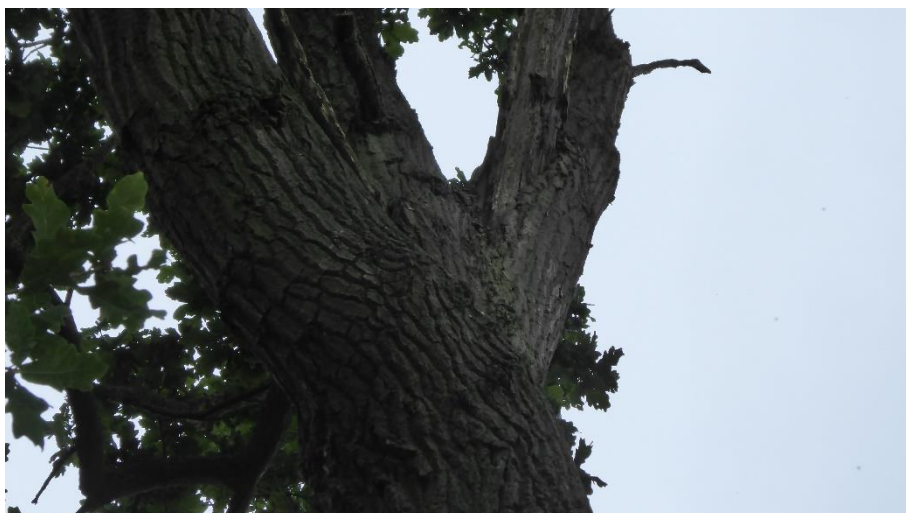


Figure 4.10. Cracks in mid-way oak

There are other tall trees in the boundary, including sycamores, but these were not seen to contain any potential roost features for bats.



Figure 4.11. Tall sycamores, no PRF

The eastern boundary curves around the southern tip of the site, forming the southern boundary too.

4.2.3 Surrounds

The field to the east of the site is a semi-improved grassland field with evidence of grazing. It is of low ecological value. No evidence of badgers was seen on this field.



Figure 4.12. Adjacent field

4.2.4 Open Water

Scrutiny of the OS map (Fig 2.1) showed that there are three ponds within 250m of the site. Upon the visit, however, one of these ponds was seen to be dry.

Table 4.2: Ponds within 250m

Pond Number	OS Grid Reference	Distance from Site
1.	SJ48363970	55m
2.	SJ48193972	230m

Each of the ponds was assessed using the Habitat Suitability Index (HSI) unless it was found to be dry or extinct.

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

Pond 1

This is a pond managed by a nearby resident. It is surrounded by electrified fence and so access to the waterside was not possible. As such, the "water quality" value was estimated.

Table 4.3: Details of HSI score for Pond 1

Pond 1 Grid reference:		
Geographic Location	1	Zone A
Pond Area	0.85	The pond was approximately 1600m ²
Permanence	0.9	Never dries
Water Quality	0.33	Estimated: Low invertebrate diversity, few submerged plants
Shade	1	There was estimated to be 90% shading of the area within 1m of the perimeter
Waterfowl	0.01	No waterfowl were observed on the pond
Fish	0.33	Small numbers of crucian carp, goldfish or stickleback known to be present. Pond has previously been stocked but predated by herons.
Pond Count	1	There were over 20 ponds within a 1km radius.
Terrestrial Habitat	0.33	The pond is surrounded by a mix of poor fields, hardstanding and buildings. Some small areas of trees and hedges are within 250m
Macrophytes	0.3	No floating or emergent vegetation was visible in this pond
HSI Score	0.39 - Poor	



Figure 4.13. Pond 1

Pond 2

This is a small pond currently used as a fishing pool. It is stocked with a mix of coarse stock.

Table 4.4: Details of HSI score for Pond 2

Pond 2 Grid reference:		
Geographic Location	1	Zone A
Pond Area	0.95	The pond was approximately 900m ²
Permanence	0.9	Never dries
Water Quality	0.33	Low invertebrate diversity, few submerged plants
Shade	0.7	There was estimated to be 75% shading of the area within 1m of the perimeter
Waterfowl	0.01	Waterfowl including mallards and Canada geese are known to frequent the pond
Fish	0.01	Dense populations of fish known to be present
Pond Count	1	There were over 20 ponds within a 1km radius
Terrestrial Habitat	0.33	The pond is surrounded by poor quality fields, hardstanding and houses.
Macrophytes	0.35	There was very little floating or emergent vegetation in this pond, cover was estimated to be <10%
HSI Score	0.27 - Poor	



Figure 4.14. Pond 2

The consideration of the ponds and HSI score indicates these ponds identified are considered to offer poor/ good suitability for great crested newts. No further survey with respect to great crested newts is considered necessary.

Also within 250m on the OS map is a small pond between ponds 1 and 2. This was found and seen to be dry. The landowner states that the area does occasionally hold water after significant rain.



Figure 4.15. Dry "pond" area

5 Evaluation of Results

5.1 Potential Impacts on Designated Sites and Recorded Species

5.1.1 Designated Areas

The nearest SSSI is approximately 1.15km away. This is Fenn's, Whixall, Bettisfield, Wem and Cadney Mosses SSSI. Given the type of works planned and the distance to the site no impact is expected from this development.

5.2 Habitats on Site

Table 5.1: Summary of habitats on site

Habitat type	Is the habitat capable of supporting protected species	Impact without consideration
Continuous scrub	Potential shelter for small mammals and nesting birds	Low negative impact
Hedges	Hedges suitable for nesting birds	Low negative impact
Trees	Trees in boundaries, some with potential bat roost features	Low negative impact

5.2.1 Hedgerows

All hedgerows are potentially protected by the Hedgerow Regulations 1997. Under these regulations it is against the law to remove or destroy certain hedgerows without permission from the LPA. These Regulations do not apply to any hedgerow within the curtilage of, or marking the boundary of a domestic property.

Permission is required before removing hedges that are least 20m in length and over 30 years old. Permission is gained by submitting a Hedgerow Removal Notice to the LPA as set out in Schedule 4 of the Regulations.

Permission is not required in the following instances:

- To make a new opening in substitute for an existing one which gives access to land.
- To obtain temporary access to any land in order to give assistance in an emergency.
- To gain access to land where another means of access is not available or is available at a disproportionate cost.
- For National Defence purposes.
- Where planning permission has been authorised except where permission has been granted by the Town and Country Planning General Permitted Development Order 1995.
- To carry out work for the purposes of flood defence or land drainage.
- To prevent spread of or ensure eradication of a plant or tree pest.
- For work undertaken by the Secretary of State in respect of any highway for which he is the highway authority or in relation to which he has the same powers as the Local Highway Authority.
- To prevent obstruction of or interference with electric lines and plant or prevent danger under the Electricity Act 1989.
- For the proper management of the hedgerow.

Hedgerows in areas covered by Historic Landscape Characterisation are often protected on the basis of historical importance and their wildlife value.

Hedgerows are listed as a habitat of principal importance under section 41 of the NERC Act (2004). This draws on the UK Biodiversity Action Plan (BAP) definition of priority

habitats. Under the 2007 UK BAP, hedgerow priority habitat includes all hedgerows with at least 80% cover of at least one woody UK Native species (BRIG 2011).

The hedgerows around this site are not considered protected by the Hedgerow Regulations as they are not considered species rich. Small sections of hedgerow are planned for removal to make way for new access roads, and this will not require any specific permissions.

5.3 Ecologically Important Species

Table 5.2: Summary of protected species on site with recommendations

Species	Observations	Impact without consideration	Recommendations
Mammals			
Bats	Potential roost features in trees within boundaries, none planned for removal. Potential lighting disturbance	Low negative impact	No action required prior to work commencing. Lighting scheme to be implemented. Bat boxes around site as enhancements.
Badgers	No evidence found around site	No negative impact	No action required
Birds			
Barn Owl	No evidence in trees on site	No negative impact	No action required
Nesting birds	Suitable habitat throughout site	Moderate negative impact	All clearance to be undertaken outside nesting period Feb-Aug inclusive. New nest box provision as enhancement
Herpetofauna			
Reptiles	No suitable habitat around site	No negative impact	No action required
Great Crested Newts	Two extant ponds within 250m, both scoring poorly on HSI	No negative impact	No action required

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 EPS.
- 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 EPS, 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 three trees with potential for roosting bats, all three of which are on the site boundaries and are shown on the plans as being retained. The trees will be protected with a lighting scheme to be implemented throughout construction as well as post-development to preserve any potential quality these features have for individual bats in the area.

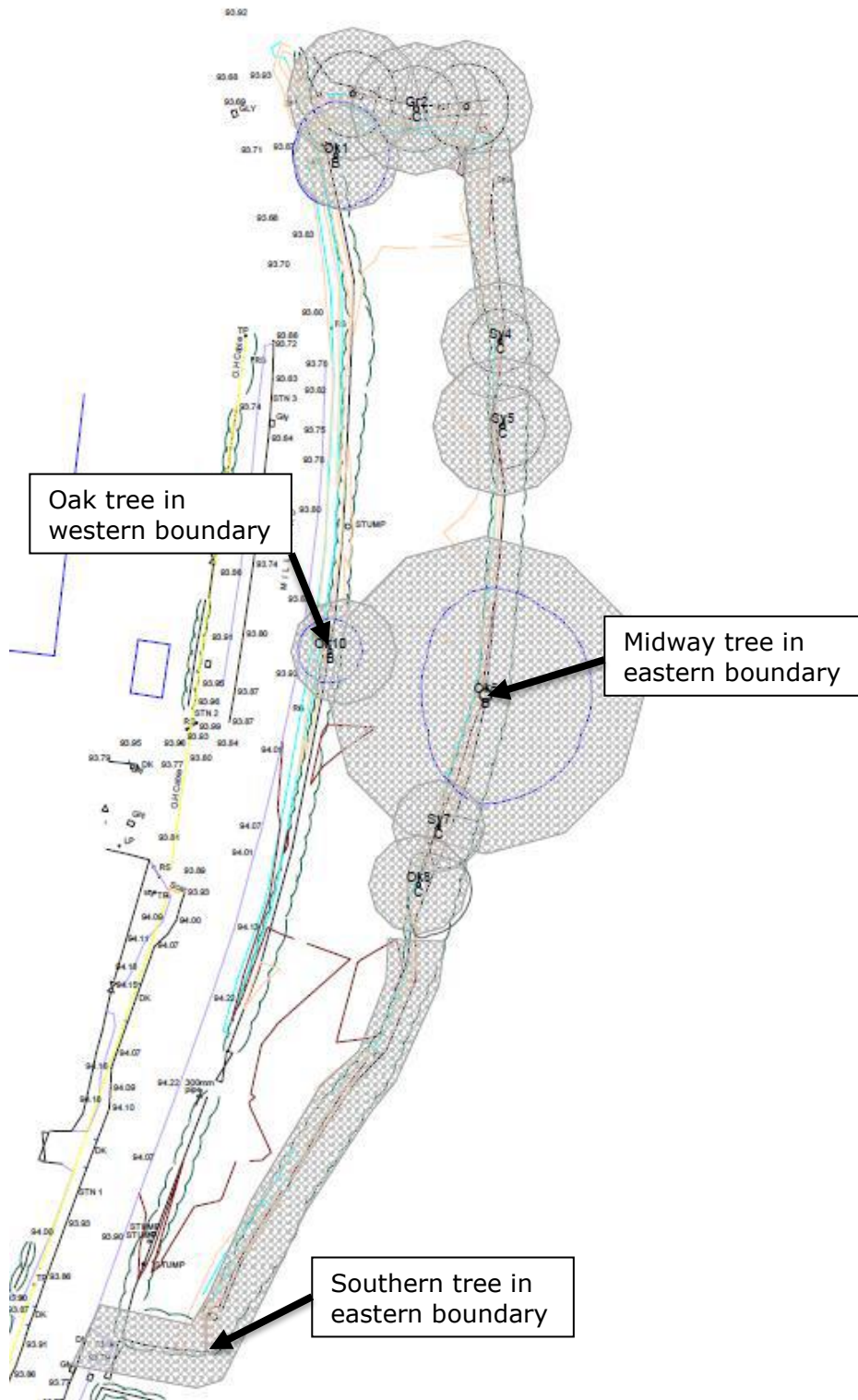


Figure 5.1: Showing the location of the trees with potential roost features

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 badger was found within the site or its immediate surrounds. The owner of pond 2 knows of a sett nearby, but it is over 300m from the site. No negative impact is expected from this development.

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 hedges around the site and some of the scrub within the site will provide good nesting habitat for birds at the correct time of year. It will therefore be recommended that the clearance of significantly sized plants will be conducted out of the bird nesting season (February to August inclusive) and there will be enhancements in the form of the erection of nesting boxes post-construction.

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.

It is notable here that a barn owl nest is only protected whilst it is occupied. Works conducted outside of the nesting season will not constitute an offence.

There was no evidence of barn owl around the site and none of the trees had obvious cavities of sufficient size to support a nesting barn owl. No negative impact on the species is expected.

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

GCN 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 an EPS.
- 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 EPS, or any part of, or anything derived from such a wild animal or plant.

GCN are listed as a priority species on the UK Biodiversity Action Plan (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."

Two extant ponds are present within 250m, with a third being dry except for after significant rainfall. Both ponds scored poorly on the HSI, 0.39 and 0.27. These results suggest that the ponds offer poor potential habitat for breeding newts. Both ponds contain fish, are frequented by wildfowl, and have limited suitable egg-laying substrate. No records exist for great crested newts in these ponds.

No negative impact is expected. A method statement is provided to ensure no negative impact to any newts that may be in the area. This will coincide with the recommendations for nesting birds, and a timescale of works will be provided that will protect both birds and newts.

6 Impacts and Mitigation Measures

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

6.1 Removal of Hedge and Scrub

1. The removal of hedges for access and scrub within the site will begin out of the bird nesting season, which is February to August inclusive, by cutting all plants to stumps of approximately 10cm.
2. The stump will be left in the ground until March, at which point it will be cropped to ground level to encourage any newts still sheltering on land to move of their own accord.
3. In April, the whole site will dug out to fully clear the site. This is the time of year when newts are most likely to be in the ponds, and so ground clearance will have minimal impact on newts.

6.2 Bats

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

6.2.1 Enhancements for Bats

1. It is recommended that provisions will be made for increasing roosting opportunities for bats, via the erection of at least one Kent-style bat box in the nearby trees. These will be erected at a height of 3-4m and in a southerly, westerly or easterly facing direction.

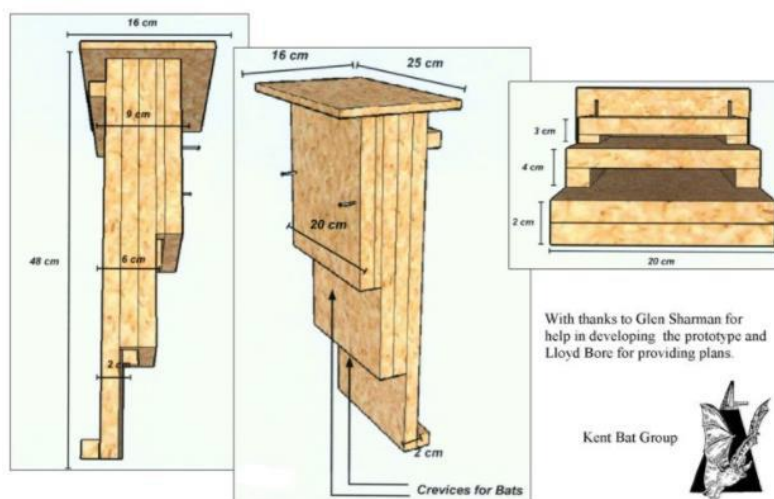


Figure 6.1: Designs for a Kent-style bat box

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



Figure 6.2. Integral bat box

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 illumination of the trees in the site boundaries.
4. All domestic external lighting will be below 1 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. The removal of hedges for access and scrub within the site will occur out of the bird nesting season, which is February to August inclusive.

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.



Cedarwood Sparrow Terrace



Schwegler 1b Bird Box



Schwegler 1ZA Roundhouse
Wren Box



Schwegler 2H Robin Box

Figure 6.3: Provision for bird boxes

6.4 Newts

6.4.1 Reasonable Avoidance Measures

The timing of site clearance is outlined in section 6.1 of this document.

Pre-construction Phase

1. The site will be trimmed prior to construction. This will reduce the potential for newts to cross the land and reduce the potential for the terrestrial features to improve. All plants will be cut and kept short (<10cm) to ensure there is no shelter for GCN on the site.

Site set up

2. The site will be set up after the full clearance of the site has been completed. This will follow the timing outlined in section 6.1 of this report, with the final part of the clearance occurring in April, when newts are most likely to be in ponds.
3. The ecologist will provide contractors with a toolbox talk prior to work commencing. This will include information about the legal status of newts and responsibilities of the construction company to ensure no offence is committed. A document to assist the identification of newts will be left on site and available for all contractors to view.
4. All cabins and equipment will be located on firm compacted ground, preferably a stone or concrete base.
5. Contractors are advised not to handle newts at any time.

Construction phase

6. 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 ECoW will be contacted.
7. Contractors are advised NOT to handle newts at any time.
8. Stored subsoil must not be tipped onto any tall vegetation.
9. Any plant regrowth around the site will be kept short to stop the development of a long sward suitable for the terrestrial habitat for newts.
10. Removal of any unwanted plants will be conducted in line with section 6.1 of this report when there is least opportunity for newts to be hibernating in the roots.
11. All work will be conducted during daylight hours as newts are least likely to move during this time.
12. 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.
13. If necessary, a ramp will be placed in trenches to allow newts and small mammals to escape.
14. Any heavy machinery will be stored on an area of hardstanding to avoid refugia being created.

15. 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
16. All waste will be placed straight into skips to reduce the potential of creating refugia.
17. If a newt is found, then work WILL stop immediately, and the ecologist contacted for advice.
18. GCN will not be handled or moved without express permission from Natural England as this would constitute an offence.

Personnel awareness and emergency procedures

19. It will be ensured all construction workers and personnel are aware of GCN legal protection. This will be by a toolbox talk and the ongoing briefing of contractors by the site foreman.
20. A copy of this document will be on site at all times during construction work.
21. If any GCN are found on site at any time, the consultant will be contacted immediately for advice.
22. If a GCN is found on site, all construction activities should be stopped immediately until the consultant has advised how to proceed.
23. If a GCN 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.

7 Concluding Remarks

The survey has focused on bats, birds and great crested newts.

The habitat for bats was limited to three trees within the site boundaries. Potential roost features were identified in these trees from a ground-level survey. The plans show these trees being retained, and so no loss of roost is anticipated. A lighting scheme will be implemented to avoid illumination of these potential features, and the site will be enhanced by erecting a bat box in a nearby tree, and including an integral bat box in one of the buildings.

The hedgerows around the site and scrub within the site have significant potential for nesting birds. Small sections of the western hedge are being removed to create two vehicular accesses. These will be cut to a stump over winter to avoid potential disturbance of nesting birds.

There are two extant ponds within 250m of the site, both of which scored poorly on the HSI assessment. No further survey for newts is considered necessary. A method statement has been provided to ensure no negative impact on any newts in the area.

The hedgerow removal and scrub clearance on site will be conducted according to a schedule to avoid both nesting birds and sheltering/hibernating newts. The plants will be cut to a stump of around 10cm during winter, cleared to ground level in March and then dug out in April.

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): 3
- C** **Desktop Study**
 Sheet(s): 2
- 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 England: 2015-12200-CLS-CLS Bats RC084 BLICL 2015-18939-CLS-CLS GCN Dormice-2017-29225-CLS-CLS Wales: 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 9 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. England: Bats - 2016-24901-CLS-CLS GCN - 2017-29218-CLS-CLS Wales: 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 3 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. England: Bats - 2017-29112-CLS-CLS GCN - 2016-25209-CLS-CLS Wales: Bats - S085098/1 GCN - 78716:OTH:SA:2018
Brian Marshall	Technical Director FIEMA CEnv PEA Consultant with over 35 years in the Environmental Sector	

B Detailed Methodology

Desk Study

Table B.1: Data sources

Organisation/Resource	Information Assessed
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)
Local Records Centre - Cofnod	Protected/UK BAP Species records (1km)

A data search was purchased from Cofnod to identify the protected species that have formally been recorded in the area.

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

Field Survey

An assessment of habitats was conducted following the "Extended Phase 1 Methodology" (Institute of Environmental Assessment 1995) and broadly the JNCC Handbook for Phase 1 Surveys 2010. Target notes were used to identify potential for protected or notable species or habitats, and to give more detailed site descriptions.

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.

Hedgerows

The aim of the assessment is to ascertain whether the hedgerow could be classified as important according to the definitions listed in the Hedgerow Regulations 1997.

The hedgerow is measured and gaps within a hedge included in the total length as long as the gaps are 20m or less in length.

The total number of woody species present was recorded in the following manner:

- Where the length of the hedgerow did not exceed 30m the total number of woody species present in the hedgerow was recorded
- Where the hedgerow was between 30m and 100m the number of woody species present in the central 30m was recorded
- Where the length was between 100m and 200m the number of woody species in the central 30m stretches of 2 halves of the hedgerow were counted and the mean of the 2 halves calculated
- Where the length of the hedge was over 200m the hedge was divided into thirds and the central 30m of each section counted and the mean calculated

The hedgerow height, width, integrity, structure and management history was recorded.

Notes were made of the following in accordance to the criteria outlined in Schedule 1 of the Hedgerow Regulations 1997:

- Evidence of certain species of birds, animals or plants listed in Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981 (as amended)
- Number of woody species on average in a 30m length
- Presence of rare tree species such as Black Poplar, Large Leaved lime, Small leaved Lime, Wild Service tree
- Number of standard trees within each 50m length
- Percentage of gaps in the hedge
- Presence of ditches, banks or walls
- Numbers of connections with other hedgerows, ponds or woodland
- Presence of parallel hedgerow within 15m of the hedge
- Presence of bridleways, footpaths, byways of public paths

Non-woody ground flora species listed in Schedule 2 of the Hedgerow Regulations were recorded.

Species Survey

Bats

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

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.

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.

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 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

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

Opp. Maesllwyn Lane, Bronington

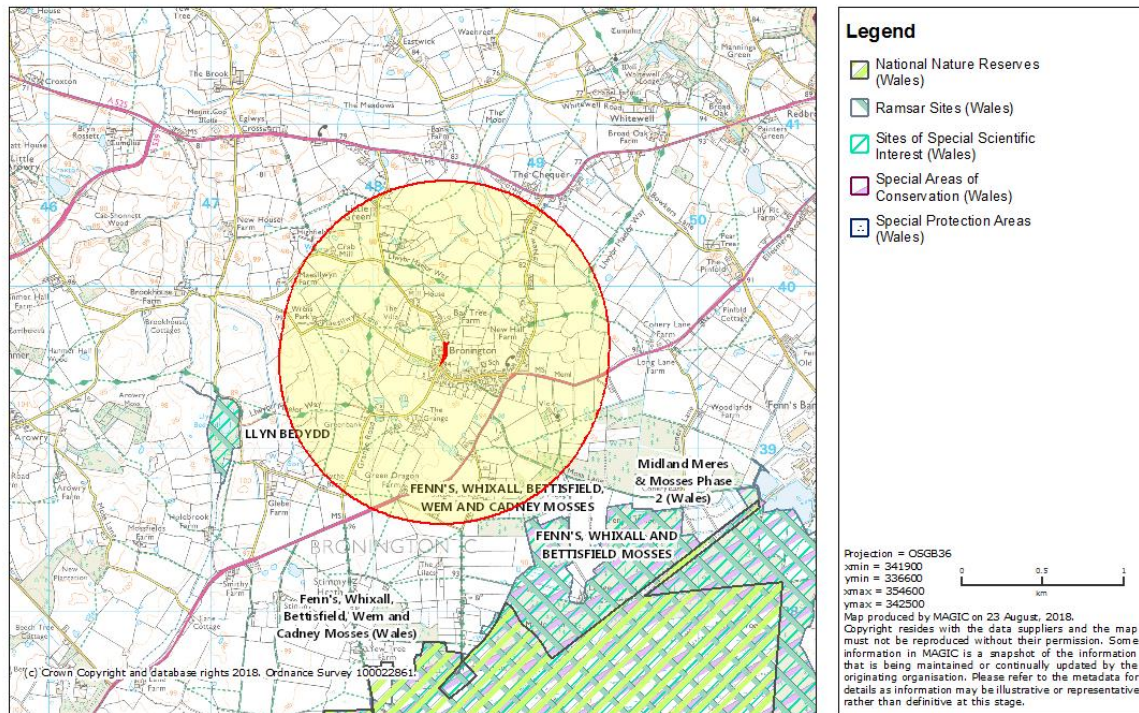


Figure C.1: Designated sites within 1km of Land at Bronington

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

Records

A desk search was conducted focussing on the area within 2km of the site. Unless stated otherwise, all records were provided to the NBN Atlas under the Creative Commons licence: CC-BY. The following species have official records in that area:

Bat species:

- Myotis Bat (*Myotis sp.*)
- Common pipistrelle (*Pipistrellus pipistrellus*)
- Unidentified pipistrelle (*Pipistrellus sp.*)

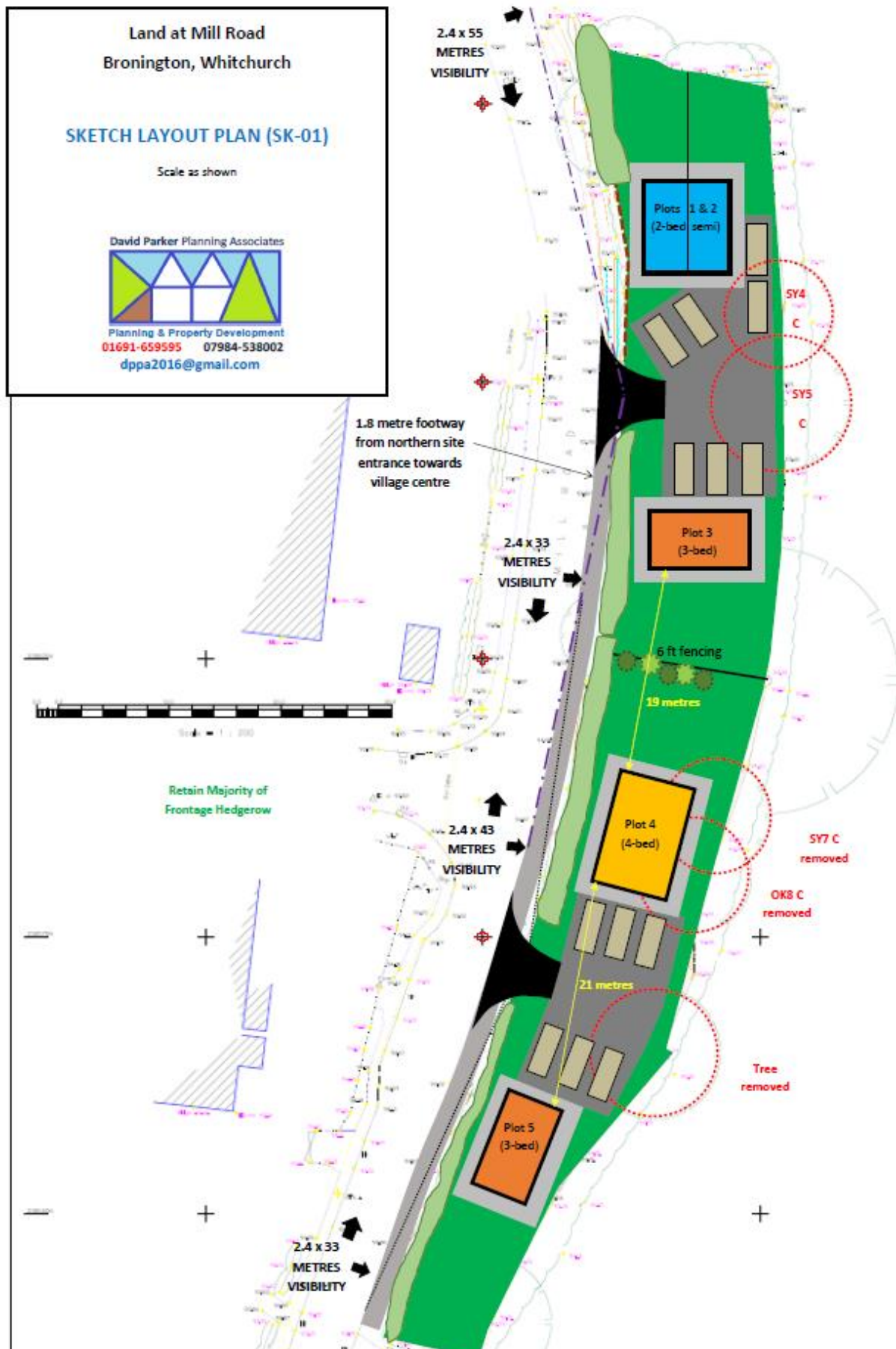
The nearest records are from 1996 at a site approximately 190m to the southeast. Common pipistrelle bats and myotis bats were recorded. The most recent records of common pipistrelle are from 2016 where a small maternity roost was recorded approximately 500m away to the south. Droppings consistent with pipistrelle bats were recorded outside a roost approximately 200m to the south in 2004.

Other mammals:Hare (*Lepus europaeus*)Otter (*Lutra lutra*)Badgers (*Meles meles*)

The nearest records are of badgers in 2008, recorded approximately 470m to the southeast. Other records in the area are of otter and hare, which are all recorded to the west and southwest. Two hare records are centred approximately 1.05km away. One record of three young otters is present with only a 4-digit grid reference from 2013. The 1km area is centred 950m to the west of the site.

Amphibians and ReptilesGreat Crested Newt (*Triturus cristatus*)

Once GCN record is found within 1km of the site. This was from 2007 where a juvenile was found beneath a railway sleeper at a site approximately 490m to the east. No other amphibian or reptile species have been recorded in the area.

D Site Plans

E Bibliography

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