



PROPOSED DEVELOPMENT:

**1 CAE DERI HEOLGERRIG
MERTHYR TYDFIL
CF418BY**

ECOLOGICAL ASSESSMENT

2022

ISSUE 1VB

BE Ecological Ltd
2, Park View House,
Heolgerrig,
Merthyr Tydfil,
info@beecological.co.uk
www.beecological.co.uk

Page intentionally left blank

Page intentionally left blank

Proposed Development: 1 Cae Deri, Heolgerrig, Merthyr Tydfil

Ecological Assessment

Document control

Issue	Stage	Author	Checked	Approved	Date
1	DRAFT FOR COMMENT	BE	GV	BE	02.03.22

Contents Amendment Record

This report has been issued and amended as follows:

Issue	Revision	Description	Approved by	Date
1		Minor Amendments	BE	02.03.22
1	VB	Minor amendments	BE	04.05.22

Disclaimer

No part of this report may be copied or reproduced by any means without prior written permission from BE Ecological Ltd. If you have received this report in error, please destroy all copies in your possession or control.

This report has been prepared for the exclusive use of the commissioning party and unless otherwise agreed in writing by BE Ecological Ltd, no other party may use, make use of or rely on the contents of the report. No liability is accepted by BE Ecological Ltd for any use of this report, other than for the purposes for which it was originally prepared and provided.

Opinions and information provided in the report are on the basis of BE Ecological Ltd using due skill, care and diligence in the preparation of the same and no explicit warranty is provided as to their accuracy.

All documents remain the property of BE Ecological Ltd and may not be used for any purpose whatsoever until full payment has been received for them unless written permission has been sought and obtained from BE Ecological Ltd.

CONTENTS

NON-TECHNICAL SUMMARY	1
1 INTRODUCTION	2
1.1 OBJECTIVE	2
1.2 METHODOLOGY	2
1.3 SITE DESCRIPTION	2
1.4 PROPOSED DEVELOPMENT	4
1.5 STUDY AREA	5
2 REGULATORY FRAMEWORK	6
2.1 INTERNATIONAL	6
2.2 NATIONAL (UK)	6
2.3 NATIONAL (WALES)	7
2.4 LOCAL AND REGIONAL	7
2.5 PLANNING FRAMEWORK	7
2.6 PREVIOUS SURVEYS	7
2.7 CONSTRAINTS	7
3 DESK STUDY	8
3.1 SUMMARY	8
3.2 BACKGROUND	83.3
METHODOLOGY	8
3.4 CONSTRAINTS	8
3.5 RESULTS	9
3.6 PREVIOUS SURVEYS	10
4 DESIGNATED SITES	11
4.1 NON-STATUTORY SITES – EVALUATION & IMPACT ASSESSMENT	11
5 PHASE 1 HABITAT SURVEY	13
5.1 SUMMARY	13
5.2 BACKGROUND	13
5.3 METHODOLOGY	13
5.4 CONSTRAINTS	14
5.5 RESULTS	14
6 PROTECTED SPECIES	17
6.1 BATS	17
6.2 BREEDING BIRDS	20
6.3 REPTILES	23
6.4 INVERTEBRATES	26
7 CONCLUSION AND RECOMMENDATIONS	29
8 REFERENCES	30
APPENDIX A - PHOTOS	31
APPENDIX B– SITE CLEARANCE METHOD STATEMENT	34

APPENDIX D – SPECIES LIST	36
APPENDIX E – PHASE 1 MAP	37
APPENDIX F– Proposed Plan	38

NON-TECHNICAL SUMMARY

An ecological assessment was undertaken of land at 1 Cae Deri Heolgerrig, Merthyr Tydfil, South Wales in support of a planning application to erect two residential dwellings.

The work involved a phase 1 habitat survey to categorise the habitats present, an assessment of the site's ability to provide suitable habitats for protected species and recommendations for further survey and actions if considered necessary.

The habitats on and adjacent to the site comprise of semi-improved grassland, hedgerows and scattered trees

None of the trees to be removed have potential roosting features. There is only a single tree to be removed, the boundaries will be left in their entirety.

There isn't enough scrub onsite to support dormice, and there are no records within 2km, food sources are not abundant at the site. As such, providing that this habitat is cleared in accordance with a method statement and ecological supervision, there will be no requirement for further survey effort. If at any point dormice or evidence of dormice are found, all works will cease and a licence from Natural Resources Wales must be applied for prior to works recommencing.

There were no waterbodies on or immediately adjacent to the site which could be suitable for use by breeding great crested newts (or other amphibians). There are records within the data search, however, these records are isolated by roads and infrastructure.

No evidence of badger activity was recorded within or immediately adjacent to the site boundary. It is possible that badgers will use the site for foraging, however, no evidence of badger was found throughout. It is unlikely that badgers will use the site for sett building to the high levels of disturbance present at the site.

It should be assumed that all areas of scrub and trees will be utilised by nesting birds during the breeding season. There is no habitat suitable for ground nesting species.

The site provides reptiles with potential habitat for foraging, basking, sheltering and hibernation purposes.. It is likely that reptiles will be present. The presence of low numbers should be assumed.

All site clearance works should be undertaken in accordance with a method statement and ecological supervision to ensure that species are not harmed at any stage of the project.

Mitigation will be required and is outlined within the various habitat and species sections contained herein.

This report will need to be updated once the final development layout has been agreed.

1 INTRODUCTION

1.1 OBJECTIVE

The objectives of this report are to:

- identify the habitats present on the site;
- identify the potential for protected species to be present on site;
- using the information gathered to determine whether there may be any impacts (both positive and negative) on protected species present;
- provide recommendations for further survey as necessary; and
- suggest outline mitigation and enhancement ideas and principles

1.2 METHODOLOGY

To achieve the objectives set out above, the following actions were taken:

- Field based assessments in respect of
 1. Habitats;
 2. Protected species, primarily:
 - i. Bats;
 - ii. Dormice;
 - iii. Otters;
 - iv. Amphibians (particularly great crested newt);
 - v. Badgers
 - vi. Reptiles; and
 - vii. Breeding birds

The impact assessment has been undertaken by ecological feature rather than by section i.e. each subject is discussed and assessed separately and summarised in conjunction with the others.

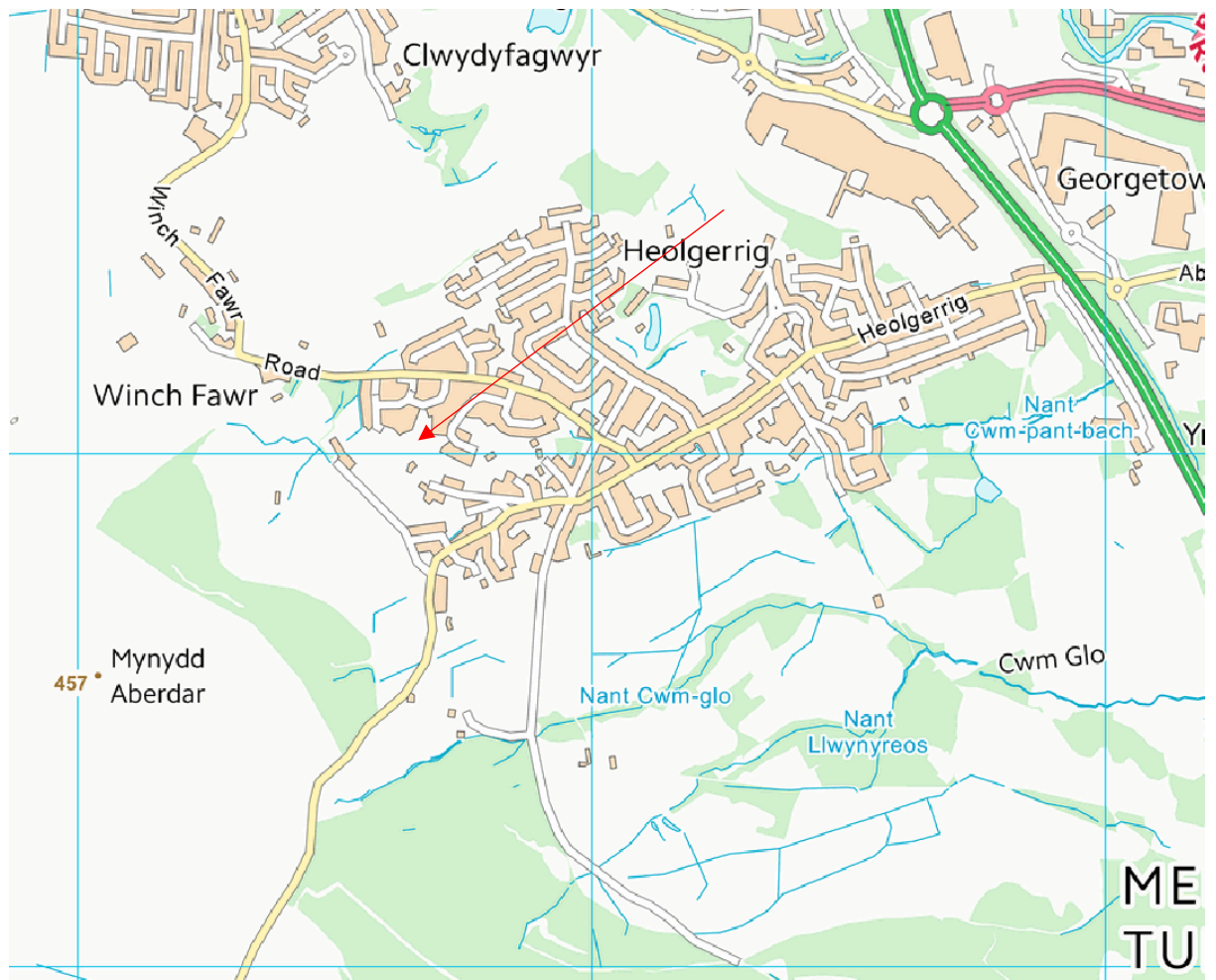
1.3 SITE DESCRIPTION

The red line development site boundary is located to the west of 1 Cae Deri Heolgerrig, Merthyr Tydfil in South Wales (Figure 1).

The site appears to be comprised of mainly semi-improved grassland. Due to the slope of the land, a lot of the onsite habitat is wet in nature and within these areas species more typical of marshy grassland are beginning to colonise.

A bund has been formed on the sites boundary The site is bounded by hedgerows and scattered trees. There is relatively good connectivity to the wider landscape that comprises of open parcels of land and extensive broad leaved woodland.

Figure 1 – Approximate location of site (arrowed red)



1.4 PROPOSED DEVELOPMENT

It is anticipated that the main body of the site will be cleared. All boundaries will be retained and the bund on the western elevation will be retained.

7. Proposed Site Plan- 1:500



1.5 STUDY AREA

The field survey looked at the red line development area itself and up to 20m from the site boundaries wherever possible.

The biological records search covered a search radius of 2000m from the centre of the development site for protected sites (international, national and local), protected and priority species, other species of conservation concern and locally important species. A buffer of 2000m was applied to locally designated sites.

2 REGULATORY FRAMEWORK

2.1 INTERNATIONAL

European Union legislation requires that member states designate sites for the protection of habitats and species included in the annexes of both Council Directive 92/43/EC on the Conservation of Natural Habitats and of Wild Flora and Fauna (the Habitats Directive) and Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). This legislation is implemented in the UK by the Conservation of Habitats and Species Regulations 2017 (as amended) (“the Habitat Regulations”). This results in sites being designated as Special Areas of Conservation (SACs) and Special Protection Areas respectively (SPAs).

2.2 NATIONAL (UK)

The Wildlife and Countryside Act 1981 (as amended) allows sites to be designated as Sites of Special Scientific Interest (SSSI) for one or all of the following categories:

- Flora;
- Fauna;
- Habitat; and
- Geological importance.

European designated sites are automatically designated as SSSIs prior to their designation.

Other relevant legislation includes:

- The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- Countryside and Rights of Way Act 2000;
- Environment (Wales) Act 2016
- Wild Mammals (Protection) Act 1996;
- The Protection of Badgers Act 1992; and
- The Hedgerow Regulations 1997.

Section 40 of the Natural Environment and Rural Communities Act 2006 (as amended) requires all public bodies to have regard wherever possible to conserving biodiversity. Section 42 of the Act requires that a list of habitats and species of Principle Importance for the Conservation of Biological Diversity in Wales be produced; however, this has been replaced by Section 7 of the Environment (Wales) Act 2016 Priority Habitats and Species lists.

The Environment (Wales) Act 2016 requires that all public authorities, when carrying out their functions in Wales, seek to “maintain and enhance biodiversity” where it is within the proper exercise of their functions. In doing so, public authorities must also seek to “promote the resilience of ecosystems”.

This ensures that biodiversity is an integral part of the decisions that public authorities take in relation to Wales. It also links biodiversity with the long-term health and functioning of our ecosystems, therefore helping to align the biodiversity duty with the framework for sustainable natural resource management provided in the Act.

In Wales, this legislation replaces and enhances the Natural Environment and Rural Communities Act (2006) which sought to raise the profile of biodiversity and to make sure that it is considered in all local authority decisions by ensuring that “Every public authority must, in exercising its functions, have

regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.”.

Other elements of NERC 2006 may still apply.

Biodiversity Action Plans (BAPs) are tools which are used to monitor, manage and enhance those habitats and species which are of significance to an area or organisation, The United Kingdom BAP lists a number of priority habitats and species which are of conservation concern.

2.3 NATIONAL (WALES)

Planning Policy Wales (Welsh Government, 2016) and Planning Policy Wales Technical Advice Note 5: Nature Conservation and Planning (Welsh Assembly Government, September 2009) set out the protection given to wildlife (sites, habitats and species) by the planning system operational in Wales.

2.4 LOCAL AND REGIONAL

The proposed development is wholly within the Merthyr Tydfil County Borough Council (MTCBC) area of responsibility. Therefore, all policies adopted by that Planning Authority will apply, including policies which may not be specific to nature conservation or the natural environment but that may apply or be relevant and should be considered during the planning process.

There are a number of habitats and species which are of a high priority to MTCBC. These have been determined following examination of the UK BAP and the Environment (Wales) Act Section 7 list of Priority Species and Habitats and those habitats and species determined to be locally important by the Local Biodiversity Partnership.

2.5 PLANNING FRAMEWORK

The proposed development will be undertaken wholly under the auspices of the Town and Country Planning Act 1990 (as amended).

2.6 PREVIOUS SURVEYS

There are no known previous surveys of this site.

2.7 CONSTRAINTS

The survey was undertaken at a time of year outside of the main season and as such, the full botanical diversity may not have been apparent.

3 DESK STUDY

3.1 SUMMARY

There are no records of any priority or protected species, species of local conservation concern or other species of conservation concern from the site or immediately adjacent to it. The closest records are from 120m away.

Two SSSI's were identified within the data search.

133 non statutorily designated sites, e.g. Sites of Importance for Nature Conservation were identified within the data search.

Winchfawr West is found in close proximity to the sites western boundary.

3.2 BACKGROUND

A desk study provides background information on historical and current biological data which can identify ecological constraints, mitigation, and biodiversity enhancement opportunities.

3.3 METHODOLOGY

The South East Wales Biodiversity Records Centre (SEWBReC) was consulted in order to provide biological information on the presence of species and sites on or adjacent to the site (0212-860)

A 2000m search buffer was applied to priority and protected species, species of local conservation concern and other species of conservation concern, statutorily designated sites (for nature conservation purposes) and 1000m locally designated sites.

The Multi-Agency Geographical Information System (MAGIC) website (www.magic.gov.uk) and the Local Biodiversity Action Plan (LBAP) for MTCBC were also consulted.

3.4 CONSTRAINTS

There were no constraints to the data search

3.5 RESULTS

3.5.1 Statutorily protected sites

3.5.1.1 European designated sites

There are no European Designated Sites within 2000m of the development site.

3.5.1.2 United Kingdom designated sites

There are three United Kingdom Designated Sites within 2000m of the development site.

Table 3 - non-statutorily designated sites within 1km of the proposed development site:

Site	Designation	Distance from site
Cwm Glo Y Glyndrys	SSSI	360m
Cwm Taf Fechan Woodlands	SSSI	1929m

There are no ecological links between the development site and the SSSI's. There are no features present on the development site that the SSSIs are designated for. The sites are isolated by roads and other infrastructure. As a result it is unlikely that the sites will be affected and they will therefore not be considered further in this report.

3.5.2 Non-statutory designations

The following SINC's are found within 2000m of the site

Afon Taf (1737m)

Cwm Ffrwd (1218m)

Cwm Taf Fechan (1512m)

Cwm Taf Fawr (1538m)

Bryn-du & Ty'n-y-coedcae (1791m)

Coed Meirig Pastures (1195m)

Winchfawr West (112m)

Gellideg North Fields (1100m)

Winchfawr East & Clwydyfagwyr (451m)

Cwm Glo (281m)

Cwm Taf Fields & Cefn Coed Tip (1267m)

Blaen-canaid (1278m)

Rhydycar West (1356m)

There is probably connectivity in some shape or form to Winchfawr West. However, there are roads and other infrastructure that separate it. The connection is only likely to be as a result of mobile species.

3.5.3 Species: SEWBreC data search

There are no species records for the proposed development site or its immediate vicinity.

The closest records are of brown long eared, pipistrelle and myotis sp. bat roosts 79m from the site.

3.6 PREVIOUS SURVEYS

None known.

4 DESIGNATED SITES

4.1 NON-STATUTORY SITES – EVALUATION & IMPACT ASSESSMENT

Winchfawr West SINC is in close proximity to the sites south western boundary.

4.1.1 Cilsanws Common South

4.1.1.1 Winchfawr West – evaluation

Qualifying features

Very extensive area of mostly upland habitats, comprising a complex mosaic of moorland and ffridd habitats on the eastern slopes of the Bryn y Gwyddel/Bryn y Badell/Mynydd Aberdar hill system. The wet and dry heathlands are of particular note; these are partly developed on old colliery spoil tips and are the most extensive heathlands in the County Borough. Other habitats of note include marshy grasslands and unimproved acid grasslands, acid flushes and grass-heaths. Outlying areas support semi-improved acid and neutral grasslands and scrub. Numerous ponds are present supporting a small population of Great Crested Newts, along with small streams and some sections of outcropping sandstone. Extremely diverse series of habitats supporting many species of interest.

4.1.1.2 Winchfawr west - impact characterisation

It is anticipated that there will be no direct adverse impacts on Winchfawr West. The SINC will be retained in its entirety. There is no SINC within the red line boundary, The site does not support species indicative of acid grasslands. The grassland on the site is not true grassland, it has been disturbed over the years and some areas and the species present comprise of early succession species. There are some patches that may suggest marshy grassland but due to the mix of habitats on site, again this is not a true habitat. Removal of this is unlikely to affect the integrity of the SINC.

It is possible that mobile species that use the SINC will use the site, but again, the site is isolated from the SINC by roads and houses. Mitigation for these species will be included.

It is anticipated that there could be some indirect impacts as a result of lighting, however, lighting again can be mitigated for.

4.1.1.3 Winchfawr west- assessment without mitigation

There is a small potential for indirect impacts if lighting is not appropriately mitigated. Species that use the SINC may be adversely affected if they are not appropriately mitigated for.

4.1.1.4 Winchfawr west - mitigation measures

- The sites north eastern boundary will be fenced off prior to the development commencing
- All site boundaries will remain unlit at all times. Site lighting must face downwards and be set on timers
- There will be no tipping of builders waste or garden waste to the north of the site at any time
- The species and habitat mitigation outlined in the various sections of this report will be carried out in full

4.1.1.5 Winchfawr west - significance of the impact

Without mitigation:

It is anticipated that the significance of the impacts due to the development will be **moderate**.

4.1.1.6 Winchfawr west - significance of the impact

With mitigation:

It is anticipated that the significance of the impacts due to the development will be **negligible**.

5 PHASE 1 HABITAT SURVEY

5.1 SUMMARY

A number of habitats were recorded across and adjacent to the survey area. These included:

- Semi-improved Grassland;
- Scattered trees
- Hedgerow;

The potential for a number of protected species was recorded, including habitats suitable for:

- Bats;
- Badgers;
- Breeding birds;
- Reptiles;
- Invertebrates;

The habitats are shown on **Figure 3** below.

5.2 BACKGROUND

The Phase 1 habitat survey was carried out to assess the existing habitats, identify any protected habitats or species that may be present, determine the impact of the proposed works on them, and identify any mitigation measures that may be necessary. This was done by undertaking both a desk study and field survey.

The survey was undertaken in early February 2022

Phase 1 habitat survey is a way of recording the basic habitat data to form a baseline level of knowledge of the ecology of a site and provide recommendations for future surveys if considered necessary.

5.3 METHODOLOGY

5.3.1 Desk study:

A biological data search was undertaken. Refer to section 3 above.

5.3.2 Field survey:

Experienced surveyors from BE Ecological Ltd carried out a habitat assessment and mapping exercise in October 2021 using the Phase 1 habitat survey technique. Nomenclature follows Stace (1997)¹. The survey was carried out by Beth Evans.

Features of note are assigned Target Notes (TN) and referenced accordingly and described at **Appendix C**.

A full species list is at **Appendix D**.

¹ Stace, C (1997). *New Flora of the British Isles* (2nd Ed.). Cambridge University Press

5.4 CONSTRAINTS

There were no constraints.

5.5 RESULTS

5.5.1 Habitats

The following habitats were found on the site and are mapped on **Figure 3** below:

- Semi-improved Grassland;
- Scattered trees;
- Hedgerows

Photos are located at **Appendix A**

5.5.1.1 *Semi-improved Grassland*

Semi-improved Grassland is found across the majority of the site with features of marshy grassland. This habitat is mixed in and above remnants of the previous habitat type (improved grassland) and marshy grassland. There are areas of bare ground throughout. This habitat type will be considered further in this report.

5.5.1.2 *Hedgerow*

There is a small native species hedgerow on the southern boundary of the site. This will be retained in its entirety and will not be mentioned further in this report other than in relation to site lighting.

5.5.1.3 *Scattered trees*

This habitat is found on the north and western boundary of the site. This habitat will be left in situ. There is a single tree proposed for removal at the north eastern corner of the site.

5.5.2 Protected species assessment

5.5.2.1 Bats

The closest record for members for this group is from approximately 78m from the centre of the proposed development site.

There are mature trees within the boundary of the site that may offer bats with roosting potential. Only one tree is proposed to be removed and this tree doesn't have any suitable roosting potential for bats. The tree to be removed is a birch.

It is likely that bats will use the site for foraging.

This group will be considered further in this report.

5.5.2.2 Amphibians & great crested newt

There are no waterbodies on the development site which could be used by this group for breeding purposes. The terrestrial habitat on the site could provide amphibians with suitable foraging and sheltering habitat. There are records of great crested newt from approximately 350m away, however, the records are isolated from the site by roads, housing and associated infrastructure.

It is considered that amphibians are unlikely to pose an ecological constraint to the development and that only common species (frog and toad with the possibility of smooth and / or palmate newts) are likely to be present on the site. Therefore, it is considered that this group can be safely dealt with via a reasonable avoidance method statement to prevent harm to individuals during site clearance. A method statement is attached within the Appendix.

This group will be considered further in this report.

5.5.2.3 Dormouse

Despite mature trees being present, food sources are not abundant and the site is subject to large levels of disturbance. It is possible that dormice will use the hedgerows and mature trees, however, these will be largely retained and therefore there is unlikely to be any impact on dormice.

This species will not be considered further in this report.

5.5.2.4 Badgers

There are no records of badger from within 939m of the site.

There is suitable habitat for foraging but due to the location, openness and nature of the site, the land is unlikely to be suitable for sett excavation. There was no sign of badger throughout the survey.

This species will not be mentioned further in this report.

5.5.2.5 Breeding birds

There are multiple records for members of this group within the data search but none from the site.

Birds heard and seen on and adjacent to the site include sparrow, dunnock, chaffinch & wood pigeon.

There is suitable habitat in the tree's onsite for breeding and foraging but only one tree is proposed to be removed and this tree can be removed after it's been checked for active nests and approved by an ecologist on the day of removal.

The habitats on the site are not considered to be suitable for ground nesting birds given the small overlooked nature of the site, the small area of open ground, the high levels of disturbance on the site, the availability of avian predator perches and the presence of predators.

Scrub and tree nesting species will be considered further in this report.

5.5.2.6 Reptiles

There are records of slow worm, adder and common lizard greater than 600m from the site.

The site offers some habitat for this species for foraging, basking, sheltering and hibernation purposes and it should be assumed that slow worm (*Anguis fragilis*), common lizard (*Lacerta vivipara*) and grass snake (*Natrix natrix*) use the site. It is likely that the population densities of these species are at perhaps lower levels given the amount of shading on the site.

This group will be considered further in this report.

5.5.2.7 Invertebrates

It is likely that common and widespread invertebrates will utilise the site.. There are records of marsh fritillary from within 412m. The habitats on site are considered to be unsuitable for these species as there is a lack of variety of food plants for this species found on the site. In addition to this, the records are isolated by roads and other infrastructure.

5.5.3 Other features

None.

6 PROTECTED SPECIES

6.1 BATS

6.1.1 Summary

There is possibly roosting potential present within the mature trees within the sites boundary.

It is likely that a small number of bats species will forage over the site and boundaries.

6.1.2 Ecology

British bats are small flying nocturnal mammals that feed exclusively upon insects. There are 17 species resident in Britain, ranging in size from the smallest, soprano pipistrelle (*Pipistrellus pygmaeus*) up to the largest noctule (*Nyctalus noctula*), serotine (*Eptesicus serotinus*) and greater horseshoe bat (*Rhinolophus ferrumequinum*). Bats are active from April through to October and hibernate when insects are in short supply in the winter months. Bats emerge from hibernation in late March - early April and move into their transition / intermediary roosts. Female bats will move to maternity sites by the beginning of May and will give birth to a single baby between June and early July. The baby is reared solely by the mother and is weaned and independent by end of August. After breeding, bats move to transition / intermediary roosts and females will visit males at mating roosts. During the autumn, bats feed voraciously to gain weight for the hibernation ahead.

Although traditionally trees, caves and rock faces were used by roosting bats and are still used, many different structures are used nowadays by bats, which take advantage of readymade (man made) roosts. Structures used frequently include bridges, ice-houses, pill-boxes, disused railway tunnels, houses and barns etc. Bats have home ranges which vary from species to species; from just 3-4km from the roost for the smaller bats while the larger noctule may fly 20km or more. Threats to bats include habitat destruction and the severance of commuting routes, use of agricultural pesticides, intensification of farming methods and deliberate persecution by man. Bats have few natural predators; however, the domestic cat is probably the most efficient predator.

6.1.3 Legislation

6.1.3.1 Conservation of Habitats & Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations (2017) provides safeguards for European Protected Species (those listed under Annex IV Habitats Directive). With regards to bats, this makes it an offence to:

- Deliberately (or recklessly in Scotland) capture, injure or kill a bat
- Deliberately (or recklessly in Scotland) disturb a bat in a way that would (significantly in Scotland) affect its ability to survive, breed or rear young (or hibernate or migrate in England, Wales and Northern Ireland) or (significantly in England, Wales and Scotland) affect the local distribution or abundance of the species.
- Damage or destroy a roost (this is an 'absolute' offence)
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat

It is possible to undertake damaging activities under the auspices of a European Protected Species Licence issued by Natural Resources Wales which provides a derogation from the Regulations, meaning that an otherwise illegal operation carried out under licence is lawful.

6.1.3.2 *Wildlife & Countryside Act 1981*

The Wildlife & Countryside Act 1981 (as amended) is the legislation for England and Wales for nature conservation, making it an offence to:

- Intentionally or recklessly disturb a bat in or at a roost;
- Intentionally or recklessly obstruct access to a roost;
- Intentionally destroy, damage or otherwise disturb a roost (whether bats are present or not); and
- Intentionally or recklessly kill, injure or take (capture) a bat.

6.1.3.3 *The Environment (Wales) Act, 2016*

The Environment (Wales) Act 2016 requires that all public authorities, when carrying out their functions in Wales, seek to “maintain and enhance biodiversity” where it is within the proper exercise of their functions. In doing so, public authorities must also seek to “promote the resilience of ecosystems”.

This ensures that biodiversity is an integral part of the decisions that public authorities take in relation to Wales. It also links biodiversity with the long-term health and functioning of our ecosystems, therefore helping to align the biodiversity duty with the framework for sustainable natural resource management provided in the Act.

In Wales, this legislation replaces and enhances the Natural Environment and Rural Communities Act (2006) which sought to raise the profile of biodiversity and to make sure that it is considered in all local authority decisions by ensuring that “Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.”.

Other elements of NERC 2006 may still apply.

6.1.3.4 *Desk study*

Please refer to **section 4.5.2.1** above.

6.1.4 **Bats - impact characterisation**

It is likely that bat foraging habitat over the development site will be modified by the development.

6.1.5 **Bats - impact assessment without mitigation**

It is considered that there will be **no adverse** impacts on roosting bats as a result of the development.

There may be impacts on foraging bats as a result of reduction in habitat and increased site lighting. All boundaries will remain completely unlit in order to avoid any impacts on bats that may roost within the mature trees in the sites boundary.

6.1.6 Bats - mitigation measures

Mitigation will be required

Protection and mitigation measures will include:

- Retention of the flight lines along all boundaries as unlit dark corridors;
- There will be new planting to enhance the area for bats. A native species hedge will be planted to the rear of the bund on the western elevation

The following will need to be included within the development:

- Provision of pole mounted bat boxes or boxes on houses;
- Sympathetic landscape planting to provide bats with foraging habitat.

6.1.7 Bats - impact characterisation with mitigation

It is considered that there will be **no adverse** impacts on roosting bats as a result of the development.

6.1.8 Bats - significance of the impact

Without mitigation

It is considered that the significance of the impact is **moderate**

With mitigation

It is considered that the significance of the impact is **slight**.

6.2 BREEDING BIRDS

6.2.1 Summary

A full breeding bird survey was not undertaken as it should be assumed that all the areas of scrub are likely to be used by birds for nesting.

It should be assumed that all scrub and tree vegetation on the site is used by birds for breeding purposes during the nesting season.

The areas of grassland and bare ground are not considered to be suitable for ground nesting species for breeding purposes as they are small and overlooked.

6.2.2 Ecology

Most British avian species are found breeding during the spring and summer months, between April and August, although some, such as pigeons, and doves will frequently breed at all times of year, as they are not dependent on small, soft-bodied invertebrates to provide food for their chicks. Some other species, such as barn owl (*Tyto alba*) have also been recorded breeding in the winter months, in years when winters have been mild, and small mammal prey plentiful, although such breeding attempts are unusual, with chicks frequently failing to fledge. The breeding season can be extended for most species if the weather is mild, and food plentiful.

Contrary to common belief, whilst some bird species, such as crows and rooks, nest high in trees, often more than 10m high, the majority of British breeding birds will nest within 2m of the ground (or on the ground) within dense scrub or within holes and other natural and manmade cavities in rocks and walls.

Most bird species take considerably less than 60 days from egg-laying to chick fledging, whilst others, such as barn owl, can take more than 90 days. Many, but not all British species will make multiple breeding attempts if environmental conditions and food availability allow.

6.2.3 Legislation

In Britain, all naturally occurring avian species are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended). The legislation protects all birds, their nests and eggs, and it is an offence to:

- Intentionally kill, injure or take a wild bird;
- Intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built; and
- Intentionally take or destroy the egg of any wild bird.

In addition, birds listed on Schedule 1 of the Act, such as the Red Kite (*Milvus milvus*), are afforded further protection, and it is an offence to:

- Intentionally or recklessly disturb the bird whilst nest building or while at (or near) a nest with eggs or young; and
- Disturb the dependant young of such a bird.

6.2.4 Methodology

6.2.4.1 Habitat assessment

Signs looked for included:

- Availability of nesting habitat;
- Availability of foraging habitat;
- Territorial displays by birds;
- Courtship displays;
- Territory establishment and holding behaviour;
- Nests;
- Food carrying;

6.2.5 Constraints

There were no constraints to the assessment.

6.2.6 Results

6.2.6.1 Desk study

There were no records of birds from the development site or immediately adjacent land, however, there were multiple records of birds from the data search.

6.2.6.2 Habitat assessment

The trees and scrub are considered suitable for nesting birds.

All habitats on the site were suitable for foraging purposes, providing a variety of food sources. It should be assumed that the scattered trees are used for nesting purposes during the breeding season.

It is considered that the site does not provide suitable habitat for ground nesting species as the open areas are small, overlooked by numerous trees and buildings, all of which could be used by avian predators and subject of regular disturbance.

6.2.7 Breeding birds – evaluation

Birds should be considered to be of **high national** importance as a result of the legislation protecting them.

Within the context of the site, there is abundant suitable habitat for the smaller and more common species to utilise for nesting and foraging. It is therefore considered that birds are of a **medium local (site)** ecological importance.

6.2.8 Breeding birds - impact characterisation

It is anticipated that the main body of the site will be cleared in its entirety.

6.2.9 Breeding birds - impact assessment without mitigation

In the absence of mitigation, the removal of vegetation during the breeding season would result in the likely disturbance and destruction of nests and the disturbance, killing and injuring of birds (both adults

and juveniles). This would constitute a **certain moderate medium term adverse** impact at a **local (site)** level.

6.2.10 Breeding birds - mitigation measures

Mitigation will be required and should include (but not be limited to) the following measures:

- All vegetation and brash removal should be undertaken outwith the breeding season i.e. between mid-August / September and April inclusive;
- Any clearance close to the start and end of this period should only be undertaken following an assessment by a suitably experienced ecologist as the breeding season is not fixed and is subject to annual variation;
- Where clearance is required during the breeding season, all areas should be subject to an assessment no more than 48 hours in advance to check for the presence of breeding birds;
- Should evidence of breeding birds, in particularly nests, be recorded, no clearance may be undertaken within 15m of any nest site until such time as the nest is vacated naturally; and
- Any post-development landscaping plan should include the provision of scrub &/or shrub habitats that can be utilised by breeding birds.

Consideration should be given to including measures to benefit birds within the housing development e.g. installation of bird boxes on new buildings.

Bird boxes will be erected on the houses on completion of the builds.

6.2.11 Breeding birds - impact characterisation with mitigation

It is considered that there will be a **possible minor short term adverse** impact at a **local (site)** level on breeding birds as a result of the proposed development.

6.2.12 Breeding birds - significance of the impact

Without mitigation

It is considered that the significance of the impact is **slight**.

With mitigation

It is considered that the significance of the impact is **neutral**.

6.3 REPTILES

6.3.1 Summary

No reptile survey was undertaken at the site. It is considered that due to the sites small size and habitats present, reptile presence can be assumed. There is also abundant habitat to the north that reptiles can be pushed towards.

A full trapping and translocation exercise is not considered necessary as long as clearance of the site is undertaken in strict adherence to a method statement designed to prevent harm to any reptiles.

6.3.2 Ecology

Reptiles are ectothermic, meaning they have to rely on external heat sources to warm their blood sufficiently to allow foraging and other activity. During the winter they are in brumation (similar to hibernation), emerging in April (or when the temperatures are consistently warm enough). Males tend to emerge before females, to enable them to prepare for mating. Females emerge a few weeks later and mating takes place. Female reptiles in the UK generally breed every other year to allow them to build up sufficient energy reserves. Grass snakes are the UK's only egg-laying reptile, eggs are laid in summer in warm piles of decomposing vegetation (or similar) and left to develop and hatch on their own. Young reptiles are born/hatch in late summer/early autumn. Brumation (hibernation) starts again as temperatures fall in the autumn.

The four more commonly occurring species of reptile in the UK (adder (*Vipera berus*), grass snake (*Naatrix natrix*) slow worm (*Anguis fragilis*) and common lizard (*Lacerta vivipara*) have different preferences for habitat and diet. Adders generally prey on small mammals in drier habitats, grass snakes primarily hunt amphibians in wetter areas and aquatic habitats, slow worms take small, slow-moving invertebrates and inhabit drier areas and common lizards prey on small, faster-moving invertebrates and tolerate both wet and dry habitats.

6.3.3 Legislation

The four common species listed above are protected by the Wildlife and Countryside Act 1981 (as amended) against killing, injury and sale.

Smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*) are not found in this area, having very specific geographical distribution within Britain, and so will not be referred to in this report despite the higher legislative protection afforded to them.

6.3.4 Methodology

6.3.4.1 Habitat assessment

The habitat assessment looked for features which would be attractive to reptiles such as:

- south facing banks;
- varied profile ground form;
- basking areas;
- vegetation cover;
- structurally diverse vegetation;
- potential hibernation sites; and
- evidence of suitable prey sources.

6.3.5 Results

6.3.5.1 Desk study

No records of reptiles were returned for the development site or immediate vicinity. There are records of reptiles within 2000m of the development site, species include common lizard, grass snake and slow worm.

6.3.5.2 Habitat assessment

The site is considered to be generally optimal for reptiles as they provide a range of foraging, basking, sheltering and hibernation habitats. The interface between the small patches of grassland within the scrub are habitats of particular value.

6.3.6 Reptiles – evaluation

Reptiles are protected by UK legislation and therefore they are of **medium to high national** ecological importance.

No reptiles were found throughout the course of the survey.

Overall the site appears to be generally of **low local (site)** value to reptiles. However, there is so much natural refugia and disturbance present on the site, it may be that reptiles chose not to use the artificial refugia.

6.3.7 Reptiles - impact characterisation

It is anticipated that the site will be largely cleared of vegetation, thereby removing the majority of the suitable habitat for this group. It is still possible that in the absence of mitigation, reptiles are likely to be killed or injured during the clearance for the site.

6.3.8 Reptiles - impact assessment without mitigation

It is considered that in the absence of mitigation there would be a **probable minor short term adverse** impact at a **local (site)** level.

6.3.9 Reptiles - mitigation measures

As long as reptile presence is assumed and site clearance is undertaken in accordance with an appropriate method statement, it is considered that a full trapping and translocation exercise is not required, and that habitat manipulation and denial is an appropriate method of ensuring that reptiles are not harmed during the site clearance.

Therefore, the following mitigation will be adopted:

- Clearance will be conducted in accordance with a Method Statement (**Appendix B**) to ensure that should reptiles be found in the course of site clearance or any other development activity, they will not be harmed and can be adequately cared for;
- Clearance will only be undertaken during the reptile active season (April-October, inclusive) unless it is determined that some areas of the site are not suitable for hibernation, unless the

ground is too wet for hibernation or temperatures are consistently above 12 for seven consecutive days;

- Clearance outwith this period is possible, but depends on weather and temperatures being suitable to ensure that reptiles are likely to be active;
- There will be no clearance of hibernation habitat outwith the active season unless temperatures allow;
- Reptiles will be excluded from entering or re-entering the site during clearance/operational phase of works by ensuring that the site is kept as bare ground i.e. clear of any vegetation or other shelter
- The habitat will be cleared from south to north in order to push reptiles into retained habitats.

6.3.10 Reptiles - impact characterisation with mitigation

It is considered that there will be an **unlikely minor short term adverse** impact at a **local (site)** level as a result of the proposed development.

6.3.11 Reptiles - significance of the impact

Without mitigation

It is considered that the significance of the impact is **slight**.

With mitigation

It is considered that the significance of the impact is **neutral**.

6.4 INVERTEBRATES

6.4.1 Summary

There are numerous records of invertebrate species within the records data search, due to the disturbance and habitats present on the site, it is considered that there will be a small number of common and widespread invertebrates present.

There are foodplants available for a range of species.

6.4.2 Ecology

Invertebrates are animals without spines or an internal skeleton, relying on their bodies to give them structure. There are over 40000 species of invertebrate in the United Kingdom, distributed across all terrestrial, aquatic and marine ecosystems. Their lifestyles are superficially at least similar; however, each genus has distinguishing characteristics, with each species within each genus having subtle differences resulting in each species occupying its own ecological niche.

Adults lay eggs which then hatch into larvae. The larvae then develop into adults. The processes involved in these three life stages are different from genus to genus and species to species and can be incredibly intricate, with sometimes very specific requirements, any interruption to which can cause any of the life stages can fail.

Adult animals generally have very specific food requirements, favouring single plant species or food source. Larvae and adults can be either plant eating or carnivorous dependent on species. The food source is a good indicator of how widespread a species may be: the more specific a food source, the more prone to range restrictions it may be.

Animals will generally be active during the spring, summer and autumn months and overwinter as eggs or larvae; some adults do go into hibernation over winter.

6.4.3 Legislation

No invertebrates are in receipt of international legal protection with the exception of the large blue (*Phengaris arion*) butterfly, protected by the Conservation of Habitats and Species Regulations 2017 (as amended) ; a number of other species are fully and partially protected by the Wildlife and Countryside Act 1981 (as amended). A number of species are listed on Section 42 of Species of Principal Importance to Wales and may, with others, be included within local planning authorities Biodiversity Action Plans (LBAPs).

6.4.4 Methodology

6.4.4.1 Habitat assessment

The proposed development site was subject of a walkover to assess its potential to provide suitable habitat for invertebrates. The features looked for included:

- Presence of a mosaic of multiple habitats;
- Presence of structural diversity in the habitats present;
- Presence of bare ground;
- Presence of common and likely food plants;
- Site aspect; and
- Previous and current land use.

6.4.5 Constraints

There were no constraints to the walkover.

6.4.6 Results

6.4.6.1 Habitat assessment

There is a record of Marsh Fritillary approximately 300m from the site.

There is a varied mosaic of habitats on the site. There is abundant invertebrate habitat within the surrounding areas.

There are some food plants present on site for numerous invertebrates including section 7 species.

6.4.7 Invertebrates – evaluation

There are food plants on site suitable for a range of invertebrate species. Species present are likely to be common and widespread only due to the sites habitats.

6.4.8 Invertebrates - impact characterisation

It is considered that there will be a loss of scrub and grassland that may support common and widespread species and possibly some species mentioned on section 7 of the environment wales act

6.4.9 Invertebrates - impact assessment without mitigation

It is considered that there will be a **possible minor short term** adverse impact.

6.4.10 Invertebrates - mitigation measures

It is suggested the following measures are implemented as far as possible.

- Clearance is to be preferentially undertaken during the autumn and winter months
- Topsoil will be stripped, screened and stored ready for reuse in the landscaping areas
- Storage bunds will be no more than 1.8 high and firmed down well

6.4.11 Invertebrates - compensation measures

- The creation of new vegetated habitats
- The garden will be topsoiled with stored soil.
- Appropriate conservation management will be implemented.

6.4.12 Invertebrates - impact characterisation with mitigation

It is considered that there will be a **short term minor adverse impact**.

6.4.13 Invertebrates - significance of the impact

Without mitigation

It is considered that the significance will be **slight**.

With mitigation

It is considered that the significance of the impact will be **neutral**.

7 CONCLUSION AND RECOMMENDATIONS

Overall the site is of a moderate ecological value at a local level due to the habitats present, and the species that may reside on the site.

Breeding birds should be assumed to be present on the site. Mitigation for these groups is therefore required. All site clearance should be undertaken under ecological supervision.

Site clearance in respect of reptiles will be undertaken in line with a method statement and ecological supervision as a precautionary approach. This will also benefit other species (e.g. amphibians) which may otherwise be affected by site clearance.

13cm x13cm gaps will be created at the bases of fences at the site boundaries to allow passage of hedgehogs across the site. Cautious working will be undertaken when clearing the site to prevent killing or injury to this species.

It is considered that no other ecological surveys are required.

It is recommended that the mitigation measures, outlined in the various sections above are incorporated as far as is possible into the design process for this development. and construction methodologies.

There will be no lighting of retained habitats , dark corridors will need to be implemented throughout the development to allow light intolerant species to continue using the site should they wish.

A wildflower meadow will be planted within the garden of the properties to benefit invertebrates. The wildflower areas will be seeded with Emorsgate EM3 <https://wildseed.co.uk/mixtures/view/4/special-general-purpose-meadow-mixture>

Any proposed lawned areas will be seeded with EL1 – Flowering Lawn Mixture, this contains slow growing grasses with a selection of wild flowers that respond well to regular short mowing (<https://wildseed.co.uk/mixtures/view/56>).

A hedgerow/planted area will be planted on the sites northern boundary between the site and the SINC. This area will be kept dark and will benefit bats and other wildlife.

All boundaries of the site will be kept dark and conform to the following guidance <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>

The following sparrow terrace or similar will be attached to the north western elevation of the properties <https://www.nhbs.com/vivara-pro-woodstone-house-sparrow-nest-box>

The following bat block https://www.nhbs.com/bat-block?bkfno=246596&ca_id=1495&adlocale=uk&gclid=CjwKCAiAnO2MBhApEiwA8q0HYTrIltmUdfXSmZQgvmupqeYj1cFwdN5KLrnJOB2F_rfrsEINTpQV1BoCx1EQAvD_BwE or similar will be integrated in to the western elevation of the properties.

The following sparrow terrace or similar will be attached to the north western elevation of the properties <https://www.nhbs.com/vivara-pro-woodstone-house-sparrow-nest-box>.

This report will need to be updated once the final development layout has been agreed. It is considered that due to the application being outline only, details of planting, specification and management of retained and newly created habitats can be covered by a LEMP at reserved matters stage or as a condition on the planning application.

8 REFERENCES

- Battersby, J. (Ed) & Tracking Mammals Partnership. (2005). UK Mammals: Species Status and Population Trends. First Report by the Tracking Mammals Partnership. JNCC/Tracking Mammals Partnership,
- Collins, J (Ed). Bat Surveys for Professional Ecologists - Good Practice Guidelines (BCT, 2016).
- Joint Nature Conservation Committee (2001) *Handbook for phase 1 habitat survey: A technique for environmental audit*. JNCC.
- Joint Nature Conservation Committee (2003). Herpetofauna Workers' Manual JNCC
- Mitchell-Jones, A.J. & McLeish, A.P. (2004) The bat workers' manual (3rd Edition). Joint Nature Conservation Committee.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. Natural England
- Planning Policy Wales (2013).
- Protection of Badgers Act (1992).
- Stace, C A (1997) *New Flora of the British Isles* (2nd Ed) Cambridge University Press
- The Conservation of Habitats and Species Regulations 2017.
- The Environment (Wales) Act 2016. (HMSO)
- The Natural Environment and Rural Communities Act (2006) (as amended) (HMSO).
- The Wildlife and Countryside Act 1981 (as amended).
- Welsh Assembly Government (2007). Planning Policy Wales Technical Advice Note 5: *Nature Conservation and Planning*.

APPENDIX A - PHOTOS

PHASE 1 HABITAT SURVEY PHOTOS

Plate 1- photograph of disturbed area and bund (western boundary)



Plate 2- Driveway



Plate 3-photograph facing north west



Plate 4- Wetter areas of grassland (north west)



Plate 5- southern boundary



Plate 6- photograph of tree to be removed



APPENDIX B– SITE CLEARANCE METHOD STATEMENT

1. All clearance will be supervised by a suitably experienced ecologist until such time as the ecologist states that direct supervision is not necessary.
2. The ecologist will be on call for the duration of clearance works.
3. Vegetation will be cleared from directly affected areas only and the area minimised wherever possible.
4. All above ground vegetation removal will preferentially be undertaken during the winter months i.e. between November and February inclusive.
5. If this is not possible, all areas to be cleared must be subject of a finger-tip search by an ecologist immediately prior to and during any clearance work; the ecologist should also be present while all post hole excavation (or other ground breaking should it be required) is being undertaken.
6. Should evidence of breeding birds, in particularly nests, be recorded, no clearance may be undertaken within 5m of any nest site until such time as the nest is vacated naturally.
7. No spraying of vegetation to be carried out. Vegetation will be maintained close to ground using repeated cutting only. 1x Hibernaculum will be added to an area of the garden remaining unaffected by the development. Materials already onsite (e.g., brash, logs) will be used.
8. Woody vegetation will be cleared (ONLY IF NECESSARY) to ground level using a chainsaw with all arisings stacked in unaffected areas NOT on areas of tall vegetation (over 300mm). Where necessary, stumps and roots will only be removed by machine (under ecological supervision) once the clearance is complete.
9. All woody vegetation will be checked by the ecologist prior to cutting for the presence of bird nests.
10. Vegetation will be cut in three phases. The first phase will reduce the vegetation height to 150mm; the second will reduce it to ≈50mm; the third phase will reduce the height to as close to ground level as possible. All cuts will have a period of 24 hours between each cut.
11. All vegetation cutting will be directional. This ensures that any animals present will be pushed from the site into adjacent retained habitats.
12. After clearance, if the vegetation is allowed to regrow above 150mm high, it will be cut and raked as described above.
- 13. Where necessary, potential hibernacula (brash, log piles, stumps, roots etc) and ground breaking will only be cleared during the active season (March-October) while day time temperatures are consistently over 12°C for a period of at least seven days prior as otherwise reptiles may be killed or injured as a result of inconsistent (low) temperatures (during the day and night) and/or low prey availability. Potential hibernacula will only be dismantled by hand unless the supervising ecologist gives the approval for machine dismantling.**
14. If a bird's nest is observed on the site, the ecologist will assess it to determine whether or not it is active, the species concerned, the lifecycle state of any occupants and provide advice on next steps.
15. If reptiles are observed within the clearance area during the works, a decision on how to deal with them will be made on site in light of the conditions on site at the time and the state of the animals themselves. There are three options for dealing with them:
 - It may be possible to leave the animals alone to find their own way into cover, depending on where they are seen, what they are doing and their apparent activity levels; or

- Capture, remove from site and take into temporary captivity until such time as they can be released adjacent to the cleared area (a vivarium has been prepared in case it is required); or
- Should conditions allow, capture and translocate the animals to a safe area immediately adjacent to the site.

16. Habitat and the unlikely presence for other species (e.g. dormice, otter, great crested newts & other amphibians etc.) can be identified and avoided by following this method statement.

17. In the event that a European Protected Species such as great crested newt or dormouse is observed during the clearance,, all work will stop, and the ecologist consulted. It will be necessary to consult with Natural Resources Wales; further surveys and a development licence may be required before work can recommence.

If large numbers of reptiles are discovered, an offsite receptor area should be suggested to be agreed by the County Ecologist.

In Summary the works will proceed as follows:

1. Vegetation reduced to 150mm	Any time of year (following an inspection for breeding birds if undertaken during active season)
2. Vegetation reduced to 50mm	24 hours after first cut
3. Vegetation cut to ground level	25 hours after second cut
4. Removal of potential hibernacula (stumps, rubble piles, ground breaking etc)	Preferably March to October or when temperatures have been above 12 degrees for a period of seven days or more
The site will be kept as close to bare ground as possible via repeated cutting to ensure that reptiles do not re-colonise the site.	

The site will be cleared from north east to south west in order to push reptiles into the habitat beyond the south western boundary.

APPENDIX D – SPECIES LIST

Oak, bramble, grey willow, sycamore, spruce, silver and downy birch, bracken, springy turf moss, hedge bindweed, rosebay willowherb, great willowherb, red fescue, common nettle, rough and smooth meadow grass, cocksfoot, perennial ryegrass, eared willow, hawthorn, ivy, ribwort plantain, hazel, wood avens, blackthorn, thistle, meadow buttercup, common sorrel, crested dogstail, broadleaved dock, curled dock, marsh thistle, greater plantain, perennial ryegrass, yarrow, dandelion, autumn flowering hawkbit, creeping thistle, soft rush Bramble, rosebay willow herb, creeping bent, timothy, cocksfoot, ribwort plantain, scaly male fern, springy turf moss, curled dock, spear thistle, common bent, common sorrel, self heal, foxglove, creeping cinquefoil, bittercress sp. , nettle, gorse, wild raddish, common sorell, hard rush and soft rush.

APPENDIX E – PHASE 1 MAP



APPENDIX F– Proposed Plan

