

Construction Environmental Method Statement Ecology Section

Land at Dapper's Lane, Angmering

Report for GD Group

September 2019

Our Ref: WS166



Quality Assurance

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Date	16.09.19
Version	Draft

About Us

Bakerwell Limited has two offices, led by directors Fiona Baker and Donna Popplewell. The Directors have collectively 16 years' experience in the ecological consultancy industry, hold relevant degrees, are qualified botanists, and are trained in the use of biodiversity metrics to calculate no net loss/gain.

All staff are members, or training to be members, of the professional body for the environmental industry, the Chartered Institute of Ecology and Environmental Management (CIEEM) and hold Natural England European protected species licences for great crested newts, bats and dormice. Bakerwell Limited has SMAS Worksafe Health and Safety Accreditation; all staff hold relevant CSCS cards.

Bakerwell Limited is a consultancy specialising in ecological planning advice and surveys. Bakerwell also work in collaboration with trusted associates to provide Landscape Architecture, Arboriculture and Energy assessments.



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Figure 1: Ecological Constraints Plan

Appendices:

Appendix 1: Planning Condition Wording

Appendix 2: Relevant Legislation

Appendix 3: Penalties for Wildlife Crime

Appendix 4: Risk Assessment of Ecological Hazards

Appendix 5: Ecology Partnership - Preliminary
Ecological Appraisal and Bat Survey Report

Appendix 6: Ecology Partnership - Reptile Survey
Report



Figure 1:

Ecological Constraints Plan

Site: Dapper's Lane, Angmering
Date: September 2019
Job: WSN18 166
Author: MS
Reviewer: FB

Key



Red Line Boundary

Constraint Areas



Bat Roost Potential



Building-Nesting Bird Potential



Tree/Scrub Nesting Bird Potential



Retained and Enhanced Wildlife Area



Dark Corridor for Bats - Around Retained Trees

0

10

20

30 m

Approximate Scale

bakerwell

ecological expertise

Contains Google Satellite data © Crown Copyright and database right (2019)

1 Introduction

- 1.1 Bakerwell Limited were commissioned by GDGroup to produce an Construction Environmental Method Statement (CEMS) for the site at Dapper's Lane, Angmering, West Sussex.
- 1.2 Planning permission was granted subject to conditions on the A/142/16/OUT This document has been prepared in order to discharge planning condition 11 and 14.
- 1.3 This report is supported by an Ecological Design Strategy (EDS) which provides long term measures to maintain the species and habitats present. The condition wording is provided in Appendix 1.
- 1.4 The 1.15ha site is located at grid reference TQ 07332 05057. The development proposals for the site include the construction of residential development based on the Illustrated Site Layout Drawing issued for planning. Access to the new homes will be from Dappers Lane, the development will also include car parking, landscaping, SuDs and wildlife enhancements.
- 1.5 The CEMS has been developed to provide a management framework for construction activities and forms ecological guidance for all personnel working on site throughout the construction period. The construction period is defined as the period of time it takes to complete all works in support of planning application REF: A/142/16/OUT and maintenance of the site thereafter. Adherence to the CEMS will ensure no breach of wildlife legislation occurs on site during the construction period. By following the guidance in this document, site workers will avoid the heavy fines and penalties that could be incurred, and will protect the wildlife at Dapper's Lane.
- 1.6 Given the dynamic nature of development, this document will be subject to periodic review in response to any changes in working practices on site. Any further ecological risks identified during construction will be added to this document and if necessary works shall halt until the planning authority has approved an appropriate method statement.
- 1.7 Precautionary measures have been recommended for herpetofauna, bats, badgers, dormice and nesting birds during construction. Lighting will avoid boundary hedgerows and ecological features (particularly SUDs features) to ensure disrupting the activities of nocturnal species such as GCN and bats.
- 1.8 Provided the measures detailed within this report are implemented there will be no significant impact to any protected species as a result of the development. The design of the development includes provision of a SUDs strategy, log piles for herpetofauna and invertebrates, bat roosting and bird nesting boxes and native planting to strengthen linear and boundary features. This will result in a positive overall impact for protected species in line with the NPPF.

2 Aims and Objectives

- 2.1 The aim of this method statement is to provide detailed specifications of the measures to be taken to avoid and mitigate harm to protected species from the proposed development.
- 2.2 Largely precautionary measures will be adopted as the site is generally of low ecological value and previous surveys found most protected species to be likely absent. Consideration will be given to bats which use treelines for commuting and foraging, breeding birds which may use habitats on site for nesting and terrestrial species (other mammals, herpetofauna and invertebrates) which may use the dense scrub.

Specifically, objectives are to:

- Detail measures to protect foraging and commuting habitat used by bats
- Detail the measures to be taken to avoid disturbing breeding birds
- Detail the measures to be taken to avoid harm to badgers and hedgehogs
- Detail the measures to be taken to avoid harm to stag beetles
- Detail the measures to be taken to avoid harm to other potentially present species

Relevant legislation for the species present or potentially present is detailed in Appendix 2.

3 Ecological Method Statement

- 3.1 The mitigation hierarchy should be considered during the design of the development and method statement. The hierarchy states adverse effects on biodiversity should be avoided where possible. Where adverse effects cannot be avoided through design, mitigation measures should be implemented to minimise the negative impact of the development upon biodiversity. In exceptional cases, where avoidance and mitigation are not possible, compensation measures could be considered. Alongside the efforts to avoid, mitigate or compensate for the negative impacts of the development, opportunities to enhance the ecological value of the site should be considered.

Bats

- 3.2 During 2016 surveys, three species of bats were recorded using the site; Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *P. pygmaeus* and Serotine *Eptesicus serotinus*. The two pipistrelles were recorded commuting and foraging along the treelines and occasionally in the southern garden. One serotine was recorded commuting over the site.
- 3.3 The ecological condition of the site has not changed since the surveys in 2016. It is unlikely that the bats are using the site, as all the buildings are well sealed with negligible potential.

- 3.4 The semi mature horse chestnut with moderate bat roosting potential is being retained so will be unaffected by the works. All other trees were found to have negligible potential to support bats, therefore, the following methods will be undertaken.
- 3.5 All retained trees on site will be protected by Tree Protection Fencing BS 5387, erected around the perimeter of the root protection zone (generally the area around the edge of the tree's canopy).
- 3.6 Following Bat Conservation standard advice (BCT, 2016) trees planned for removal, identified with negligible to low potential for roosting bats will be soft felled under ecological supervision.
- 3.7 Works will take place during daylight hours only, no artificial lights will be used to light the boundary habitats or trees during the construction. The design and lighting strategy for the residential development will also avoid lighting boundary habitats and the position of bat boxes. Security lights will be hooded and timed.
- 3.8 Five bat bricks will be installed on the buildings around site and three bat boxes will be installed on mature trees. Three were originally proposed by CDC but research into bat mitigation by The University of Exeter and the Chartered Institute of Ecology and Environmental Management (2018) has shown bats are unlikely to use bat boxes where less than five are installed. Bats roost transiently, requiring several to be available at a time to facilitate roost selection based on weather conditions and the other factors.
- 3.9 The bricks will be Ibstock Bat Access Bricks or similar. The boxes will be Bird Brick Houses Bat Box or similar. All roost bricks/boxes will be placed at a height of over 3m, with an unobstructed access point and faced away from north or southerly directions to avoid temperature extremes. Approximate positions for these are shown in Figure 1.

Breeding Birds

- 3.10 All nesting and breeding birds are protected from disturbance, injuring and killing under the Wildlife and Countryside Act 1981 (as amended). Tree and scrub removal will take place outside of the bird-nesting season March – August inclusive. If this is not possible the felling will be carried out under an ecological supervision following a check by a qualified ecologist for active nests. If any active nests are found a buffer zone will be erected and no works will be carried out in this area until the ecologist has confirmed that the young have fledged.
- 3.11 The removal of trees and vegetation will result in the loss of nesting habitat for birds. Six bird boxes will be installed on trees and buildings across the site. Three schwegler 3SV bird nest boxes will be erected on mature trees around the development site. One schwegler 1SB and two schwegler 9A will be incorporated into the buildings. Approximate positions for these are shown in Figure 1.

Badgers and Hedgehogs

- 3.12 Badgers and their setts are protected in the UK under the Protection of Badgers Act 1992, whilst hedgehogs are partially protected under the Wildlife and Countryside Act 1981. No evidence of badgers was recorded on site, however an active badger sett was recorded 260m to the east in 2016, so badgers may use the site to forage and commute

to wider areas. No evidence of hedgehogs was recorded on site, however the site offers good potential habitat and several recent records were found 200m from the site.

- 3.13 The layout of the development will allow the site to remain permeable to mammals. The retained boundary treelines and scrub will maintain routes for navigation around the development.
- 3.14 Any areas where hedgehogs could be sheltering within the construction footprint will be dismantled by hand under a precautionary methodology during the pre construction site preparation phase. Any small animals found during this dismantling will be translocated to suitable habitat in the wildlife corner, see Figure 1.
- 3.15 During construction heras fencing (or similar) will be placed in front of retained treelines, wildlife corner and other retained habitats. This will be set at 20cm or greater above ground height to allow badgers to maintain their range. Any excavations during the construction phase of the development will be covered overnight, or planks of wood will be placed to enable any animals which may fall to escape.
- 3.16 Fences (both new and retained) will have a 13x13cm gap cut at the base to allow hedgehogs to move across the site, including any fences between residential gardens.

Stag beetles

- 3.17 Stag beetles are partially protected under the Wildlife and Countryside Act 1981, listed on Schedule 5 as a "priority species". There is potential for stag beetles and other invertebrates to forage and breed on site. The National Biodiversity Network has several recent records of stag beetle occurring within 1 kilometre of the site, with the closest approximately 50m to the west recorded in June 2018.
- 3.18 To ensure that no stag beetles, their larvae or their breeding places are harmed, the existing log pile will be dismantled by hand. Three log piles will be created in the wildlife corner, for the stag beetles to use. Any individuals found during the dismantling process will be moved here.

Habitats

- 3.19 Trees and root protection areas will be protected by tree protection fencing to BS 5837. Specific working practices around trees for the construction period should follow the Arboricultural Method Statement.
- 3.20 The boundary areas including the treelines, hedges and wildlife corner will be managed for wildlife. The details of this are provided in the Ecological Design Statement for the site. Details of initial works have been provided in this document under each species that the works have been designed to mitigate for.

Other species

- 3.21 Reptiles, great crested newts and dormice are unlikely to be present on site due to the lack of suitable habitat, connectivity and, in the case of reptiles, no individuals being found during previous surveys.

4 Ecologist

The Client Ecologist

- 4.1 The Client Ecologist is Bakerwell Limited. Bakerwell Limited are employed to provide overall guidance on ecology at Dapper's Lane. They are responsible for:
- Developing method statements and site protocols as required;
 - Providing guidance for the site team including legal and statutory requirements affecting the works;
 - Liaising with Natural England and other Statutory or third party with an ecological interest in the scheme if necessary; and
 - Undertaking ecological monitoring

Ecological Clerk of the Works (ECOW)

- 4.2 The Ecological Clerk of Works (ECOW) is a member of Bakerwell Limited who is employed by GD Group to give advice on wildlife issues on site. The ECOW is on site when appropriate to monitor work so that no wildlife comes to harm and also to provide advice to site managers and workers about best practices.

The advice must be followed as those that do not follow the ECOW's advice may be leaving themselves and their employer at risk of financial penalties.

- 4.3 Further details on the penalties for wildlife crime can be found in Appendix 4.
- 4.4 If necessary toolbox talks will be provided for site workers by the ECOW and are available to all sub-contractor companies to provide onsite training sessions for site workers. Sub-contractors are encouraged to take advantage of this service.

If an occasion arises which requires advice about a wildlife issue but the ECOW is unavailable, then the Bakwell Ltd. office can be contacted on: 01273 030924.

5 Ecological Considerations

5.1 Bakerwell Limited have attended site during 2019 to provide update ecological appraisal of the habitats and potential for protected species present. Full ecological surveys of the site were undertaken during 2016 by The Ecology Partnership. The surveys and desk studies identified the following species on/near to the site:

- Badgers
- Bats
- Breeding birds
- Badgers
- Hedgehogs
- Stag beetles

5.2 Figure 1 shows areas of highest Ecological Constraint.

5.3 All proposed mitigation outlined in this Construction Environmental Method Statement will be carried out as part of pre-construction work and be in place prior to the commencement of construction. The Proposed Works Schedule outlining the timing of activities can be found in Appendix 3 of the EDS.

5.4 A Poster providing photographs of the species that may be found at site is provided in Section 10, this should be preprinted and displayed in the site office at all times. Should any of the species (or any other) be seen within the working area of the site the ecologist will be called immediately and their advice will be followed. Appendix 2 & 3 provide relevant legislation and details of penalties for wildlife crime. Not reporting a sighting could put the project at risk.

6 Biodiversity Protection Zones

- 6.1 As well as protected species there are also retained habitats at the site that form "Biodiversity Protection Zones".
- 6.2 The Biodiversity Protection Zones are:
- Tree protection areas
 - Meadow planting in public areas and Wildlife Corner
 - Boundary trees, shrubs and hedges; and
 - Log piles
- 6.3 No works are permitted inside Biodiversity Protection Zones without prior authorisation. If authorisation is required to permit works within these areas, the Client Ecologist should be notified in the first instance. If appropriate the Client Ecologist should then produce a method statement of safe working practices which will be transposed into action on site.
- 6.4 Prior to works the ECOW will provide a toolbox talk to relevant contractors on the proposed works and impacts on ecology and supervise the works if appropriate.
- 6.5 During site preparation and construction the biodiversity zones will be fenced off using tree protection fencing BS 5387 or Heras fencing as appropriate. All other zones will be fenced off using Heras fencing and signage will be erected explaining the importance of the area. This protective fencing must be respected by contractors as their company is at risk of incurring heavy financial penalties and/ or costs of repairing or replacing the habitat protection fencing following any damage.
- 6.6 Site workers must not:
- Trespass into the fenced-off areas
 - Damage, take down or move habitat protection fencing
 - Have fires in the biodiversity zoned or open space areas
 - Store building materials, machinery, or other equipment in the fenced off areas, even temporarily; or
 - Store or pile material close to fences.
- 6.7 Clear signage shall be placed on all fencing surrounding the protected tree and wildlife area. The fencing shall be regularly checked by the Site Foreman/Manager and ECOW and any areas found to be of poor quality or damaged, shall be repaired or replaced immediately.

7 Risk Assessment of Ecological Hazards and Sensitive Working Practices

7.1 An outline of the procedures to be followed by site workers for specific working practices is provided below. Because the site is sensitive many of the specifications may be non-standard.

7.2 The main ecological hazards that may occur on site are:

- Vegetation removal
- Pollution
- Earth moving
- Lighting
- Burning
- Interference and disturbance; and
- Ecology

General procedures

7.3 Prior to construction starting on site all personnel will attend a site induction, during which they will be made aware of the ecology on site and this document to ensure that this document has been read and understood.

7.4 Access into the site will be limited to the existing entrance off Dappers Lane. The retained hedgerows and trees that border the site will remain intact.

Vegetation removal

7.5 This type of work could harm nesting birds, bats and other wildlife.

7.6 The ECOW will need to supervise ground clearance in protected areas, and in some cases do a final check for these animals before the ground surface is affected. The ECOW must be consulted before any of the following are undertaken, in order to decide whether supervision is necessary:

- The removal of grassland, hedgerows, scrub and trees anywhere on site
- The removal of bushes by heavy machinery
- The removal of plants including grassland by heavy machinery
- Tree felling/works

- 7.7 Trees to be removed as specified in the planning application: The ECOW will supervise the removal of trees. The ECOW must be contacted before any trees are removed to decide whether supervision is necessary. Logs and wood that will be created from tree removal works must not be chipped; they will be used to create habitat features. These must be stacked in the areas agreed with the ECOW.
- 7.8 Further work to trees: Should work to trees be required that has not been included in the planning application, for example if there are health and safety concerns, the local tree officer should be consulted along with an ecologist. The ecologist may need to assess the trees to ensure that there is no possibility of roosting/nesting bats and birds. Particularly if they are very big and old, making them a good place for these animals to live. The ECOW must be contacted before any trees are removed to decide whether supervision is necessary. Again, logs and wood that will be created from tree works must not be chipped; they will be used to create habitat features. These must be stacked in the areas agreed with the ECOW.

Pollution

- 7.9 Spills and run-off from the site and dust from piling activities, excavations, vehicular movements and stockpiling can pollute Biodiversity Protection Zones and the surrounding countryside.
- Fuels and oils should be stored securely in drip trays and away from Biodiversity Protection Zones.
 - All litter must always be placed in the bins and skips provided and not deposited into the receptor area;
 - Construction materials, including cement should never be stored or dumped within the receptor area. Cement mixers should be washed down where run-off can be contained.
 - Dusty surfaces should be damped down using mobile bowsers and wetting additives added to wheelwash covered vehicles.

Earth moving

- 7.10 This type of work could harm potentially present ground dwelling animals, such as hedgehogs, reptiles, ground nesting birds and badgers.
- 7.11 The ECOW may need to supervise some storage of top/subsoil in or near protected areas. The ECOW must be consulted before any of the following are undertaken, for them to decide whether supervision is necessary:
- The storage of topsoil
 - The storage of sub-soil in or near protected areas
 - The creation of earth banks in or near protected areas
 - Soil scraping in or near protected areas.

7.12 Earth moving may also damage the habitat protection fencing put up to protect important wildlife areas. Therefore when doing earth moving site workers must not:

- Knock down habitat protection fencing
- Pile materials in, or against areas close to the habitat protection fencing
- Pile material in the fenced-off areas
- Move habitat protection fencing

Also:

- No soil should be stored in or removed from uncleared areas
- Soil should only be stored in agreed areas

Lighting

7.13 Security lighting could be harmful to bats commuting and foraging within the area. The following sensitive working practices should be followed during construction:

- Works will be scheduled during daylight hours and no lights will be left on overnight.
- Light will be directed away from treelines, hedges and other wildlife features such as roost/nest boxes.
- Light spillage should be prevented through the use of directional lighting or hoods.
- The lighting strategy should not include any lights directed at these features, security lighting should be timed to limit disturbance to commuting bats and lighting changes should also give consideration to these features.

Burning

7.14 This type of work could harm stag beetles, herpetofauna and other wildlife.

7.15 All burning (if permitted by planning) must be done safely and only in areas agreed in advance with the ECOW. All fires must be controlled and not left unattended. Under no circumstances should diesel be used to encourage or start a fire as this could lead to ground and/or ground water pollution. Under no circumstances should fires be lit in wildlife areas.

Interference & Disturbance

- 7.16 Interference with the habitats and ecological features may result in harm or injury to wildlife on site. The ecological features and mitigation measures have been put in place in the areas outside of the construction footprint to avoid conflict with construction activity.
- 7.17 The retained areas will be separated from the construction footprint by Heras fencing. Activity in these areas will be limited to essential infrastructure works and ecological features will be demarcated by additional Heras Fencing. All retained hedges and trees will have their root protection area (RPA) protected at all times by fencing to BS 5837. Nesting birds may be present in these areas no activities are to take place inside of the RPA without ecological guidance.
- The log piles and landscape features are not to be moved or interfered with.
 - The nest boxes should never be disturbed as they may support protected animals.
 - If a box is in an area/tree that is due to be cleared, contact the Ecologist immediately so they can check to see if the box is inhabited and if empty, remove it from the area.

Ecology

- 7.18 The habitats surrounding the construction site may support a wide range of protected species and there is a small risk of these species entering the construction site, at any time.
- 7.19 If an animal is encountered during construction, the following measures should be carried out immediately:
- Where any personnel on site identify any unexpected species, all works within that area shall cease immediately.
 - Site management shall be immediately informed and they shall contact the Ecology Project Manager.
 - No further work may take place within that area until the the "all clear" has been given by the project ecologist and site management.

8 Conclusion

- 8.1 Provided the methodology detailed in this document is implemented bats, birds, hedgehogs, stag beetles and other species present on the site will be protected from killing or injury. Birds will be protected from disturbance whilst nesting. Therefore, all legislation and planning policies pertaining to these species will be complied with during the construction process.

9 Species Identification Poster

9.1 Display this poster in the site office.

9.2 This section provides guidance for all site workers on the identification of protected species that could be found on site during construction. These pictures are examples for guidance only and readers should be aware that some of these animals are difficult to identify. All animals found by site workers should be reported to the ECOW so that they can identify them.

Call the Ecologist on 01273 303924 immediately if you see any of the below in the construction area. Do not attempt to move any animal without Ecologist guidance, Wildlife penalties may be incurred.

Breeding birds

The following information can be used to help identify breeding birds on site:

- Birds will nest in hedgerows, trees and on the ground;
- Nests are usually made by weaving twigs together;
- Bird eggs are a variety of colours ranging from black to white;
- Some birds will nest all year round, however great care must be taken during the bird breeding season between March to September

The ECoW must be contacted if a bird nest is found in the working area and any birds, bird nests and bird eggs must not be handled unless in immediate danger.



Robin eggs in nest



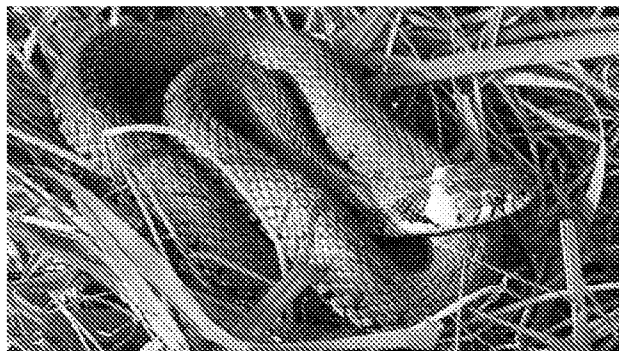
Robin chicks in nest

Reptiles

Grass snake

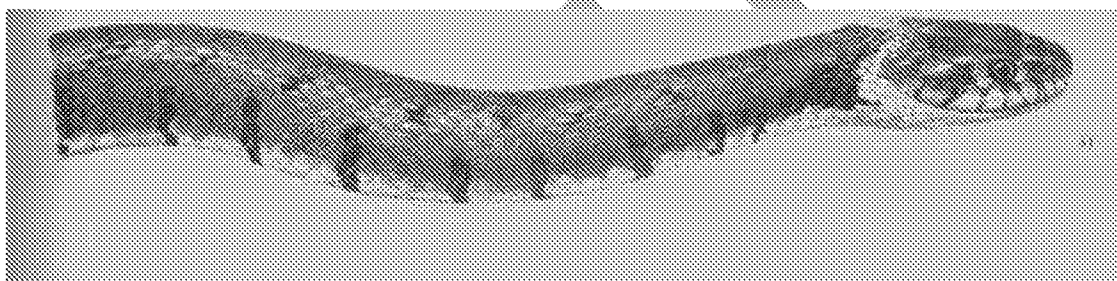
The following information can be used to help identify grass snakes on site. Grass snakes have:

- A body length of 70 cm –150 cm;
- An olive-grey body;
- A yellow collar just behind their head; and
- Black bars along their body



Adult grass snake

Readers should be aware that grass snakes are not venomous although they are easily confused with adders, which are.

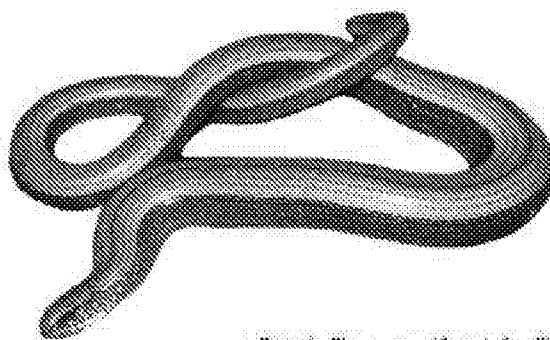


Grass snake

Slow worms

The following information can be used to identify slow worms in site. Slow worms have:

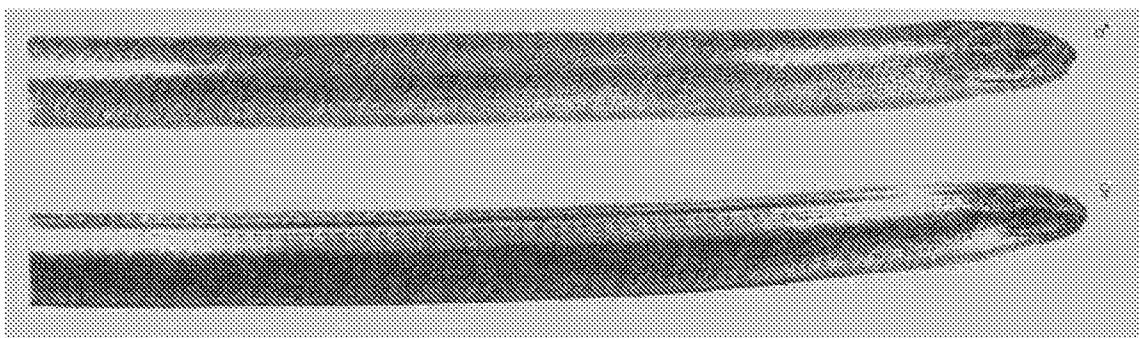
- Shiny metallic colour of cream, red or gold;
- Dark ventral lines along their length; and
- An adult body length of 30 cm –50 cm.



Female Slow-worm (*Anguis fragilis*)

Readers should be aware that slow worms are very sensitive to damage. No slow worm should be picked up by site workers unless the slow worm is in immediate danger. Any slow worm seen must be reported to and identified by the ECOW.

Female slow worm (courtesy of www.herpetofauna.co.uk)



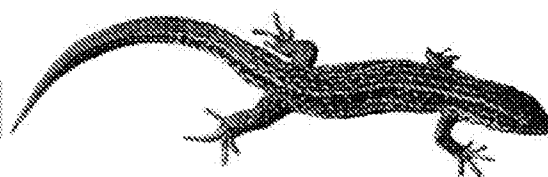
Male (top) and female (bottom) slow worms.

Common lizard

The following information can be used to help identify common lizards on site. Common lizards have:

- A dark green to grey-brown colour
- Light and dark flecks, spots or lines along body
- Adult body length between 130-140 mm

Readers should be aware that lizard's tails are very sensitive and are easily damaged. No lizard should be picked up by site workers, unless the lizard is in immediate danger. All lizards found must be reported to and identified by the ECOW.



Male Common Lizard (*Lacerta vivipara*)

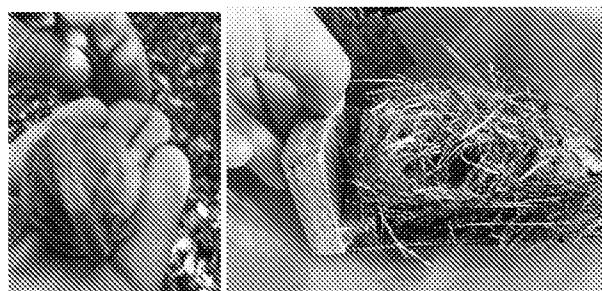


Female Common Lizard (*Lacerta vivipara*)

Male (top) and female (bottom) common lizard (courtesy of www.herpetofauna.co.uk)

Dormice

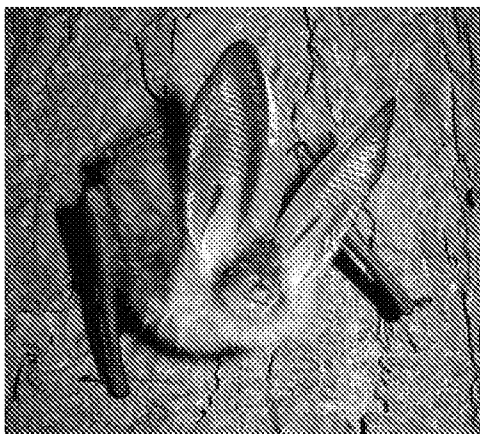
- Dormice are arboreal
- They make neat spherical nests of honeysuckle and fresh and green leaves
- During summer nests can be found in the braches of trees and hedges, in winter dormice hibernate in nests amongst the leaf litter or tree roots
- **If Dormice or a suspected nest is found the Ecologist must be notified.**



Torpid dormouse and nest in survey tube.

Bats

- Bats are nocturnal, flying mammals
- They have brown coloured fur
- **No bat must be picked up by site workers unless it is immediate danger. Any bats seen must be reported to the ECOW.**



A brown long-eared bat resting on a tree trunk



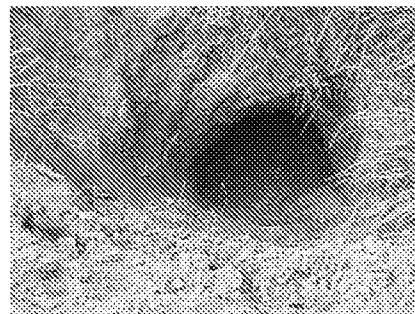
Tree crevice used as a bat roost

Badger

- Hole size about 25cm wide or greater



Entrance to badger sett in earth bank next to fencing.



- There may be mounds of earth by the entrance holes
- Ground immediately around hole is worn bare and smooth
- Dead grass or leaves may be seen next to hole entrance

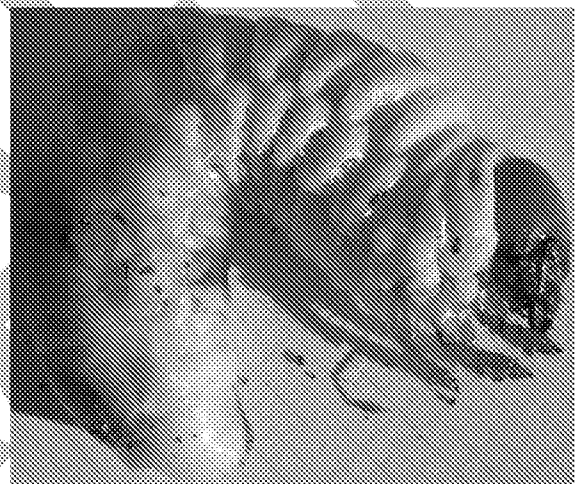
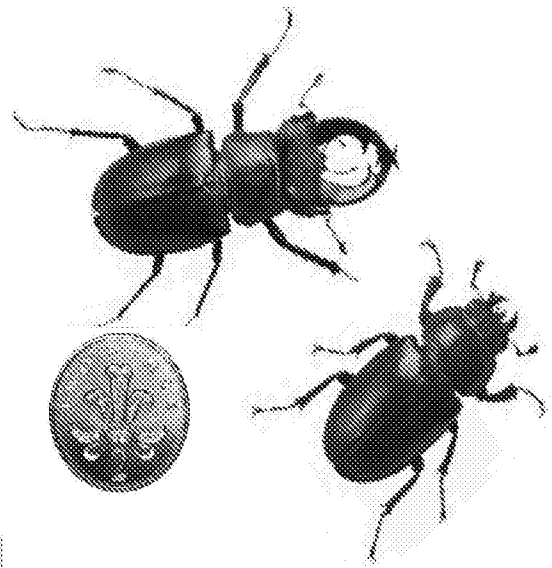
Entrance hole to badger sett

Badger setts can be confused with rabbit burrows and fox earths, therefore all animal holes must be reported to the ECOW.

Stag beetles

- Largest beetle in the UK.
- Smooth and shiny with brown wing cases, black heads and black middle sections.
- They are not harmful to people and cannot sting like wasps or bees.
- Males: 3.5-7.5cm long and have large "antlers".
- Females: 3-5cm long, with much smaller mouthparts.
- Stag beetle young: 11cm long
- Smooth pale skin with an orange head and brown jaws.
- They are largely found beneath ground, up to half a metre down. They will often form a C shape when placed on the ground

If any individuals are found, an ecologist (or designated person chosen by the ecologist) will use gloves to pick up the beetle and move them to a log pile, out of the construction area.



Images from People Trust for Endangered Species

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Report

DRAFT

Appendix 1

Planning Condition Wording

- 11) *No works including demolition until Construction Method Statement approved.*
- 14) *No development including site access, demolition or associate construction activities shall take place on the site unless and until full details of the mitigation and enhancement identified in Section 4 and 5 of Eco appraisal as well as timetable of how to be implement has been approved by LPA. Should include details re: 3-bird boxes and 3 bat boxes on mature trees on site; 3 log piles on site; Meadow planting on verges in front of properties, Details to be implemented in accordance with approval, and retains unless otherwise agreed in writing with LPA.*

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Appendix 2

Relevant Legislation

Species	Legal Protection
Bats, Dormice, GCN	All British species of bats, GCN and dormice and their resting and breeding sites, have legal protection under UK and European law (Wildlife and Countryside Act (WCA) 1981 (as amended), and the Conservation of Habitats and Species Regulations 2010. It is an offence to: • capture, kill, disturb or injure a dormouse • damage or destroy a breeding or resting place • obstruct access to their resting or sheltering places • possess, sell, control or transport live or dead individuals, or parts of them
Badgers	Badgers, and their setts, are protected in the UK under the Protection of Badgers Act 1992. It is an offence to: • intentionally capture, kill or injure a badger • damage, destroy or block access to their setts • disturb badgers in setts • treat a badger cruelly • deliberately / intentionally allow a dog into a sett • bait or dig for badgers
Reptiles	All common reptiles are protected from killing or injury under the WCA 1981, as amended.
Birds	All active bird nests are protected under the WCA 1981, as amended from damage/destruction. Furthermore, birds that are listed on Schedule 1 of the Act are also protected from disturbance while they are nesting.

Appendix 3

Penalties for Wildlife Crime

This section outlines the penalties for wildlife crime. It is important to note that if wildlife crime is reported, work may need to be stopped for weeks or months whilst the incident is investigated. This applies to work stopped under a Stop Notice and Enforcement Notice from The County Council or investigation by police pending criminal prosecution. Such delays could seriously affect sub-contractors profits.

The penalties for wildlife crime are summarised below. Some relevant legal extracts are provided at the back.

Criminal Prosecution

Harm to

- great crested newts & their habitat
- dormice & their habitat
- bats & their roosts
- badgers & their setts
- grass snakes
- slow worms
- common lizards
- Wild birds & their nests
- Water vole burrows

is a criminal offence whether done deliberately or recklessly (by mistake when it is known harm could be done). British law states that ***finest of up to £5,000 and /or prison sentences of up to 6 months can be given for each animal harmed or incident. Both the site worker guilty of the offence and the company which employs the site worker could be fined.***

The fenced off areas are the habitats that are being retained for the special animals. ***The law protects these habitats as well with penalties of up to £5,000 and/or 6 months imprisonment.***

Penalties that could be enforced by the Council

The Council have granted planning permission to GD Group for building houses at Dapper's Lane, Angmering but the permission is subject to conditions. One of the

conditions is that the works abide by approved planning documents, this report and the EDS form part of the planning conditions. *If the council decide that GD Group are not making sufficient effort to protect the animals, the Council may issue an Enforcement Notice and a Stop Notice on construction which would halt development until the problem was resolved.*

For example, if the Council saw that the tree protection fence was not in place, the council might issue an Enforcement Notice and a Stop Notice to Ward.

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Appendix 4:

Ecology Partnership - Preliminary Ecological Appraisal and Bat Survey Report

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Merry England Nursery,
Dapper's Lane,
Angmering

Preliminary Ecological Appraisal
Internal and External Bat Survey

March 2016



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LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living creatures are capable of migration and whilst protected species may not have been located during the survey duration, their presence may be found on a site at a later date.

The views and opinions contained within this document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to or during works.

1.0 Introduction

Background

- 1.1 The Ecology Partnership was commissioned by Stiles Harold Williams to undertake a preliminary ecological appraisal and an internal and external bat survey, at Merry England Nursery, Dapper's Lane, Angmering, West Sussex.
- 1.2 This report presents the results of The Ecology Partnership's surveys in and around the site, which aims specifically to assess the site's potential to support protected species and protected habitats that may be affected by the proposed development.
- 1.3 Section 2 of this report sets out the methodologies of the surveys. In section 3 the results of the surveys are presented. Discussions and implications for development are found in section 4, including general site enhancements. Conclusions drawn from the report are presented in section 5.

Site Context and Status

- 1.4 The site is located on Dapper's Lane on the eastern edge of the town of Angmering in West Sussex. Nurseries to the north and south, with agricultural fields to the east and dense housing to the west immediately surround the site. The site lies on the border of the South Downs National Park with patches of ancient woodland in the wider landscape. There are no other designated sites within 5km of the site.
- 1.5 The approximate red line boundary of the site is shown below in figure 1. This was also the approximate survey boundary.



Figure 1: Approximate location of the red line boundary

Description of Proposed Development

- 1.6 It is understood the proposed development is to include the demolition of the existing buildings on site and the construction of several new residential dwellings within the redline boundary.

Planning Policies

- 1.7 National and local planning policies may have an effect on the proposed development. The following paragraphs identify relevant planning policies and discuss these in the context of the site.
- 1.8 The United Kingdom Biodiversity Action Plan (UK BAP), published in 1994, is the national response of the Convention on Biological Diversity signed in Rio de Janeiro in 1992. The key objective of the UK BAP is avoidance of harm to 'Species of Conservation Concern'.

1.9 Under the NERC Act (2006) *“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”*. In order to comply with this ‘Biodiversity Duty’, planning decisions must ensure that they adequately consider the potential ecological impacts of a proposed development.

1.10 National policy guidance is provided by National Planning Policy Framework (NPPF), which sets out the Government's planning policies for England and how they should be applied. Several sections are considered to be relevant;

‘In preparing plans to meet development needs, the aim should be to minimise pollution and other adverse effects on the local and natural environment. Plans should allocate land with the least environmental or amenity value, where consistent with other policies in this Framework.’

And;

‘Planning policies and decisions should encourage the effective use of land by re-using land that has been previously developed (brownfield land), provided that it is not of high environmental value. Local planning authorities may continue to consider the case for setting a locally appropriate target for the use of brownfield land.’

1.11 The site falls under the jurisdiction of the Arun District Council. The Local Plan was adopted in 2003 and contains policies relating to nature conservation:

Policy GEN28 Trees and Woodlands

“Development will not be permitted if it would damage or destroy one or more trees protected by a tree preservation order, identified as ancient woodland or in a conservation area unless:

- *The removal of one or more trees would be in the interests of good arboricultural practice;*
or
- *The benefits of the proposed development outweigh the amenity value of the protected trees.*

Conditions may be used to ensure, for any trees which are removed as part of a development, an equivalent number are planted on the site."

Policy GEN29 Nature conservation across the district

"Development will only be permitted on sites which contain semi-natural habitats, features of nature conservation interest, or within wildlife corridors, where these can be largely retained and sympathetically incorporated into the scheme. Legal agreements may be used to offset the loss of, or impact on, any nature conservation resource present on the site prior to development."

Policy AREA13 Sites of International Importance for Nature Conservation

"Proposals for development in, or likely to affect (directly or indirectly) a site of international importance for nature conservation will be subject to the most rigorous examination. Development not directly connected with or necessary to the management of the site which is likely to have an adverse effect on the site, will not be permitted unless: there is no alternative solution, there are reasons of public health or public safety, or there are benefits of primary importance to the environment.

Where such sites do not host a priority habitat or species, development will not be permitted unless there are imperative reasons of overriding public interest.

Where development is permitted, the use of conditions or planning obligations will be considered in order to avoid and minimise harm to the site, to enhance the site's nature conservation interest, and to secure any compensatory or mitigation measures and appropriate management that may be required."

Policy AREA14 Sites of National Importance for Nature Conservation

"Proposals for development in, or likely to affect (directly or indirectly) Sites of Special Scientific Interest will be subject to special scrutiny. Where such development is likely to have an adverse effect, it will not be permitted unless the reasons for the development clearly outweigh the nature conservation value of the site itself and the national policy to safeguard the national network of such sites.

Where the site concerned is a National Nature Reserve, a site identified by the Nature Conservation Review or Geological Conservation Review, particular regard will be paid to the national importance of that site.

Where development is permitted, harm to the nature conservation interest must be minimised. The use of conditions or planning agreements will be considered to ensure the protection and enhancement of the nature conservation interest, and to provide appropriate compensatory or mitigation measures and site management."

Policy AREA15 Sites of Local Importance for Nature Conservation

"Proposals for development in, or likely to have an adverse effect (directly or indirectly) on a Local Nature Reserve, Site of Nature Conservation Importance (including ancient woodlands or wildlife corridors) or Regionally Important Geological/Geomorphological Site will not be permitted unless it can be demonstrated that reasons for the proposal outweigh the need to safeguard the nature conservation value of the site/feature. Where development is permitted which would damage the nature conservation value of the site/feature, such damage should be kept to a minimum.

Conditions or planning obligations will be used to secure necessary compensatory or mitigation measures, enhancement and site management.

Where appropriate, the Authority will consider the use of legal agreements to provide appropriate compensatory measures, enhancement and site management."

- 1.12 This report addresses the site in relation to nature conservation and wildlife and indeed to the local planning requirements as well as national planning and nature conservation legislation. The report has been produced with reference to current guidelines for preliminary ecological appraisal (CIEEM 2013) and in accordance with BS 42020:2013 Biodiversity – Code of Practice for Planning and Development.

2.0 Methodology

Desk Top Study

- 2.1 A desk top study search was completed using an internet-based mapping service (www.magic.gov.uk) for statutory designated sites and two internet-based aerial mapping services (www.multimap.com and maps.google.co.uk) were used to understand the habitats present in and around the survey area and habitat linkages and features (ponds, woodlands etc) within the wider landscape.
- 2.2 The Ecology Partnership purchased biological records from Sussex Biodiversity Records Centre for the adjacent eastern site in 2015. A search of records in a 2km radius of the site was used.

Internal and External Bat Surveys

- 2.3 An internal bat survey was undertaken on the 19th February 2016 by The Ecology Partnership ecologist Alexia Tamblyn MA (Oxon) MSc CEnv MCIEEM FRGS bat licence holder. The surveyors undertook an internal and external examination of all buildings within the red boundary. The surveyors assessed the buildings visually and searched for evidence such as:

- Staining beneath or around a hole caused by natural oils in bat fur.
- Bat droppings beneath a hole, roost or resting area.
- Bat droppings and/or insect remains beneath a feeding area.
- Audible squeaking from within a hole.
- Insects (especially flies) around a hole.
- Dead bats.

The building was accessed during the day. An external investigation of the building was undertaken in order to see if there were access points readily available for bats to utilise or crevices that bats could be roosting in. A building considered to have a higher potential to support roosting bats would include the following:

- Agricultural buildings (e.g. farmhouses, barns and out buildings) of traditional brick or stone construction and/or with exposed beams;

- Buildings with weather boarding and/or hanging tiles that are within 200m of woodland and/or water;
- Pre 1960s detached buildings and structures within 200m of woodland and/or water;
- Pre 1914 buildings within 400m of woodland and/or water;
- Pre 1914 buildings with gable ends or slate roofs regardless of location;
- Buildings which are located within or immediately adjacent to woodland and/or immediately adjacent to water;
- Dutch barns or livestock buildings with a single skin roof and board and gap or Yorkshire boarding if, following a preliminary roost assessment the site appears to be particularly suited to bats.

Preliminary Ecological Appraisal

- 2.4 An extended preliminary ecological appraisal was undertaken on the 19th February 2016. The surveyors identified the habitats present, following the standard 'Phase 1 habitat survey' auditing method developed by the Joint Nature Conservancy Council (JNCC). The site was surveyed on foot and the existing habitats and land uses were recorded on an appropriately scaled map (JNCC 2010). In addition, the dominant plant species in each habitat were recorded. The potential for the site to support protected species was also assessed.

Badger Survey

- 2.5 A badger survey was undertaken at the site to assess if badgers were using the area and if any setts were located on the site and 30m away from the site that might constrain development. The evaluation of badger activity was based on methodology developed for the National Survey of Badgers (Creswell *et al.*, 1990) and includes searching for badger field signs such as setts, badger pathways, tracks (pawprints), dung piles with latrines, badger hairs and feeding signs such as snuffle holes.
- 2.6 During the survey, all habitats potentially suitable for badgers were systematically examined for evidence of badger activity including:

- Setts: several sett types may be present within a social group territory, ranging from a single hole to numerous interconnecting tunnels. Setts can be categorised into main, annexe, subsidiary and outlier (Wilson *et al.*, 1997).
- Latrine sites: badgers characteristically deposit dung in pits, which may be located along the boundaries and within the social group territory. These sites serve as means of inter- and intra-group communication.
- Paths and runs: well used routes between setts and/or foraging areas. Often used by generations of badgers.
- Snuffle holes: areas of disturbed vegetation often formed by badgers foraging for ground dwelling invertebrates such as earthworms and larvae and the underground storage organs of plants.
- Hair: often found among spoil and bedding outside entrances to setts or snagged on fences (such as barbwire) along well-used runs.
- Footprints: easily distinguishable from other large mammal species. Often found along paths and runs or in spoil outside sett entrances.

Tree Assessment for Bats

2.7 Roosts of bats in trees may be identified from the following field signs:

- Black stains beneath cracks, splits and other features where bat droppings have fallen;
- Dark marks at entrance points where bats have rubbed against the wood and left natural body oils;
- Feeding remains beneath roosts, such as insect wings;
- Chattering of bats;
- Bat droppings under access points;
- Scratch marks around a feature (cavity or split) caused by bat claws;
- Urine stains below the entrance or end of split;
- Large roosts or regularly used sites may produce an odour;
- Flies around the entrance, attracted by the smell of guano.

2.8 The trees on site were assessed for their potential to support roosting bats. The trees were assessed visually for evidence of bats as well as for features that increase the likelihood such as the following:

- Woodpecker holes, natural cracks and rot holes in trunks and branches;
- Frost cracks;
- Trunk and branch splits;
- Hollow sections of trunk and branches;
- Loose bark;
- Cavities beneath old root buttresses and coppice stools;
- Dense epicormic growth;
- Dense ivy cover.

2.8 Trees scheduled for arboricultural work should also be assessed, and may be categorised (Table 1) to relate the value of their features to recommended actions. This approach allows trees to be graded according to their potential to support bat roosts. Trees may be assessed as having the potential to support bats (from an individual to a larger roost) even if no bats have been found.

Table 1. Protocol for visual inspection of trees due to be affected by arboricultural work, to assess the value of the trees to bats. Taken from Table 4.1 within the 'Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn), 2016'.

Suitability	Description of roosting habitat
Negligible	Negligible habitat features on-site likely to be used by roosting bats.
Low	A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status.
High	A tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

Habitat Suitability for Reptiles

2.9 Habitat surveys were carried out to assess the potential of the site to hold populations of reptile species. This involved looking for the presence of factors that would increase the suitability of the site for reptiles such as:

- Scrub and grassland (long sward) mosaic across the site;
- Features that can be potential hibernation sites for common reptiles such as log piles;
- Grass tussocks within the grassland that can act as shelter and burrowing sites;
- Water bodies or damp places on site (grass snakes);
- Compost heaps or decaying vegetation (slow worms);
- Features that can act as refugia on the ground such as disused roofing felt.

Habitat Suitability for Great Crested Newts (GCN)

2.10 Habitat surveys were carried out to assess the potential of the site to hold great crested newts (*Triturus cristatus*). This involved looking at the wider landscape using Google Maps and OS maps to assess types of habitat in the wider landscape. This also involved looking for the presence of factors that would increase the suitability of the site for GCN such as:

- The presence of suitable breeding places (water bodies) on site and within 500m of the site in the wider landscape;
- Habitat connectivity between ponds (if present) in the wider landscape and on site;
- The condition of the ponds and whether there were factors that would render them unsuitable for GCN such as fish;
- Land uses surrounding the site that may affect the potential of the site to hold GCN such as agriculture;
- Type of suitable habitat on site such as scrub/grassland mosaic;
- Patches of woodland in the wider landscape that can provide terrestrial habitat;
- Any barriers between known populations of GCN such as motorways and roads;
- Hibernation features on site for GCN such as log and rubble piles.

Limitations

- 2.11 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no single investigation could ensure the complete characterisation and prediction of the natural environment.
- 2.12 The protected species assessment provides a preliminary view of the likelihood of protected species occurring on site, based on the suitability of the habitat and any direct evidence on site. It should not be taken as providing a full and definitive survey of any protected species group. The assessment is only valid for the time when the survey was carried out. Additional surveys may be recommended if, on the basis of this assessment it is considered reasonably likely that protected species may be present.

3.0 Results**Desktop Study**

- 3.1 The 0.8ha site is a garden nursery site with a mix of developed land and greenfield areas. There are additional nursery sites to the north and south of the proposed site, with agricultural land to the east, and dense housing development to the west. The A27 runs 516m to the north of the nursery, and the A280 runs 380m southeast, creating significant barriers to dispersing wildlife through the wider landscape. The site is located 400m west of the South Downs National Park but is not within the boundary, with no other designated sites within a 5km radius. There are two SSSI (Site of Nature Conservation Importance) within the 2km radius, which are Highdown Hill & the Miller's Tomb (a chalk grassland) and Titnore & Goring Woods Complex (semi-natural woodland).
- 3.2 There is a significant quantities of ancient woodland to the north of the site, within the South Down National Park; a large local area of which is made up from Angmering Park and surrounding copses, Clapham Wood, Wepham Wood and the Dover. Groom's Copse is located 400m to the east and is an area of ancient and semi-natural woodland. OS maps reveal two waterbodies, over 350m south connected by a flowing ditch, providing potential habitat for a range of species. There are a variety of habitats in the wider

landscape as shown in Figure 2, however the majority of the wider landscape is dominated by agricultural fields, woodland blocks and housing.

- 3.3 The redevelopment is not thought to impact, directly or indirectly, any designated sites or areas of significant off site habitat. It is considered that the redevelopment of the site will impact only habitats within the redline boundary.



Figure 2: Habitats on and surrounding the site which is shown in red. Woodland is shown in green, with ancient woodland shown by orange hatching; pink indicates good quality semi-improved grassland.

- 3.4 A 2km data search was requested from the Sussex Biodiversity Record Centre for the site adjacent to Merry England Nursery but distances for records have adjusted to reflect the new site in Table 2. Records have been included from the last ten years, with the closest record and the most recent records included.

Table 2. Notable species records within 2km in the ten years.

	Species	Status	Closest record distance	Most recent record
Amphibians	Great Crested Newt (<i>Triturus cristatus</i>)	Bern Convention Appendix 2; European Protected Species; Habitats Directive Annex 2 - non-priority species; Habitats Directive Annex 4; Natural Environment and Rural Communities Act 2006 - Species of Principal Importance in England; Sussex BAP species; Sussex Protected Species Register; UK BAP priority species; Wildlife and Countryside Act 1981 Schedule 5	Approximately within 2km	2012
Mammals	Water Vole (<i>Arvicola amphibious</i>)	Natural Environment and Rural Communities Act 2006 - Species of Principal Importance in England; Sussex BAP species; Sussex Protected Species Register; Sussex Rare Species Inventory; UK BAP priority species; Wildlife and Countryside Act 1981 Schedule 5	780m west	2014
	Hazel Dormouse (<i>Muscardinus avellanarius</i>)	European Protected Species; Habitats Directive Annex 4; NERC Act 2006 - Species of Principal Importance in England; Sussex Biodiversity Action Plan; Sussex Protected Species Register; UK BAP priority species; Wildlife and Countryside Act 1981 Schedule 5	Approximately 2km northeast	2011
Reptiles	Slow Worm (<i>Anguis fragilis</i>)	Natural Environment and Rural Communities Act 2006 - Species of Principal Importance in England; Sussex BAP species; Sussex Protected Species Register; UK BAP priority species; Wildlife and Countryside Act 1981 Schedule 5 Section 9	Approximately 2km northeast	2013
Bats	Pipistrelle sp. (<i>Pipistrellus pipistrelles</i> / <i>Pipistrellus pygmaeus</i>)	UK BAP species, Annex IV of the Annex IV of the Habitats Directive, Priority Species listed under	250m west	2014

		Section 41 of the Natural Environment and Rural Communities Act 2006, Wildlife and Countryside Act 1981 Schedule 5 Section 9; Schedule 2 of Conservation of Habitats and Species Regulations 2010 (European Protected Species animal)		
	Brown long-eared bat (<i>Plecotus auritus</i>)	See above	On site or adjacent southern site	2014
Birds	Red kite (<i>Milvus milvus</i>)	Schedule 1 Part 1 of the Wildlife and Countryside Act 1981 (as amended) IUCN Amber List	Approximately within 2km	2015
	Hobby (<i>Falco subbuteo</i>)	Schedule 1 Part 1 of the Wildlife and Countryside Act 1981 (as amended)	Approximately within 2km	2011
	Peregrine falcon (<i>Falco peregrinus</i>)	Schedule 1 Part 1 of the Wildlife and Countryside Act 1981 (as amended)	Approximately within 2km	2011
	Northern lapwing (<i>Vanellus vanellus</i>)	IUCN Red List UK BAP species	Approximately within 2km	2014
	Barn owl (<i>Tyto alba</i>)	Schedule 1 Part 1 of the Wildlife and Countryside Act 1981 (as amended) IUCN Amber List	Approximately within 2km	2013
	Kingfisher (<i>Alcedo atthis</i>)	Schedule 1 Part 1 of the Wildlife and Countryside Act 1981 (as amended) IUCN Amber List	Approximately within 2km	2012
	Firecrest (<i>Regulus ignicapilla</i>)	Schedule 1 Part 1 of the Wildlife and Countryside Act 1981 (as amended) IUCN Amber List	Approximately within 2km	2010
	Common crossbill (<i>Loxia curvirostra</i>)	Schedule 1 Part 1 of the Wildlife and Countryside Act 1981 (as amended)	Approximately within 2km	2005
	Corn bunting (<i>Emberiza calandra</i>)	IUCN Red List UK BAP species	Approximately within 2km	2006

Internal and External Bat Survey

- 3.5 The main residential house on site was inspected for evidence of bat presence and potential roosting features. The house supports one main roof void with bitumen felt lining and timber beams. A single chimney was located within the roof void. The void

floor is boarded out and is relatively open and exposed with some stored domestic items. The void is considered to be relatively well sealed with no gaps at the gable ends or around the chimneystack. No evidence of bat activity was found within the void such as droppings or staining on the walls.

- 3.6 The external structure of the main house is brick built with clay roof tiles. All tiles appear to be very flush and in good condition from ground level. The soffit boards appear to be well sealed around the lip of the roof, with no obvious holes, gaps or spaces that bats could enter.

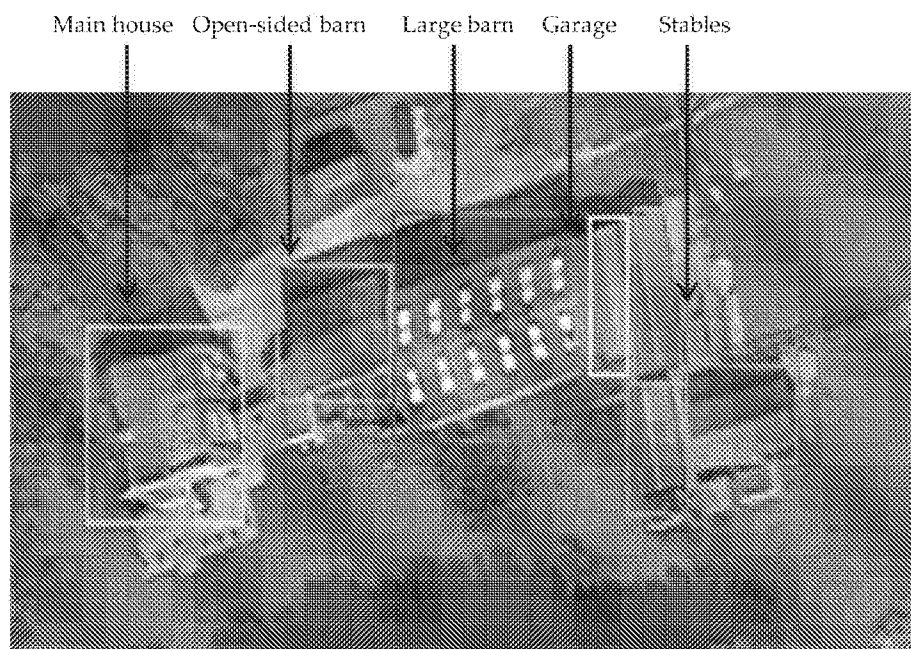


Figure 3: Buildings on site inspected for bat activity.

- 3.7 On site there are several barns and stables to the east of the main house. These have been labelled above in Figure 3 for ease of analysis. The open-sided barn does not contain any enclosed voids and is open to all weather conditions. The main structure is made from metal sheeting and steel beams. A bird's nest was located at each of the gable ends at the apex. The structure is considered to be suboptimal for roosting bats. No evidence of bat activity was found here including no feeding remains or droppings.

- 3.8 The large barn to the east of this is made of similar structure materials but is enclosed. There are several skylights in the roof creating light conditions within the barn, and large double barn doors on the northern aspect. The barn stores a high volume of agricultural and building materials. No evidence of bats or birds was found within this barn. The structure is considered to be suboptimal and inaccessible to roosting bats.
- 3.9 The garage is a sealed single unit made from concrete blocks with a corrugated metal roof structure and double doors on the northern aspect. This unit was unable to be internally inspected however it was well sealed and there are not considered to be any external features that bats could exploit, and the unit in general is thought to be suboptimal for bats.
- 3.10 At the far end of the line of buildings on site there are three stable blocks for the horses on site. These are all wooden with asbestos roofs. All stables are open to the elements in the day, and have windows in the walls creating light conditions within. No evidence of bats was found within the stables, however they are cleared out on a daily basis therefore feeding remains and droppings would be lost. These buildings are not considered to be suitable for roosting bats as the weatherboarding on the outside was flush and there are negligible roosting opportunities for bats under the asbestos roof.

Habitat Phase 1 Survey

- 3.11 The site consists primarily of horse grazed paddocks with several stables and barns of various sizes, along with a residential house and garden. A stream runs along the western edge between the site and Dapper's Lane. The boundary of the site is created in part by treelines and partly by fence lines. A hardstanding driveway runs in from Dapper's Lane on the western edge, connecting all the buildings on site. Much of the grassland was waterlogged at the time of the survey but no ponds are present on site or found within 250m.
- 3.12 It should be noted that the time of year of the survey is not considered to be optimal for identifying flora species and as such, some may have been missed in the Phase 1 survey.

- 3.13 Surrounding land of the site includes further nursery sites to the south and the north, residential housing and gardens to the west and agricultural fields to the east.

Semi-improved grassland

- 3.14 Horse-grazed grassland paddocks dominate the site to the north and the east, separated by low fences. The grassland had a short sward height and was lost in some areas, covered in mud or water due to the high levels of rain prior to the survey. The grassland is dominated by perennial ryegrass (*Lolium perenne*) and red fescue (*Festuca rubra* agg) along with daisy (*Bellis perennis*), spear thistle (*Cirsium vulgare*), cocksfoot (*Dactylis glomerata*), creeping buttercup (*Ranunculus repens*) and yarrow (*Achillea millefolium*), with clumps of daffodils (*Narcissus* agg) scattered along the edges.
- 3.15 A well-managed amenity grassland lawn dominates the residential garden to the south of the buildings. The grassland height here is less than 5cm, but taller than the grazed paddocks. Species found here are similar to those in the paddocks.

Tall ruderal and scrub mosaic

- 3.16 On the eastern boundary is an area of land that has remained un-grazed and has become overgrown with tall tussocky grassland, with ruderal species and some scrub species. This area has abandoned debris and brash strewn across the site and there is a rubble pile in the south eastern corner that creates optimal shelter for a range of potential species. Ruderal and scrub species found in this area include willowherb (*Epilobium* sp.), bramble (*Rubus fruticosus*), dock (*Rumex* sp.), spear thistle (*Cirsium vulgare*), cocksfoot (*Dactylis glomerata*), moss (*Sphagnum* sp.) and common nettles (*Urtica dioica*).
- 3.17 The north western boundary also contains scrub habitat between the grassland and the roadside boundary. Dense bramble and immature trees dominate this area and is inaccessible to complete further detailed surveys. There is a small patch of hawthorn (*Crataegus monogyna*), bramble and blackthorn (*Prunus spinosa*), along the southern boundary, to the east of the tree line.

Trees

- 3.18 Along the driveway entrance into the site, and along the southern boundary, are rows of planted semi-mature hornbeam trees (*Carpinus betulus*) creating corridors of connective habitat. There are two further individual hornbeam trees slightly to the north of the driveway, in-between two paddocks. Within the garden habitat in the southern half of the site, are scattered individual trees. Those found along the western boundary are considered to be an ornamental magnolia (*Magnolia sp.*), a horse chestnut (*Aesculus hippocastanum*) and two cherry trees (*Prunus sp.*) with dense ivy covering. There is also an apple tree (*Malus domestica*) and a large bay laurel tree (*Laurus nobilis*) within the centre of the garden.

Tree Assessment

- 3.19 The majority of the trees on site are considered to be too immature and small in size and are considered to have negligible potential to support potential bat roosts. Some of the hornbeam trees along the southern boundary appeared to have splits in the main trunk or branches, however upon inspection, these splits were deemed not to lead anywhere or provide any crevice opportunities for bats to exploit. The semi-mature horse chestnut tree on the western edge within the garden has loose bark on the main trunk and a split within one of the branches. These features have the potential to support a low number of bats on occasion in the summer months and therefore have moderate suitability for bats.
- 3.20 There are a number of trees along the southern boundary of the site, and along the roadside leading up to the site. It is recommended that as many of these trees on site are retained as possible as they all hold intrinsic and connective value for a variety of species including foraging bats and birds. Bats will use linear habitats to forage and commute along.

Habitat Suitability for Protected Species

Badgers

- 3.21 No badger setts or evidence of badger activity was found within the redline boundary at the time of the survey. No faeces, areas of digging or mammal paths were located.

Evidence is likely to be low at this time of year, and the grazed grassland would not allow for mammal paths to form.

- 3.22 A main active badger sett is known to be located to the east of the site, within 300m of the redline boundary. It is likely that badgers may cross this site or access the land and therefore consideration for badgers is recommended.

Dormice

- 3.23 Dormice prefer a layered habitat of scrub and semi-mature trees with a vast and connective canopy through which they can disperse. The grazed fields, hardstanding and open garden habitat on site are not considered to be optimal dormouse habitat. The treeline along the southern and the hedgerow on the western boundary do provide some limited suitable habitat, however they are somewhat isolated from further areas of woodland and optimal food sources.

- 3.24 Previous dormouse surveys carried out by The Ecology Partnership in 2015 found dormice to be using ancient woodland to the east of the site and associated connected habitat. However, connective habitat between the site and the suitable habitat within the wider landscape nests located is highly fragmented and of poor quality for dormice.

Great Crested Newts

- 3.25 There are no ponds or waterbodies located within the redline boundary of the site, or within 300m of the site boundary. The grazed grassland, which dominates the site, is considered to be suboptimal for dispersing GCN during their terrestrial phase. The connective treelines and hedgerows may provide some limited suitable habitat through which amphibians could move, however they are considered to be somewhat isolated from further suitable habitats. There are waterbodies outside of the 300m radius to the south, one of which is a known fishing lake. The other could not be assessed using the HSI method. This is due to the heavy scrub growth around the pond and the amount of common reed (*Phragmites australis*) that was present. The distance between the site and this waterbody is considered to be too great for GCN to cross, and the connective habitat between is considered to be too poor, consisting mostly of hardstanding and grazed grassland.

Reptiles

- 3.26 Reptiles prefer a mosaic of tussocky grassland and scrub with opportunities to bask and forage with shelter to protection from predators. The grazed grassland which dominates the site is not considered to be provide suitable habitat for common reptiles species due to the exposed nature of the site. The hedgerows and boundary habitat to the west and south potentially provides connective links around part of the site to offsite habitat to a range of species including reptiles.
- 3.27 There is a section of field on the eastern boundary that is not grazed by horses and contains taller tussocky grassland, with tall ruderal species and some scrub. Within this area (shown on the habitat map in appendix 1) there are several items of dumped rubbish as well as brash piles, and an optimal rubble piles in the corner. This all create optimal habitat with areas of shelter and hibernacula as well as foraging and basking habitat for common reptile species such as slow worm and common lizard and potentially for adder.

Breeding Birds

- 3.28 All mature trees and shrubs within the site boundary have potential to support nesting birds. Several common small species were seen at the time of the survey. Any vegetation clearance is recommended to be done outside of nesting bird season (March-September).

4.0 Discussion

Site

- 4.1 The nursery site is situated on the northeast edge of the town of Angmering. The South Downs National Park boundary is located 400m east and there are two SNCI within the 2km radius and several areas of ancient woodland. There are additional nursery sites to the north and south of the proposed site, with agricultural land to the east, and dense housing development to the west.
- 4.2 The proposed development is not considered to fragment the local landscape but the impacts of this should be considered in conjunction with further proposed developments in the immediate area. The loss of grazed grassland and hardstanding is not considered

to have a significant, ecological impact, however the treelines within the site hold intrinsic value and the potential to support a range of protected species.

- 4.3 The proposed development should retain as many of the trees on site as possible. If further surveys indicate the presence of protected species, suitable mitigation measures will ensure that the proposed development will not directly or indirectly impact on any protected sites or habitats.

Habitat

- 4.4 The habitats present on site are largely common and widespread. Horse-grazed paddocks, with some hardstanding, garden habitat and scattered trees, dominate the site. There are connective treelines to the south and the west, with scattered individual trees across the site. There is a 650m² area of tussocky grassland with ruderal species and scrub on the eastern boundary, which is considered to be of site level interest, however, as it does have the potential to support protected species.
- 4.5 The treeline on the southern border and the trees and scrub habitat on the western border are considered to hold ecological value as connective linkages between sites and provide corridors for a range of wildlife species along the edge of the residential area to the west. These corridors and mature trees on site are of intrinsic value and should be maintained on site where possible.
- 4.6 The use of the habitats within the red line has been assessed for their potential to support a number of protected species. These are discussed individually below.

Protected Species

Tree and building assessment for bats

- 4.7 All buildings within the redline boundary were inspected for evidence of bat activity. No evidence was found within any of the buildings. The farm buildings including the metal barn, open sided barn, stables and metal containers are all considered to be constructed from suboptimal materials and do not contain enclosed voids creating unsuitable conditions for roosting bats. All of these out buildings were considered to have

negligible suitability to support roosting bats. As such no further surveys are recommended.

- 4.8 The residential house does contain an enclosed void, with bitumen felt lining, however no evidence was found internally and externally of bat presence. The building was well sealed, with no external features that bats could exploit, with well sealed tiles and soffit boards. It is considered that this building is not constrained by the presence of bats and no further surveys are recommended.
- 4.9 The trees on site vary in maturity and the majority are too immature and thin to support potential features associated with bat roosts. Most trees are therefore considered to have negligible potential for roosting bats. The semi-mature horse chestnut in the garden is considered to have moderate potential to support roosting bats under the loose bark and within the split in the branch.
- 4.10 If this tree needs to be removed it is recommended that surveys are undertaken prior to their removal. These should be surveyed either by endoscopic survey or dusk emergence / dawn return to roost surveys. This will show whether bats are using these trees and whether a licence for felling would be required by Natural England. Enhancements for bats have also been considered as part of this report.
- 4.11 All the mature trees and semi-mature trees on site, including the trees growing along the tree lines provide good opportunities for foraging bats. Tree lines also help connect the site to the wider landscape ensuring that bats can move with ease across the area using these linear features for shelter and protection and opportunistic foraging. Tree lines should therefore be maintained or enhanced where possible.

Mitigation measures for Bats

- 4.12 Any proposed lighting scheme as part of the development will have to take into account bats in the surrounding area as well as site. All bat species are nocturnal, resting in dark conditions in the day and emerging at night to feed. Bats are known to be affected by light levels which can affect both their roosting behaviour as well as their foraging

behaviour. This needs to be taken into account, with a sympathetic lighting scheme for the development. Recommendations include:

- Lighting should only be installed if there is a significant need;
- Light levels should be kept low, the use of low pressure sodium lamps or high pressure sodium instead of mercury or metal halide lamps where glass glazing is preferred due to its UV filtration characteristics;
- Baffled lights should be used, where light is directed towards the ground;
- Lighting should be avoided near treelines or hedgerows, with light angled away from these areas, bats use linear features such as treelines to commute across the landscape to forage; and
- Lights should have focussed luminance on their target area, preventing light spill and pollution into other areas of the site and local area.

4.13 To enhance the local bat population and provide roosting opportunities, it is recommended that boxes should be hung on retained mature trees and have clear flight paths. Recommended boxes include:

- Schwegler 2F Bat Box – these boxes are attractive to small bats and can be hung on trees around the building. One should be used on the mature trees along the site boundary.
- Schwegler 2FN Bat Box - It slightly larger than the 2F and provide opportunities for the larger bats. One should be used on the mature trees along the site boundary.

4.14 Incorporating specially designed bat boxes onto mature trees on site can enhance the habitat on site for bats. Bat boxes will be erected on the trees prior to works starting on site. Suitable bat boxes include a variety of wooden bat boxes such as; improved cavity box, double chamber bat box and other wood based varieties. Schwegler boxes have been recommended as these are long lasting and require no maintenance.

Badger Survey

4.15 No evidence of badgers was found on site, however a main sett was located 260m east, and badgers may use the proposed site for foraging or commuting. It must be noted that

badger foraging habitat and corridors are not legally protected, although should be considered within any development.

- 4.16 Enhancements for badgers could be considered as part of the development. The provision of fruiting trees would allow badgers opportunities to forage for fallen fruits. Furthermore, green corridors around the site and through the site should be created, which will facilitate the movement of badgers from the sett to alternative foraging habitat.

Great Crested Newts

- 4.17 There are no waterbodies within the redline boundary or within 300m of the site as shown from OS maps and aerial imagery. There is one pond just over 300m southeast of the site that was unable to be assessed using HSI. The majority of the habitat on site is also considered to be suboptimal for GCN during their terrestrial phase. The only area considered to be suitable for GCN is the area of tussocky grassland and ruderal species on the eastern boundary. To assess the impact of the loss of this land on potential GCN that may or may not be present in the pond to the southeast, and whether a licence may be needed for the works, a Natural England rapid risk assessment was carried out and this has been included below.

Component	Likely effect (select one for each component, select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Relative effect probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	0.01 - 0.1 ha lost or damaged	0.001
Individual great crested newts	No effect	0
		Maximum: 0.001
Rapid risk assessment result:		Low

Figure 5: Natural England Risk Assessment

- 4.18 The loss of the tussocky grassland on site is considered highly unlikely to cause an offence to any GCN potentially situated within the pond to the southeast. Therefore the site is not considered to be constrained by the presence of GCN on site and no further surveys are recommended.

Dormice

- 4.19 The open nature of the site is suboptimal for dormice. The loss of grassland, hardstanding and farm buildings is not thought to impact negatively on the local dormice population as these features are not habitats which can be exploited by such species. The scrubland and treelines along the southern and western boundaries are considered to be the sole suitable areas of habitat within the redline boundary. This area of habitat is isolated from other hedgerows and treelines or areas of woodland and limited in extent and diversity.
- 4.20 There is a known population of dormice approximately 400m east of the site. The connective habitat between the site and the off site woodland where dormice have been found is defunct and largely of poor quality for dormouse food sources. There are no direct connective hedgerows or linkages between the off site habitats and habitats on site. Domestic cats were present on site at the time of the survey. It is recommended that the treelines and hedgerows on site are retained, however it is not considered that the loss of this habitat will have a negative impact upon the local dormouse population. No further surveys are required.
- 4.21 In terms of the development, no habitat that is suitable for dormice will be affected and no fragmentation or isolation of habitat will occur, as the habitats adjacent to the site are outside the red line boundary and will therefore remain unaffected by development proposals. As no suitable dormouse habitat is to be affected by the proposals, the likelihood of harm to individual dormice is considered to be negligible. As such, it is considered that the proposed development would not be in conflict with either the European Habitats Directive (1992) or the Wildlife & Countryside Act (1981).
- 4.22 Bearing in mind these factors, it is considered that a survey for dormice is not necessary, as the development will not affect individual animals or the favourable conservation status of this species in the local area.
- 4.23 It is important to consider the potential indirect effects of the proposed development, however. The new residential dwellings may bring more cats into the local area, and this is likely to be detrimental to the dormouse population adjacent to the site. As such it is

recommended holly, hawthorn, blackthorn with honeysuckle are planted around the very edges of the site. Dog rose should also be included and some bramble left within the layers of habitat. The use of thick thorns in the planting scheme will provide dormice more protection from pets such as cats and dogs.

Habitat suitability for reptiles

- 4.24 The majority of the site is not considered to be suitable for common reptile species. The area of tall ruderal species and tussocky grassland with the presence of the hibernacula on the eastern boundary however is considered to be optimal for reptiles. Further presence/absence surveys are recommended across all suitable habitats on the site and the results of these surveys will influence any further mitigation measures. The mats are attractive to reptiles because they get very warm and reptiles can often be found warming up under such mats. These mats will be checked on seven different visits under suitable conditions.

- 4.25 Creation of log piles and brash piles within suitable areas of vegetation may be created for use by common reptile species as refugia, in place of the manure pile. Log piles should be located in a variety of locations, such as damp places, with some situated in more sunny locations. These should be stacked, and perhaps some amounts of leaf litter added. Planting around log piles with such species as honeysuckle or clematis (*Clematis* sp.) can also add value.

Breeding Birds

- 4.26 The UK breeding season for most bird species takes place between March and September. It is recommended that any works affecting trees or hedges on site be carried out outside of this period. Should this not be possible, it is further recommended that all vegetation suitable for breeding birds be checked for active nests no more than 48 hours prior to vegetation clearance. If active nests are identified, works in the vicinity of the nest must cease until the birds have fledged the nest.

General Site Enhancements

- 4.27 The semi-mature trees and boundary hedgerows should be maintained where possible to maintain connectivity and foraging habitat for a range of species. Following further assessment, the trees identified as having bat roost potential should be surveyed prior to removal by an ecologist. Before any development plan is finalised it is recommended that The Ecology Partnership be consulted if it is planned that the trees are to be removed.
- 4.28 Any trees that are removed should be replaced elsewhere on the site or with native species such as: oak, ash, hazel, beech and cherry, this will mitigate against the loss of habitat that could be considered important under planning local policies.
- 4.29 The habitats on site have potential to support common reptiles and small mammals. To allow such species to successfully forage and move through the site, it is recommended that the boundary features of the separate plots be constructed from hedging as opposed to timber fencing. This will also enhance the biodiversity of the site, in particular if fruiting and flowering native species are used. If timber fencing nevertheless is to be used, it is recommended that either some panels are lifted from the ground, or that a number of holes are created at ground level.
- 4.30 It is always recommended that where possible, enhancements are made to incorporate features which are suitable for a range of species. Therefore planting shrubby species such as hazel and dogwoods on the edges of the site and within the gardens, would provide a good-layered habitat, which will attract a range of local wildlife. Maintaining the edges of the site will ensure that connectivity is retained with off site habitats. The use of wildflower mixes to increase the biodiversity of existing species poor grassland, will enhance the ecological value of the site for a range of important invertebrates.
- 4.31 Bird boxes may be hung on retained mature trees to increase the number of breeding opportunities throughout the site. Recommended boxes include:
- Schwegler 1N Deep Nest Box – give added nest protection from predators
 - Schwegler 1B Bird Box – general purpose bird box, suitable for many species

- Schwegler Bird House – This is suitable for all common garden birds and may be attached to a building or wall so is suitable for siting behind climbing plant.

4.32 The site is to be developed into a residential development and fruit trees could be included within the garden areas. Species that could be planted include apples, pears, plums, gages and damsons. The site margins should be planted with additional species such as blackberry and hawthorn. Spring bulbs and wild flower seeds can also be sown into the borders. Log piles too can be incorporated in this area. Orchards are BAP habitats and are important for invertebrates and bird, lichens and fungi species alike. Fallen fruit provides good opportunities for badgers, hedgehogs (BAP species) and bats forage in areas of high insect diversity.

5.0 Conclusions

5.1 The site does not fall within any designated sites, however there are sites to consider within a 2km radius including ancient woodland in the wider landscape. The immediate surroundings of the site are largely nursery sites to the north and south, with dense residential properties to the west and agricultural fields to the east.

5.2 The site is dominated by grazed horse paddocks with some hardstanding, buildings, garden habitat and treelines along the southern and western boundary. The grazed grassland is not considered to be ecologically significant and the areas of scrub and tussocky grassland are considered to be of site value only. The semi-mature trees and are considered to be of some value. Mature trees are of intrinsic value and should be maintained where possible.

5.3 No evidence of bats using any of the buildings on site was found, including the enclosed void above the residential house and within all barns and stables on site. No external features were identified on any of the buildings either that could provide crevice for roosting bats. No further surveys are recommended.

-
- 5.4 The majority of the trees on site were considered to be too immature for supporting bat roosts. One horse chestnut tree was identified as having moderate potential. This tree is recommended for retention. If the tree is to be removed, further inspection by endoscope and/or activity surveys are recommended. This may result in further mitigation being put in place.
- 5.5 No evidence of badgers using the site was found within the redline boundary. Badgers are known to reside to the east of the site however and may commute across or forage within the redline boundary. Due care should be taken to ensure no badgers are harmed during the development works. No further survey or monitoring is recommended.
- 5.6 The site is not considered to provide optimal GCN terrestrial habitat, with the exception of a small area of tussocky grassland, and there are no waterbodies on site or within 300m. No further surveys are recommended and the development is not thought to be constrained by the presence of GCN.
- 5.7 The area of tussocky grassland and scrub on site create optimal habitat for common reptile species. Further presence/absence surveys are recommended to be undertaken prior to any development works to establish if a population is present and if so, the size of the population. These surveys will influence further mitigation plans.
- 5.8 The open nature of the site is largely suboptimal for dormice. The suitable habitat is present in the treeline and hedgerows on the southern and western boundaries. These are recommended to be retained within the plans. Despite the presence of dormice to the east of the site, it is not thought that dormice persist on site due to the lack of connectivity to the known population and woodland, and the lack of suitable food sources within the redline boundary. No further surveys are recommended.
- 5.9 The site is considered to have potential for breeding birds and as such, should vegetation require removal as part of the scheme, it is recommended that this is undertaken outside of the bird nesting season, as detailed in this report. Should this not be possible, it is further recommended that the buildings and vegetation be checked for active nests prior to clearance.

6.0 References

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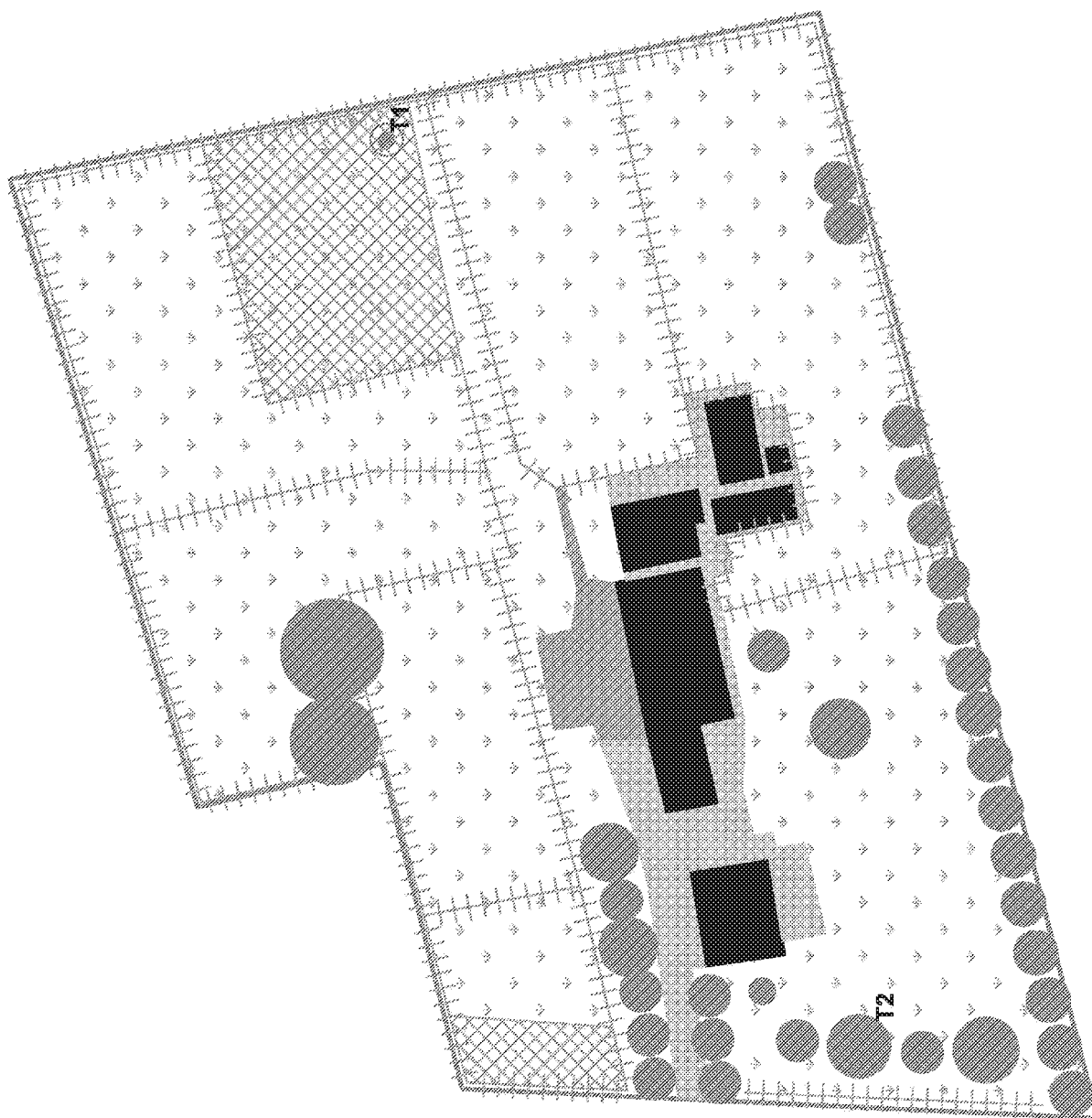
Magic Interactive Map: www.magic.gov.uk

Multimap: www.multimap.com

Appendix 1. Phase 1 Habitat Map

Key

-  Buildings
-  Hardstanding
-  Semi-improved grassland
-  Ruderal scrub mosaic
-  Bare earth
-  Scattered trees
-  Target Note: Rubble pile T1
-  Target Note: tree with moderate potential T2
-  Fenceline
-  Hedgerow
-  Survey boundary



Site: Merry England Nursery, Angmering

Client: SHW

Surveyor: A.T & E.B

Survey Date: 19th February 2016

Drawing Title: Habitat Map

the ecology partnership

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Appendix 2: Photo Document

Photograph 1:

External view of the residential house on site.



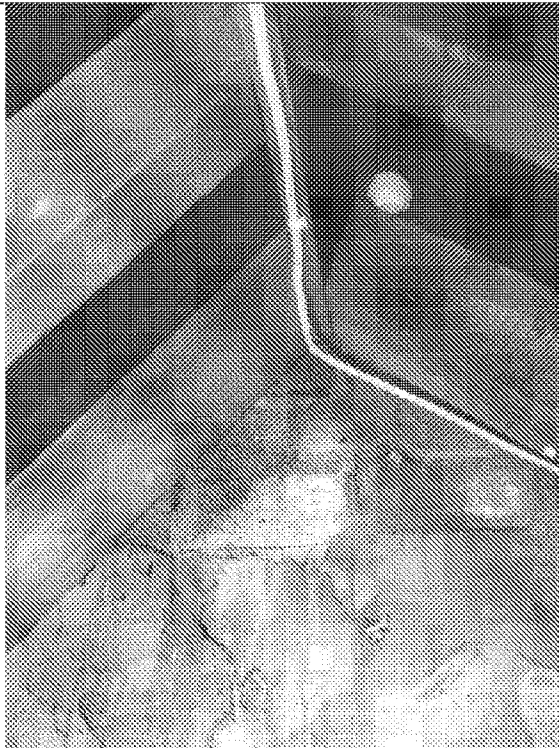
Photograph 2:

Internal enclosed void above main house. Bitumen felt lining, timber beams.



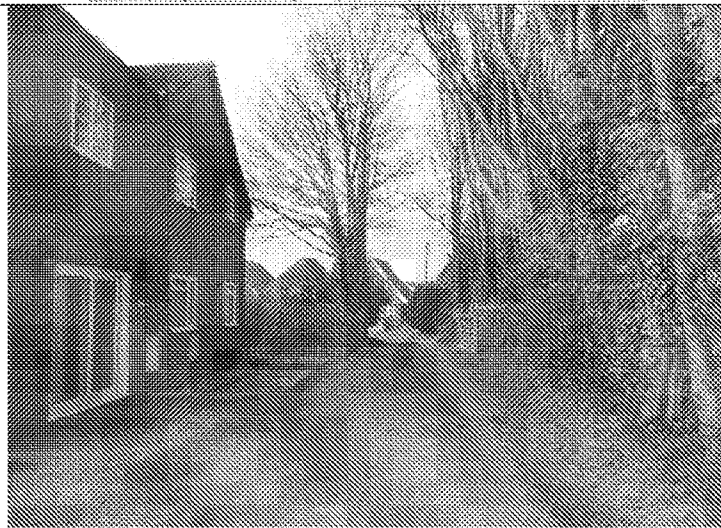
Photograph 3:

No gaps found at the gable ends or around the chimneystack. Small old wasp's nest present.



Photograph 4:

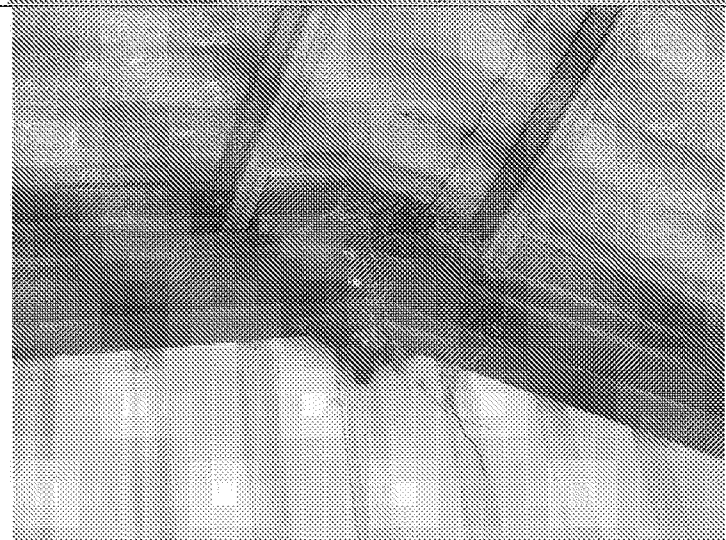
Hardstanding driveway entrance to the site, lined by hornbeam trees.



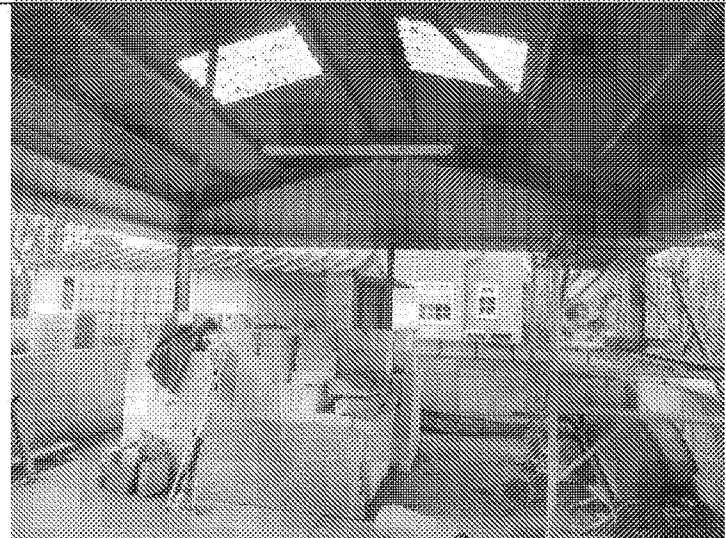
Photograph 5:
Open-sided barn
suboptimal for bats.



Photograph 6:
Bird's nests present at both
ends of the barn.

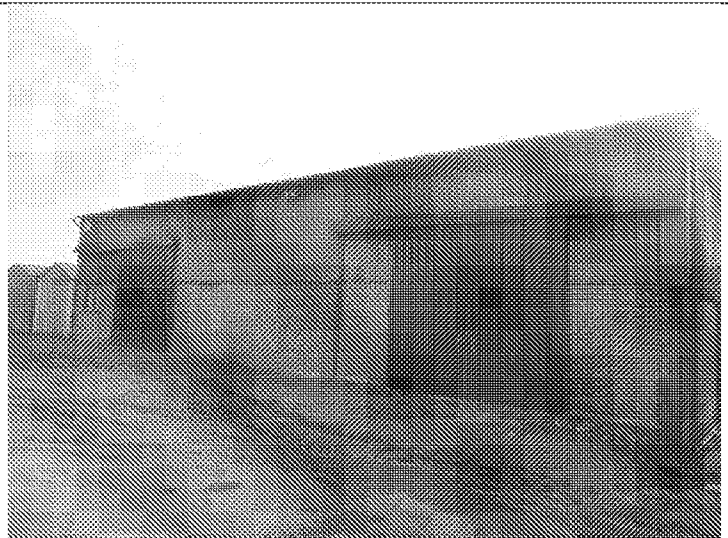


Photograph 7:
Internal environment of the
open-sided barn is light and
exposed to weather
conditions.



Photograph 8:

Enclosed large metal barn, with skylights in the roof, constructed out of brick and corrugated metal sheeting.



Photograph 9:

Internal view of the large metal barn on site. Light conditions and structure materials create suboptimal conditions for roosting bats.



Photograph 10:

Metal garage unit (with red roof) was inaccessible to internally surveys. Stables present and inspected internally and externally. No evidence of bat presence found.



Photograph 11:
Overview of farm buildings
and grazed grassland on
site along with temporary
metal containers.



Photograph 12:
Internal view of the stables.
No evidence of bats found.
Suboptimal roosting
conditions.



Photograph 13:
Grazed paddocks dominate
the majority of the habitat
on site.



Photograph 14:
Hornbeam trees line the
southern boundary.



Photograph 15:
Tussocky grassland and
ruderal species present on
the eastern boundary with
brash and rubble piles
creating hibernacula for
reptiles.



Photograph 16:
Optimal rubble pile for
reptiles.



Photograph 17:
Lifted barn and split in
large branch on horse
chestnut in the front garden
on the western boundary.



The Ecology Partnership

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Approved: Alexia Tamblyn MA (Oxon) MSc CEnv MCIEEM FRGS

Date: 1st March 2016

Appendix 5: Ecology Partnership - Reptile Survey Report

DRAFT



Land Merry England
Angmering
West Sussex
Reptile Presence / Absence Survey



Dorset House, Kingston Road, Leatherhead, Surrey KT22 7PL, United Kingdom



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	SITE CONTEXT AND STATUS	3
2.0	REPTILE SURVEY METHODOLOGY.....	4
3.0	REPTILE RESULTS	5
4.0	DISCUSSION	6
5.0	CONCLUSIONS	7

LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living animals and plants are capable of migration/establishing and whilst such species may not have been located during the survey duration, their presence may be found on a site at a later date.

This report provides a snap shot of the species that were present at the time of the survey only and does not consider seasonal variation. Furthermore, where access is limited or the site supports habitats which are densely vegetated only dominant species may be recorded.

The recommendations contained within this document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to or during works.

1.0 Introduction

Background

- 1.1 In March 2016 The Ecology Partnership was commissioned by Styles Harold Wilson LLP to undertake a reptile survey on land at Merry England Nursery, Dapper's Lane, Angmering.
- 1.2 Section 2 of this report sets out the methodology of The Ecology Partnerships reptile survey and the results of this survey are found in section 3. Conclusions are provided for in chapter 5 of this report.

Site Context and Status

- 1.1 The site is located on Dapper's Lane on the eastern edge of the town of Angmering in West Sussex. Nurseries to the north and south, with agricultural fields to the east and dense housing to the west immediately surround the site. The site lies on the border of the South Downs National Park with patches of ancient woodland in the wider landscape. There are no other designated sites within 5km of the site.
- 1.2 The approximate red line boundary of the site is shown below in figure 1. This was also the approximate survey boundary.



Figure 1: The approximate redline boundary

2.0 Reptile Survey Methodology

2.1 A terrestrial survey of the site for reptiles (presence or absence) was carried out between the dates of 6th July and 25th July 2016. Prior to the commencement of the survey, the site was set up with artificial refugia (roofing felts) for reptiles on 29th June 2016. Reptile mats were distributed throughout the site within suitable habitat. It is understood that the field has had a history of agricultural use and has been ploughed in recent years, therefore some areas were thinner in vegetation than others after the field.

2.2 The refugia were placed onsite for a period of bedding in, prior to the commencement of the reptile survey as recommended in the advice from Natural England. The timing and number of surveys completed were based on guidelines produced by Froglife (1999) and

Gent and Gibson (1998). A total of seven survey visits were made to the site, to check the refugia for the presence of reptiles. Visits were only carried out if the weather conditions were suitable for locating reptiles. On each visit to the site, a minimum of one circuit to check all refugia was carried out.

3.0 Reptile Results

3.1 The timing and number of surveys completed were based on guidelines produced by Froglife (1999) and Gent and Gibson (1998).

Visit	Date	Time	Conditions	Finds
1	6/07/2016	16:45	Sunny, light breeze, 60% cloud 20°	No finds
2	12/07/2016	15:00	Brightening after rain, 100% cloud, 15°	No finds
3	15/07/2016	14:30	Overcast but warm, 98% cloud, 19°	No finds
4	18/07/2016	17:30	Clear, sunny, still 0% cloud, 26°	No finds
5	20/07/2016	10:40	Overcast, breezy, 100% cloud, 20°	No finds
6	22/07/2016	16:20	Sunny, very humid, 50% cloud, 24°	No finds
7	25/07/2016	10:40	Broken sunshine 60% cloud 21°	No finds

3.2 No reptiles were recorded during the survey on site.

4.0 Discussion

4.1 As no reptiles were recorded on site during the survey, it is considered that the site is not constrained by the presence of reptiles and development can proceed without the need for mitigation regarding these species. It is considered that although some potential habitat for these species is present on site, they are not likely to be present on site, this maybe partially due to the past management of the site, which is known to have been grazed in recent years.

4.2 No mitigation strategy is required for reptiles however it is always recommended that enhancements for wildlife can be included within the final development, such as log piles.



Pictures above showing how log pile and hibernaculas can be created within the edges of the site or in the retained habitats on site. These piles can be used by a variety of wildlife, reptiles being one group that happily use such features.

5.0 Conclusions

- 5.1 No reptiles were recorded during the presence / absence survey. The survey was carried out following guidelines at within suitable weather conditions at a suitable time of year and it is considered that reptile species are likely to be absent from the site.
- 5.2 It is considered that the development can proceed without the requirement for a mitigation strategy with regard to reptiles and can proceed without constraint from these species.

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Date: 27/07/2016