



Site: Blue Moon Paddock, Essendon, Hertfordshire AL9 6JJ

Client: Mr James Westrope

Reptile Presence/Absence Surveys

04/10/2016

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Executive Summary

Arbtech Consulting Ltd. undertook a suite of reptile surveys at Blue Moon Paddock, Essendon, Hertfordshire AL9 6JJ between the 1st September and 28th September 2016. The aim of the surveys was to determine the presence or likely absence of herpetofauna, the species present, and to gain an understanding of the distribution across the site. The survey results, in combination with a review of the surrounding landscape and scale of the proposed development, are then used to inform a proportionate mitigation strategy to minimise the risk of killing and injury and ensure the survival of the local population.

The development proposals briefly comprise the *'demolition of existing redundant structures and erection of single family dwelling house, together with associated tree planting scheme (part of Centenary Woods project sponsored by Woodland Trust); landscaping and car parking'* under planning application number 16/2016/1677 with Welwyn Hatfield Council.

One species of reptile and two species of amphibian were recorded within the survey area and proposed development site; slow worms *Anguis fragilis*, smooth newt *Lissotriton vulgaris* and common toad *Bufo bufo*. These species are widespread.

Slow worms, smooth newts and common toads were recorded across the survey area. A maximum count of 2 slow worms, 1 smooth newt and 1 common toad were recorded during the survey.

The expected impacts on herpetofauna is low and the client has readily agreed to the mitigation measures proposed to reduce any low impacts on herpetofauna from the proposed plans.

The habitats within the site known to support herpetofauna are also found within the wider landscape to the north and south. Woodland corridors to the north and south provide a good commuting route for herpetofauna. There is further suitable rough grassland located to the south-west of the survey site. Given the low numbers recorded, the small scale of the development footprint, and the suitable adjacent retained habitat, a receptor area can be created through habitat enhancement of the retained areas to increase the carrying capacity. Some of the tall ruderal habitat along the eastern edge of the site and towards the north-western corner of the site should be removed to create a large grassland area for herpetofauna. The development site should then be trimmed to 15cm to encourage animals to move into enhanced areas. Herpetofauna fencing should then be installed around the proposed development

footprint; reptiles and amphibians should be trapped from the development site using roofing felt and carpet tiles, and relocated to retained, enhanced habitats (the receptor site). Reptiles should be trapped for a minimum of 30 visits with 5 clear visits, and the development footprint should then be trimmed to ground level and topsoil stripped prior to works commencing. The fencing should be retained until works are complete.

1.0 Introduction and Context

1.1 Background

Arbtech were commissioned by Mr James Westrope to undertake a suite of reptile surveys at Blue Moon Paddock, Essendon, Hertfordshire AL9 6JJ. The survey methodology was based on the Froglife Advice Sheet 10: *Reptile Survey, An introduction to planning, conducting and interpreting surveys for snake and lizard conservation* (Froglife, 1999).

A Preliminary Ecological Assessment undertaken at the site by Arbtech in October 2014, recommended surveys to confirm the presence or likely absence of reptiles within all suitable habitats across the site. This survey identified suitable habitats in the tussock grass and scrub fringes of the site.

The Preliminary Ecological Assessment (PEA) survey carried out in October 2014 identified approximately half of the site is covered by semi-improved grassland. The grassland is reasonably species poor, with the dominant species being Perennial Ryegrass (*Lolium perenne*). Areas of tussock grass are present, including some longer fringes near the scrub/woodland edge. The PEA also identified some large areas of scrub. The scrub areas are generally near the north and south of the site. However some large areas are present in the centre of the site near the entrance. The dominant species here is Bramble (*Rubus fruticosus*). The tussock grass and scrubby fringes provides some good foraging and basking areas for reptiles. This includes the tall ruderal habitat next to the buildings.

1.2 Aims and Objectives

The aim of the surveys and assessment is to confirm presence or likely absence of reptiles within the proposed development footprint, gain an understanding of the distribution across the site, and identify the species present.

1.3 Scope of the Report

This report summarises the methodology, results and conclusions of the reptile surveys and assessment undertaken at the Site in September 2016. To achieve the aims, the following steps were taken:

- The survey *area* (including the 'zone of influence' of the scheme) has been identified;
- A desk study has been undertaken *including reference to the PEA (Arbtech, October 2014)*;
- Baseline information on the habitat conditions and suitability on-site and in the surrounding area has been recorded;

- A suite of presence/likely absence surveys has been carried out in accordance with best practice survey methodology;
- Potential constraints to the proposed development have been identified;
- Mitigation recommendations have been provided based on current information.

Survey plans are presented in Appendix 1, showing the survey area and location of each reptile felt; site plans showing the current site layout and proposed development are in Appendix 2; and a summary of relevant legislation can be found in Appendix 3. This report should be read in conjunction with the PEA (Arbtech Consulting Ltd; October 2014).

1.4 Site Context

The site is located at National Grid Reference TL 271 058, and comprises a proposed development area of approximately >0.1ha. The dominant habitats comprise mixed woodland, dense scrub, tall ruderal, semi-improved grassland and buildings on site. The site is situated in the rural outskirts of Welwyn, Hertfordshire.

The site is two disused stable blocks/tack rooms situated within a small clearing within a wooded area. The site is surrounded by open countryside (farmland). A number of small pockets of woodland and scattered trees are present on site and surrounding area, offering good connectivity from the site to the surrounding countryside. There appears to be a small open water body approximately 443 meters to the west of the site. There is also a further, slightly larger water body situated approximately 1km to the west. A number of larger woodlands surround the site on almost all sides, with good connectivity present between these and the site itself.

1.5 Project Description

The development proposals briefly comprise the *'demolition of existing redundant structures and erection of single family dwelling house, together with associated tree planting scheme (part of Centenary Woods project sponsored by Woodland Trust); landscaping and car parking'* under planning application number 16/2016/1677 with Welwyn Hatfield Council.

The Plan showing the proposed works, is included in Appendix 2.

2.0 Methodology

2.1 Desk Study

A desk study was carried out during the Preliminary Ecological Assessment of the site undertaken in 2014. The results of the desk study, including a request for data from the local environmental records centre, are included in this report.

2.2 Site Survey

The survey comprised laying 50 'reptile felts' (heavy duty roofing felt cut into approximately 1m x 50cm rectangles) in suitable habitat within the survey area (see Appendix 1 for indicative location of reptile felts). These felts were left to 'bed in' for two weeks before the first survey was undertaken. The felts were then checked by an ecologist on seven separate occasions in suitable weather conditions in September 2016. Optimal weather conditions for surveying reptiles are temperatures between 10 and 18°C with intermittent or hazy sunshine and little or no wind, before 11am and after 3pm (Froglife, 1999, Griffiths & Inns, 1998). However, optimal survey temperatures and times vary according to the time of year and prevailing weather conditions. No surveys were carried out in heavy rain or on extremely hot days.

The surveyor walked slowly and carefully checked the top and underneath each felt.

The felts were laid on 19th August 2016; survey dates, times and weather conditions are included in Table 1 below.

Table 1: Reptile survey dates, times and weather conditions

Survey number	Survey date and time	Weather conditions
1	1 st September, start: 07:30am	14°C, sunny
2	9 th September, start 08:30am	18°C, overcast
3	14 th September, start at 08:45am	18°C, clear and sunny
4	19 th September, start at 08:45am	15°C, overcast
5	22 nd September, start at 08:45am	15°C, sunny
6	27 th September, start at 08:30am	15°C, overcast
7	28 th September, start at 08:40am	15°C, sunny

2.3 Limitations

This survey follows best practice guidance to confirm presence/absence of reptiles and where present, characterise the site in terms of species and distribution, habitat suitability and context with the wider landscape. However, this information is collected at finite dates and times, and provides an indication of the conditions on site only. This survey cannot provide an indication of population.

No specific limitations to this survey.

3.0 Results

3.1 Survey Results

Slow worms and smooth newts were recorded across the survey site. The distribution of herpetofauna across the site is shown in Appendix 1. A maximum count of 2 slow worms, 1 smooth newt and 1 common toad were recorded during the survey.

Table 2 summaries the results of the seven survey visits.

Table 2 – Total number of herpetofauna found per survey

Total number of slow worms found							
Survey number	1	2	3	4	5	6	7
Adults	0	2	1	0	2	0	1
Sub-adults	0	0	0	0	0	0	0
Juveniles	0	0	0	0	0	0	0
TOTAL	0	2	1	0	2	0	1
Total number of common toads found							
Survey number	1	2	3	4	5	6	7
Adults	0	0	0	0	0	0	1
Sub-adults	0	0	0	0	0	0	0
Juveniles	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	1
Total number of smooth newt found							
Survey number	1	2	3	4	5	6	7
Adults	0	0	0	0	0	0	0
Sub-adults	0	0	0	0	1	0	0
Juveniles	0	0	0	0	0	0	0
TOTAL	0	0	0	0	1	0	0

4.0 Conclusions and Recommendations

4.1 Conclusions

Slow worms, smooth newts and common toads are present across the survey site, in both grassland and along the edges of the scrub. Reptiles and amphibians were found under felts scattered throughout the site, particularly to the south and west of the existing buildings. No reptiles are likely to be present on the hard standing around the building and this area was excluded from the survey area.

The suite of surveys confirmed the presence of reptiles and amphibians across the development site.

4.2 Impact Assessment

As the proposals include the demolition of the existing buildings and the erection of a new building in its place, the proposals include minimal impact to suitable herpetofauna habitat found on site.

The clearance of some of the tall ruderal habitat to make place for the orchard and grassland habitat as proposed in the plans (Appendix 2) will create additional habitat for herpetofauna.

The low number of herpetofauna found on site may be injured or suffer mortality during the proposed development and clearance works.

Reptiles are protected from killing and injury under the Wildlife and Countryside Act; see Appendix 3 for a summary of legislation protecting reptiles in the UK.

4.3 Recommendations

4.3.1 Mitigation

The surveys undertaken to date in relation to herpetofauna provide sufficient information to inform a Planning Consent for the proposed development at this site. To comply with wildlife legislation protecting herpetofauna, a suitable mitigation strategy should be adopted to minimise the risk of killing and injury of these animals during site clearance and further works.

Mitigation to reduce the impact of the proposed works on herpetofauna at the site should include:

- Retaining the existing habitat found on site
- Areas of rough grassland could be created within the site, particularly in undisturbed locations not designated for development such as areas of tall ruderal habitat.
- Compost heaps could be created on the site from cut grass and vegetation. They should be positioned in sunny locations (Froglife, 1995).

- Hibernacula could be created to act as hibernation sites for reptiles.
- Log piles could be created to encourage a plentiful supply of invertebrate prey.

Given the low numbers recorded, the small scale of the development footprint, and the suitable adjacent retained habitat, a receptor area can be created through habitat enhancement of the retained areas to increase the carrying capacity. Some of the tall ruderal habitat along the eastern edge of the site and towards the north-western corner of the site should be removed to create a large grassland area for herpetofauna (see map in Appendix 1). The development site should then be trimmed to 15cm to encourage animals to move into enhanced areas. Herpetofauna fencing should then be installed around the proposed development footprint; reptiles and amphibians should be trapped from the development site using roofing felt and carpet tiles, and relocated to retained, enhanced habitats (the receptor site). Reptiles should be trapped for a minimum of 30 visits with 5 clear visits, and the development footprint should then be trimmed to ground level and topsoil stripped, under supervision, prior to works commencing. Any animals found during this stage should also be relocated to receptor areas. The fencing should be retained until works are complete.

It is anticipated that habitats and features suitable for use by herpetofauna may be created during the development works. In addition, the habitats adjacent to the site are high quality for herpetofauna and likely to support higher numbers than those found on site. As such, the reptile exclusion fencing described above will also prevent herpetofauna from re-entering the works area to colonise newly created habitats.

This mitigation strategy is described in more detail below.

Trapping and Translocation

Trapping and translocation is recommended to minimise the risk of killing and injury during site clearance and development, and enable the survival of the population on site. This will involve the installation of exclusion fencing, trapping over a minimum of 30 days, and the translocation of animals into habitat that either doesn't support reptiles, or has been subject to enhancement to increase carrying capacity.

Prior to the commencement of translocation, a suitable receptor site will need to be found or created. This may comprise the creation of suitable habitat within the site where it currently does not exist, the enhancement of sub-optimal habitat to increase its carrying capacity, or sourcing a suitable area or site, away from the development site, that does not currently support a reptile population. This may involve

surveys of the receptor site, and may require a full population survey of the donor site (the development site) to enable a population estimate to be made.

Exclusion Fencing

To prevent any reptiles in adjacent habitats from entering the donor site, an exclusion fence should be installed around the perimeter of the site by a specialist contractor, between April and September in suitable weather conditions. Where access is required into the trapping area, a herptile grid should be installed, or Herpetosure used, to allow the free passage of vehicles.

Trapping and Translocation

All suitable hibernacula and places of shelter (piles of debris, rubble, brash or vegetation) should be carefully dismantled by hand or using light machinery only, by or under the close supervision of an ecologist. All dismantled material should be removed from the site.

The density of artificial refugia should be increased across the site compared to the survey, and some habitat manipulation to create islands of suitable habitat may be beneficial to aid trapping. 'Trapping' will involve checking these refugia for basking and sheltering reptiles, and catching animals for release into the receptor area. Species, age class and sex will be recorded. Animals will be released into artificial hibernacula created within the receptor area.

A minimum of 30 days trapping is normally recommended, to include 5 clear days before trapping ceases, but this is dependent on the numbers caught during the first 20 visits. This should be undertaken during the active season by suitably qualified ecologists. A full trapping and translocation Method Statement should be drawn up once a suitable receptor area has been identified.

Vegetation Clearance

Following trapping, an ecologist must carry out a walkover and fingertip search where appropriate, of all areas to be cleared, and vegetation must be strimmed using hand-held tools under supervision. All ground level vegetation must be strimmed/cut to around 300mm. A second cut to 150mm should then be taken 24 to 48 hours later. All arising should be removed. Any residual reptiles that are found should be placed in the receptor area by a suitably experienced ecologist.

Destructive Search

The top soil within the works area should then be removed using a long armed excavator with a toothed bucket. This will also need to be supervised by an ecologist and any reptiles found will be relocated to the receptor site.

4.3.2 Enhancement

To maximise the value of the site post-construction for protected species, habitat enhancement should be undertaken. This could include:

- Creating a wildlife pond on the site will enhance the biodiversity value for herpetofauna and other protected species. **This is already included in proposed plans.**
- Installing bat boxes and bird boxes on the retained trees will enhance the habitat value of the site for breeding birds and bats.
- Planting fruit trees on the site will create a foraging resource for breeding birds, invertebrates and other protected species. **This is already included in proposed plans.**
- The installation of beehives on the site to enhance habitat value for invertebrates. **This is already included in proposed plans.**
- The creation of a wildflower meadow to create a foraging resource for invertebrates and breeding birds and to create additional reptile habitat. **This is already included in proposed plans.**
- **Additional planting of native tree species to enhance the breeding bird habitat on site.** This is already included in proposed plans.

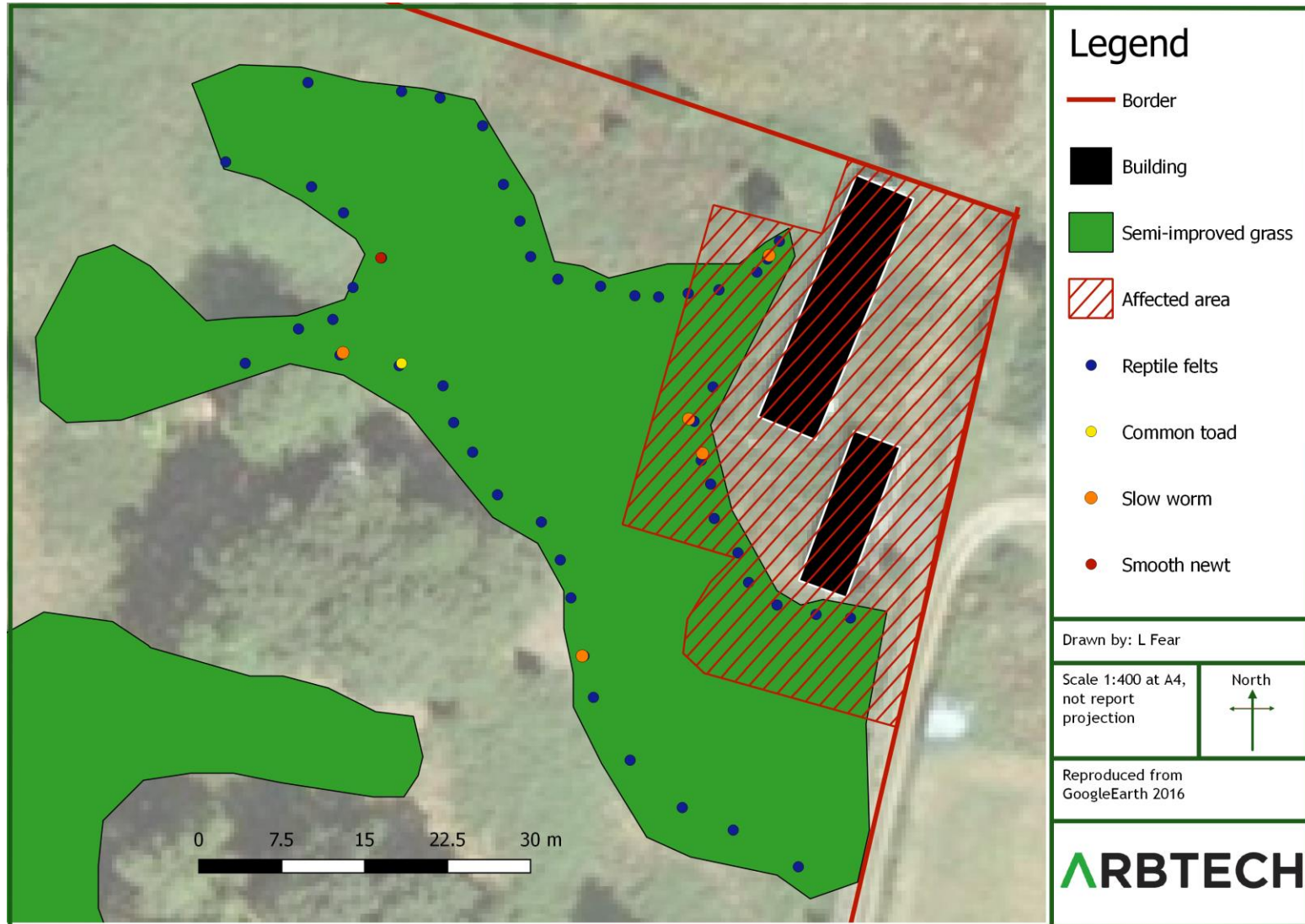
As such, the proposed plans already include biodiversity enhancements.

5.0 Bibliography

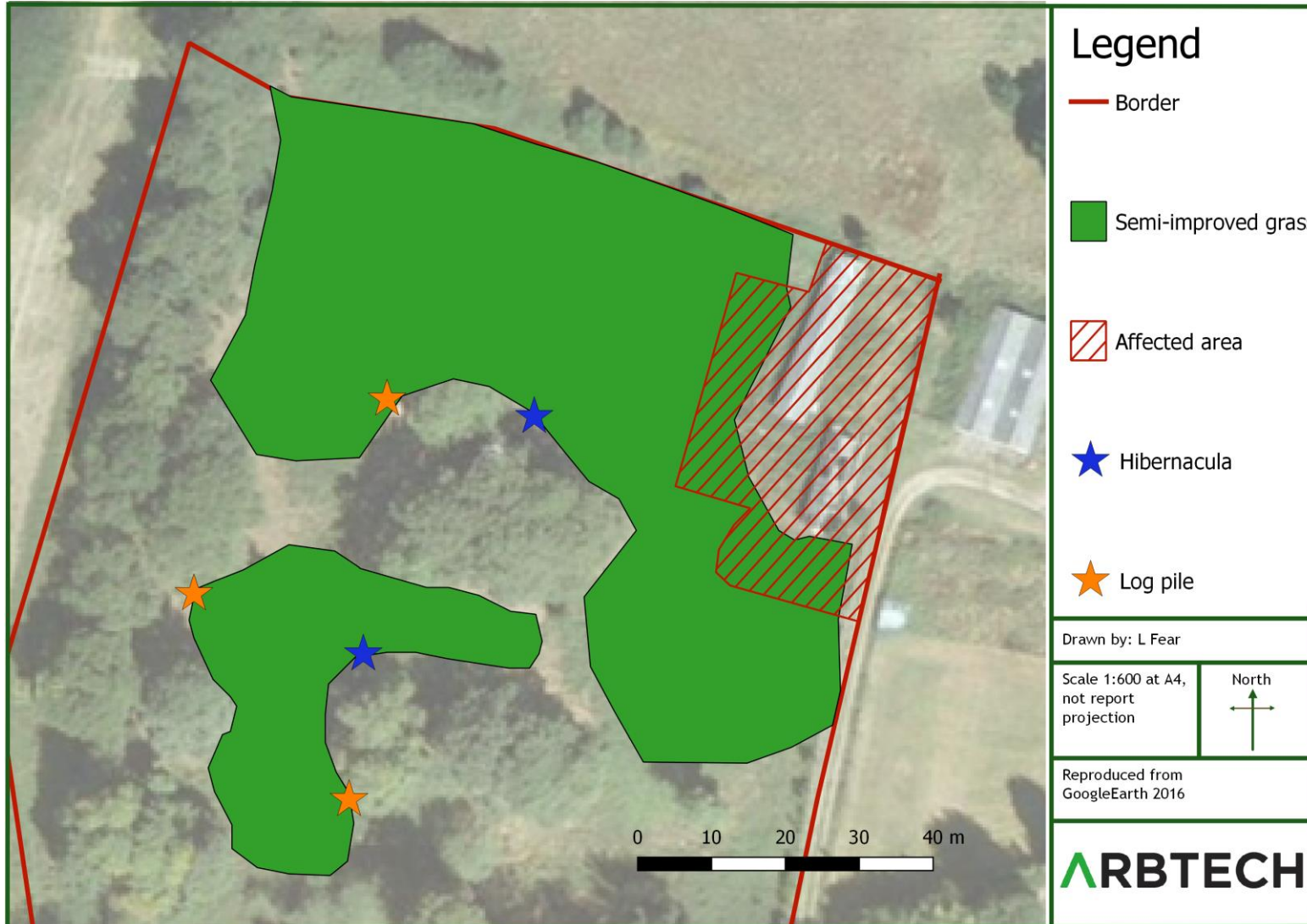
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Appendices

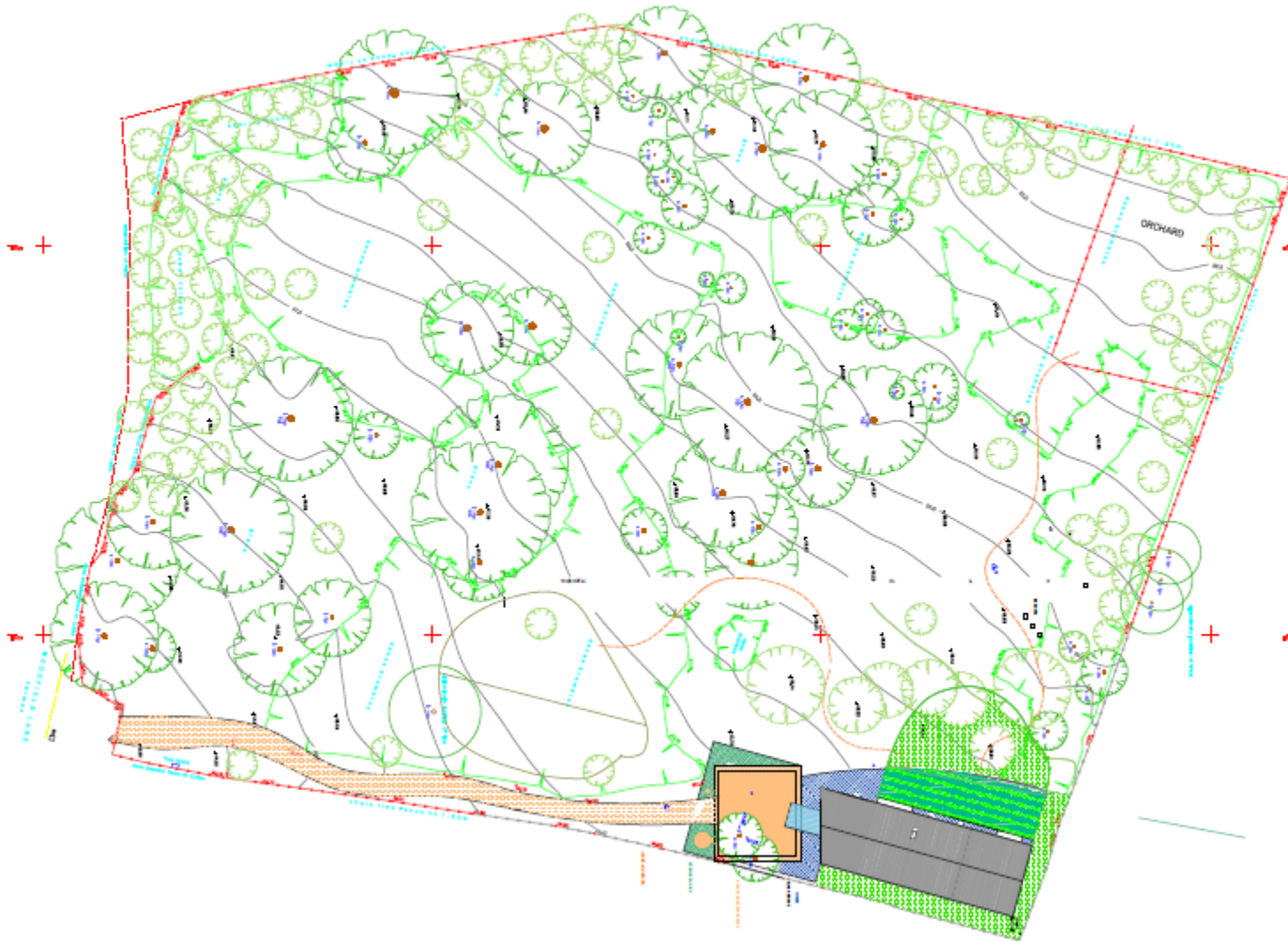
Appendix 1: Survey Plan of reptile survey results



Survey Plan with suggested mitigation for reptiles



Appendix 2: Proposed Site Plan



Appendix 3: Legislation and Planning Policy related to reptiles

LEGAL PROTECTION

Herpetofauna (Amphibians and reptiles)

The sand lizard *Lacerta agilis*, smooth snake *Coronella austriaca*, natterjack toad *Epidalea calamita*, pool frog *Pelophylax lessonae* and great crested newt *Triturus cristatus* receive full protection under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Deliberate disturbance of species in such a way as:
 - to impair their ability to survive, breed, or reproduce, or to rear or nurture young;
 - to impair their ability to hibernate or migrate
 - to affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

With the exception of the pool frog, these species are also listed on Schedule 5 of the WCA and they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

Other native species of herpetofauna are protected solely under Schedule 5, Section 9(1) & (5) of the WCA, i.e. the adder *Vipera berus*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis*. It is prohibited to intentionally or recklessly kill or injure these species.

Effects on development works

A European Protected Species Mitigation (EPSM) Licence issued by the relevant countryside agency (e.g. Natural England) will be required for works liable to affect the breeding sites or resting places amphibian and reptile species protected under Habitats Regulations. A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation, but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Although not licensable, appropriate mitigation measures may also be required to prevent the intentional killing or injury of adder, grass snake, common lizard and slow worm, thus avoiding contravention of the WCA.

NATIONAL PLANNING POLICY (ENGLAND)

National Planning Policy Framework

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as UK Biodiversity Action Plan priority species) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; opportunities to incorporate biodiversity in and around developments are encouraged; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and The Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act, 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act (Section 42 in Wales) requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity.' This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

Appendix 4: Photos



Photo 1: Adult slow worm on site.



Photo 2: Juvenile smooth newt on site.

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