

**LAND AT BURDELL ROAD,
YAPTON**

REPTILE MITIGATION STRATEGY

A Report submitted to Persimmon Homes

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YAPTON

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01 OF 02

01 PERSIMMON HOMES
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*The contents of this report are the responsibility of Middlemarch Environmental Ltd.
It should be noted, that whilst every effort is made to meet the client's brief,
no site investigation can ensure complete assessment
or prediction of the natural environment*

Contract Number C113678

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1. INTRODUCTION

1.1 PROJECT INTRODUCTION

In February 2013 Middlemarch Environmental Ltd was commissioned by Persimmon Homes to produce a Reptile Mitigation Strategy for the site of a proposed development, in order to meet a condition (17) set out in planning permission granted for the land at Burndell Road, Yapton in West Sussex.

The proposed development involves construction of 173 new dwellings with associated car parking; public open space including play areas, access roads and highway works at a site on the edge of Yapton.

The site comprises areas of semi-improved grassland with encroaching scrub, tall ruderal vegetation, dense scrub, scattered trees and stretches of hedgerows.

1.2 SITE DESCRIPTION

The development site is located in Yapton, West Sussex and is centred at National Grid Reference SU 985 030. It comprises of approximately 7.6 ha of formerly undeveloped land.

Habitats currently on site include bare ground and ephemerals, hedgerows, Japanese knotweed, scattered trees (broadleaved and coniferous), scrub (dense and scattered), semi-improved grassland, spoil heap and tall ruderal vegetation. The site is surrounded by residential properties to the south and west, arable fields to the north and industrial properties to the east.

1.3 BACKGROUND INFORMATION

Middlemarch Environmental Ltd has also completed the following works for this development:

- Initial Badger Survey. Report RT-MME-113678-01. February 2013.
- Ecological Protection Plan. Report RT-MME-113678-02. February 2013.
- Bat Lighting Strategy. Report RT-MME-113678-04. February 2013.
- Bird and Bat Habitat Enhancement Plan. Report RT-MME-113678-05. February 2013.
- Japanese Knotweed Method Statement. Report RT-MME-113678-06. February 2013.

The requirement for a reptile mitigation strategy was identified following the Extended Phase 1 Habitat Survey undertaken at the site by Hyder Consulting Group in 2010 which found that suitable reptile habitat exists within the survey area. The mitigation strategy will ensure that if any reptiles are present within the survey area that they will not be negatively impacted by the proposed development and as a result there will be no breaches of the legislation with regard to reptiles.

A summary of legislation is in Appendix 1.

2. REPTILE STATUS

2.1 HISTORIC DATA

As part of the Extended Phase 1 Habitat Survey completed by Hyder Consulting Group, a desk study for records of protected species was completed. This involved contacting the local records centre for records of protected species within 2 km of the site. The records centre did not provide any records for reptile species in the search radius.

A search of records using the National Biodiversity Network Gateway (NBN) revealed historic records of grass snake *Natrix natrix* and slow worm *Anguis fragilis* within 2 km of the site.

There is anecdotal evidence of reptiles, in particular slow worm and grass snake on site. Field surveys undertaken in 2010 revealed no evidence of reptiles within the site. However the refugia were constantly disturbed by the general public during the survey period, therefore, the presence of reptiles cannot be completely ruled out due to the extent of suitable habitat present within the site.

Following advice from the local ecologist a precautionary approach has been adopted and as such this mitigation strategy has been produced in order to prevent injury to any reptiles which may be present on site.

2.2 HABITAT ASSESSMENT

Natural England (2010) produced draft reptile mitigation guidelines. Although these have not yet been adopted, they identify the importance of understanding the reptile habitat characteristics of a site, particularly if mitigation will be required. Table 2.1 summarises the key reptile habitat characteristics at the Burndell Road site.

Reptile Habitat Characteristic	Notes
Location in relation to species range	West Sussex is known to support populations of the four most 'common' species of British reptile, namely grass snake <i>Natrix natrix</i> , slow worm <i>Anguis fragilis</i> , adder <i>Vipera berus</i> and common lizard <i>Zootoca vivipara</i> .
Vegetation structure	The site supports a mosaic of scrub and open grassland habitats with some areas of tall ruderal vegetation, creating a diverse vegetation structure suitable for reptiles. A number of large areas of dense, unmanaged scrub of approximately 3 m in height were present throughout the survey area adjacent to poor semi-improved grassland and tall ruderal vegetation. Two defunct hedgerows were present across the site and were generally adjacent to tall ruderal or scrub habitat.
Site isolation and connectivity to nearby good quality habitat	Directly adjacent to the southern boundary of the site are residential areas with short mown amenity grassland gardens. This is considered sub-optimal for reptiles. To the north of the site are large expanses of open farmland and hedgerows as field boundaries. While farmland is not considered optimal for reptiles, there is potential for them to use this sort of habitat, particularly because of the associated hedgerows.
Aspect and Topography	The site is predominantly flat.
Prey abundance	Limited range of common invertebrate species typical of urban fringe habitats. Location adjacent to residential increases rodent population too.

Table 2.1: Summary of Reptile Habitat Characteristics (Continues)

Reptile Habitat Characteristic	Notes
Refuge opportunity	Good – predominately located in areas of scattered scrub and hedgerows present within the site.
Hibernation habitat potential	Suitable hibernation habitat exists within the site including large area of dense scrub and brash piles.
Disturbance regime	The site does not appear to receive considerable vegetative management due to the over-grown nature of the scrub present. The grassland, however, appears to receive some limited management and it is not of a considerable height.
Egg-laying site potential (grass snake and sand lizard only)	There is limited egg-laying habitat present within the site.

Table 2.1: Summary of Reptile Habitat Characteristics (Continues)

3. IMPACTS

3.1 POTENTIAL FOR REPTILES TO BE PRESENT WITHIN SURVEY AREA

Information provided by the desk study highlights that there are no recent records of reptile species within the local area and a reptile survey carried out in 2010 was negative. Therefore it is unlikely that reptiles will be present on site in any significant numbers.

However, as suitable reptile habitat exists within the proposed development area the presence of reptiles cannot completely be ruled out. As a result the following discussion on the potential impacts of the proposed development on reptile populations and the resulting mitigation strategy is based on the assumption that reptiles may be present within the survey area.

3.2 POTENTIAL LONG TERM IMPACTS

Suitable reptile habitat (including dense scrub, tall ruderal vegetation, scattered and dense scrub, semi-improved grassland and hedgerows) occupies most of the proposed development site. All of these habitats will be impacted as part of the proposed development. Much of the dense scrub will be permanently lost.

As the post-development landscaping will involve planting of hedgerows and creation of refuge and hibernation features for reptiles on site it is considered that with appropriate mitigation the proposed development will have no long term impacts on reptile species.

4.3 CONSTRUCTION PERIOD IMPACTS

Due to the presence of suitable reptile habitat within the survey area that will be impacted by the proposed development, there is potential for reptiles to be directly impacted during the construction period. However, it is considered that with appropriate mitigation there will be no negative impacts to any reptiles during the construction phase.

4. REPTILE PROTECTION MEASURES

4.1 INTRODUCTION

The following mitigation strategy is based on the assumption that reptile species may be present within the survey area. Much of the site is considered to provide suitable reptile habitat, particularly the edge habitat between the grassland and scrub/tall ruderal vegetation.

English Nature (2004) identifies two aims that need to be achieved when reptiles are present on proposed development sites:

- (1) To protect reptiles from any harm that might arise during the development work;
- (2) To ensure that sufficient quality, quantity and connectivity of habitat is provided to accommodate the reptile population, either on-site or at an alternative site, with no net loss of local reptile conservation status.

This chapter outlines the measures to be undertaken to protect any reptiles that may be present during the pre-construction and construction phases.

4.2 MITIGATION MEASURES

4.2.1 Habitat Manipulation and Direct Search

Areas of natural refugia and high quality habitat for reptiles will be subject to a rigorous direct search prior to any works commencing. If any reptiles are found they will be translocated to the receptor site at the northern end of the site.

The contractor will undertake a two-stage directional cut of the vegetation in stages to encourage any reptiles out of the working area. The first cut will be to a height of 150 mm and then the area will be re-cut to 0 - 50 mm and all arisings will be removed. Vegetation strimming will be directional, towards the northern part of the site where suitable vegetation will be retained. This will allow for any reptiles present to safely move towards the receptor site during the vegetation strimming.

The works will need to be undertaken during the reptile active season (generally regarded to extend between April and September, weather dependent) to avoid the hibernation season and in the presence of a suitably qualified ecologist acting as an Ecological Clerk of Works. The Ecological Clerk of Works will undertake a walkover search of the area immediately prior to the commencement of the works in order to identify any reptiles present. This search will include dismantling any brash piles and compost piles etc. If any reptiles are found during the works they will be translocated to the receptor area.

4.2.2 Habitat Destruction

On completion of the direct search of the works area the contractor will scrape the top 150 mm of soil and all vegetation from the site. Works are to be carried out in suitable weather conditions only (no rain and temps 9° c plus). The Ecological Clerk of Works will again supervise these works to ensure that any reptiles remaining within the site are safely translocated to the receptor area. As with the vegetation removal the works will commence in the south and move northwards towards the receptor area. These bare areas will be maintained throughout the construction period to prevent reptiles moving back into the working areas.

4.2.3 Receptor Site

During the construction works a scrub and grassland mosaic habitat along the northern site boundary will be retained. Therefore, should any reptiles be found during the works they will be re-located to this habitat.

5. HABITAT CREATION AND MANAGEMENT

5.1 INTRODUCTION

A requirement of reptile mitigation works identified by English Nature (2004) is to ensure that sufficient quality, quantity and connectivity of habitat is provided to accommodate reptiles. As such the following habitat creation and management is recommended at this site.

5.2 POST DEVELOPMENT HABITAT CREATION AND MANAGEMENT

As part of the proposed development a number of green areas will be created on site.

It is recommended that at least two hibernacula are constructed (See Section 6.2.1. below) within these green spaces to create suitable refuge habitat for reptile species that may utilise the site post-construction.

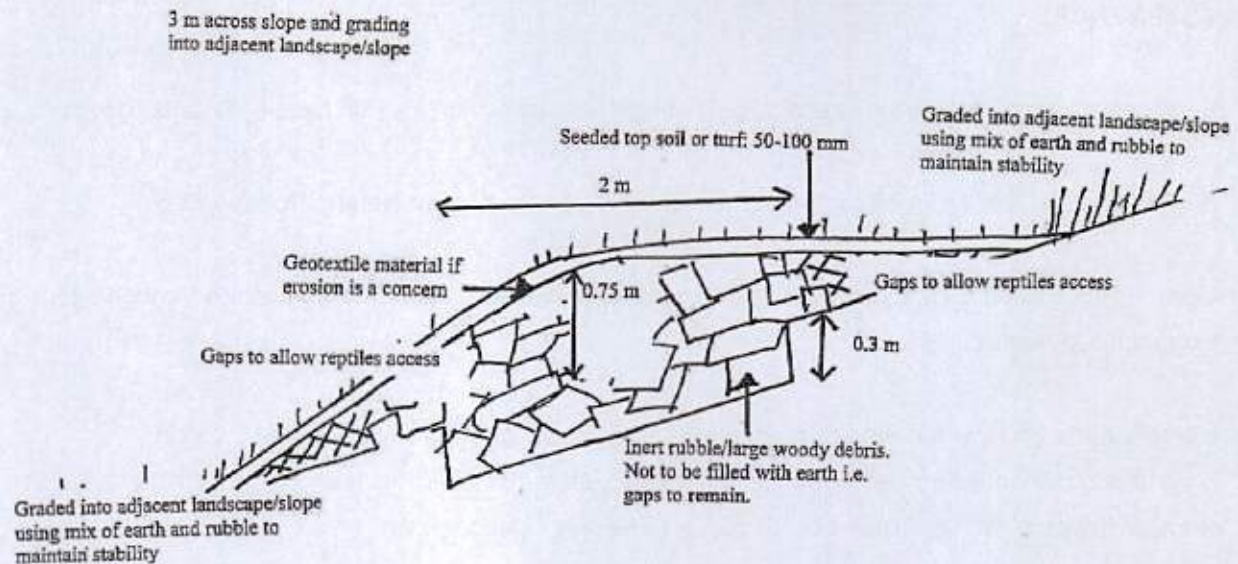
The proposed landscaping plans provided by the client indicate that the following features will also be incorporated into the development:

- Native hedge planting;
- Tree planting; and,
- Shrub planting.

These features have potential to provide replacement reptile habitat post-development.

5.2.1 Hibernacula

Two hibernacula will be located within the retained vegetation at the northern end of the site. Figure 1 provides details of hibernacula design.



If impermeable ground conditions the hibernacula will need to sit on the ground surface and rise to 1 m, again grading into adjacent landscape/slope to maintain stability and visual aesthetics.

If ground conditions permits, the 'pit' can be dug to 0.75 m, with 0.3 m above ground level, again with grading into adjacent landscape/slope. Access must be retained for reptiles.

Figure 1: Reptile Hibernacula Design

5.2.2 Basking areas

Banks with different aspects should be created within the northern receptor site to create suitable reptile basking areas. The basking areas should be located adjacent to scrub/rough grass/ruderal vegetation which provides suitable reptile cover. If possible these basking areas should be situated on south facing slopes.

5.2.3 Scrub management

Small pockets of scrub are to be planted to provide cover and refugia sites. Planted scrub and retained scrub should be managed to maintain suitability as reptile habitat. This should include, in particular, the maintenance of a scrub edge habitat adjacent to grass/tall ruderal vegetation.

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DRAWINGS

AAT Architecture Ltd Drawing P626/1RevQ

Planning Layout

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APPENDICES

Appendix 1 Summary of reptile legislation

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Summary of reptile legislation

All of the UK's native reptiles are protected by law. The two rarest species – sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*) benefit from the greatest protection.

Common lizard (*Lacerta vivipara*), slow-worm (*Anguis fragilis*), adder (*Vipera berus*) and grass snake (*Natrix natrix*) are protected under the Wildlife and Countryside Act 1981 as amended from intentional killing or injuring.

Sand lizard and smooth snake are protected under the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2010 which together make it illegal to kill, injure, capture, handle or disturb these animals. Places they use for breeding, resting, shelter and protection are protected from being damaged or destroyed. It is also illegal to obstruct these animals from using such areas.

In England and Wales, this Act has been amended by the Countryside and Rights of Way Act 2000 (CROW), which adds an extra offence, makes species offences arrestable, increases the time limits for some prosecutions and increases penalties. The Natural Environment and Rural Communities (NERC) Act 2006 places a duty on Government Departments to have regard for the conservation of biodiversity and maintains lists of species and habitats which are of principal importance for the purposes of conserving biodiversity in England and Wales. All native reptile species are included on these lists.

The reader is referred to the original legislation for the definitive interpretation.

This is a simplified description of the legislation. In particular, the offences mentioned here may be absolute, intentional, deliberate or reckless. Note that where it is predictable that reptiles are likely to be killed or injured by activities such as site clearance, this could legally constitute intentional killing or injuring.

English Nature (2004) has stated that:

Reptiles are likely to be threatened, and the law potentially breached, by activities such as the following:

- *Archaeological and geotechnical investigations*
- *Clearing land, installing site offices or digging foundations*
- *Cutting vegetation to a low height*
- *Laying pipelines or installing other services*
- *Driving machinery over sensitive areas*
- *Storing construction materials in sensitive areas*
- *Removing rubble, wood piles and other debris.*

In general English Nature would expect reasonable avoidance to include measures such as altering development layouts to avoid key areas, as well as capture and exclusion of reptiles.

For sand lizards and smooth snakes, licences may be issued for some activities (such as disturbance and capture) that would otherwise be prohibited.

Source: English Nature (2004) *Reptiles: guidelines for developers*.

MIDDLEMARCH ENVIRONMENTAL
QUALITY ASSURANCE

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