

Ecological Report

Reptile Mitigation Strategy

Byanda
Brighton Road
Hassocks
West Sussex
BN6 9LU

January 2021

200120-ED-06b

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Project	Byanda, Hassocks
Report Type	Reptile Mitigation Strategy
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NON-TECHNICAL SUMMARY

During reptile surveys, slow-worms (*Anguis fragilis*) have been identified within the site. In order to comply with the legislative protection afforded to reptiles, a mitigation strategy for reptiles will be initiated to remove slow-worms from the works area before and during site clearance works. The strategy detailed in this document is considered to be pragmatic and proportionate to the numbers of slow-worms present and the short-term and long-term risks to them.

The strategy involves the partial reptile fencing of protected retained habitats in the south of the site, combined with a three phased/staggered programme of slow-worm capture and gradual habitat removal across the rest of the site.

Areas of suitable habitat within the south of the site will be retained and protected throughout construction. Retained habitats will be improved for slow-worms by the inclusion of log piles to provide additional refuge.

Clearance must be carried out during the active reptile season (March/April – October, weather dependent) with temperatures above 9 degrees in order for reptiles to be active, since disturbance of reptiles whilst hibernating can be very detrimental to their survival.

The creation of temporary slow-worm sheltering habitats such as rubble piles and vegetation will be avoided close to the site boundaries, to avoid their colonisation by slow-worms and subsequent harm to slow-worms during the destruction of such features.

Following the completion of construction works and landscaping, the reptile fencing will be removed. The landscaping includes areas of high-quality reptile habitat and habitat corridors connecting to suitable habitat in the wider area.

1 INTRODUCTION

Purpose of this report

- 1.1 This report has been instructed by Frontier Estates.
- 1.2 The proposed development involves the demolition of Byanda (a single residential property and ancillary buildings) and the erection of a 66 bedroom residential care facility, with associated access, ground works, car parking, servicing, private amenity space, landscaping and boundary treatment.
- 1.3 During reptile surveys (TMA, 2020), slow-worms (*Anguis fragilis*) have been identified within the site. In order to comply with the legislative protection afforded to reptiles (see Appendix 5), a mitigation strategy for reptiles will be initiated to remove reptiles from the works area before and during site clearance works. Accordingly, this document outlines the details of the mitigation strategy for safeguarding reptiles, which will include:
 - Methodology for translocating reptiles from the areas of the site due to be disturbed into retained habitat;
 - Habitat manipulation of the site to enable translocation;
 - Enhancements to the retained on-site habitat for reptiles.
 - Inclusion of optimal reptile habitat and corridors within the proposed landscaping.

Information supplied

- 1.4 This report has been prepared with reference to the following supplied plans, showing the extent of the site boundary and the proposed development (at this stage):
 - Hassocks Byanda, Proposed Site Plan, BroadwayMalyan, December 2020 (A-02-010 Rev. B).
 - Hassocks Byanda, Landscape Proposal Plan, TMA, January 2021 (200120-LP-10 B).
- 1.5 Please note the above-named plans may be superseded or updated without warranting an update of this report, if the changes are insignificant to the impact of the development on reptile mitigation.

Site location

- 1.6 The site is located within a suburban landscape. Areas of woodland, hedgerows, landscaped areas and arable fields are present in the surrounding area.
- 1.7 The central grid reference for the site is TQ 29950 15322. The surveyed site covers approximately 0.4 hectares.

2 RESULTS OF PREVIOUS SURVEYS

Ecological data search

- 2.1 Sussex Biodiversity Record Centre returned the following records of reptiles within 2km of the site;
- Eight records of common lizard; the closest record was 1.22 NE of the site and most recent record was in 2017.
 - Seventy-four records of slow-worm; the closest record was 0.32 S of the site and most recent record was in 2018.
 - Forty-three records of grass snake; the closest record was 0.32 S of the site and most recent record was in 2017.
 - Fifteen records of adder; the closest record was 1.08 NW of the site and most recent record was in 2017.

Reptiles presence/absence survey

- 2.2 TMA have undertaken a reptile survey of the proposed development as detailed in the reptile survey report (TMA, August 2020, ref. 200120-ED-02). The aim of the survey was to establish if there are reptile populations present in and around the site and, if so, which species are present.
- 2.3 Surveys started on the 29th of June 2020 and finished on the 21st July 2020. Despite being undertaken largely in July, the weather conditions were optimum, such that the timing of the surveys was considered to be suitable. It was a relatively cool July and the time of day of the surveys was chosen to ensure optimal weather conditions for all surveys, as are outlined in the guidelines (Froglife, 2015).
- 2.4 A single juvenile slow-worm was recorded under mat 109 on survey 6 of 7 (see Appendix 1). This mat was located in the north-west corner of the site. A single adult female slow-worm was recorded on survey 7 under the same mat. This is indicative of a low slow-worm population. In order to minimise the risk of harming slow-worms during the proposed works it was recommended that a reptile mitigation strategy be produced and implemented.

3 MITIGATION METHOD STATEMENT

Rationale for Mitigation Strategy

- 3.1 Due to the small size of the site (0.4 ha), the low number of slow-worms present within the site and the relatively limited dispersal behaviour of slow-worms compared to other reptile species (Smith, 1990) it is preferable to retain relocated slow-worms on site rather than remove them to an offsite location. The strategy detailed below is considered to be pragmatic and proportionate to the numbers of slow-worms present and the short-term and long-term risks to them.
- 3.1 Within this site it is considered preferable to minimise the risk to slow-worms via the control/avoidance of temporary habitats (refuse piles etc) within the working footprint, within which slow-worms may be harmed.
- 3.2 Implementing a complete 'ring-fence' of the site is not considered appropriate for this site as it would likely be hard to implement effectively. The difficult undulating nature of the site and presence of tree root protection and the presence of hard standing in the north of the site are factors which makes the installation of reptile fencing difficult.

Summary of Mitigation Strategy

- 3.3 The strategy for this site involves the partial reptile fencing of protected retained habitats in the south-east of the site, combined with a three phased/staggered programme of slow-worm capture and gradual habitat removal across the rest of the site. The strategy will include the clear classification of onsite habitats to show which phase of removal they should fit into, depending on the risks to slow-worms.
- 3.4 The presence of temporary slow-worm sheltering habitats such as rubble piles and vegetation will be avoided close to the site boundaries, to avoid their colonisation by slow-worms and subsequent harm to slow-worms during the destruction of such features.
- 3.5 Following the completion of construction works and landscaping, the reptile fencing will be removed. The landscaping includes areas of high quality reptile habitat and connection to suitable habitat in the wider area.
- 3.6 The works should be carried out as early in the active reptile season (March/April – October, weather dependent) as possible to allow as much time as possible prior to hibernation. During the capture and clearance stage, the temperature must be above 9 degrees in order for reptiles to be active, since disturbance of reptiles whilst

hibernating can be very detrimental to their survival. Works should be avoided between late October and March as slow-worms will be underground for long periods after breeding and then will go into hibernation. This would put them at much more risk of harm than other reptile species, which do not shelter underground, particularly during site levelling works.

Retained and enhanced habitat

- 3.7 Shrub and woodland habitats, particularly close to the boundaries of the site, are currently considered to provide suitable habitat for slow-worms (See PEA report, TMA, April 2020).
- 3.8 Areas of suitable habitat within the south of the site will be retained within the proposed development (see Appendix 3). These areas also coincide with the root protection areas of retained trees. As part of the proposals, retained habitats will be improved for slow-worms by the inclusion of log piles to provide additional refuge.
- 3.9 The proposed landscaping for the development has been designed in collaboration with ecologists and with slow-worms in mind, to include areas of new orchard planting in the south of the site which will provide suitable slow-worm habitat and the inclusion of additional native trees and shrubs along the east of the site which will provide additional habitat and connective corridors to suitable habitat off-site (see Appendix 2 and Appendix 4). These landscape measures are designed to ensure that the value of the proposed development site for reptiles is maximised and that the conservation status of slow-worms in the local area is not detrimentally affected by the development.

Reptile Fencing

- 3.10 Herpetosure-style fencing will be installed along the southern edge of the development footprint, to protect the area of habitat to be retained there (Appendix 3). This is not a complete exclusion fence but will significantly limit the likelihood of slow-worms dispersing back into the working area. This will define the 'refuge zone' which is to be protected throughout development as optimal slow-worm habitat. The reptile barrier fence will include 'turn-backs' at either end to discourage slow-worms from leaving the refuge zone. The reptile fence will be installed in line with the tree protection fence, inside the tree protection fence so that the reptile fence is also protected by the tree protection fence. The installation of the reptile fence slightly

inside the root protection area of the trees has been approved by the arboricultural consultant.

- 3.11 During the development work, the reptile exclusion fence will be monitored on a monthly basis. If the reptile fence is damaged during construction an Ecologist will be contacted immediately and repairs made immediately. This will minimise the risk of slow-worms entering the site from the refuge area.
- 3.12 On completion of construction, the fence will be carefully removed by hand under ecological supervision to prevent the injuring or killing of slow-worms, as they can be found sheltering in cracks between the fence and soil. The gap left by the removal of the fence line must also be checked for slow-worms before being filled in. This must be carried out during the period when slow-worms are active, which is typically March/April – October, weather dependent.

Slow-worm Habitat Classification

- 3.13 Prior to commencement of any habitat clearance activities, an ecologist will assess the habitats within the site to classify them into three types depending on the risk of harm to slow-worms that is posed by their removal. This will dictate which stage of site clearance the habitats fit into. Superficial habitats that can easily be removed with minimal risk to slow-worms (e.g. light vegetation, light log piles) may be removed during stage 1 of habitat clearance. Whereas heavy or buried items that require mechanical excavation will only be removed during the final phase, by which time the majority of slow-worms will have already been removed from the site.

Slow-worm Capture

- 3.14 Artificial reptile mats, made of roofing felt, will be installed in suitable habitat throughout the site, in order to assist in the capture of slow-worms and removal to retained habitats.
- 3.15 Best practice standards (HGBI, 1998) state that 50 artificial mats are required per hectare for a translocation programme for a low slow-worm population (<50/ha). Accordingly, a minimum of 50 reptile mats will be placed throughout the site and left a minimum of 14 days in suitable weather conditions prior to slow-worm captures commencing. This number of mats exceeds the requirements for a low slow-worm population, increasing the chances of slow-worms within the site being captured.

- 3.16 Each mat will be approached quietly and lifted to catch any slow-worms present underneath. Any slow-worms evading capture will also be recorded. The species, sex and life stage of each slow-worm caught or observed will be recorded. All animals caught will be placed in sturdy plastic containers or light cotton bags along with vegetation to provide shelter and minimise stress. The animals will then be released in the south of the site, near thick vegetation or hibernacula to provide cover.

Stage 1 Capture and Clearance

- 3.17 Reptile capture: Reptile mats will be checked by a suitably qualified ecologist on five occasions. Slow-worms captured will be relocated into either the refuge area (if found in the southern half of the site) or into suitable habitat off-site to the north of the site (if found in the northern half of the site). Numbers of slow-worms relocated are expected to be low due to the low number of recorded during the reptile presence/absence surveys (TMA, 2020).
- 3.18 Habitat clearance: Habitats that are easy to remove and which pose minimal risk to slow-worms will be removed under the supervision of a suitably qualified ecologist. This process is to reduce the habitats available to slow-worms, whilst also finding and removing slow-worms uncovered during the process and to minimise the recolonisation by slow-worms during site clearance or construction works. This process will include the dismantling of log piles and the removal of light scrub habitats and light vegetation. Features suitable for enhancing the refuge area will be moved into it (e.g. log piles).
- 3.19 The habitats and mats will be left for a further week in order to allow slow-worms to relocate themselves within the site.

Stage 2 Capture and Clearance

- 3.20 Reptile capture: As in Stage 1, reptile mats will be checked by a suitably qualified ecologist on five occasions. Slow-worms captured will be relocated into either the refuge area (if found in the southern half of the site) or into suitable habitat to the north of the site (if found in the northern half of the site).
- 3.21 Habitat clearance: Vegetated habitats which remain after stage 1 and features that can be cleared through light excavation will be removed under the supervision of a suitably qualified ecologist. This process will further reduce the habitats available to slow-worms, whilst also finding and removing slow-worms uncovered during the process.

- 3.22 The habitats and mats will be left for a further week in order to allow slow-worms to relocate themselves within the site.

Stage 3 Capture and Clearance

- 3.23 Reptile capture: As in previous stages reptile mats will be checked by a suitably qualified ecologist on five occasions. Slow-worms captured will be relocated into either the refuge area (if found in the southern half of the site) or into suitable habitat to the north of the site (if found in the northern half of the site).
- 3.24 Habitat clearance: Under ecologist supervision, removal of all remaining potential sheltering places for slow-worms will be undertaken. This will include careful mechanical excavation of undulating ground or other suitable features. This phase aims to find the last slow-worms sheltering within the site (if any). Destructive search carries a high risk of harm to slow-worms present, therefore this process will only be undertaken after the initial two phases of site clearance have been undertaken. Ideally the destructive search process will tie in with the commencement of site levelling and preparation works.
- 3.25 Suitable sheltering features such as rubble and soil should be placed towards the centre of the site and then removed from site as soon as possible to minimise the risk of recolonisation by slow-worms into temporary features which will subsequently be destroyed.

Additional measures

- 3.26 Throughout the construction process, the creation of suitable sheltering features, such as rubble piles and spoil, close to the edges of the site must be avoided as they may be colonised by slow-worms. A buffer zone of 10m from retained vegetation around the edge of the site should be kept clear of stored materials and other suitable features, or vegetation growth. If the contractor deems this to be unfeasible, then a reptile fence surrounding the entire site may need to be considered. This should be confirmed before any works start.
- 3.27 Brief monthly checks will be undertaken by an ecologist to ensure that avoidance of reptile habitat is being managed according to the method statement, and that no damage occurs to the reptile fence.
- 3.28 Ideally the slow-worm and habitat clearance exercise should be undertaken directly before site works commence (and certainly in the reptile active season). If the site

becomes dormant for a prolonged period, storage of materials such as rubble piles and spoil, within the site must be avoided as they may be colonised by slow-worms. Vegetation must also be kept to a very low level throughout the site for the same reason, even if no other development activity is taking place.

4 REFERENCES

- Edgar, P., Foster, J. and Baker, J. (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth.
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- Gent, T. and Gibson, S. (2003). Herpetofauna Workers Manual. Joint Nature Conservation Council (JNCC). Peterborough, UK
- Herpetofauna Groups of Britain and Ireland (HGBI) (1998) Evaluating local mitigation/translocation programmes: Maintaining Best Practice and lawful standards.
- Smith, N.D. (1990) The ecology of the slow-worm (*Anguis fragilis* L.) in Southern England. M.Phil. theses, University of Southampton.
- TMA (2020) Preliminary Ecological Appraisal – Byanda, Hassocks. Ref. 200120-ED-01.
- TMA (2020) Reptile Survey Report – Byanda, Hassocks. Ref. 200120-ED-02.

Appendix 1

Map showing existing site and reptile survey results

Legend

-  Boundary
-  No reptiles recorded
-  two slow worms recorded
-  Building

Drawing title:

Reptile Survey Plan

Project Name:

Byanda, Hassocks, West Sussex

Date
12/08/2020

Drawn by
BP

Check by
HT

Drawing No
200120-E-06

Rev
-

Scale
1:350

The original of this drawing was produced
in colour - a monochrome copy should not be relied upon.



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0 5 10 20 Metres



Appendix 2

Proposed landscape plan for new development (subject
to minor changes)

Notes:

Do not scale from this drawing, dimensions govern.
Contractors must check all dimensions on site.
Any discrepancies must be reported to the
Landscape Architect before proceeding.

Soft Landscape

- Existing tree to be retained
- Proposed tree
- Existing hedge to remain
Any gaps to be infilled
- Structural planting
- Structural boundary planting
Existing planting to remain where possible
- Shrub and perennial planting
- Native tree and shrub Screening planting.
Existing planting to remain where possible
- Grass/ Lawn
- Planted pebble garden
with water features
- Wildflower meadow
- Evergreen buffer planting
- Water feature

Hard Landscape

- Road:Tarmac
- Road:Block paving.
Colour:Bracken. Laid Herringbone
- Parking: Permeable block paving.
Colour:Bracken. Laid stretcher bond
- Pedestrian paving: Block paving
Colour: Cedar. Laid stretcher bond
- Pedestrian paving: Concrete flag paving
Colour: Sandstone. Laid stack bond
- Pedestrian paving: Concrete block paving planks
Colour:Silver and sandstone. Laid stretcher bond
- Pedestrian paving: Concrete block paving planks
Colour:Silver and sandstone. Laid stretcher bond
at 45 degree angle
- Pedestrian paving: Resin bound gravel
Colour:Barley Butter.
- Proposed levels
- TOW 58.50 Top of wall levels
- BOW 58.50 Bottom of wall
- 58.50 Existing levels

Furniture and features

- Timber high back bench
- Pergola
- Climbing trellis
- Timber external dining table
- Timber wheelchair accessible planter
- Potting shed
- Water feature
- Stone sphere feature
- Stone faced retaining wall
- Railway sleeper feature
- Bird bath
- Insect hotel
- Bird table

B	Layout updates	SD	28/01/21
A	Layout updates	SD	20/01/21
REV	Description	Drawn	Date

Title	Stage
Landscape Proposal Plan	Planning

Client
Frontier estates

Project
Hassocks, Byanda

Date	Drawn by	Authorised
14/01/2021	SD	-

Drawing No	Rev	Scale
200120-LP-10	B	1:200@A1



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Appendix 3

Map showing the Reptile refuge area during construction,
and the line of the proposed reptile barrier fence (including
turn-backs).



Legend

-  Boundary
-  Fenceline
-  Refuge area

Drawing title:
Map showing the Reptile refuge area during construction, and the line of the proposed reptile barrier fence.

Project Name:
Byanda, Hassocks, West Sussex

Date	Drawn by	Check by
04/02/2021	BP	-
Drawing No	Rev	Scale
200120-E-08	-	1:500

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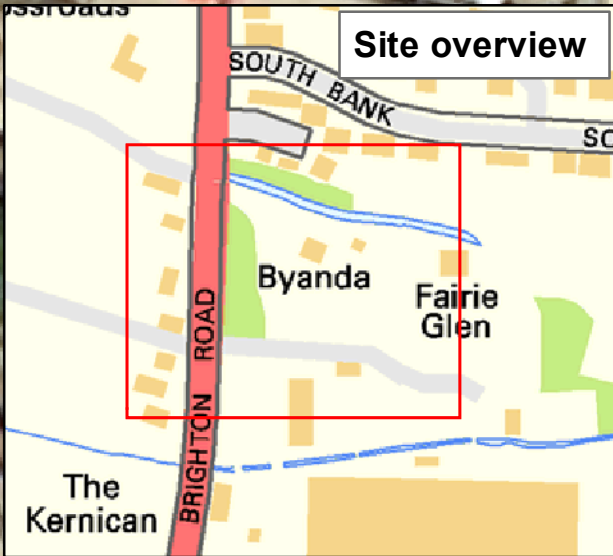
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Appendix 4

Map showing the extent of suitable reptile habitat
within the proposed development



Suitable reptile habitat within the proposed development

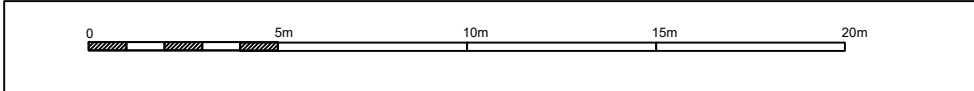
Soft Landscape

- Existing tree to be retained
- Proposed tree
- Existing hedge to remain
Any gaps to be infilled
- Structural planting
- Structural boundary planting
Existing planting to remain where possible
- Shrub and perennial planting
- Native tree and shrub Screening planting.
Existing planting to remain where possible
- Grass/ Lawn
- Planted pebble garden
with water features
- Wildflower meadow
- Evergreen buffer planting
- Water feature



Notes:
This plan is for indicative purposes and should not be referred to for landscape details

B	Layout updates	SD	28/01/21
A	Layout updates	SD	20/01/21
REV	Description	Drawn	Date



Title	Stage
Landscape Proposal Plan	Planning

Client
Frontier estates

Project
Hassocks, Byanda

Date	Drawn by	Authorised
14/01/2021	SD	-

Drawing No	Rev	Scale
200120-LP-10	B	1:200@A1



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Appendix 5

Wildlife Law and Planning Policy

STATUTES AND ENGLISH LAW

Reptiles

All species of native reptiles are protected against killing or injury under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). The sand lizard (*Lacerta agilis*) and smooth snake (*Coronella austriaca*) are further protected under The Conservation of Habitats and Species Regulations 2017 and The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 against capture or disturbance and the places they use for breeding, resting, shelter and protection are protected from being damaged or destroyed.

PLANNING POLICY

In addition to the statutes described above, various planning policy imposes duties upon planning applicants to take account of protected species and habitats at sites of proposed development and in particular, protected species. The objective of this policy is to prevent a net loss of species and habitats diversity identified as priorities for the U.K. as a consequence of development activity.



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