

Reptile Mitigation Strategy

**Bugle Nurseries, Upper Halliford Road,
Shepperton, TW17 8SN**

**Presented to: Angle Property (RLP Shepperton)
LLP**

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Quality Assurance

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1	Final	18 th May 2023		<i>J Britt</i>	<i>Charlotte H</i>	<i>Charlotte H</i>
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1.0 Introduction

1.1 Purpose and Scope of the Works

Delta-Simons was instructed by Angle Property (RLP Shepperton) LLP ('the Client') to prepare a Reptile Mitigation Strategy for the proposed residential development at Bugle Nurseries, Upper Halliford Road, Shepperton, TW17 8SN ('the Site').

The Mitigation Strategy has been written based on information provided by the Client and the results and recommendations contained within the ecological assessment reports for the Site, including the Ecological Impact Assessment (Delta-Simons, 17-0684.14, November 2022). Reference is also made to the Reptile Habitat Management Handbook (Edgar et al., 2010).

The purpose of this document is to set out details for mitigation to protect any reptiles occurring at the Site from harm during Site clearance works and construction activities, as well as provide details of compensatory habitat creation and associated future management in order to promote the continued favourable conservation status of reptiles, should they occur at the Site.

1.2 Site Description

The Site is centred at Ordnance Survey (OS) grid reference TQ 08988 68651, to the north of Shepperton in Surrey. The Site covers an area of 4.8 ha and comprises a number of occupied buildings and hardstanding within the east of the Site alongside structures relating to the former Bugle Nurseries. The hardstanding was being used to store several vehicles, metal containers and waste materials. A bungalow in the north-east was surrounded by managed gardens and trees, whilst the former nurseries land supported old polytunnel frames and had become overgrown with scrub. Horse-grazed paddocks characterised the central area of the Site, with an earth mound colonised by scrub characterising the west.

The Site is surrounded by Halliford Lake, grassland and a former public house to the north; Upper Halliford Road to the east with parkland, a car park and residential properties beyond; residential properties and allotments to the south; and to the west a railway line, further grassland and a recycling centre, beyond which is the M3.

1.3 Proposed Development

It is understood that the Client is seeking outline planning consent for the construction of 80 residential properties, with associated gardens and access in the south-east of the Site. The remainder of the Site will be landscaped for use as public open space and ecological habitat creation.

2.0 Legislation

2.1 Reptiles

All six species of reptiles native to the United Kingdom, including common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, adder *Vipera berus*, grass snake *Natrix helvetica*, smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis* are protected under the 1981 Wildlife and Countryside Act (WCA) (as amended), from intentional killing or injury. As such, all reasonable steps must be taken to avoid their incidental mortality when carrying out works.

2.2 Nesting Birds

All wild birds are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended). Subsection 1(1) makes it an offence to intentionally kill, injure, or take any wild bird; take, damage or destroy the nest of any such bird whilst it is in use or being built; or take or destroy an egg of any such wild bird. It is, furthermore, an offence to either intentionally, or recklessly, disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird. The law covers all species of wild birds including common, pest or opportunistic species.

3.0 Baseline Data

An update Preliminary Ecological Appraisal (PEA) undertaken by Delta-Simons in January 2022 identified the dense and scattered scrub and earth mound along the western boundary to offer basking, shelter and foraging opportunities for reptiles. Furthermore, this area of the Site has connectivity to other suitable habitat, with the railway corridor immediately to the west and allotments to the south-west.

The horse-grazed paddocks supported too short a sward height to provide consistent cover for reptiles, whilst habitats in the east, such as the area of grassland and scrub where the nursery used to be, and dense scrub covering the earth mound, provided suitable habitat for reptiles, however, these areas were relatively small and isolated.

Throughout Delta-Simons' involvement with the Site, the ecological surveyors have spent a considerable amount of time on-Site, checking beneath refugia before and after bat surveys, and generally looking for reptiles and since 2018 have never recorded any signs of reptiles. Furthermore, no records of reptile species were returned by the data search undertaken in 2022. Whilst there is the potential for individuals to disperse onto the Site, the main areas of suitable habitat comprise the dense scrub covering the earth mound in the west, and the grassland and scrub areas to the east (see Figure 1).

4.0 Mitigation and Protection during Site Clearance and Construction Works

4.1 Reptiles

Habitat Management

It is anticipated that the current management regime at the Site (including horse grazing) will continue up until the commencement of works. However, should there be any delay between the removal of horses from the paddocks and the start of works on-Site, the grassland must be managed/mown to maintain its sub-optimal suitability to support reptile species. Grassland will be maintained at a maximum sward height of 10 cm until vegetation clearance works commence in each area.

Habitat Clearance

Prior to the commencement of any works at the Site, the Ecological Clerk of Works (ECoW) for the Site will provide a toolbox talk to all site operatives, including contractors and sub-contractor staff involved in any vegetation or Site clearance works. The briefing will include details of the legal protection afforded to all reptiles, the precautionary methods of working (outlined in this document), tips on the identification of reptiles, and the procedures to follow should individuals be discovered during the works. In addition, the general Site induction for all operatives throughout the development will include information on ecological constraints and recommended actions/responsibilities.

Initial Site clearance works will be undertaken following a precautionary approach which will include phased strimming and/or a fingertip search by a suitably experienced ecologist during the season that reptiles are active (between March and October inclusive, depending on weather conditions);

- Scrub and areas of edge habitat (rough grassland/ruderals vegetation) will be strimmed back¹ where necessary to a minimum height of 15 cm to ensure that if any reptiles are sheltering within it, they are not harmed. This will allow better access for the suitably experienced ecologist to undertake a fingertip search and to remove any reptiles identified;
- The suitably experienced ecologist will supervise the removal of any spoil, searching beneath refugia, and advising contractors as appropriate to allow any reptiles, if present, to be safely caught and moved to suitable habitat within the retained bund in the west of the Site;
- Should Site enabling works (such as archaeological investigations) be required prior to full Site clearance, a similar approach to vegetation and waste clearance should be undertaken in order to clear the areas of required works, ensuring that any trenches created are left with either a sloped bank or with ramps in to ensure that no fauna becomes trapped overnight; and
- Once cleared, the Site should be kept vegetation free, or below 15 cm high, such that reptiles are not encouraged back into the working footprint.

During Construction

Once construction activities begin it is anticipated that habitat within the working footprint will be unsuitable to support reptiles and that should any individuals venture onto the edge of the area to bask then they will disperse away as a result of noise, human activity and vibration associated with the construction works.

However, in order to minimise risk of harm, and discourage reptiles from the working areas, best practice mitigation measures will be employed during construction as follows:

¹ , If the works are to proceed during the nesting bird season (March-August, inclusive) then the ecologist will first check the scrub for the presence of active nests within it.

- Prior to any works, contractors will be given a toolbox talk including information on the potential presence of reptiles, associated legislation and the details of this Mitigation Strategy;
- Contractors will be made aware of the retained/enhanced habitat area for reptiles and once landscaping works are complete, no further works, beyond habitat maintenance, will be undertaken within this area. Heras fencing will be installed to protect habitats, where necessary, during the construction phase of works to protect the area from disturbance, including vehicular movements;
- Stockpiling of materials on-Site will be kept to a bare minimum and restricted to areas away from suitable reptile habitat. Waste materials should be removed from the Site and disposed of at the earliest opportunity and should not be stockpiled on-Site to prevent reptiles using this as shelter;
- If materials need to be stored on-Site, they should be kept off the ground on pallets or similar or kept within storage containers to prevent reptiles sheltering underneath; and
- Refuelling and servicing vehicles/ machinery will be undertaken away from retained/enhanced habitats.

4.2 Nesting Birds

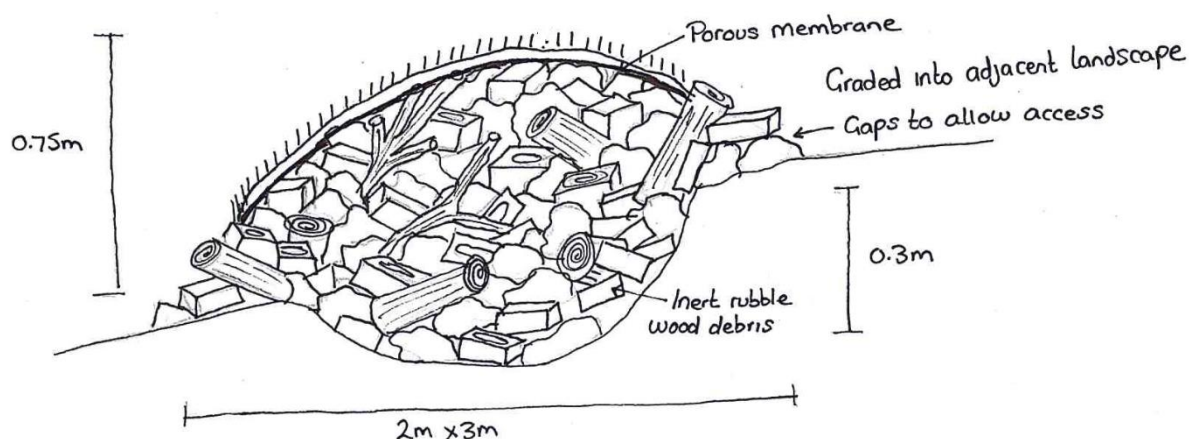
Any habitat removal or felling works to be undertaken to suitable bird nesting habitat at the Site should be performed either before early March or after late August in order to avoid affecting any birds during the main period in which they are nesting. Conflict with the development can be avoided by clearing the Site of any suitable nesting habitat outside of the breeding period in advance of any proposed works. If, however, Site clearance works are deemed necessary during the nesting period an experienced ecologist will be required to check the Site habitats to confirm that no nesting birds will be affected by the proposed works.

5.0 Compensation and Habitat Enhancements

In order to compensate for the loss of suitable habitat and to enhance the Site for reptile species, should they occur in the local area, an area of Public Open Space (POS) within the western extent of the Site will be landscaped and managed for both recreational use and biodiversity. This will include habitat piles, rough grassland and shrubs. Whilst public access to this area will be maintained, disturbance of the habitats and faunal species will be limited by marked footpaths and use of vegetation screening, as well as the topography of the earth mounds limiting access.

5.1 Habitat Piles

Prior to clearance of any suitable reptile habitat, two hibernacula will be created within the retained earth bund in the west of the Site. These will comprise piles of inert clean rubble and logs/wood debris, partially excavated into the side of the bund. The hibernacula will each measure approximately 2 m x 3m, with an overall height of approximately 1 m. A porous membrane will be placed over the pile retaining gaps at the bottom for access, and removed earth will be spread on top to allow natural recolonisation of flora. An indicative design is shown below, however, this will be guided on-Site by a suitably experienced ecologist. These will act to enhance the retained habitat and provide additional shelter for any reptiles found and translocated during wider Site clearance.



In addition, during the final landscaping, two habitat piles will be created within the proposed open space in the north of the Site to further enhance the Site for reptiles. These are to comprise low mounds of inert clean rubble of varied sizes, capped with finer stone or ballast. The piles should measure approximately 4 m (l) x 2 m (w) x 1.5 m (h) and should be aligned such that the longest sides are facing a southerly aspect. Where possible they should be set into the ground (subject to localised ground water) to provide additional climatic conditions. Subsoil from the surrounding land should be used to cover the northern aspects and these areas seeded with a fine grassland and wildflower seed mix in line with the surroundings (as detailed in the Landscape Masterplan). The overall design will be similar to that shown above.

5.2 Grassland

The western extent of the Site will comprise an area of POS comprising a combination of recreational space and biodiversity enhancements. This includes areas of sown with a wildflower grassland seed mix, which will provide suitable foraging and shelter, as well as basking opportunities for reptiles. A seed mix will be chosen suitable to soil type, however, it will include a selection of grasses and wildflower species.

5.3 Trees, Shrubs and Native Hedgerow

The open space will also include native shrubs, and scattered trees in order to provide a mosaic of habitat structure for shelter, foraging and hibernation as well as providing natural screening to reduce disturbance from human activity.

5.4 Public Access and Education

Whilst all areas of wildflower grassland and scrub are anticipated to provide opportunities for reptiles, the aim for the western edge is to create a transitional zone between the retained scrub and more formally managed recreational grassland. The retained earth mound is anticipated to be largely inaccessible to the public due to its topography, and providing a rough grassland edge is expected to further buffer this area from disturbance. The northern boundary is anticipated to provide a further mosaic of habitats set away from direct anthropogenic disturbance.

Management of the wildflower grassland to promote biodiversity, is also anticipated to discourage heavy recreational use. Furthermore, pedestrian footpaths will be installed/mown in a connecting design in order to guide the public through the area and to discourage wider disturbance. This will also provide a suitable edge habitat for basking reptiles (see Drawing 1 Landscape Masterplan).

Signs will be placed within the open space in order to inform the public of the landscape and management objectives and to educate them on the species they might see. This should aim to engage the local community with the project and discourage anti-social behaviour and misunderstanding of the management techniques.

6.0 Schedule of Works and Post Development Management

Creation of two habitat piles within the retained bund prior to widespread clearance will provide continued habitat opportunities for reptiles, should they occur, and provide additional shelter to receive any reptiles found elsewhere within the Site. Given the limited suitability of the Site currently to support reptiles, whilst there may be a temporary reduction in available habitat on-Site, it is anticipated that the retained bund, situated adjacent to the off-Site railway corridor, will be sufficient to sustain any individuals present until wider landscape works are completed.

An appropriate management programme will ensure the long-term viability of the reptile enhancement measures and wider biodiversity value of the development. There will be a site wide Management Company employed for the POS in perpetuity.

Habitat Piles

Approximately 8-9 months after creation of the rubble habitat piles, vigorous ruderal growth including common nettle *Urtica dioica*, creeping thistle *Cirsium arvense* and broadleaved dock *Rumex obtusifolia* should be selectively removed using a localised application of non-persistent herbicide. This will ensure the grassland seed mix is not outcompeted. As part of the site wide management, annual monitoring will be undertaken of the habitat piles and repairs/management undertaken, as necessary, in order to retain the structural and ecological viability of the piles. Grassland should be managed as set out below.

Grassland

The grassland seed mix should be planted either early March to early May or from early August to mid-September to ensure optimum establishment of most species. Control of weeds during establishment is essential. Management will follow a traditional meadow management based around a main summer hay cut in combination with autumn and possibly spring mowing. The summer cut will be to a minimum height of 150 mm to minimise risk of harm to reptiles. A late autumn cut (early November, before conditions become unsuitable) and early spring cut (March) can be to a lower height since reptile are less active above ground. Depending on growth rates and climatic conditions, grassland may be cut on rotation in order to form a varied sward height and a mosaic of habitat conditions. Arisings should be removed immediately in spring, and left for five days to allow seed spread in autumn, before being removed from Site or alternatively placed in a designated pile within a suitable corner of the Site to form a compost heap and additional habitat for reptile species.

Trees and Shrubs

Newly planted stock is to be protected from predation. Individual plants will be protected by plastic shelter guards or mesh guards. Any plants that die in the first five years following planting will be replaced to prevent gaps developing. Light, regular, trimming of the shrubs in the early years will encourage dense, bushy growth. However, established shrubs will receive less frequent management, being cut only once every two years, where required to maintain a healthy plant, species distribution and spread. Encroachment should be monitored, and excessive shrub growth controlled to ensure a range of habitat types and structure.

Minimum tree management should be required, however, where necessary, this will be undertaken with light machinery and minimal disturbance to surrounding habitat. Removed branches should be removed from Site or placed in suitable locations to create log piles.

A schedule for the reptile mitigation and compensation is provided in Table 1 below as well as a summary of the management strategy.

Table 1 - Schedule of Works and Management Regime

Activity	Pre-commencement	Construction 0-6 months	Year 1	Year 2	Year 3 to 25
Reptile mitigation	Grassland maintained to maximum height of 10 cm. A suitably experienced ecologist to provide a watching brief during clearance of suitable habitats and any individual reptiles found are to be moved to the retained western bund.	Ground maintained to be unsuitable for reptiles within construction zone. Best practice measures implemented.	N/A		
Breeding Mitigation	Bird Any scrub/ shrub removal or felling works to be undertaken either before early March or after late July, unless a suitably qualified ecologist checks the habitats first	Any management activities to trees and shrub habitats to be undertaken outside nesting bird season.			
Enhancements Rubble Piles	- Two habitat piles created within retained bund to detailed specifications and the advice of an ecologist	Habitat piles created to detailed specifications	Vigorous ruderal vegetation removed	Piles monitored for structural integrity - repairs made where necessary. Vegetation monitored and managed as below	
Enhancements Grassland	-	Grassland seed mix planted March-May or August-September within next available season. Control of weeds	Cutting to follow a traditional hay cut with some areas cut on rotation, where possible. Minimum sward height to vary but the summer cut to be minimum 150 mm to minimise risk of harm. Arisings removed or used to create compost heap.		

Enhancements – Trees and Shrubs		<p>To be planted within first available season once area is prepared.</p> <p>Newly planted stock is to be protected from predation</p>	<p>Weed as required to avoid encroachment from ruderals</p>	<p>Any failed plants to be replaced.</p> <p>Light regular trimming of shrubs. Avoid excessive pruning</p>	<p>Shrub encroachment monitored and selective pruning as required.</p> <p>Tree management as required outside nesting bird season. Branches removed from Site or placed to create new habitat feature.</p>
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Figure 1 - Reptile Mitigation Strategy Map



Legend

- Site boundary
- Clearance under ECoW watching brief
- Retained reptile habitat
- Habitat piles created prior to wider clearance
- Scrub - dense/continuous
- Scrub - scattered
- SI Neutral grassland - semi-improved
- SI Poor semi-improved grassland
- A Amenity grassland
- Introduced shrub
- Buildings
- Hardstanding
- Bare ground
- Intact hedge - species-poor
- Defunct hedge - species-poor
- Line of trees
- Fence
- Wall
- Scattered scrub
- Scattered tree

0 15 30 45 60 Meters

N

Figure Reptile Mitigation Strategy Map

Job Bugle Nurseries, Upper Halliford Road, Shepperton, TW17 8SN

Client Angle Property (RLP Shepperton) LLP

Figure No.	1	Revision	A	Date	18/05/2023
Drawn	KH	Checked	JB	Scale	1:1,200 @ A3
Job No.	86998.576686			Central GR	508994E 168650N

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Figure 2 - Habitat Creation



Legend

- Site boundary
- Retained reptile habitat
- Habitat piles created prior to wider clearance
- Habitat piles created within landscaping

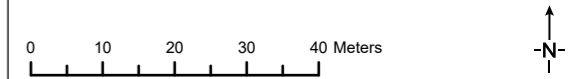


Figure	Habitat Creation		
Job	Bugle Nurseries, Upper Halliford Road, Shepperton, TW17 8SN		
Client	Angle Property (RPL Shepperton) LLP		
Figure No.	2	Revision	A
		Date	17/05/2023
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