

Biodiversity Enhancement Strategy / Landscape and Ecological Management Plan

Land at Chanctonbury Nursery, Ashington

Ecosupport Ltd
K4 Keppel,
Daedalus Park,
Lee-on-the-Solent
PO13 9FX

info@ecosupport.co.uk

VAT: 228 4314 18

ecosupport

Report	Biodiversity Enhancement Strategy / Landscape and Ecological Management Plan (conditions 11 & 16)
Site Name	Land at Chanctonbury Nursery, Ashington
Author(s)	Louise Davies BSc (Hons)
Checked By	Adam Jessop MSc MCIEEM
Client	Elivia Homes
Date of Issue	May 2024
Status	***For submission***

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

EXECUTIVE SUMMARY

Ecosupport Ltd were commissioned by Elivia Homes to produce a combined Biodiversity Enhancement Strategy (BES) and Landscape and Ecological Management Plan (LEMP) for the development at the Land at Chactonbury Nursery in Ashington, as required by Conditions 11 and 16 of the granted planning permission for the development (DC/22/0372).

A previous *Ecological Impact Assessment* was prepared by The Ecology Co-op (2021) for the outline application along with a *Bat Survey Report* by Batscan Ltd. (2020). These reports address the necessary mitigation and compensation for protected species present on site and also include a series of management prescriptions to enhance the site for biodiversity.

This report incorporates and expands on the measures detailed within the above-named reports and, in particular, covers the prescription management of the habitats within the site post-development for a period of at least 30 years. Extensive biodiversity enhancement measures are also described.

Table of Contents

EXECUTIVE SUMMARY **2**

1.0 INTRODUCTION **7**
1.1 Aim **7**
1.2 Objectives **8**
1.3 Description **9**
1.4 Proposals **9**

2.0 BASELINE DATA **10**
2.1 Habitats **10**
2.1.1 w1g – Other Broadleaved Woodland (12 scattered bracken) *10*
2.1.2 g4 – Modified Grassland (12 scattered bracken, 81 ruderal or ephemeral, 510 bare ground) *11*
2.1.3 h3h – Mixed Scrub *12*
2.1.4 r1g – Other Standing Water (50 ditch) *13*
2.1.5 u1f – Sparsely Vegetated Urban Land (16 tall forbs, 81 ruderal or ephemeral) *13*
2.1.6 h2b – Non-Native and Ornamental Hedgerow *13*
2.1.7 u1b - Developed Land; Sealed Surface *13*
2.1.8 u1b5 - Buildings *13*
2.2 Bats **15**
2.2.1 Data Search *15*
2.2.2 Trees *15*
2.2.3 Preliminary Roost Assessment (Buildings) *15*
2.2.3.1 Previous Survey Work *15*
2.2.3.2 Updated Survey Work *15*
..... *16*
2.2.4 Droppings *17*
2.2.5 Emergence Surveys (Buildings) *17*
2.2.6 Activity Surveys *17*
2.2.6.1 Previous Survey Work *17*
2.2.6.2 Updated Site Assessment *18*
[redacted]
2.3.1 Data Search *18*
2.3.2 Previous Survey Work *18*
2.3.3 Updated Survey Work *18*
2.4 Reptiles **20**
2.4.1 Data Search *20*
2.4.2 Previous Survey Work *20*
2.4.3 Updated Site Assessment *20*
2.5 Great Crested Newts **20**
2.5.1 Data Search *20*
2.5.2 Waterbodies *21*
2.5.3 Site Assessment and Evaluation *22*
2.6 Hazel Dormice **23**

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

2.6.1 Data Search *23*
2.6.2 Previous Survey Work *24*
2.6.3 Updated Walkover *25*
2.6.4 Evaluation *25*
2.7 Notable and Birds of Conservation Concern (BoCC) **25**
2.7.1 Data Search *25*
2.7.2 Site Assessment and Evaluation *25*
2.8 Hedgehogs **26**
2.8.1 Data Search *26*
2.8.2 Site Assessment *26*
2.9 Riparian Mammals **26**
2.9.1 Data Search *26*
2.9.2 Site Assessment *27*
2.10 Designated Sites **27**
2.10.1 Statutory Designated Sites *27*
2.10.2 Non-Statutory Designated Sites *27*
3.0 MITIGATION, COMPENSATION AND ENHANCEMENTS **29**
3.1 Bats **29**
3.1.1 Roosting Bats – Building 3 ..... *29*
3.1.1.1 EPS Licence *29*
3.1.1.2 Updated Emergence Surveys *29*
3.1.1.3 Timing *30*
3.1.1.4 Supervision *30*
3.1.1.5 Capture (if required) *30*
3.1.1.6 Bat Boxes *30*
3.1.1.6 Roost Compensation *31*
3.1.1.7 Bitumen Roofing Felt *31*
3.1.1.8 Monitoring and Maintenance *31*
3.1.2 Roosting Bats – Buildings 1, 2 and 9 ..... *31*
3.1.2.1 Precautionary Working Method Statement *32*
3.1.3 Site Design *32*
3.1.4 Habitat Buffers & Dark Corridor *34*
3.1.5 Sensitive Lighting *34*
3.1.6 Bat Boxes *36*
3.1.7 Bat Bricks *37*
[redacted]
3.2.1 Precautionary Working Measures *37*
3.2.1.2 Updated Walkovers *37*
3.2.1.3 One-Way Gate *37*
3.2.1.4 Excavation *38*
3.2.2 Avoidance of Harm *38*
3.2.3 Compensatory Habitat *38*
3.3 Reptiles **38**
3.3.1 Mitigation Strategy Overview *38*

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

3.3.2 Receptor Site *38*
3.3.2.1 Receptor Location and Suitability *38*
3.3.2.2 Receptor Enhancement *40*
3.3.3 Capture and Exclusion *41*
3.3.3.1 Capture and Translocation *41*
3.3.3.2 Effort *42*
3.3.3.3 Timing *43*
3.3.3.4 Habitat Manipulation *43*
3.3.3.5 Destructive Search *44*
3.4 Great Crested Newts (GCN) **44**
3.4.1 Precautionary Working Method Statement *44*
3.4.1.1 Toolbox Talk *44*
3.4.1.2 Sensitive Habitat Removal *44*
3.4.1.3 Destructive Search *45*
3.4.2 Enhancements *45*
3.5 Hazel Dormice **45**
3.5.1 EPS Licence *45*
3.5.2 Single Stage Clearance *46*
3.5.3 Protecting Retained Features *47*
3.5.4 Minimising Operational Impacts *47*
3.5.5 Compensation *47*
3.5.6 Protection of Hazel Dormouse Habitat *48*
3.6 Notable and Birds of Conservation Concern **48**
3.6.1 Mitigation *48*
3.6.2 Compensation *49*
3.6.3 Enhancements *49*
3.7 Rabbits **50**
3.8 Hedgehogs **50**
3.8.1 Avoidance of Harm *50*
3.8.2 Compensation *50*
3.8.3 Enhancements *51*
3.9 Protection of Woodland, Hedgerows and Trees **51**
3.10 Designated Sites **51**

4.0 HABITAT CREATION, ENHANCEMENT & MANAGEMENT **52**
4.1 Introduction **52**
4.2 Protection of Retained Habitats **52**
4.3 Wildflower Grassland **52**
4.3.1 Proposed Planting *52*
4.3.2 Management *52*
4.4 Modified Grassland **53**
4.4.1 Proposed Planting *53*
4.4.2 Management *53*
4.5 Pond Edge Grassland **54**
4.5.1 Proposed Planting *54*

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

4.5.2 Management *54*
4.6 Native Understorey Planting **54**
4.6.1 Proposed Planting *54*
4.6.2 Management *55*
4.7 Individual Trees **55**
4.7.1 Proposed Planting *55*
4.7.2 Management *55*
4.7.2.1 Mycorrhizal Treatment *55*
4.7.2.2 Weed Management *56*
4.7.2.3 Pruning *56*
4.7.2.4 Monitoring and Replacement *56*
4.8 Mixed Hedgerows **56**
4.8.1 Proposed Planting *56*
4.8.2 Management *56*
4.8.3 Monitoring *57*
4.8.4 Replacement *57*
4.9 Safeguarding **57**
4.10 Compliance Check **57**
4.11 Management Responsibilities **57**
5.0 IMPLEMENTATION PLAN **59**
6.0 CONCLUSION **66**
7.0 REFERENCES **67**

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

1.0 INTRODUCTION

1.1 Aim

The aim of this report is to bring together and expand on all relevant sections of the previous ecological reports associated with the site called 'Land at Chactonbury Nursery' in Ashington and use them to inform a site-wide Biodiversity Enhancement Strategy and Landscape and Ecological Management Plan. This will describe the ecological constraints on site, any necessary mitigation and compensation measures, extensive biodiversity enhancement measures and a prescription of the management of habitats for a period of at least 30 years within the site. This will ensure the creation and management of habitats is suitable and achieves a net gain for biodiversity with all features of ecological importance protected.

This report will meet the requirements of Conditions 11 and 16 of the granted planning permission for the development (DC/22/0372):

"11 Pre-Commencement (Slab Level) Condition: *No development above ground floor slab level of any part of the development hereby permitted shall take place until a Biodiversity Enhancement Strategy for Protected and Priority species shall be submitted to and approved in writing by the local planning authority. The content of the Biodiversity Enhancement Strategy shall include the following:*

a) Purpose and conservation objectives for the proposed enhancement measures;
b) detailed designs to achieve stated objectives;
c) locations of proposed enhancement measures by appropriate maps and plans;
d) persons responsible for implementing the enhancement measures;
e) details of initial aftercare and long-term maintenance (where relevant). The works shall be implemented in accordance with the approved details prior to occupation and shall be retained in that manner thereafter.

Reason: To conserve protected species and allow the LPA to discharge its duties under the Conservation of Habitats and Species Regulations 2017 (as amended), the Wildlife & Countryside Act 1981 (as amended) and s17 Crime & Disorder Act 1998, and in in accordance with Policy 31 of the Horsham District Planning Framework (2015).

16 Pre-Occupation Condition: *part of the development hereby permitted shall be occupied until a Landscape and Ecological Management Plan (LEMP) shall be submitted to, and be approved in writing by, the local planning authority prior to commencement of the development. The content of the LEMP shall include the following:*

a) Description and evaluation of features to be managed.
b) Ecological trends and constraints on site that might influence management.
c) Aims and objectives of management.
d) Appropriate management options for achieving aims and objectives.
e) Prescriptions for management actions.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

f) Preparation of a work schedule (including an annual work plan capable of being rolled forward over a five-year period).
g) Details of the body or organisation responsible for implementation of the plan.
h) Ongoing monitoring and remedial measures.

The LEMP shall also include details of the legal and funding mechanism(s) by which the longterm implementation of the plan will be secured by the developer with the management body(ies) responsible for its delivery. The plan shall also set out (where the results from monitoring show that conservation aims and objectives of the LEMP are not being met) how contingencies and/or remedial action will be identified, agreed and implemented so that the development still delivers the fully functioning biodiversity objectives of the originally approved scheme. The approved plan will be implemented in accordance with the approved details.

Reason: To conserve protected and Priority species and allow the LPA to discharge its duties under the Conservation of Habitats and Species Regulations 2017 (as amended), the Wildlife & Countryside Act 1981 (as amended) and s40 of the NERC Act 2006 (Priority habitats & species)."

The management outlined within this report includes the following:

- Retention of boundary woodland habitat and Leylandii hedgerows
- Implementation of sensitive lighting and dark corridors along key bat foraging and commuting habitat
- Erection of integrated and tree-mounted bat and bird bricks / boxes
- [redacted]
- Ex-situ reptile relocation strategy
- Precautionary clearance methodology for amphibians and nesting birds
- Requirement for a Dormouse EPSL with clearance methods and provision of compensatory habitat as part of the Dormouse mitigation strategy
- Installation of 1 No. reptile / amphibian hibernaculum
- Provision of Hedgehog fence gaps
- Creation of wildflower grassland, SUDS and native understorey

The baseline assessments relevant to this report were undertaken by Batscan Ltd. in 2020 and The Ecology Co-op in 2020 and 2021 with an updated walkover conducted by Ecosupport Ltd. in March 2024. This report has incorporated the recommendations from the Bat Survey Report (Batscan Ltd., 2020) and the Ecological Impact Assessment (The Ecology Co-op, 2021) which was submitted as part of the planning permission.

1.2 Objectives

The following objectives are considered for this report in order to protect and enhance the ecology on site:

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

1. To preserve existing habitat and create and manage new habitats to provide the greatest benefit to bats, [redacted] reptiles, amphibians, Hazel Dormice, Hedgehogs and birds.
2. To ensure the created and enhanced habitats within the site fulfil their ecological function and remain in an appropriate condition to provide a benefit to biodiversity.
3. To protect retained trees and woodland and provide suitable planting compensation.
4. To create and maintain new habitat features for bats, [redacted] reptiles, amphibians, Hazel Dormice, Hedgehogs and birds.
5. To detail management responsibilities and practices, including ongoing monitoring and remedial measures.
6. To ensure the development results in a net gain for biodiversity.

1.3 Description

The site is dominated by hardstanding and buildings with scrub, ruderal vegetation, hedgerows and woodland edge habitat also present. The site is located at the Land at Chanctonbury Nursery, Ashington, RH20 3AS (centred on OS grid reference TQ 12658 16331) (**Fig 1**). The immediate wider environ is semi-rural comprising of grassland and agricultural fields, pockets of woodland and the small residential area of Ashington.

Figure 1. Site boundary (Google Satellite, 2024).



1.4 Proposals

Planning permission was granted for the demolition of existing buildings and erection of 74 dwellings with associated parking and landscaping.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

2.0 BASELINE DATA

2.1 Habitats

A Phase 1 habitat survey of the site was completed by The Ecology Co-op in March 2020 (The Ecology Co-op, 2021) with an updated walkover of the site completed by Adam Jessop MSc MCIEEM, Principal Ecologist with Ecosupport, and Louise Davies BSc (Hons), Project Ecologist with Ecosupport Ltd., on the 20th March 2024. Following the latest walkover, habitat classifications on site pre-development were updated in line with the categories specified for a UK Habitats survey, using Habitat Definitions Version 2.0 (UKHab Ltd., 2023).

The vegetation within the site has been described below (with habitat locations indicated in the **appended UKHabs map**).

2.1.1 w1g – Other Broadleaved Woodland (12 scattered bracken)

The western, southern and eastern boundaries of the site were bordered by woodland with a number of trees falling within the site boundary (**Fig 2**). Tree species were dominated by Willow (*Salix spp.*) with Field Maple (*Acer campestre*), Horse Chestnut (*Aesculus hippocastanum*), Pedunculate Oak (*Quercus robur*), Elder (*Sambucus nigra*), Hazel (*Corylus avellana*), Blackthorn (*Prunus spinosa*), Hawthorn (*Crataegus monogyna*) and Holly (*Ilex aquifolium*) also noted.

The understorey of the southern and western boundary woodland comprised of Bramble (*Rubus fruticosus*), Wild Primrose (*Primula vulgaris*), Bluebells (*Hyacinthoides non-scripta*), Lords and Ladies (*Arum maculatum*), Dog's Mercury (*Mercurialis perennis*), Daffodils (*Narcissus spp.*), Herb-Robert (*Geranium robertianum*), Soft Shield Fern (*Polystichum setiferum*), Common Nettle (*Urtica dioica*), and Ground Ivy (*Glechoma hederacea*). A patch of Bracken (*Pteridium aquilinum*) (secondary habitat code 12) was also present at the eastern end of the woodland adjacent to the southern boundary of the greenhouses.

Along the eastern boundary, an earth bund was present beneath the woodland which was populated with a mixture of scrub species including Bramble, Blackthorn, and Buddleia (*Buddleja davidii*) with Ivy (*Hedera helix*) and Lesser Celandine (*Ficaria verna*) also noted within the ground layer.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

Figure 2. Woodland present in the south-eastern corner of the site (taken March 2024).



2.1.2 g4 – Modified Grassland (12 scattered bracken, 81 ruderal or ephemeral, 510 bare ground)

Modified grassland was present in the south-western corner of the site and along the southern boundary adjacent to the woodland edge (**Fig 3**). The vegetation cover was somewhat patchy and interspersed with bare ground (secondary habitat code 510) comprising predominantly of low growing species (secondary habitat code 81) such as Ground Ivy, Bristly Ox-Tongue (*Helminthotheca echioides*), Dog's Mercury, Broad-Leaved Dock (*Rumex obtusifolius*), Common Dandelion (*Taraxacum officinale*), Creeping Buttercup (*Ranunculus repens*), Cleavers (*Galium aparine*), and Daffodils. Other species noted in this area included Thistle spp. (*Cirsium spp.*), Ragwort (*Jacobaea vulgaris*), Pendulous Sedge (*Carex pendula*), Common Hogweed (Heracleum sphondylium), Soft Shield Fern, *Juncus spp*., Honeysuckle (*Lonicera periclymenum*) and Gorse (*Ulex europaeus*). A patch of Bracken (*Pteridium aquilinum*) (secondary habitat code 12) was also present at the eastern end of the grassland adjacent to the southern boundary of the greenhouses.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

Figure 3. Modified grassland with ruderal and ephemeral vegetation present in the south-western corner of the site (taken March 2024).



2.1.3 h3h – Mixed Scrub

Mixed scrub was present both to the north and south of the small track providing access to the property to the north-east of the site (**Fig 4**). The scrub was primarily comprised of Pussy Willow (*Salix caprea*) and Blackthorn saplings with Bramble, Willowherb (*Epilobium* spp.), Dock and Hazel also noted to be present.

Figure 4. Mixed scrub present in the north of the site (taken March 2024).



Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

2.1.4 r1g – Other Standing Water (50 ditch)

A ditch holding a small amount of water was present within the largest parcel of mixed scrub on site.

2.1.5 u1f – Sparsely Vegetated Urban Land (16 tall forbs, 81 ruderal or ephemeral)

The majority of the site comprised of somewhat broken up tarmac / gravel with a mixture of low growing (secondary habitat code 81) and taller vegetation (secondary habitat code 16) present (**Fig 5**). Species were dominated by Common Ragwort and Thistle spp. however some Common Dandelion and Willowherb spp. were also noted.

Figure 5. Sparsely vegetated urban land present centrally on site (taken March 2024).



2.1.6 *h2b – Non-Native and Ornamental Hedgerow*

Two Leylandii hedgerows were present along the western boundary of the site and in the north-eastern corner of the site.

2.1.7 *u1b - Developed Land; Sealed Surface*

A tarmac track provided access into the site running from the northern boundary down to the greenhouse at the south of the site.

2.1.8 *u1b5 - Buildings*

A total of 7 buildings were present on site comprising a mix of storage buildings, a greenhouse and a small utilities building (locations are indicated in **Fig 6** below).

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

Figure 6. Location of the 7 buildings still present on site (Buildings 4 and 5 are not indicated as these had become completely dilapidated and collapsed) (Google Satellite, 2024).



Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

2.2 Bats

2.2.1 Data Search

SxBRC provided the following bat records from within 2km of the site: Bat (*Chiroptera)* (1 record), Serotine (*Eptescus serotinus*) (5 records), Brandt's Bat (*Myotis brandtii*) (1 record), Noctule (*Nyctalus noctula*) (4 records), Pipistrelle species (*Pipistrellus spp.*) (1 record), Common Pipistrelle (*Pipistrellus pipistrellus*) (14 records), Soprano Pipistrelle (*Pipistrellus pygmaeus*) (4 records), Long-Eared Bat species (*Plecotus spp.*) (6 records), and Brown Long-Eared Bat (*Plecotus auritus*) (16 records).

2.2.2 Trees

The Ecology Co-op (2021) noted that *"The loss of approximately 25 semi-mature trees prior to the initial site survey means it is possible that bat roosting tree habitat has been lost."* Nevertheless, the Existing Tree Schedule and Existing Tree Drawing prepared for the site by Ramsay & Co Landscape Architecture (2021a; 2021b) indicate no further trees are set to be removed from the site (with the single Ash tree within TG 08 having already been removed as noted above).

2.2.3 Preliminary Roost Assessment (Buildings)

2.2.3.1 Previous Survey Work

Batscan Ltd. (2020) conducted a Preliminary Roost Assessment of the buildings on site during July 2020 with an updated inspection conducted during August 2020. Buildings 4 to 9 were considered to be of negligible potential for roosting bats, with Building 1 and Building 2 considered to be of moderate and low potential, respectively. A single Brown Long-Eared bat was noted to be roosting within Building 3 and this was consequently classified as a confirmed roost with hundreds of droppings also noted within the building.

2.2.3.2 Updated Survey Work

Given the presence of a Brown Long-Eared day roost within Building 3, this building was subject to an updated Preliminary Roost Assessment across the 20th March and 10th April 2024 by Louise Davies BSc (Hons) and Adam Jessop BSc (Hons) MSc MCIEEM under class level 2 survey licence number (2015-13366-CLS-CLS). The findings of this assessment are detailed in **Fig 7** below.

With regard to the other buildings on site, Buildings 1, 2, 6, 7, 8 and 9 were noted to be in much the same condition as was described by Batscan Ltd. (2020) and had been scoped out previously or were subject to emergence surveys with no bat roosts recorded to be present. Buildings 4 and 5 were noted to have completely collapsed.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

Figure 7. Preliminary roost assessment of Building 3 on site (taken April 2024).





B3: Brick building with pitched, clay-tiled roof and open eaves. Several gaps were noted underneath lifted roof tiles and timber cladding. No bats were seen during the internal inspection however the droppings noted by BatScan Ltd. (2020) were still present.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

2.2.4 Droppings

The droppings noted in Building 3 during the updated walkover on the 10th April 2024 were sent off for DNA analysis. The results of this analysis as provided by Ecowarwicker Ecological Forensics are shown in **Fig 8** below.

Figure 8. Building 3 bat dropping DNA analysis (Ecowarwicker Ecological Forensics, 2024).

WARWICK
THE UNIVERSITY OF WARWICK

EcoWarwicker
Ecological Forensics

1 May 24

Re: Identification Results for Louise Davies, Ecosupport Ltd

Job number 20639, received 18 April 2024
Sample labelled: Chactonbury Nursery, Ashington
PCR amplification successful. DNA sequence:
ATGACCAACATTCGAAAGTCCCACCCTCTCATAAAAATTATCAATGACTCATTCATTG
ACTTACCTGCTCCCTCAAATATTTCATCGTGATGAAACTTTGGATCTCTTCTAGGCAT
TTGCC
Phylogenetic analysis identification: *Plecotus auritus*

Confirmed by maximum likelihood, maximum parsimony, bootstrap 100%.

Best regards,

Professor Robin Allaby

The results and conclusions in this report are based on an investigation of mtDNA sequence analysis. The results obtained have been reported with accuracy. The interpretation represents the most probable conclusion for the DNA sequence obtained rather than the sample provided given current levels of species data. It should be borne in mind that different circumstances might produce different results. Therefore, care must be taken with interpretation of the results especially if they are used as the basis for commercial recommendations.

2.2.5 Emergence Surveys (Buildings)

Two emergence surveys with surveyors covering Buildings 1, 2 and 3 were conducted by BatScan Ltd. (2020) on the 26th July 2020 and the 5th September 2020. No bats were recorded to emerge from any of the buildings during the July survey however, during the September survey, a single Brown Long-Eared bat was suspected to have emerged from Building 3.

2.2.6 Activity Surveys

2.2.6.1 Previous Survey Work

Batscan Ltd. (2020) conducted two walked transects across the site on the 26th July 2020 and the 5th September 2020. Overall, activity was considered to be relatively low with Common Pipistrelles, Soprano Pipistrelles, Serotine and Brown Long-Eared bats recorded. Calls were dominated by Common Pipistrelles with their activity noted to be higher on the September

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

survey. The majority of the bat activity was concentrated within the northern portion of the site.

2.2.6.2 Updated Site Assessment

During the updated walkover in 2024, it was noted that the habitats on site were broadly the same as those recorded during the 2020 walkover with the only slight change comprising the establishment of more scrub in the northern part of the site. Given that the north of the site was already identified as a valuable area of the site for bats, it is considered that the survey work to date provides an accurate reflection of the bat population on site and that further survey work would be unlikely to produce contrasting results. Therefore, the site is still considered to be ***"important for foraging bats at the site level"*** (The Ecology Co-op, 2021).

[redacted]

2.3.1 Data Search

[redacted]

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

[redacted]



Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

2.4 Reptiles

2.4.1 Data Search

SxBRC returned the following reptile records from within 2km of the site: Slow-Worm (*Anguis fragilis*) (16 records), Grass Snake (*Natrix helvetica*) (22 records), and Common Lizard (*Zootoca vivipara*) (6 records). This included 1 record of Grass Snake and 1 record of Slow Worm from 2015 located within the site itself.

2.4.2 Previous Survey Work

During the walkover in 2020, The Ecology Co-op (2021) noted suitable reptile habitat in the form of unmanaged grassland and scrub-grassland interfaces. Consequently, a reptile presence / likely absence survey was conducted with 7 survey visits undertaken between 10th September and the 29th September 2020. This survey identified a low population of Slow Worms with a peak count of 2 adult Slow Worms. *"Slow worms were mostly found in the larger area of grassland in the northern half of the site although slow worms were also identified in the south-west corner and along the northern boundary."* (The Ecology Co-op, 2021).

2.4.3 Updated Site Assessment

During the updated walkover in 2024, it was noted that the habitats on site were broadly the same as those recorded during the 2020 walkover with the only slight change comprising the establishment of more scrub in the northern part of the site. Therefore, it is considered that the amount of reptile habitat on site is largely the same as it was previously and that the survey work to date provides an accurate reflection of the reptile population on site. As stated by The Ecology Co-op (2021), given the very low number of Slow Worms identified, *"the development site is not considered important to slow worms beyond the* ***site level."***

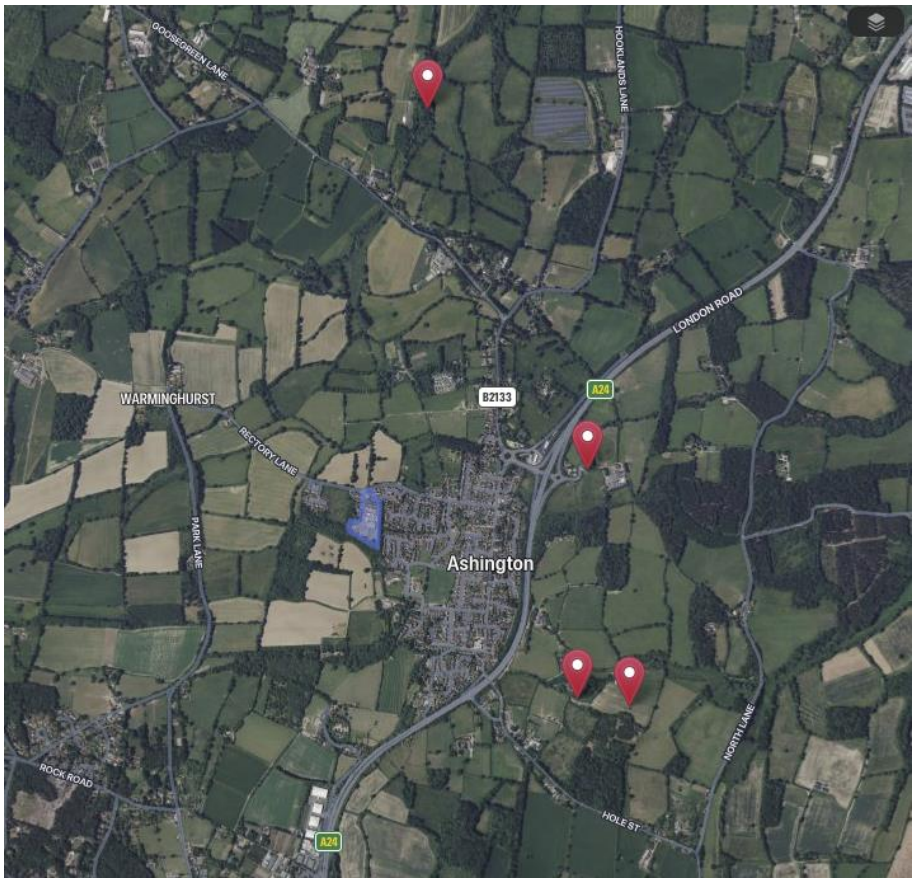
2.5 Great Crested Newts

2.5.1 Data Search

SxBRC returned 4 records of Great Crested Newts (*Triturus cristatus*) from within 2km of the site however 3 of these were separated from the site by the A24 with the final record in excess of 1.8km away (**Fig 10**).

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

Figure 10. Great Crested Newt records located within 2km of the site (Google Satellite, 2024).



2.5.2 Waterbodies

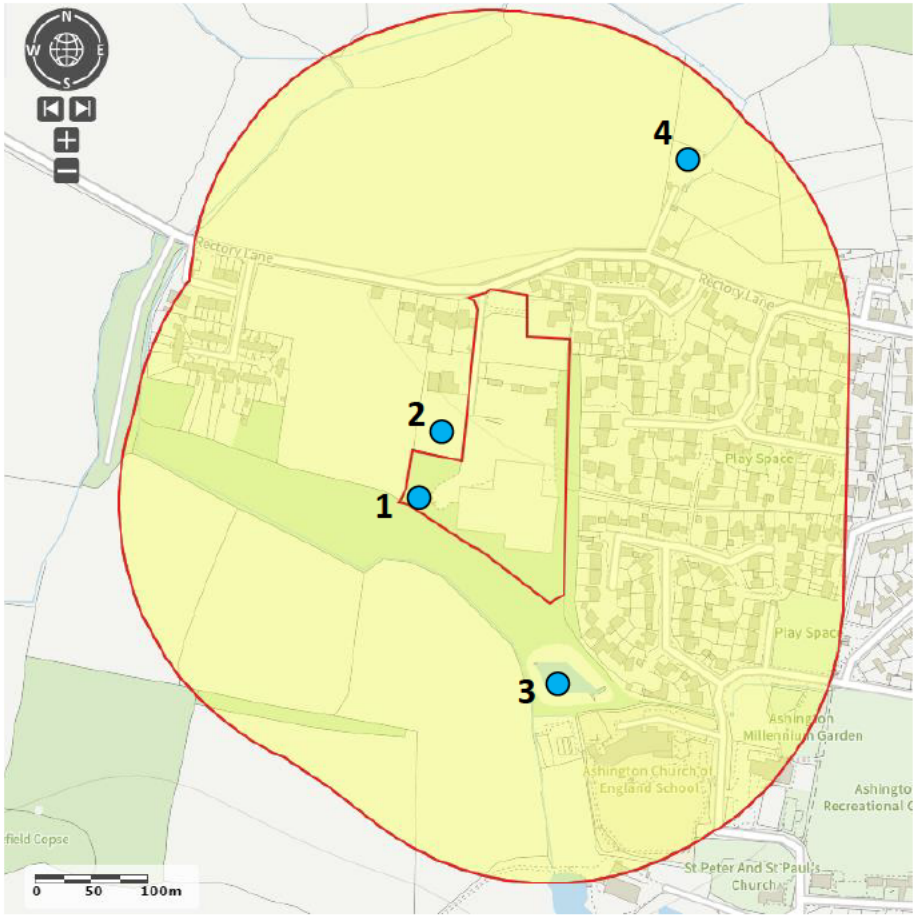
The Ecology Co-op (2021) identified 3 ponds within 250m of the site. Following a review of OS mapping and aerial imagery, an additional pond was identified approximately 180m to the north-east of the site (**Fig 11**).

Subsequently the Ecology Co-op (2021) undertook assessments of the ponds. *"Pond 1 was identified as a depression in the ground within the site that was unlikely to hold water unless from excessive flooding. No further surveys were required. Ponds 2 and 3 underwent HSI Assessments and scored average and good suitability scores. Both ponds underwent e-DNA surveys on the 30th June 2020 and both were returned as negative."*

Upon visiting the site in 2024, Pond 1 still appeared to be more of a shallow depression and did not hold water despite recent prolonged rainfall. It was not possible to attain access to Pond 4 in order to conduct an assessment.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

Figure 11. Location of the 4 waterbodies within 250m of the (Magic Maps, 2024).



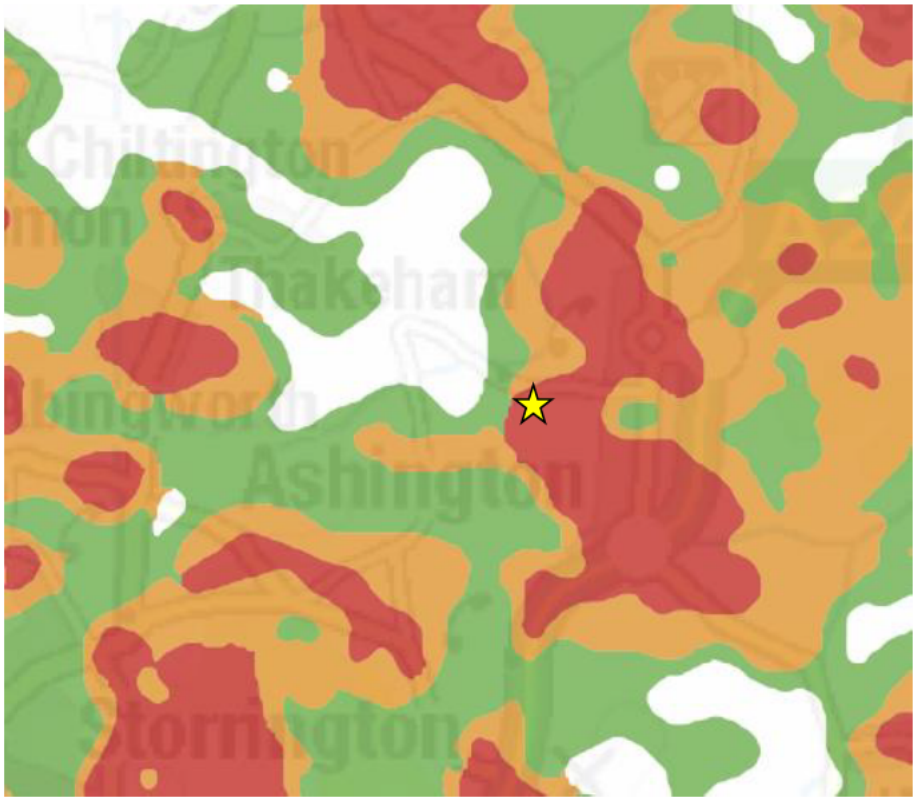
2.5.3 Site Assessment and Evaluation

During the updated walkover in 2024, it was noted that the site does offer some limited suitable terrestrial habitat for GCN within the woodland understorey and along scrub-grassland interfaces. Using the NatureSpace Partnership (2022) 'Horsham District Council – Impact Risk Zones' map (**Fig 12**), the site does also appear to at least partially fall within the red impact risk zone (although the resolution of the map is not entirely clear).

Nevertheless, much of the vegetation on site was sparse and of poor suitability for GCN and the eDNA surveys conducted by The Ecology Co-op (2021) during 2020 confirmed the likely absence of GCN from Ponds 2 and 3 located adjacent to the site. Pond 4 could not be accessed and, based on the available information, it is therefore considered that the site offers ***low potential*** for GCN and it will not be necessary to register the site for District Level Licensing through the NatureSpace Partnership or conduct further GCN surveys. Instead, it is considered proportionate to employ a Precautionary Working Method Statement (PWMS) as detailed within **Section 3.4.**

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

Figure 12. Screenshot from the Horsham District Council – Impact Risk Zones map (NatureSpace Partnership, 2022) – approximate site location indicated by yellow star.



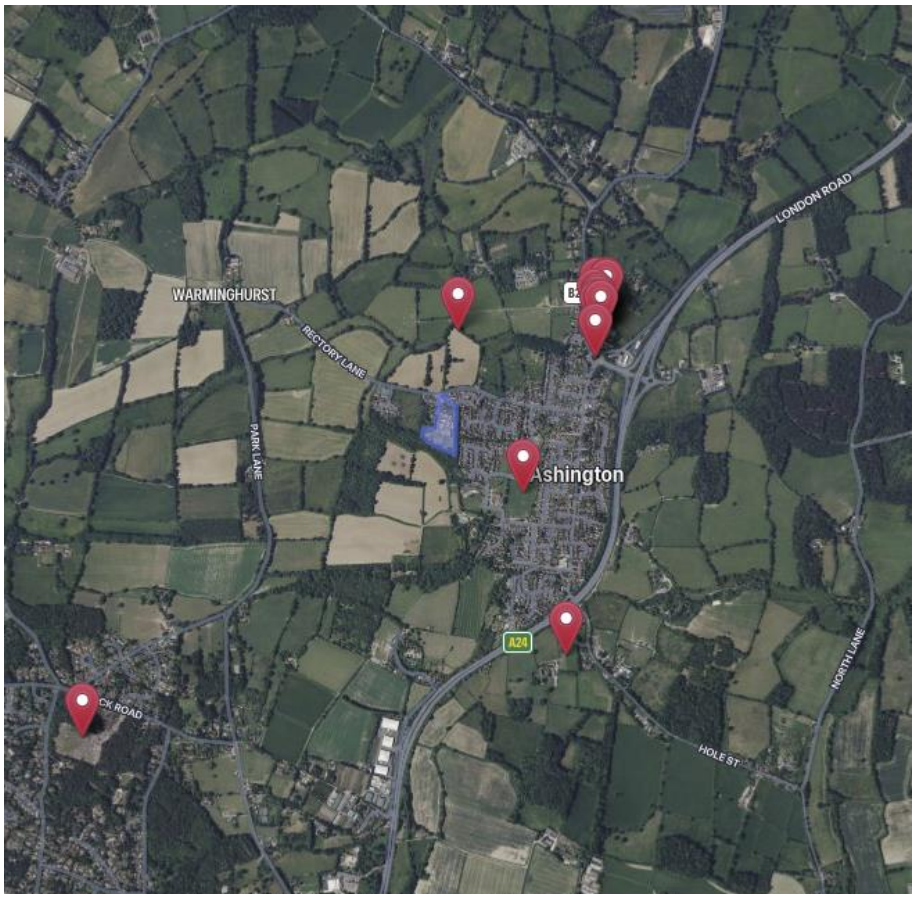
2.6 Hazel Dormice

2.6.1 Data Search

SxBRC returned 29 records of Hazel Dormouse from within 2km of the site with the closest of these being located approximately 130m to the east of the site (**Fig 13**).

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

Figure 13. Hazel Dormouse records located within 2km of the site (Google Satellite, 2024).



2.6.2 Previous Survey Work

Due to the presence of suitable Hazel Dormouse habitat on site in the form of woodland and mixed scrub along with the presence of nearby records, The Ecology Co-op (2021) conducted a nest tube survey on site. 41 nest tubes were deployed throughout the boundary habitats on site and checked monthly between September 2020 and June 2021. A summary of the results is provided below (**Fig 14**):

"Evidence of dormice in the form of nesting material was identified during the September 2020 check in nest tube 32. During the October check, an individual dormouse was found within a nest in tube 29 and nuts chewed by dormice were identified within tube 28 during the November check. All three tubes are located within the southern boundary habitat. No further evidence was identified during the April, May or June checks in 2021." (The Ecology Co-op, 2021).

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

Figure 14. Location of Dormouse evidence identified during the survey on site (blue = nest material, yellow = individual dormouse present, green = chewed nuts) (Google Satellite, 2024).



2.6.3 Updated Walkover

During the updated walkover in 2024, it was noted that the habitats on site were broadly the same as those recorded during the 2020 walkover with the only slight change comprising the establishment of more scrub in the northern part of the site. Therefore, it is considered that the amount of Dormouse habitat on site is largely the same as it was previously and that the survey work to date provides an accurate reflection of the Dormouse population on site.

2.6.4 Evaluation

As described by The Ecology Co-op (2021), *"The survey checks have confirmed the presence of dormice within the southern boundary of the site and therefore dormice are assumed to be present in all boundary habitat. Based on the habitats present on site and the availability of higher value woodland habitat to the south, the site is considered to be of value to dormice at the local level."*

2.7 Notable and Birds of Conservation Concern (BoCC)

2.7.1 Data Search

SxBRC returned 437 records of 38 notable bird species from within 2km of the site. Within this, there were 9 species listed on Schedule 1 of the Wildlife and Countryside Act (1981) as well as 6 species of Red conservation concern including Swift (*Apus apus*), Nightingale (*Luscinia megarhynchos*), Mistle Thrush (*Turdus viscivorus*), and Barn Owl (*Tyto alba*).

2.7.2 Site Assessment and Evaluation

Based on the 2020 and 2024 walkovers, much of the site is unsuitable for nesting birds (sparsely vegetated land, short grassland) although it does provide some suitable nesting opportunities around its boundaries within woodland edge habitat and scrub. It is also important to note that Buildings 1, 2, 3, 6 and 7 offer potential nesting opportunities within their loft spaces, eaves and rafters. Nevertheless, *"Based on the habitats available upon the*

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

site and the availability of higher value habitats in the surrounding area, it is considered to be of value for breeding birds at site level." (The Ecology Co-op, 2021).

2.8 Hedgehogs

2.8.1 Data Search

SxBRC returned 19 records of West European Hedgehog (*Erinaceus europaeus*) from within 2km of the site.

2.8.2 Site Assessment

The scrub and ruderal / ephemeral vegetation on site offers suitable habitat for Hedgehogs and, given the presence of local records, it is considered that the site holds potential for foraging and commuting Hedgehogs.

2.9 Riparian Mammals

2.9.1 Data Search

SxBRC returned a single record for Water Vole (*Arvicola amphibius*) from within 2 km of the site with this located approximately 75m to the south (**Fig 15**).

Figure 15. Water Vole record located within 2km of the site (Google Satellite, 2024).



Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

2.9.2 Site Assessment

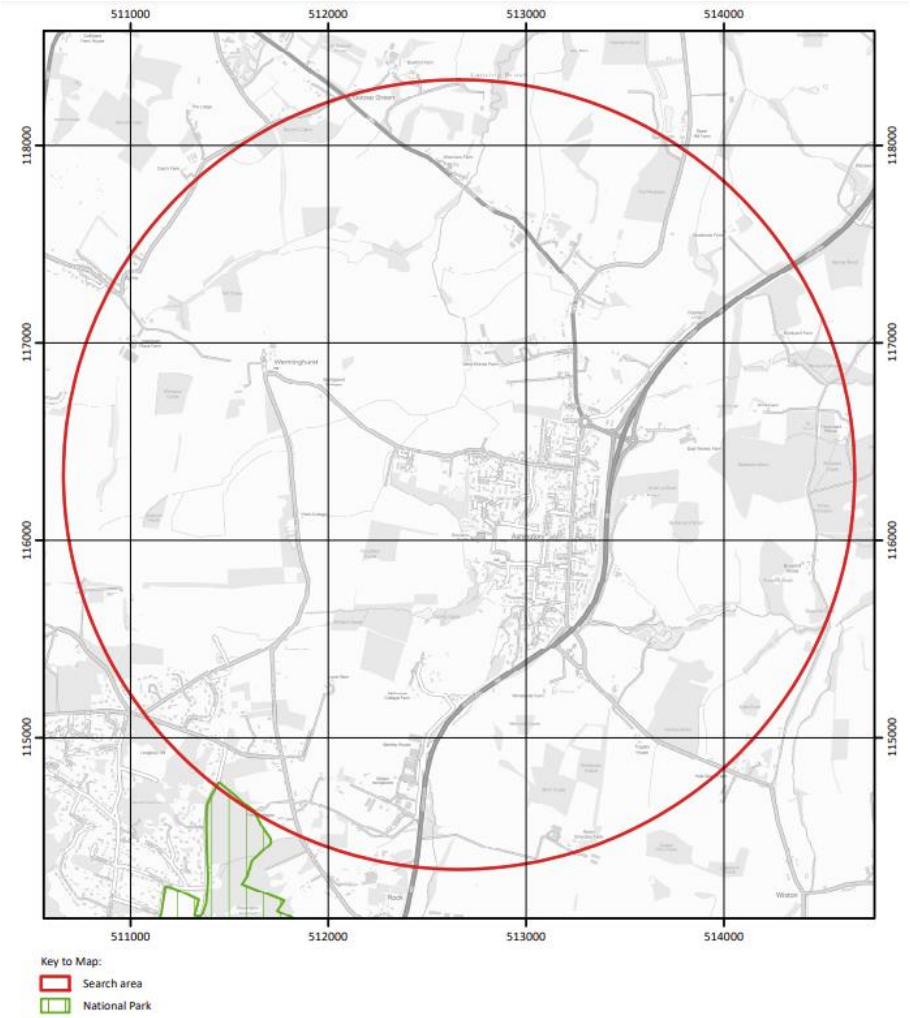
While a ditch was present does lie along the southern boundary of the site and part of the western boundary, this was noted to be dry during the 2020 walkover (The Ecology Co-op, 2021) and held only a small amount of water during the 2024 walkover despite a period of prolonged rainfall. Furthermore, much of the bank was bare, with very little grassy vegetation typical of banks utilised by Water Voles for their burrows. Therefore, it is considered that the site is of ***Negligible potential*** for Water Voles.

2.10 Designated Sites

2.10.1 Statutory Designated Sites

SxBRC returned records of 1 statutory designated site located within 2 km of the site, namely the South Downs National Park (**Fig 16**).

Figure 16. Location of statutory designated sites within 2 km of the site as provided by SxBRC.



2.10.2 Non-Statutory Designated Sites

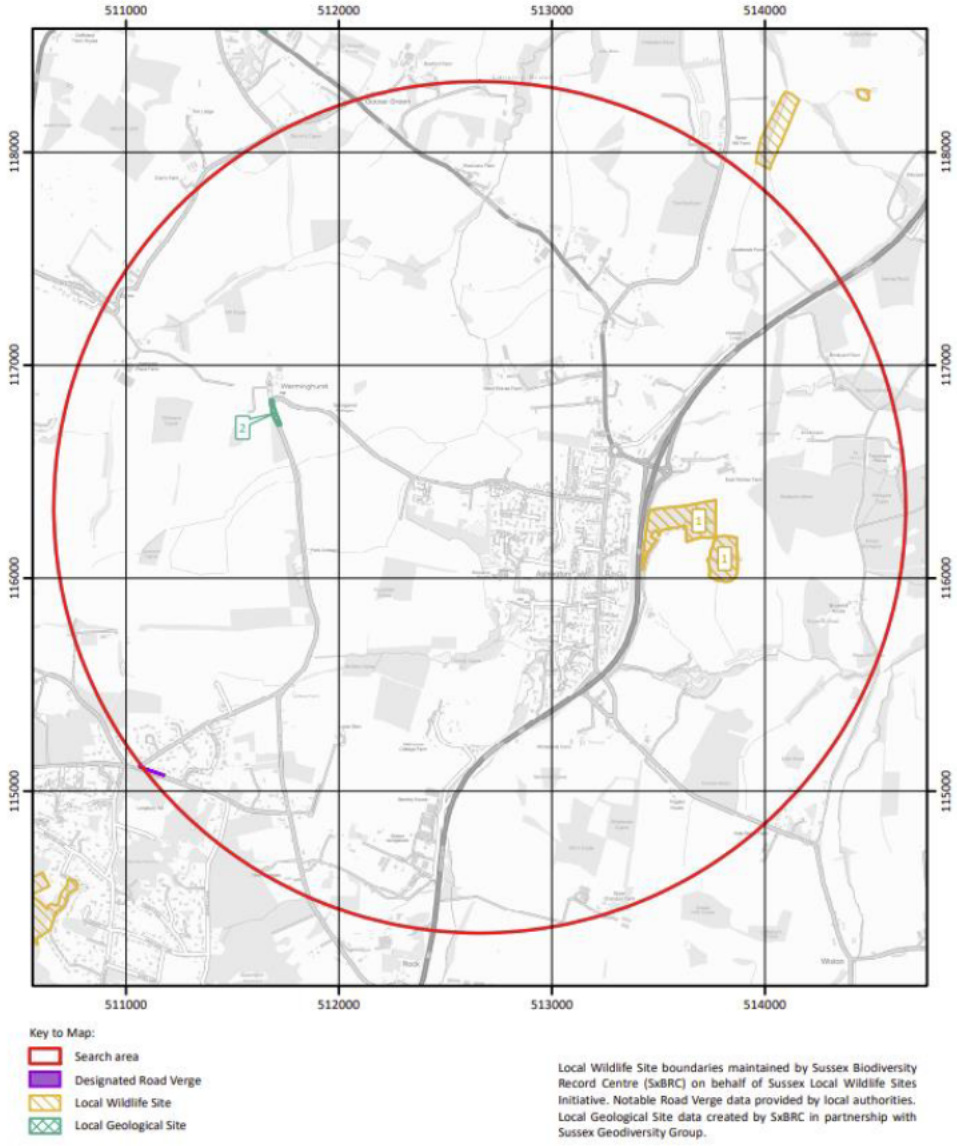
SxBRC returned records of 2 non-statutory designated sites located within 2 km of the site as described in **Table 1** below (**Fig 17**).

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

Table 1. Details of the non-statutory designated sites located within 2 km of the site as provided by SxBRC.

Map Label	Designation	Site Name	Distance to Site
1	Local Wildlife Site	H49 – America & Gratwicke's Wood	750m E
2	Local Geological Site	Warminghurst Road Cutting, Ashington	980m W

Figure 17. Location of the non-statutory designated sites within 2 km of the site as provided by SxBRC.



Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

3.0 MITIGATION, COMPENSATION AND ENHANCEMENTS

The chapter addresses the relevant mitigation, compensation and enhancement required to provide appropriate protection to species found within the site. Mitigation refers to measures that can be undertaken to avoid or reduce ecological impacts. Compensation refers to measures taken in order to offset potential significant impacts and finally enhancements result in a net gain for ecology. Measures relating to habitat creation and management are addressed in **Section 4.0**.

3.1 Bats

3.1.1 Roosting Bats – Building 3

Building 3 has been identified as Brown Long-Eared day roost. In accordance with the UK Bat Mitigation Guidelines (Reason and Wray, 2023), the day roost would be considered to be of ***SITE*** conservation significance and therefore of ***SITE VALUE*** (as Brown Long-Eared bats are a 'widespread' species in Southern England) using the CIEEM valuation criteria for bat roosts (Reason and Wray, 2023).

3.1.1.1 EPS Licence

All works that affect the bat roost carried out on Building 3 must take place under an EPSL obtained from Natural England and the destruction of the roost and capture of bats (if required) will need to be carried out under the supervision of a licensed Ecologist. All works would be detailed within the EPSL Method Statement required as part of the license application.

3.1.1.2 Updated Emergence Surveys

For the purposes of informing the EPS licence, updated emergence surveys will be undertaken for Building 3. As per **Table 2** below, three separate dusk emergence surveys will be conducted between May and September with at least two surveys between May and August. This will include the use of NVA's (Night Vision Aid) to cover the entire building.

Table 2. Recommended minimum number of survey visits (from Table 7.1, BCT 2023).

Low Roost Suitability	Moderate Roost Suitability	High Roost Suitability / Known Roost
One dusk emergence survey visit between May – August.	Two separate dusk emergence survey visits between May – September, with at least one between May – August. Surveys must be three weeks apart.	Three separate dusk emergence survey visits between May – September, with at least two between May – August. Surveys must be three weeks apart.

Nevertheless, given that no bats or fresh droppings were identified within the loft space of Building 3 during the updated inspection in 2024, it is considered unlikely that the status of the roost will have changed. Therefore, the below sections detail the appropriate mitigation strategy for the Brown Long-Eared day roost identified within Building 3.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

3.1.1.3 Timing

Given that the roost present is a day roost, no specific timing restrictions are required under the Bat Mitigation Guidelines (Reason, P.F. and Wray S., 2023). However, given that Long-Eared bats may use summer sites well into the Autumn and even over Winter, it is recommended that works avoid the hibernation period (November – March), when bats are in a torpid state and therefore more vulnerable (Reason, P.F. and Wray S., 2023). Works will take place in suitable weather conditions (i.e. when overnight temperatures do not drop below 8 degrees immediately prior to or after works to the roost take place) as defined by best practice guidance (Mitchell-Jones et al. 2004).

3.1.1.4 Supervision

Prior to any works getting underway the licensed bat worker will give a Toolbox talk which will detail best practice methods of sensitive stripping/removal of roofing tiles/materials (including the roof lining), as well as the sensitive dismantling of any other features considered suitable for roosting bats. Personnel will be educated on signs of bats and that, in the unlikely event a bat is found whilst the licensed ecologist is not on site, that **all works should stop immediately** until the licensee returns to site.

The licensed bat worker will then assist contractors with the removal of construction materials surrounding the roost and any other areas which are considered to be high risk for roosting bats.

3.1.1.5 Capture (if required)

If during the sensitive removal of construction materials bats are discovered, the supervising ecologist will place the individuals into a holding bag (a soft cloth bag with closure-strings and with seams on the outside (Mitchell-Jones and McLeish, 2004)) to ensure the bat keeps calm and will not take flight during daylight hours. They will then immediately transport the bat to the mitigating bat box where the bat will be released and left undisturbed. During this time, the licensed bat worker will be wearing appropriate bat handling gloves to ensure the bat does not come to any harm. The licensed bat worker will have ample experience in handling a variety of bats and is confident in doing so.

3.1.1.6 Bat Boxes

Prior to any works getting underway 1 No. Vivara Pro Large Multi-Chamber bat box (**Fig 18**) will be erected on a suitable mature tree on site. This box is designed as a summer roosting space for various species of bats, including Brown Long-Eareds. The bat box maintains a stable temperature inside and is painted black to absorb warmth. The box should be erected 3-6m high and in an open, sunny position (preferably facing a southern direction). Once the works have been completed these boxes should be left in perpetuity to provide additional long-term enhancements for local bats.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

Figure 18. The Large Multi Chamber Bat Box to be erected on site (NHBS, 2023).



3.1.1.6 Roost Compensation

BatScan Ltd. (2020) recommended the installation of a like-for-like replacement building in order to compensate for the loss of the 1 No. Brown Long-Eared day roost within Building 3. However, the most up to date Bat Mitigation Guidelines (Reason, P.F. and Wray S., 2023) indicate that compensation for a roost of 'site value' is flexible with no requirement for a like-for-like replacement. Therefore, given that Building 3 supported a Brown Long-Eared Day roost with a max. count of 1 individual recorded to be present, it is considered more proportionate to retain the mitigatory bat box (detailed in **Section 3.1.1.5**) in situ.

3.1.1.7 Bitumen Roofing Felt

Within the new buildings on site, bitumen roofing felt will be utilised as opposed to Breathable Roof Membrane (BRM) as there is evidence to suggest that BRM poses a threat to bats occupying a structure due to entanglement in the fibres (Natural England, 2015). This will be particularly important as bat access tiles are being proposed.

3.1.1.8 Monitoring and Maintenance

The Bat Mitigation Guidelines (Reason & Wray, 2023) do not recommend further conditions in relation to the post development monitoring of bat roosts of low conservation significance. However, a compliance check will be carried out to ensure all agreed mitigation and compensation techniques have been implemented.

3.1.2 Roosting Bats – Buildings 1, 2 and 9

During the emergence surveys conducted by BatScan Ltd. (2020) in 2020, no bats were recorded to emerge from buildings 1 and 2. The updated internal inspection in 2024 revealed no evidence of roosting bats and the condition of the buildings was noted to be the same as described in 2020. Nevertheless, given the time that has elapsed since the emergence surveys were undertaken and due to the presence of potential roosting features, it is considered appropriate to implement a Precautionary Working Method Statement for the demolition of these buildings. Similarly, given the dilapidated nature of Building 9 and the very limited number of potential roosting features, emergence surveys were not considered appropriate

and, instead, the below outlined Precautionary Working Method Statement will be adhered to.

3.1.2.1 Precautionary Working Method Statement

- Prior to any internal or external construction starting onsite, all construction personnel will receive a toolbox talk from a licensed ecologist (or someone acting as an accredited agent) regarding bats and their awarded level of protection (along with an indication of the PRFs identified on Buildings 1, 2 and 9). This will outline safe working practices to minimise the chances of bats being present during the works and how to proceed if a bat is discovered during the course of the work.
- Once the toolbox talk is complete, the ecologist will undertake an updated internal and external inspection of Buildings 1, 2 and 9 (the use of a hand held endoscope may also be required) to confirm the building is in a similar state of repair and the continued absence of any direct evidence of bat occupation.
- Works will be undertaken slowly, by hand and with care. This will include taking such precautions as removing roof tiles and timber cladding carefully and checking for the presence of bats before being discarded. The ecologist will oversee all critical works taking place to the identified roosting features.
- In the unlikely event that any bats are found at any point any during the development, all works must cease immediately and a European Protected Species Licence would likely be required from Natural England in order to allow works to proceed further. Contractors are forbidden to handle bats discovered during the development process (should any bats be found whilst Ecosupport staff are not on-site, they will be contacted immediately).
- A copy of this PWMS will be kept on-site throughout the duration of the works.

3.1.3 Site Design

While a small area of woodland in the south-eastern corner of the site must be removed to facilitate the development, a continuous length of woodland is due to be retained around the boundaries of the site and its understorey will be enhanced with native shrub planting. Furthermore, the Leylandii hedgerow in the northern portion of the site where bat activity was concentrated is due to be retained along with the mixed scrub along the northern boundary of the site which is set to be reinforced to form a native hedgerow. Together, these features form a continuous route around the site offering excellent commuting opportunities for bats. A SuDS feature is also proposed in the south-eastern corner of the site which will increase invertebrate biomass and provide further opportunities for foraging bats along with the proposed extensive tree planting across site.

Fig 19 below provides an overview of the proposed site design.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

Fig 19. Features to enhance / mitigate for impacts to bats designed into the scheme (layout provided by ECE Architecture, 2021).



Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

3.1.4 Habitat Buffers & Dark Corridor

While the faster flying species recorded on site (Common Pipistrelle, Soprano Pipistrelle, Serotine) have been shown to be more tolerant of artificial lighting while foraging, even congregating around well-lit areas to feed on invertebrates, they can be sensitive to lighting when commuting with Brown Long-Eared bats also known to be particularly sensitive to artificial light (ILP / BCT, 2023).

Therefore, as recommended by The Ecology Co-op (2021) and indicated in **Fig 19** above, dark corridors will be maintained along the northern boundary hedgerow and wooded boundaries of the site. There will be no lighting in these areas with light spill maintained below 3.6 Lux, with this being the threshold above which the most light averse UK bat species (Lesser Horseshoe bats) exhibit notable avoidance behaviour (ILP / BCT, 2023). Furthermore, the SuDS feature in the south-eastern corner of the site will be incorporated within the dark corridor to provide a foraging area of value for a range of bat species (**Fig 19**).

These measures will limit disturbance to foraging and commuting bats as a result of artificial lighting and maintain connectivity along the key commuting routes on site.

3.1.5 Sensitive Lighting

3.1.5.1 Lighting - Site Construction

In order to avoid any disturbance to bats (and other potential nocturnal wildlife) construction works should be limited to daylight hours and should not be undertaken 30 minutes prior to dusk through to dawn. All lighting should be sensitive to the use of the site by nocturnal wildlife, for example by including low-level downward-facing / hooded lights that are sensor-operated where possible.

3.1.5.2 Lighting - Site Operation

It is recommended that any lighting implemented on site complies with the following the newly published *Guidance Note 08/23 Bats and Artificial Lighting at night* (ILP / BCT, 2023) produced via a collaboration between the Institute of Lighting Professionals (ILP) and the Bat Conservation Trust (BCT), which outlines the latest recommendations to minimise the impacts of increased artificial lighting on bats. The key recommendations within this document have been outlined below and will be implemented as far as is practicable:

'Light sources, lamps, LEDs and their fittings come in a myriad of different specifications which a lighting professional can help to select. However, the following should be considered when choosing luminaires and their potential impact on Key Habitats and features:

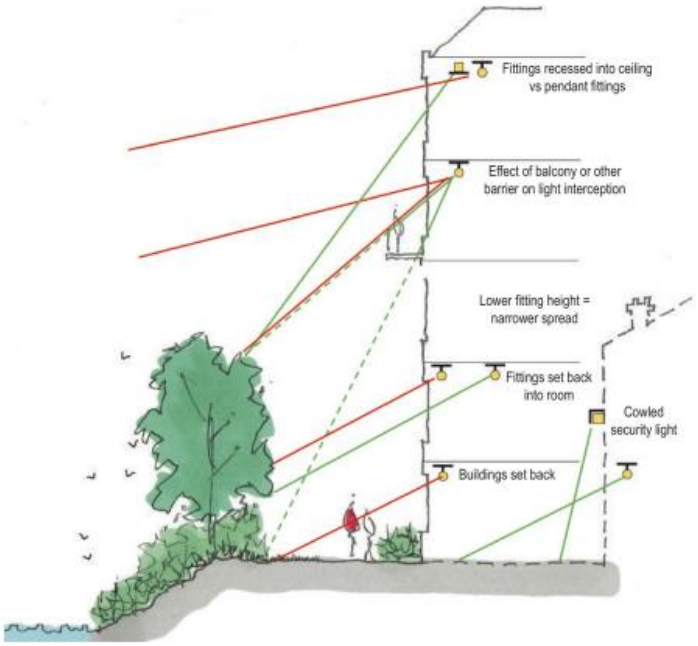
- *All luminaires will lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used*
- *LED luminaires will be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability*

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

- *A warm white light source (2700Kelvin or lower) will be adopted to reduce blue light component*
- *Light sources will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012)*
- *Internal luminaires can be recessed (as opposed to using a pendant fitting - See **Fig 20**) where installed in proximity to windows to reduce glare and light spill*
- *Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges (see Case Study 1)*
- *Column heights will be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards*
- *Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered - See ILP GN01*
- *Luminaires will always be mounted horizontally, with no light output above 90° and/or no upward tilt*
- *Where appropriate, external security lighting will be set on motion sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate*
- *Use of a Central Management System (CMS) with additional web-enabled devices to light on demand Use of motion sensors for local authority street lighting may not be feasible unless the authority has the potential for smart metering through a CMS*
- *The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues. See Case Study 6*
- *Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely'*

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

Figure 20. Internal lighting mitigation options (ILP, 2023).



3.1.6 Bat Boxes

As stipulated by The Ecology Co-op (2021), "at least 15 artificial bat boxes must be erected" onto retained mature trees on site with approximate locations indicated in the appended **Enhancement Plan**):

- 5 No. Vivara Pro Harlech WoodStone bat box (**Fig 21**)
- 5 No. Vivara Pro Miramare Large WoodStone bat box (**Fig 21**)
- 5 No. Vivara Pro Large Multi Chamber WoodStone bat box (**Fig 21**)

Figure 20. Vivara Pro Harlech WoodStone bat box (left), Miramare Large WoodStone bat box (centre) and Large Multi Chamber Woodstone bat box (right) to be erected on mature trees on site (NHBS, 2024).



The woodcrete bat boxes will be erected by or under the supervision of an ecologist to ensure they are placed in the most appropriate / effective locations.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

3.1.7 Bat Bricks

Half of the new dwellings will have a single Ibstock (**Fig 22**) (or similar) bat brick integrated into the gable ends of the dwellings (37 No. in total). These features are entirely self-contained and available in a variety of different colours to match different construction materials. Ideally these boxes should be located away from windows and positioned in order to benefit from some degree of sunlight exposure (see the appended **Enhancement Plan** for approximate locations).

Figure 22. Ibstock bat brick 'B' which will be integrated into the new dwellings on site (NHBS, 2023).



[redacted]

[redacted]

[redacted]

[redacted]

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

[redacted]

3.2.2 Avoidance of Harm

[redacted]

3.3 Reptiles

3.3.1 Mitigation Strategy Overview

Despite the planned creation of various semi-natural habitats as part of the development, given the number of units that need to be delivered on site and the extent of the reptile habitat being lost, it is not considered to possible to provide a reptile receptor of sufficient size to support the low population of Slow Worms identified on site. Therefore, as recommended by The Ecology Co-op (2021), an *ex-situ* relocation scheme will be required.

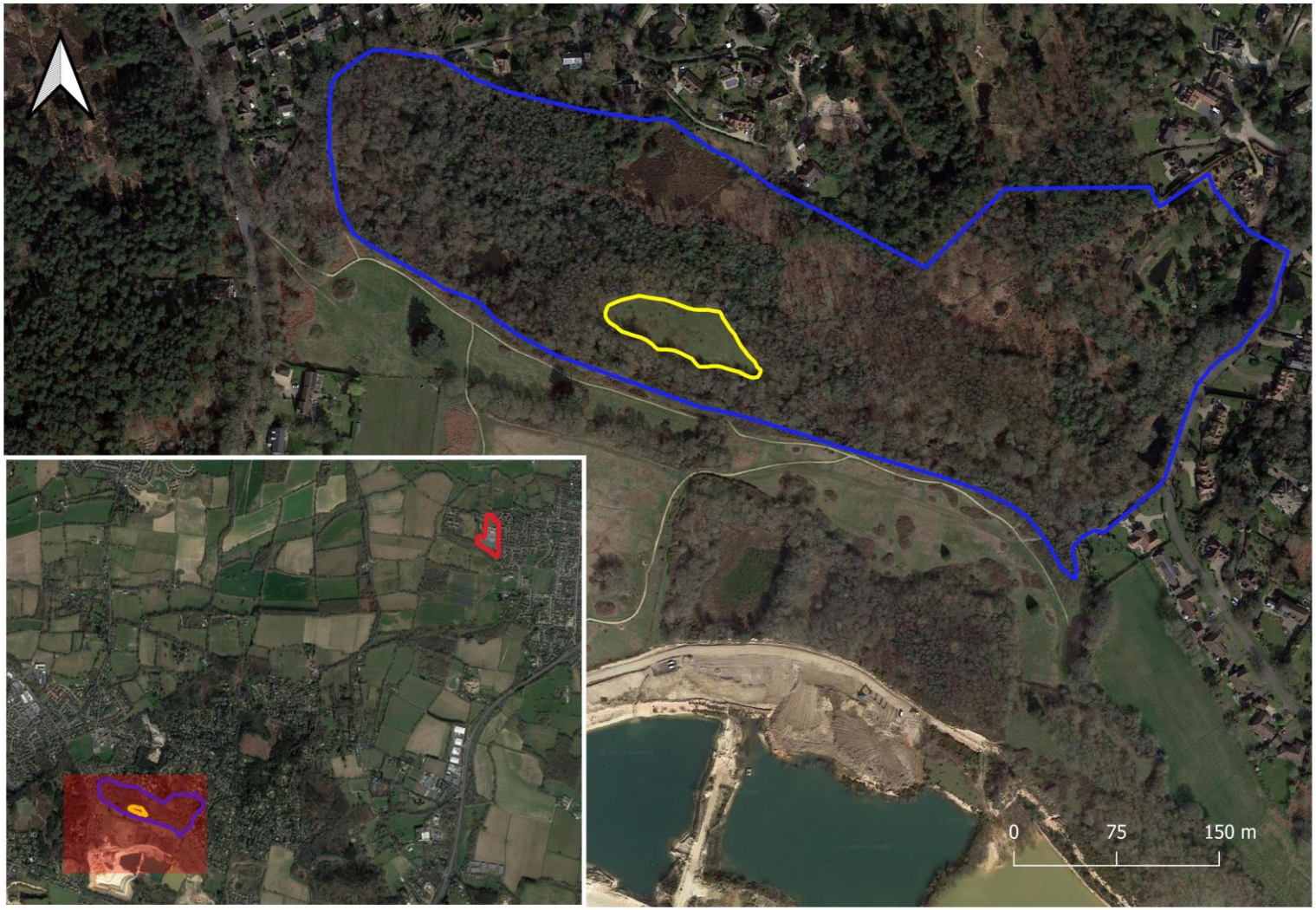
3.3.2 Receptor Site

3.3.2.1 Receptor Location and Suitability

An off-site reptile receptor has been agreed within Sandgate Park, Storrington, Pulborough, RH20 3LY which is located approximately 2.9km away from the development site. This area is a country park (so will benefit from protection from future development threats) and is being managed for local biodiversity interests. Following on from discussions with Andrew Rodgers at Horsham District Council, the below area (**Fig 23**) was considered suitable as a receptor with it offering approximately 1.5 acres of meadow habitat and connectivity into wet and dry heathland areas. Furthermore, observation data from across Sandgate Park between 1973 and 2019 indicate existing populations of Slow Worm, Grass Snake, Common Lizard and Adder to be present, providing further evidence that the site is suitable for reptiles.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

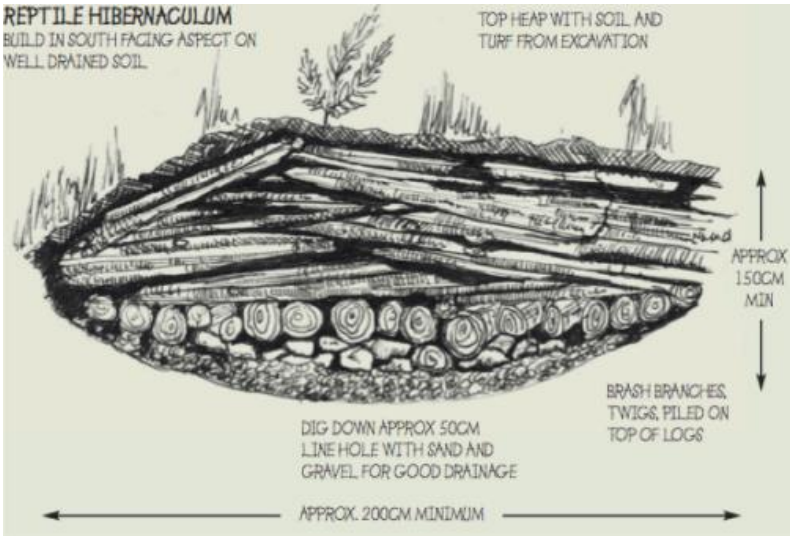
Figure 23. Approximate location of the off-site reptile receptor area at Sandgate Park (yellow) and the approximate wider extent of the country park (blueline) (Google Satellite, 2024).



3.3.2.2 Receptor Enhancement

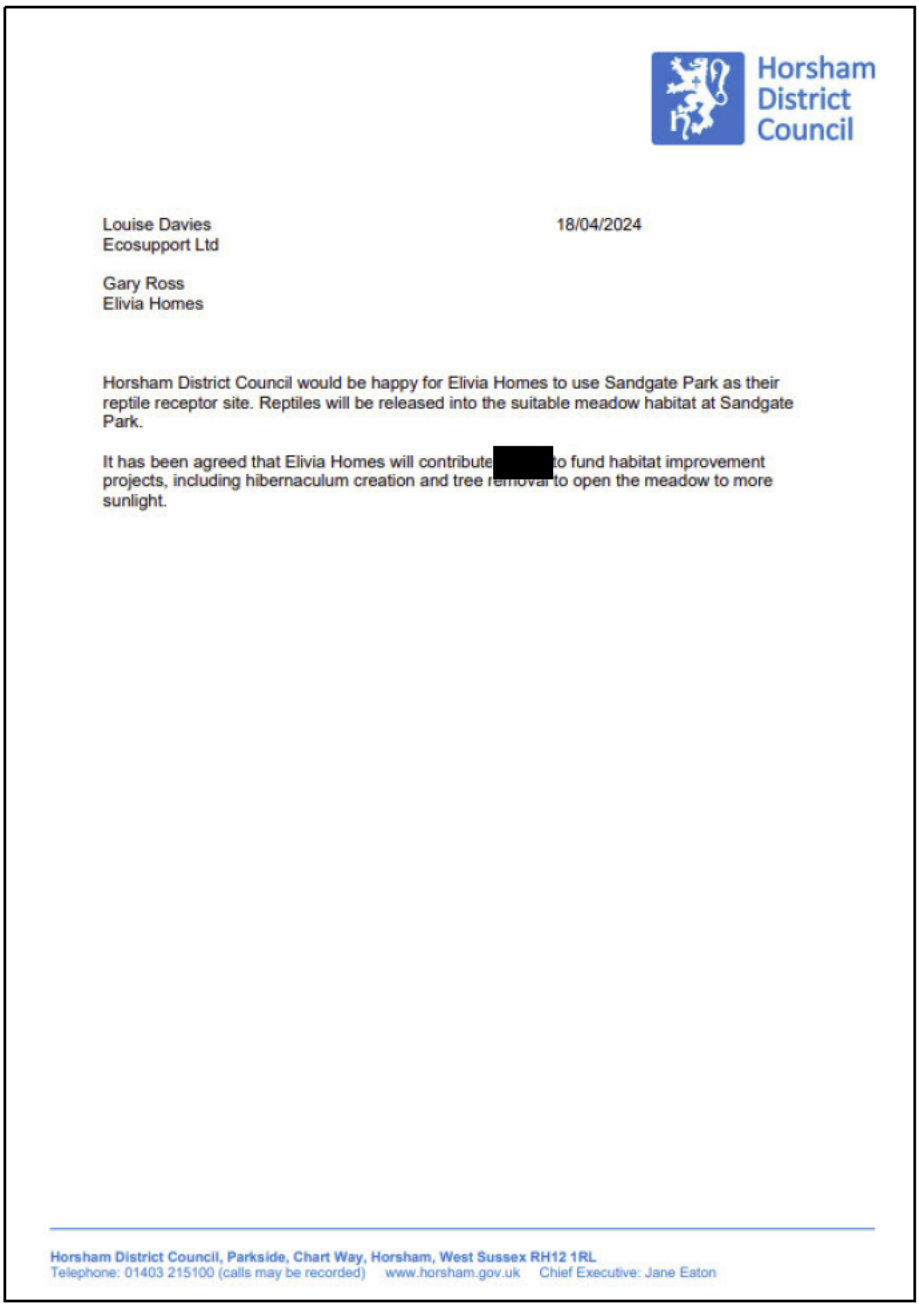
While the receptor already offers suitable habitat for reptiles, several enhancements will be implanted following completion of the relocation scheme in order to increase the long term carrying capacity of the habitats at Sandgate Park. This will include creation of 1 No. wood-based hibernaculum by HDC countryside services as per **Fig 24.** Furthermore, a number of trees along the southern boundary of the meadow will be removed in order to let in more sunlight and increase the total area of suitable reptile habitat. Funding for these enhancements has been agreed (**Fig 25**) and will be provided by Elivia Homes. This will need to be secured via a s106 agreement or similar.

Figure 24. Reptile hibernaculum design as provided in HART (2009).



Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

Figure 25. Evidence of funding agreement between Horsham District Council and Elivia Homes (sent by Andrew Rodgers at Horsham District Council, 2024)



Horsham District Council

Louise Davies
Ecosupport Ltd

18/04/2024

Gary Ross
Elivia Homes

Horsham District Council would be happy for Elivia Homes to use Sandgate Park as their reptile receptor site. Reptiles will be released into the suitable meadow habitat at Sandgate Park.

It has been agreed that Elivia Homes will contribute [redacted] to fund habitat improvement projects, including hibernaculum creation and tree removal to open the meadow to more sunlight.

Horsham District Council, Parkside, Chart Way, Horsham, West Sussex RH12 1RL
Telephone: 01403 215100 (calls may be recorded) www.horsham.gov.uk Chief Executive: Jane Eaton

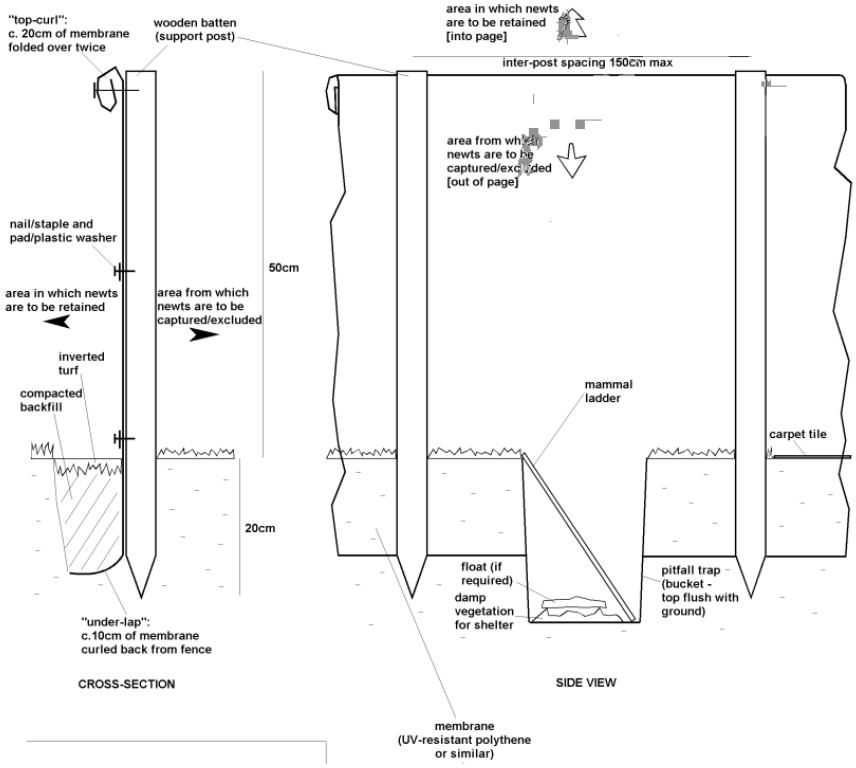
3.3.3 Capture and Exclusion

3.3.3.1 Capture and Translocation

Reptile relocation entails the capture of reptiles from the construction area (donor site) and release into the off-site receptor area. The relocation would be carried out in accordance with guidance published by the HGBI (1998). The methodology used for the capture of reptiles is the same as that used during survey. Artificial refugia made from materials such as roofing felt or corrugated metal allow reptiles to be detected and captured relatively easily. These artificial refugia warm up faster and retain heat for longer than the ground or surrounding

vegetation and reptiles, being exothermic, will shelter under the refuges in order for their bodies to reach the temperature required for activity. The reptiles can then be captured by experienced field ecologists who regularly visit each refuge during suitable weather conditions. The construction area would be set up with reptile exclusion fencing where necessary (**Fig 26**) (anticipated to be required around parts of the site where it is feasible to install) to prevent the movement of reptiles from adjacent areas.

Figure 26. Reptile fence design and specification (as provided in English Nature, 2001).



In accordance with the HGBI guidelines (1998), artificial refugia should be distributed across the site at a minimum density of 100/ha, although given the population size of reptiles on site, a considerably higher density of refugia would be used in order to maximise the catching potential, particularly in areas where the density of reptiles recorded during the survey was found to be very high.

Captured Slow Worms would be transported to the receptor area in appropriate containers such as buckets.

3.3.3.2 Effort

The survey indicates that there is a **'low'** population of Slow Worm present on site. The HGBI (1998) guidelines recommend a minimum of 60 capture effort days are to be expended (**Table 3**), however given the low numbers identified (peak count of 2 adults) and the planned habitat manipulation that is to take place, 30 days trapping would be considered to be a more

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

proportionate capture effort as recommended by The Ecology Co-op (2021) (however should capture rates be higher than anticipated, this may need to be extended).

Table 3. The minimum capture effort for Slow Worms based on HGBI (1998). The figures relevant to this scheme are emboldened and italicised.

Species	Population Size (adult density)	Refugia Density / ha	Minimum No of Trapping Days in Good Weather
Slow Worm	High (> 100 / ha)	100	All suitable days between March and September (min 90 suitable days)
	Medium (> 50 / ha)	100	All suitable days between march and September (min 70 suitable days)
	Low (< 50 / ha)	***50***	***60 Suitable days***

Reptile mats will be deployed at an increased density of >100 / ha and habitats will be sensitively manipulated prior to the installation of fencing. This will increase capture rate and encourage reptiles to naturally disperse into the retained habitats and help reduce the number of capture days required.

Despite a target of 30 trapping days, ***the relocation may only come to an end once 5 consecutive visits have been carried out in ideal weather conditions without identifying any reptile presence.*** This is based on survey guidance (Highways Agency, 2005), which suggests that a minimum of five visits are required to establish whether reptiles are present or likely to be absent from a site, during a standard survey. Therefore, if no reptiles are recorded after five visits (in optimal survey conditions), it can be concluded that reptiles are likely to be absent from the site (or the capture works complete).

3.3.3.3 Timing

All works which entail the capture of reptiles will take place between March and September under ideal weather conditions (between 10 and 18°C with intermittent sunshine and little or no wind and rain (Froglife, 1999)). This timing avoids the hibernation period when reptiles would be particularly vulnerable to disturbance. Reptiles will not be translocated after the end of September in order to allow them sufficient time to find suitable hibernation sites at the release area.

3.3.3.4 Habitat Manipulation

As described above, prior to the capture operation, the habitats on site will be manipulated in order to increase the capture rates. Typically, this would involve the strimming (to a height no lower than 15cm) of areas suitable habitat to reduce cover for reptiles and increase their reliance on artificial refugia for cover. It will also concentrate any remaining reptiles into parts

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

of the site where the density of artificial refugia can be increased. Any habitat manipulation works will be carried out by a contractor under the supervision of a SQE to ensure works are carried out without harming individual reptiles.

3.3.3.5 Destructive Search

As per The Ecology Co-op (2021), *"an ecologist would still be present during the initial construction phases to undertake a 'watching brief' of all initial ground works"* with this constituting a destructive search. As a minimum, the destructive search would entail the sensitive removal of any remaining natural reptile refugia, such as brash piles, within areas of the site where particularly high densities of reptiles were captured. Dependent on the number of reptiles captured during the translocation exercise, the destructive search may need to be extended beyond the described targeted search of localised areas. In this instance, the destructive search would entail the sensitive stripping of vegetation from suitable reptile habitat on site using a toothed bucket.

Works will be supervised by a suitably qualified ecologist and should be undertaken during the active reptile period (April – September) when temperatures are above 12°C with sunshine. The supervising ecologist will capture any reptiles found and relocate them to the off-site reptile receptor (see **Section 3.3.2**). The cleared areas will then be regularly managed and maintained unsuitable for reptiles for the duration of the works. Please note, any suitable habitat within the root protection zone will not have the topsoil stripped and will only be maintained cut at ground level.

3.4 Great Crested Newts (GCN)

3.4.1 Precautionary Working Method Statement

While The Ecology Co-op (2021) previously ruled out the presence of GCN on site, the site has since been identified by NatureSpace (2022) as lying within a red impact risk zone for GCN and it was not possible to gain access to Pond 4 lying within 250m of the site. Given the presence of suitable habitat for GCN on site, it is therefore considered appropriate to implement the below described Precautionary Working Method Statement.

3.4.1.1 Toolbox Talk

An ecologist holding a GCN licence must brief all site operatives, providing a Toolbox Talk. This briefing must include details of the legal protection of GCN, all precautionary steps that must be taken during the proposed works, an annotated key detailing the appearance, characteristics and optimal habitat of GCN as well as what actions need to be taken if a GCN is found on site.

3.4.1.2 Sensitive Habitat Removal

Any scrub, trees or shrub requiring removal will be reduced in height gradually (50cm and then 10cm) under the direct supervision of an ecologist which will encourage any sheltering amphibians to move out of the area prior to removal of the scrub. An ecologist will undertake a fingertip search of the remaining scrub stalks / vegetation bases prior to clearance to ground level. Where amphibians or reptiles are found, they will be moved to adjacent retained habitat.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

Furthermore, any longer areas of grass must be strimmed / cut to a length of 6 inches followed by a fingertip search focusing on optimal GCN habitat such as tussocks. This must be carried out by a suitably qualified ecologist holding a Natural England survey licence.

Vegetation will be cleared in a directional approach (working towards retained boundary vegetation), encouraging any amphibians to move away from the area of impact towards suitable retained habitat.

3.4.1.3 Destructive Search

Following sensitive habitat removal, the remaining vegetation can be gradually removed (to a depth of 1 to 2 inches), by a digger with a toothed bucket, which will allow any amphibians on site to be removed if discovered. This work must be supervised by a suitably qualified ecologist searching each bucket of removed vegetation and must be undertaken during the GCN active period (between March and October depending on the weather).

NB. If any GCN are found during the works, all works must immediately stop and the project ecologist must be informed and Natural England or Nature Space contacted in order to obtain a European Protected Species development licence or get the site registered to the DLL scheme.

3.4.2 Enhancements

A single hibernaculum (**Fig 24**) will be created within the area of semi-natural habitat at the south of the site as indicated in the appended **Enhancement Plan**. This will provide suitable shelter for GCN while also offering potential basking opportunities for reptiles should they disperse into the site from surrounding habitats following construction.

3.5 Hazel Dormice

3.5.1 EPS Licence

The proposals involve the removal of approximately 0.158ha of scrub and 0.114ha of woodland (**Fig 27**). These works and any further works that impact upon the woodland, and scrub on site will need to take place under an EPSL obtained from Natural England and under the supervision of a Suitably Licensed Ecologist (SLE).

Figure 27. Approximate extent of suitable Dormouse habitat being lost as part of the proposed development (orange = scrub, blue = woodland).

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk



3.5.2 Single Stage Clearance

Prior to clearance commencing, 10 Dormouse nest boxes will be installed throughout the retained woodland areas (away from where management works will take place) to increase the carrying capacity of the retained habitats for Dormice (locations indicated in appended **Enhancement Plan**). These will also act as receptors for any Dormice found during the sensitive clearance works and will be located within 50 m of all cleared vegetation by the licenced ecologist.

Within Natural England Dormouse Licence method statements, it is stipulated that up to 2500m^2 of habitat may be cleared in a single day and therefore it is considered that adopting a single stage active season approach would be the most appropriate clearance methodology. This would comprise the following (to be complete once an EPS has been granted by NE):

- Fingertip search of all vegetation to be cleared, by the licenced ecologist, immediately prior to clearance commencing (on the same day and every day clearance occurs).

- Prior to works commencing, the named ecologist or accredited agent will provide all site operatives with a toolbox talk to inform them of the potential presence of dormice, their legal status, means of identification, habitat requirements, the methodologies required to avoid impacts on the species and what they should do if a dormouse is found. A written record that this has been undertaken, signed by attendees, will be kept and made available to Natural England should it be required.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

- Hand tools will be utilised to sensitively cut vegetation down to ground level in ***a single stage***. This will be undertaken in a directional fashion to passively encourage Dormice to move away from the works area towards retained, suitable hedgerow / treeline habitat. Where areas of scrub are being cut, this will be done directionally towards the retained habitats. All arisings will be chipped on site immediately.

- Cut material will be removed from the areas and chipped and removed from site or area of working operations.

- As stated above, 10 No. Dormouse nest boxes will be placed into the areas of retained woodland around the site to act as receptors in the event of any Dormice being found (locations indicated in the **Enhancement Plan** appended).

- Works will avoid the hibernation period (late November – March) and typically avoid the core breeding period (June – September). However, in this instance, September will be the most appropriate month in which to carry out works. Should any breeding nests be found, these will be retained in situ or moved to a place of safety (if the nests are in immediate danger).

- ***No more than 2500m^2 of habitat will be cleared in a single day.***

NB. The above stated methodology supersedes that detailed within the Ecological Impact Assessment (The Ecology Co-op, 2021) as it is based on the most up to date Natural England guidance.

3.5.3 Protecting Retained Features

Prior to construction works commencing, the retained woodland will be protected via the installation of heras fencing (or similarly robust construction fencing) covered with dust sheets and with regular information signage installed. Access will not be permitted behind this fencing by construction personnel. This will protect Dormouse habitat from direct damage/disturbance and dust.

3.5.4 Minimising Operational Impacts

As detailed within **Sections 3.1.4 and 3.1.5**, light spill onto the boundary woodland will be minimised with dark corridors provided. This will ensure the suitable Dormouse habitat on site will be protected from artificial light once the development is operational, thus preserving the integrity of these features for Dormice.

3.5.5 Compensation

The loss of a total of 0.272ha of Dormouse habitat on site will be compensated for through the creation of 0.218ha of native understorey around the boundaries of the site (**Fig 28**). Species to be planted in these areas include:

- Hazel (*Corylus avellana*)
- Hawthorn (*Crataegus monogyna*)

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

- Blackthorn (*Prunus spinosa*)
- Alder Buckthorn (*Frangula alnus*)
- Guelder Rose (*Viburnum opulus*)
- Wild Privet (*Ligustrum vulgare*), and climbers such as
- Dog Rose (*Rosa canina*) and Honeysuckle (*Lonicera periclymenum).*

Within the Ecological Impact Assessment, The Ecology Co-op (2021) was able to entirely compensate for the loss of Dormouse habitat on site. However, due to the recent development of young Willow scrub in the north of the site, there will now be a minor overall loss of Dormouse habitat (0.054ha). Nevertheless, it is considered that the native understorey planting being provided will offer new habitat of significantly higher quality for Hazel Dormice given that it comprises a mix of flower and berry producing species and will be managed to maintain a variety of ages and structures (as per **Section 4.6**).

Figure 28. Compensatory Dormouse habitat to be provided around the boundaries of the site (purple shading).



3.5.6 Protection of Hazel Dormouse Habitat

The enhanced / newly planted habitats will be protected via their inclusion within the sites POS and their inclusion as compensatory Dormouse habitat within the EPS (once granted).

3.6 Notable and Birds of Conservation Concern

3.6.1 Mitigation

In order to avoid disturbance of nesting birds or damage to their nests, any works impacting the vegetation and buildings on site will be undertaken outside of the bird nesting season (March – September). If this is not possible, the area of vegetation / building to be removed

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

will be thoroughly checked by an ecologist immediately prior to demolition/clearance. If any active nests are found, they will be left undisturbed with a suitable buffer (ca. 5m) until nestlings have fledged.

3.6.2 Compensation

To compensate for the loss of scrub and woodland as a result of the development, native shrub planting will be created around the western, southern and eastern boundaries of the site to provide replacement nesting opportunities. These areas will be planted with native species including flowering and fruit-bearing specimens which will also provide foraging opportunities for birds as well as small mammals. Further detail as to the species that will be planted and the management within these areas can be found in **Section 4.0** below.

Additionally, 10 No. nest boxes will be erected within the retained trees across the site (**Fig 29**) (approximate locations indicated in the appended **Enhancement Plan**). These will include a mixture of Vivara Pro Barcelona nest boxes (4 No.) and Vivara Pro Seville nest boxes (6 No. – a mix of 28mm and 32mm entrance holes). The Barcelona caters to Wrens, Robins, Spotted Flycatchers, Pied and Grey Wagtails, Song Thrushes and Blackbirds. The Seville caters to Blue Tits, Tree Sparrows, House Sparrows, Great Tits, Crested Tits, Nuthatches, Coal Tits and Pied Flycatchers.

Figure 29. Vivara Pro Seville 32mm bird box (left) and Vivara Pro Barcelona bird box (right) (NHBS, 2024).

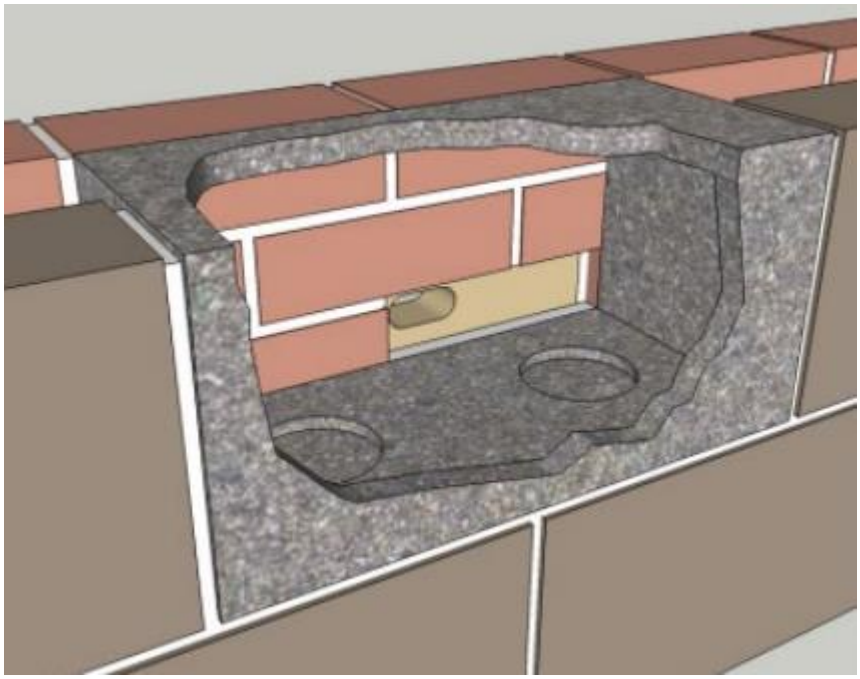


3.6.3 Enhancements

As a further enhancement, Swift bricks will be incorporated into the new dwellings in a 1:1 ratio to the number of dwellings (74 No. in total) (approximate locations indicated in the appended **Enhancement Plan**). The 'CJ Wildlife Swift maxi nesting box' (**Fig 30**) with entrance via a CJ Wildlife 'Cambridge Swift full-face brick' (The Cambridge System is a concept comprising an entrance piece and a nest box embedded in the cavity and inner leaf. It is particularly suited to gable ends at roof-space level). If this model is not suitable for the building specifications, an alternative swift box with internal floor space exceeding 400cm squared must be used.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

Figure 30. A schematic of how the Cambridge full face Swift brick leads into a cavity created by the prior installation of the Swift maxi nesting box.



3.7 Rabbits

While rabbits are not a protected species, burrows were identified within the south-western corner of the site. If any works are to take place within the vicinity of these burrows, animal welfare is a concern. Therefore, it is recommended that any necessary excavation of the burrows be undertaken sensitively, particularly around the entrance holes. Soil will be dug and lifted gently in small layers and the entrance will be left clear as much as possible to allow any rabbits present to escape. This sensitive excavation is to ensure rabbits are not killed unnecessarily or cruelly during the works. Wherever possible it is recommended to avoid works to burrows to avoid disturbance and animals being at risk of entrapment, harm or killing.

3.8 Hedgehogs

3.8.1 Avoidance of Harm

[redacted]

3.8.2 Compensation

Habitat of value to sheltering and foraging hedgehogs is being lost as part of the development, namely scrub and ruderal / ephemeral vegetation. To compensate for this, native shrub planting will be provided along the western, southern and eastern boundaries of the site with this offering replacement opportunities for sheltering and foraging hedgehogs. Furthermore, the gardens and grassland areas being created on site can still offer some sub-optimal foraging habitat for Hedgehogs using the site.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

3.8.3 Enhancements

To ensure permeability for small mammals across the site, the garden fences of the properties will ensure at least 2 gaps are present within the gravel boards / bases of each fence line to allow for movement of Hedgehogs between gardens and into the wider area. The gaps should be at least 15 cm high by 15 cm wide with permeability for small mammals.

Small signage could be installed at these points to ensure they remain open upon completion of the development. The People's Trust for Endangered Species provide such signage, the purchase of which also supports conservation efforts (**Fig 31**).

Figure 31. Example of Hedgehog Highway signage to be placed above fence gaps provided to allow movements between gardens.



3.9 Protection of Woodland, Hedgerows and Trees

The retained woodland around the boundaries of the site and the retained Leylandii hedgerows will be protected from damage during the works. They will be fenced using Heras fencing or similar to prevent access by machinery. Where large mature trees are present, they will be protected using standard arboricultural tree protection measures which include protection of the canopy and prevention of root compaction.

3.10 Designated Sites

3 designated sites lie within 2km of the site with the closest being a Local Wildlife Site approximately 750m away. As outlined by The Ecology Co-op (2021), in order to mitigate for the effects of increased recreational pressure on the surrounding designated sites *"a public open space measuring…"* 1300m^2 *"…has been incorporated into the design in the south-eastern corner and access will be created to the existing footpath in the same corner to encourage residents to explore their local surroundings. It is likely that a proportion of residents will still choose to visit their LWS, and to a lesser extent the SSSIs further afield. However, as the total number of residents is estimated to be 148 people, the impacts from recreational pressures on any sites including the local woodlands is unlikely to be significant."*

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

4.0 HABITAT CREATION, ENHANCEMENT & MANAGEMENT

4.1 Introduction

As part of the proposed development, extensive areas of habitat on site will be retained, enhanced, created and managed with the locations of these habitats indicated in the appended **Enhancement Plan**. At the current stage, a detailed landscape scheme is not yet available however the below sections include general recommendations with regard to the creation, enhancement and management of the habitats on site. When a detailed landscape scheme is prepared, this will remain consistent with the recommendations within this report and any required changes to the landscaping will first be approved by an ecologist.

4.2 Protection of Retained Habitats

All of the habitats to be retained or enhanced will be protected from damage during the works and will be fenced using Heras fencing or similar to prevent access by machinery. Where large mature trees are present, they will be protected using standard arboricultural tree protection measures which include protection of the canopy and prevents root compaction (as per **Section 3.9** above).

No vehicles will enter the protective ring fencing and no materials will be stored within their circumference. All protective fencing must be in place prior to any construction machinery arriving on site, before any works on site get underway, and will remain in place until all work is completed. This will minimise the level of disturbance within the retained boundary habitat during the works and ensure the habitats and any wildlife species that may be using them are protected.

4.3 Wildflower Grassland

4.3.1 Proposed Planting

Wildflower grassland is proposed to be created along the northern boundary of the site and around the boundaries of the central and southern POS areas. These areas will be sown with Emorsgate EM3 – Special General Purpose Meadow Mixture (or similar). As described in the above sections, the creation of these grassland areas will provide valuable foraging habitat for [redacted] Hedgehogs, and bats.

4.3.2 Management

Wildflower areas do not require any additional watering or fertilizer. Cutting a meadow and removing the clippings retains low nutrient levels in the soil and suppresses coarse grasses which would otherwise out-compete the wildflowers. It is recommended the wildflower grassland undergoes a single annual cut. The growth should be cut back to a height of 50-75mm. The cut grass should be dried on site. Cuttings should be left in situ for approximately one week, after this the arisings are to be removed from site.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

First year management: Perennial species take at least a full year to establish. For newly sown areas the first summer will be dominated by annual weeds (species indicative of sub-optimal condition) arising from the soil seed bank and by grass growth. This should be controlled by regular mowing throughout the first year to minimise competition and weed seed production.

Management Once Established: During the second year it is recommended that the wildflower areas are left to flower and will be cut in mid-summer. However, this should not be cut in May or early June due to nesting birds. Mowing in mid-June brings a premature end to the flowers and can compromise nesting birds, which do not fledge until late July, insects and other wildlife. If some mowing has to take place at this time, sections should be cut at different dates to prolong the overall flowering season and give wildlife a chance to move. The second annual cut should be undertaken during late Autumn. Grassland which is consistently cut late in the season, in August and September, year on year reduces species diversity as late cutting gives more time for coarse grasses and other dominant plants to grow unchecked. To maintain maximum diversity and flowering interest the development buffers should be managed at different times from late June to the end of August. Varying the mowing times from year to year is the best way to maintain a diverse balanced sward and minimise cover of sub-optimal species.

4.4 Modified Grassland

4.4.1 Proposed Planting

Several areas of modified grassland are proposed to be created along verges and throughout the central and southern POS areas. These grassland areas will be created through laying of an appropriate turf as prescribed by the appointed landscape architect for the site. The turf is expected to comprise of Perennial Rye Grass (*Lolium perenne*) and various Fescue species (*Festuca spp.*).

4.4.2 Management

The sowing of these seeds will be completed either during the Spring (March-May) or the late Summer (August-October) when the temperatures are warm, and the ground is dry. The seed must be surface sown at an even distribution throughout the entire landscaped area.

First year management: During the first year the grassland areas must be regularly maintained to a height of 40-60mm. Mowing will take place every 3-4 weeks (or more frequently as needed) during the growing season to prevent the establishment of weeds. All arisings must be taken from site to prevent the addition of too many nutrients into the soil. If necessary, glyphosate-based weed killer can be used to spot treat any areas with dense patches of Nettles or Bramble.

Management Once Established: Once the seed is established after the first year, regular mowing is still expected which will result in a shorter sward height however grass should not be cut lower than 25-40mm. Wherever possible, mowing will be relaxed from late June for 4-

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

8 weeks to allow flowering of herbaceous species and enhance the benefit of this habitat for local wildlife.

4.5 Pond Edge Grassland

4.5.1 Proposed Planting

An area of wet grassland will be created around the pond at the southern end of the site. This will be created via sowing of wildflower mix such as Emorsgate EM8 – Meadow Mixture for Wetlands. As described in the above sections, the creation of this wetland feature will provide a valuable foraging resource for bats.

4.5.2 Management

The sowing of these seeds will be completed either during the Spring (March-May) or the early Autumn (August-October) when the temperatures are warm, and the ground is drier. The seed must be surface sown at an even distribution throughout the entire landscaped area.

First year management: Perennial species take at least a full year to establish. For newly sown areas the first summer will be dominated by annual weeds (species indicative of sub-optimal condition) arising from the soil seed bank and by grass growth. This should be controlled by mowing in mid to late Summer and then continued mowing until the following Spring. Targeted removal of residual perennial weeds such as Dock should also be undertaken.

Management Once Established: The pond edge grassland will be managed as a meadow with a hay cut in mid to late Summer (July – August). The grass will be cut no lower than 50mm and the cuttings will be left in situ for 7 days before removing. The re-growth will then be mown throughout Autumn and Winter to a height of 50mm with one further mow permitted in Spring if required.

4.6 Native Understorey Planting

4.6.1 Proposed Planting

The understorey of the boundary woodland on site will be enhanced through planting of a native shrub mix. Recommended species include Hazel (*Corylus avellena*), Hawthorn (*Crataegus monogyna*), Holly (*Ilex aquifolium*), Blackthorn (*Prunus spinosa*), Dog Rose (*Rosa canina*), Crab Apple (*Malus sylvestris*), Common Dogwood (*Cornus sanguinea*) and Common Honeysuckle (*Lonicera periclymenum*). As described in the above sections, this planting will be of value for foraging and commuting Dormice, bats, [redacted] and Hedgehogs as well as nesting birds. Shrubs will be planted at 1m centres in groups of 3. The best time to plant is late autumn and it is recommended to avoid freezing temperatures or heat.

As a further enhancement, these areas will also be sown with Emorsgate EW1 – Woodland Mixture which comprises of various woodland ground flora species including Ramsons (*Allium ursinum*), Bluebells (*Hyacynthoides non-scripta*) and Wood Avens (*Geum urbanum*).

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

4.6.2 Management

Following establishment, scrub will require minimal ongoing management however the following measures can be employed as necessary:

- New scrub will be weeded following first planting and watered whenever necessary during the first growing season.
- Scrub will be cut back annually as needed to ensure the area does not become overgrown and thinned every five years. Different areas of scrub will be cut back / thinned on rotation in order to ensure a diverse age range (seedlings, sapling, young shrubs and mature shrubs) and dense structure persists.
- Any existing or later establishing Bramble will be reduced in density and will be maintained at approximately 15% density within the scrub patches.
- Removal of invasive species will be undertaken as necessary if any are to establish on site.
- Ongoing management will be undertaken to prevent successional scrub developing within the adjacent grassland areas.
- Management must take into account the requirement for maintaining habitat connectivity across the site. Should any such vegetation die or its density become sparse, additional planting will be undertaken, replacing like-for-like.

All management of trees and scrub will be undertaken outside of the bird nesting season, which spans February – August inclusive.

4.7 Individual Trees

4.7.1 Proposed Planting

Native trees will be planted throughout the site with recommended species including Rowan (*Sorbus aucuparia*), Field Maple (*Acer campestre*), Hawthorn (*Crataegus monogyna*), European Hornbeam (*Carpinus betulus*), Elder (*Sambucus nigra*), Blackthorn (*Prunus spinosa*) and Oak (*Quercus robur*). As described in the above sections, this planting will provide a foraging resource for bats and birds as well as providing potential bird nesting habitat.

Planting will be carried out in the first year. The best time to plant is late autumn and it is recommended to avoid freezing temperatures or heat. Rootgrow or Bonemeal will be applied to the new plants to encourage healthy root growth.

4.7.2 Management

4.7.2.1 Mycorrhizal Treatment

To ensure a successful establishment of the newly planted trees, it is recommended that mycorrhizal treatment to the tree roots is conducted during the planting, this would reduce the risk of tree mortality and increase the long-term tolerance of these trees to periods of drought or adverse soil conditions thus ensuring a higher chance of successful long-term establishment.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

4.7.2.2 Weed Management

All newly planted trees must have a 1-metre exclusion zone whereby weeds are routinely and pro- actively removed for the first 2 – 3 years. Bark mulch is recommended around each tree and will act as an effective management method to also supress weed colonisation.

4.7.2.3 Pruning

The trees will be subject to light pruning as required in October to ensure that they are developing healthy growth forms (but pruning will not be extensive enough to restrict expected canopy or height for their species).

4.7.2.4 Monitoring and Replacement

Trees will be inspected every 3 years by a suitably experienced arborist during late winter – early spring of each year when required. These monitoring visits will assess the general health of the trees and determine if any remedial action is required, including noting any presence of disease. As part of these monitoring visits, the arborist will produce a monitoring report which will be sent to the LPA outlining the results and appropriate recommendations (i.e. remedial works, removal /replacement). Any plants that are removed, die or become seriously damaged or defective shall be replaced like for like in the next planting season.

4.8 Mixed Hedgerows

4.8.1 Proposed Planting

Several mixed native and non-native hedgerows will be planted across the site with the scrub / hedgerow along the northern boundary of the site also reinforced. Native species to be considered for these hedgerows include (but are not limited to):

- Field Maple (*Acer campestre*)
- Hornbeam (*Carpinus betulus*)
- Holly (*Ilex aquifolium*)
- Crab Apple (*Malus sylvestris*),
- Dogwood (*Cornus sanguinea*),

The shrubs will be planted in staggered double rows with 5 plants per linear metre (if using bareroot stock) or 3-4 plants per linear metre (if using container grown stock). As described in the above sections, these hedgerows will provide valuable nesting habitat for birds and will also contribute to foraging and sheltering opportunities for hedgehogs.

4.8.2 Management

Given the formal locations of the majority of the hedgerows on site, it is expected that they will be clipped annually to maintain the desired height and width.

The northern boundary hedgerow, however, will be managed for the benefit of biodiversity as outlined below:

- Allow to developed into a tall, dense, bushy structure maintained at a height of 3-4 metres.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

- Cut using hand tools outside of the nesting bird season which spans February to August inclusive.
- Cut take place after Autumn fruiting (i.e. late Winter).
- Coppicing or laying will be used should the hedgerow become gappy or sparse.
- If the size of the hedgerow must be reduced, avoid cutting the top and cut one side.

4.8.3 Monitoring

Annual monitoring will take place of the newly planted hedgerow for the first 3 years, with bi-annual monitoring between 4-10 years. This will be carried out by a suitably experienced ecologist during late winter – early spring of each year. These monitoring visits will assess the general health of the hedgerow and determine if any remedial action is required (some of which are outlined below such as replacement planting or altering the frequency of cuts).

4.8.4 Replacement

Any plants that are removed, die or become seriously damaged or defective during the 10-year monitoring period of planting shall be replaced like for like in the next planting season.

If hedgerows become very thin, coppicing of selected plants / laying of short lengths of hedgerow may be required and will be beneficial to promote vigorous, dense regrowth. Such works must be undertaken during the period October – February to avoid the breeding bird season.

4.9 Safeguarding

The developer (Elivia Homes) and project manager will be responsible for briefing all site personnel of the ecological sensitivities of the site and implementing the mitigation measures outlined above as well as the habitat enhancement, creation and management works. If any protected species are encountered during the construction works, it will be the responsibility of the project manager to cease works and immediately contact an ecologist for advice.

4.10 Compliance Check

A compliance visit will be completed by a suitably qualified ecologist prior to first occupation of the development site. The check will be conducted annually for the first 5 years post completion, and every 5-years thereafter until year 30. The compliance check will be carried during a suitable time of year and in suitable weather conditions. The ecologist will check all biodiversity ecological enhancements set out to assess if they have been completed and make an assessment if any recommended changes are required to management.

4.11 Management Responsibilities

Management and maintenance of the enhancement features and newly created / enhanced habitats will initially be the responsibility of Elivia Homes. They will ensure all enhancement features are installed and maintained and that management works are completed with qualified ecologists, arborists or landscape managers are contracted, where required. All management / maintenance works as described above will be secured through an appropriate Section 106 agreement for the site that will legally oblige Elivia Homes or other agreed party to carry out the works. An annual management timeline of all ecological enhancement

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

features and habitats has been provided in **Section 5.0** with the described management works set to continue in perpetuity – this should be taken as a summary of the necessary measures and should be read in conjunction with the rest of this report to provide the appropriate level of detail.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

5.0 IMPLEMENTATION PLAN

Schedule of ecological enhancement feature installation as well as habitat creation / enhancement, management and monitoring in perpetuity (for 30 years).

General Activity	Specific Activity	Dates / Timing	Description
Bats	Updated emergence surveys	Pre-commencement, May - June	• Building 3 will be subject to 3 updated emergence surveys.
	Obtain Natural England European Protected Species Licence	Pre-commencement, once Conditions 11 and 16 are approved	• A Natural England European Protected Species Licence will be obtained for the Brown Long-Eared day roost present in Building 3.
	Deliver toolbox talk and supervise building demolition	During construction phase, April – October	• Demolition of Buildings 1, 2, 3 and 9 will adhere to the below measures. • A suitably qualified ecologist will deliver a toolbox talk outlining safe working practices to minimise risk to bats during building demolition. • An updated internal and external inspection will be conducted to check for new evidence of roosting bats. • Building materials will be removed sensitively with an ecologist present.
	Installation of 1 No. mitigation bat box	Anytime, prior to building demolition	• 1 No. Vivara Pro Large Multichamber bat box will be erected onto a retained mature tree prior to demolition of building 3.
	Installation of bat bricks and boxes	Anytime, prior to site operation	• 37 No. bat bricks to be integrated into the walls of the new dwellings. • 15 No. bat boxes to be erected onto mature retained trees.
[redacted]	Updated walkover and exclusion	Anytime, pre-commencement	• An updated walkover will be conducted one month prior to commencement [redacted] • If there is no new activity, a one-way gate will be installed in the entrance [redacted]

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

			• If there is new activity, the monitoring surveys will need to be updated and a Natural England Licence may be required.
	Watching brief	Anytime, pre-commencement	• When the ecologist is satisfied that the sett is inactive and closed, the sett may be sensitively excavated under ecological supervision.
	Avoidance of harm	During the construction phase	• If any excavations are left open overnight, an earth ramp will be created or a wooden ramp installed to allow any animals that fall in to escape. • Any pipes that need to be left over night on site will be capped to avoid animals becoming trapped.
Reptiles	Installation of reptile exclusion fencing	May, prior to relocation scheme	• Reptile exclusion fencing will be erected around the boundaries of the site wherever possible to prevent reptiles moving into the construction area during works.
	Ex-situ relocation scheme	May – June	• Reptile refugia will be set out on site and 30 trapping days (minimum) will be completed with reptiles relocated to the off-site receptor at Sandgate Park. • There must 10 negative trapping days before the capture operation may end.
	Destructive search	June – September, once the relocation is finished	• Once the relocation scheme has concluded, a destructive search of areas of suitable reptile habitat on site shall take place under supervision of an ecologist.
	Receptor enhancement	Anytime, following completion of the relocation scheme	• 1 No. hibernaculum will be created in the off-site receptor area at Sandgate Park. • Trees will also be removed along the edge of the receptor to let in more sunlight and enhance the meadow at Sandgate Park for reptiles.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

GCN	Vegetation removal and destructive search	April – October, once Conditions 11 and 16 are signed off	• Prior to clearance, a toolbox talk will be delivered covering legal protection, identification and sensitive working methods for GCN. • Suitable habitat will be sensitively removed under the supervision of a suitably qualified ecologist. • Following habitat clearance, a destructive search of the affected areas will be undertaken under the supervision of a suitably qualified ecologist.
	Creation of 1 No. hibernaculum	Anytime, prior to site occupation	• 1 No. wood-based hibernaculum will be created on site.
Hazel Dormice	Obtain Natural England European Protected Species Licence	Pre-commencement, once Conditions 11 and 16 are approved	• A Natural England European Protected Species Licence will be obtained for Hazel Dormice.
	Installation of dormouse boxes	Anytime, prior to clearance works	• 10 No. dormouse boxes will be erected within the boundary woodland on site.
	Single stage clearance	Once EPSL granted, September	• Prior to clearance, a toolbox talk will be delivered covering legal protection, identification and sensitive working methods for Hazel Dormice. • Suitable habitat will be subject to a fingertip search by a suitably qualified ecologist and cleared in a single stage to ground level using hand tools.
Nesting Birds	Vegetation removal	November – February (or March – September under supervision)	• Any removal of nesting bird habitat undertaken during nesting bird season will need to be supervised by a suitably qualified ecologist with a nesting bird check completed prior to clearance. • Any active nests will be retained with a 5m buffer of vegetation.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

	Installation of bird boxes and bricks	Anytime, prior to site operation	• 10 No. nest boxes to be erected on retained mature trees • 74 No. swift bricks to be integrated into the new dwellings on site.
Rabbits	Warren excavation	Anytime, during construction phase	• Warrens will be excavated sensitively as detailed within this report to prevent killing or cruelty.
Hedgehogs	Fence gaps	During construction phase	• Garden fences within the site will also ensure at least 2 gaps are present within the gravel boards / bases of each fence line to allow for movement of Hedgehogs between gardens and into the wider area.
Habitat Retention (**Section 4.2**)	Installation of Heras fencing for protection	Anytime	• Heras fencing to be erected around the boundaries of the site to protect the retained hedgerows and woodland from being damaged during works.
Habitat Creation Wildflower Grassland (**Section 4.3**)	Creation of grassland	Ideally Autumn or Spring	• The areas of wildflower grassland will be sown with Emorsgate EM3 – Special General Purpose Mixture.
	Year 1 Management	Routinely as required	• Control annual weed growth by mowing to 50-75mm throughout the first year to minimise competition and weed seed production.
	Years 2 – 30 Management	First cut: mid to late Summer Second cut: late Autumn	• Conduct hay cut in July / August, cutting to 50-75mm • Conduct second cut in late Autumn. • Leave cuttings in situ for 1 week and then remove.
Habitat creation Modified Grassland (**Sections 4.4**)	Planting	Ideally Autumn or Spring	• Establish the grassland through laying of an appropriate turf including a mix of Perennial Rye Grass and Fescue spp.
	Year 1 Management	Routinely as required	• Control annual weed growth by regular mowing throughout the first year to minimise competition and weed seed production.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

			• If necessary, glyphosate-based weed killer can be used to spot treat any areas with dense patches of Nettles or Bramble.
	Years 2 – 30 Management	Routinely as required	• Regular mowing is expected in this area but grass should be cut no lower than 25-40mm.
Habitat Creation Pond Edge Grassland (**Section 4.5**)	Creation of grassland	Ideally Autumn or Spring	• The area of wet grassland will be sown with Emorsgate EM8 – Meadow Mixture for Wetlands.
	Year 1 Management	Routinely as required	• Control annual weed growth by mowing from mid to late Summer through to the end of Winter. • Mow to a height of 50mm. • One further mow in Spring may be required.
	Years 2 – 30 Management	Late Summer through until early Spring	• Hay cut in July / August to 50mm. • Mow throughout Autumn and Winter with a final mow in Spring if required.
Habitat Creation Native Understorey (**Section 4.6**)	Plant native shrub species	Late Autumn	• Plant at least 3 different native shrub species. • Plant in groups of 3 at 1m centres.
	Creation of ground flora	Ideally Autumn or Spring	• The woodland understorey will be sown with Emorsgate EW1 – Woodland Mixture.
	Year 1 Management	Spring and Summer	• Weed around newly planted shrubs as necessary. • Water whenever necessary during the first growing season. • Replace any dead shrubs like-for-like.
	Years 2 – 30 Management	Outside of nesting bird season i.e. November to February	• Scrub will be cut back annually as needed to ensure areas do not become overgrown. • Thinning will take place routinely every 5 years. • Different areas will be cut back / thinned on rotation to maintain a diverse age range.

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

			• Any scrub encroaching into adjacent habitats will be cut back as needed. • Bramble will be cut back as necessary to maintain a density of no more than 15%. • Any dead shrubs or areas that become sparse will be planted with new native shrubs, replacing like-for-like.
Habitat creation Individual Trees (**Sections 4.7**)	Planting	Late Autumn	• Plant native tree species. • Apply Rootgrow or Bonemeal to encourage healthy root growth. • Apply Mycorrhizal treatment to the tree roots.
	Year 1 Management	Routinely as required	• Remove weeds from a 1m exclusion zone around each newly planted tree. • Apply mulch around the base of the tree as required.
	Years 2 – 30 Management	Weeding: Years 2 and 3, monthly as required Pruning: October	• Remove weeds from a 1m exclusion zone around each newly planted tree. • The trees will be subject to light pruning as required in October to ensure that they are developing healthy growth forms (but pruning will not be extensive enough to restrict expected canopy or height for their species).
	Monitoring	Late Winter – Early Spring	• Trees will be inspected every 3 years by a suitably experienced arborist during late winter – early spring of each year when required. These monitoring visits will assess the general health of the trees and determine if any remedial action is required, including noting any presence of disease. As part of these monitoring visits, the arborist will produce a monitoring report which will be sent to the LPA outlining the results and appropriate

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

			recommendations (i.e. remedial works, removal /replacement). • Any plants that are removed, die or become seriously damaged or defective shall be replaced like for like in the next planting season.
Habitat creation Hedgerows (**Sections 4.8**)	Planting	Late Autumn	• Plant with native shrub species in double staggered rows with 5 plants per linear metre (if using bareroot stock) or 3-4 plants per linear metre (if using container grown strock).
	Years 1 - 30 Management	Winter i.e. October - February (outside of bird nesting season)	• Formal hedgerows to be clipped as necessary to maintain desired height and width. • Use hand tools and avoid the use of flails. • Allow northern boundary hedgerow to grow cutting only one side if necessary to control growth.
	Year 1 - 30 Monitoring	Late Winter – Early Spring Years 1 – 3: Annually Years 4 – 10: Bi-annually	• Hedgerows will be inspected by a suitably experienced ecologist to assess the general health of the hedgerow. • Remedial action will be taken as necessary. • Any plants that are removed, die or become seriously damaged will be replaced like-for-like in the next planting season.
Compliance check **(Section 4.10)**	Monitoring report (Ecologist)	Years 1 – 5: Annually Years 6 – 30: Every 5 years	• A report will be produced by an ecologist to provide details on all management, assessment of habitats, additional management requirements (if required), management to be carried out in the next phase and reporting on any delays • Each report will be sent to the LPA

Ecosupport Ltd K4 Keppel, Daedalus Park, Daedalus Drive, Lee-on-the-Solent, Hampshire, PO13 9FX
T: 01329 832841 info@ecosupport.co.uk www.ecosupport.co.uk

6.0 CONCLUSION

This report brings together and expands on all relevant sections of the previous ecological reports associated with the site called 'Land at Chactonbury Nursery' in Ashington and uses them to inform a site-wide Biodiversity Enhancement Strategy and Landscape and Ecological Management Plan. The key ecological constraints on site include the presence of a Brown Long-Eared day roost, foraging and commuting bats, [redacted] a low population of Slow Worms, Hazel Dormice present within the wooded boundaries, and nesting birds. All necessary mitigation and compensation measures have been described herein with extensive biodiversity enhancement measures and a prescription of the management of habitats for a period of at least 30 years also provided. This will ensure the creation and management of habitats is suitable and achieves a net gain for biodiversity with all features of ecological importance protected.

7.0 REFERENCES

ARG (2010) *Amphibian & Reptile Groups of the UK, ARG Advice Note 5, Great Crested Newt Habitat Suitability Index*, May 2010

Institute of Lighting Professionals / Bat Conservation Trust (2023) *Guidance Note 08/23 Bats and Artificial Lighting at Night.*

Batscan Ltd. (2020) *Bat Survey Report – Land & Outbuildings, Chanctonbury Nursery, Rectory Lane, Ashington, West Sussex, RH20 3AS*

Bright, P, Morris, P and Mitchell-Jones, T., (2006) *The Dormouse conservation handbook, 2nd edition, English Nature*.

Collins, J. (ed) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition). The Bat Conservation Trust, London. ISBN-978-1-7395126-0-6.

Emorsgate Seeds EM8 – Meadow Mixture for Wetlands. Available at: https://wildseed.co.uk/product/mixtures/complete-mixtures/meadow-mixtures-for-specific-soils/meadow-mixture-for-wetlands/

Emorsgate Seeds EW1 – Woodland Mixture. Available at: https://wildseed.co.uk/product/mixtures/complete-mixtures/special-habitat-mixtures/woodland-mixture/

HART (2009) Herefordshire Amphibian & Reptile Team. *Reptile Habitat Management: Guidelines for Landowners*

[redacted]

NatureSpace Partnership (2022) Horsham District Council – Impact Risk Zones. Available at: https://naturespaceuk.com/district-licensing/impact-map/

Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Chartered Institute of Ecology and Environmental Management, Ampfield.

The Ecology Co-op (2021) *Ecological Impact Assessment – Land at Chanctonbury Nursery, Rectory Lane, Ashington, RH20 3AS.*

UKHab Ltd. (2023). UK Habitat Classification – Habitat Definitions Version 2.0 (July 2023)



Legend

- Site Boundary
- Modified grassland (g4)
  Secondary habitat codes:
  - 12 scattered bracken
  - 81 ruderal or ephemeral
  - 510 bare ground
- Other Woodland; Broadleaved (w1g)
  - 12 scattered bracken
- Other Hedgerows (h2b)
- Dense Scrub (h3)
  - h3h mixed scrub
- Other Standing Water (r1g)
  - 50 ditch
- Sparsely Vegetated Land (u1f)
  - 16 tall forbs
  - 81 ruderal or ephemeral
- Developed Land; Sealed Surface (u1b)
- Buildings (u1b5)

ecosupport
K4 Keppel, Daedalus Park
Daedalus Drive
Lee on the Solent, PO13 9FX
E: info@ecosupport.co.uk
T: 01329 832 841

Map	UK Habs Map
Site	Ashington
Client	Elivia Homes
Date	03/05/2024

© This map is the copyright of Ecosupport Ltd.
Any unauthorised reproduction or usage by any person is prohibited.



Legend

- 37 No. Integrated Bat Bricks
- 15 No. Tree Mounted Bat Boxes
- 74 No. Integrated Swift Bricks
- 10 No. Tree Mounted Bird Boxes
- 10 No. Dormouse Boxes
- 1 No. Reptile / Amphibian Hibernaculum
- Enhanced Native Hedgerow
- Created Pond Edge Grassland
- Native Understorey
- Wildflower Grassland

ecosupport
K4 Keppel, Daedalus Park
Daedalus Drive
Lee on the Solent, PO13 9FX
E: info@ecosupport.co.uk
T: 01329 832 841

Map	Enhancement Plan
Site	Land at Chanctonbury Nursery, Ashington
Client	Elivia Homes
Date	03/05/2024

© This map is the copyright of Ecosupport Ltd.
Any unauthorised reproduction or usage by any person is prohibited.