



LIZARD

Landscape Design and Ecology

LANDSCAPE AND ECOLOGICAL MANAGEMENT PLAN

Penlan, Kingfield Close, Woking, Surrey

On Behalf of: Victus Homes

Planning Issue

Client:	Victus Homes			
Project:	Penlan, Kingfield Close, Woking, Surrey			
Reference:	LLD3115-ECO-REP-002-00-LEMP			
Revision:	Date:	Author	Proof	Approved
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Validity:

This report is valid for 18 months from the date of the site visit. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified ecologist to assess any changes in the habitats present on site, and to inform a review of the conclusions and recommendations made.



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1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology has been commissioned by Victus Homes to provide a Landscape and Ecological Management Plan (LEMP) for the proposed development at Penlan, Kingfield Close, Woking, Surrey (*Central Grid Reference: TQ 00702 57222 – hereafter referred to as ‘the site’*).
- 1.2 This Landscape and Ecological Management Plan report has been produced with the intention of satisfying Condition 15 of the Woking Borough Council planning decision reference: PLAN/2022/0134.

Prior of the commencement of development, hereby permitted, a Landscape and Ecological Management Plan (LEMP) should be submitted to and approved in writing by the Local Planning Authority. The LEMP should provide the LPA with evidence that the project will be in line with the NPPF and have regard for providing a biodiversity net gain. The LEMP should be based on the proposed impact avoidance, mitigation and enhancement measures specified in the above referenced report and should include, but not be limited to following:

- *Description and evaluation of features to be managed.*
- *Ecological trends and constraints on site that might influence management.*
- *Aims and objectives of management.*
- *Appropriate management options for achieving aims and objectives.*
- *Prescriptions for management actions, together with a plan of management compartments.*
- *Preparation of a work schedule (including an annual work plan capable of being rolled forward over a five-year period.*
- *Details of the body or organisation responsible for implementation of the plan*
- *Ongoing monitoring and remedial measures.*
- *Legal and funding mechanisms by which the long-term implementation of the plan will be secured by the applicant with the management body(ies) responsible for its delivery.*

- *Monitoring strategy, including details of 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.*
- *Lighting Strategy.*

Reason: To ensure the protection of wildlife and the habitat which supports it and secure opportunities for the enhancement of the nature conservation value of the site.

- 1.3 Reasonable steps to ensure the avoidance of harm to local wildlife and habitats during any vegetation clearance and installation of the proposed mitigation and enhancements shall be detailed. Victus Homes shall be responsible for appointing a suitably qualified and experienced site manager and a landscape contractor who will complete the installation of all proposed mitigation and enhancement works as detailed in this document. Future management will be the responsibility of the homeowners, upon completion of the works, who shall be provided with a copy of this report. Discretion is given to the appointed landscape contractor to deliver the management of the site in line with the aims and objectives of the plan as provided herein. If, at any point over the course of management, there is uncertainty regarding the correct prescription of the methods outlined herein, clarification should be sought from a suitably qualified ecologist or landscape architect.
- 1.4 Following this, reasoned prescriptions for habitat enhancement shall be made. With the aim of achieving the long-term ecological objectives, the Management Plan would provide detailed prescriptions for initial maintenance requirements and the long-term management of the proposed works.
- 1.5 The Landscape and Ecological Management Plan shall be read alongside the following drawing: Ecological Enhancement Plan – *LLD3115-ECO-FIG-001*.
- 1.6 The following Ecological Design Strategy and Ecological Mitigation, Enhancement and Management Plan has been prepared through reference to the following documentation:

- *Lizard Landscape Design and Ecology; Ecological Impact Assessment – LLD2798-ECO-REP-001-00;*
- *Lizard Landscape Design and Ecology; Reptile Mitigation Strategy– LLD3115-ECO-REP-003-00;*
- *Lizard Landscape Design and Ecology; Construction and Environmental Management Plan – LLD3115-ECO-REP-001-00;*
- *Lizard Landscape Design and Ecology; Arboricultural Impact Assessment – LLD2798-ARB-REP-001-00;*
- GILROYMCMAHON; *Site Plan - (PP)001*

2.0 SITE CONTEXT

Site Description

- 2.1 The site measures approximately 0.2 hectares (ha) and is comprised of a residential dwelling, modified grassland, introduced shrubs, tall ruderal vegetation, scattered trees, dense scrub and hardstanding. The site is bound along the western and northern boundaries by a public footpath. Along the eastern and southern boundaries, the site is bound by a residential property and Loop Road Recreational Ground respectively.

Surrounding Landscape

- 2.2 The wider landscape is mainly urban in the form of the suburb of Kingfield. Directly to the south and east of the site is the Loop Road Recreational Ground. Open farmland dominates the landscape further to the east and south, which begin at their closest point approximately 490 meters southeast from the site.

Development Proposals

- 2.3 The development proposals include demolishing the existing building for the provision of 3no. detached houses with associated hard and soft landscaping.

3.0 BASELINE ECOLOGICAL CONDITIONS

- 3.1 The existing site is formed of modified grassland, introduced shrubs, tall ruderal vegetation, scattered trees, dense scrub, hardstanding and the onsite building. The initial survey determined that the onsite building and hardstanding habitats were of **negligible ecological value**. The modified grassland, dense scrub, introduced shrub, tall ruderal vegetation and scattered trees were assessed as of **site level value**.
- 3.2 Flora on site was formed of common and widespread species with no rare or notable species assemblage recorded. The existing building was categorised as having '**negligible**' bat roost potential.
- 3.3 The site in general is currently well-maintained. However, some areas had been untended, and vegetation here had grown long at the time of the initial survey in June 2021. The site in general was considered to be of low ecological value. During the site visit on 18th of January 2024, it was noted that much of the dense vegetation on site had been reduced and no areas on site had been allowed to grow out and ultimately increase in ecological value. The baseline ecological conclusions drawn in 2021, therefore, will remain unchanged for the purposes of this report.

Protected Species

- 3.4 Potentially suitable habitat was identified on site for foraging and commuting bats, breeding birds, reptiles, hedgehogs and common and widespread invertebrate species.

4.0 AIMS AND OBJECTIVES

4.0.1 The aim of the LEMP has been to;

- *Ensure that during clearance of existing and provision of new soft landscaping and in the long-term operation of the scheme, the identified features of ecological interest are retained and protected;*
- *Enable discharge of Condition No.15 of planning permission in relation to this site; and*
- *Ensure all ecological enhancements within the EclA are delivered in an appropriate manner using native species.*

4.1 Objectives of the Proposals

4.1.1 The main aims and objectives of the proposed landscape scheme have been to ensure the ecological value of the site is maximised for invertebrates, reptiles, hedgehogs, bats and birds. Sensitive vegetation clearance will be carried out to avoid potential contravention of relevant legislation through disturbance, injury or death of protected species. Further to this, targeted wildlife boxes will be provided in suitable locations across the site to benefit a range of species and a sensitive lighting scheme produced and adhered to, to mitigate impacts upon local bats.

4.1.2 New planting on site will predominantly be composed of native species of known value to wildlife to provide ecological opportunities for those species that impacts were identified for. To ensure that the ecological value of the proposed habitats on site is maximised, specific enhancement and management methods have been provided.

5.0 AVOIDANCE AND MITIGATION MEASURES

5.1 The following measures shall be implemented to ensure the protection of existing ecological features on the site and to maximise the ecological value of the scheme post-construction.

Habitats

- 5.2 Standard measures will be undertaken during construction to minimise noise, vibration, dust and air pollution which may impact local garden habitats and trees.

Sensitive Lighting

- 5.3 Lighting shall be designed to comply with ILP Guidance Note 08/23: Bats and Artificial Lighting at Night where possible to allow the continued use of neighbouring habitats as a foraging and commuting resource for bats. Where nocturnal lighting is required, this should utilise features such as hoods / cowls and PIR lights, to minimise unnecessary light spill to the boundary and adjacent habitats.

Breeding birds

- 5.4 If required, the removal of suitable nesting habitat (*trees/dense scrub*) and demolition of buildings should be undertaken outside of the nesting season (*avoiding March-August inclusive*) or following inspection by a suitability qualified ecologist to ensure no active nests are present.

Reptiles

- 5.5 Clearance works will be completed in line with the Reptile Mitigation Strategy provided (Lizard Landscape Design and Ecology;2024). Scrub, grassland and ruderal vegetation, scattered trees and introduced shrubs are to be removed in mild ($\geq 10^{\circ}\text{C}$), dry weather during the active reptile season of March – October (inclusive). Vegetation within the construction zone will be cleared using hand-held tools to a height of 15cm above ground. This will be done directionally, in a north to south manner to encourage any reptiles present to move into retained offsite adjacent habitat with connectivity to other suitable habitats.
- 5.6 24-48 hours after the initial phase of de-vegetation, and immediately after a finger-tip search for reptiles by an ecologist, the remaining vegetation will be cleared in the same directional manner to no lower than 50mm using hand-held tools.

- 5.7 Following completion of the de-vegetation to near ground level, a destructive search will be undertaken in dry, mild ($\geq 10^{\circ}\text{C}$) weather under ecological supervision, again within March – October, inclusive. The ecologist will oversee the scraping back of the topsoil by a mechanical excavator using a toothed bucket. The ecologist will catch any reptiles encountered and place them offsite in appropriate habitat to the south of the site.
- 5.8 Immediately on completion of the destructive search, reptile exclusion fencing will be installed around the construction zone boundary, leaving a gap for site access to the north where no reptiles are likely to be, due to the presence of an estate road. This will ensure that no reptiles move back into the construction zone and therefore no reptiles will come to harm. The recommended fencing specification is as follows:
- Temporary 1000-gauge solid panel exclusion fencing made from hard plastic; and
 - Total height 1200mm, with 200-300mm buried into the ground; and
 - Top curl on outside of fence of 90 degrees and 50mm; and
 - Secured on timber posts to be on the inside of the fence.
- 5.9 Once the reptile fence has been installed, development works can proceed. The reptile exclusion fence will be maintained in good condition until project completion; it will be the responsibility of the site manager to ensure that the reptile fence remains in sound condition by completing daily checks and carrying out maintenance as soon as any damage is discovered, until the works are completed. On completion of all development works, the reptile exclusion fence should be carefully removed from site in the presence of a suitably qualified ecologist. This is anticipated to sufficiently mitigate potential impacts to a negligible likelihood.

Hedgehogs

- 5.10 Immediately prior to removal of any dense vegetation, it will be checked for any hedgehogs and vegetation clearance works will be conducted in a slow and sensitive manner.

6.0 COMPENSATION AND ENHANCEMENT MEASURES

6.1 The following features are proposed as compensation and enhancement measures. For location of features please refer to Figure No. 01 - Ecological Enhancement Plan.

Flowering Lawn

6.2 Grassland across the site will be seeded with a native flowering lawn seed mix that is known to withstand regular mowing; 'EL1F Wild Flowers for Lawns' from Emorsgate Seeds (or equal and approved).

Native Hedgerow

6.3 Existing boundary-line hedgerows will be reinforced to enhance ecological value whilst providing screening for the new dwellings. Hedgerows will be trimmed and shaped to a constant height and width appropriate for future growth, and which maximise foraging and breeding resources for birds, bats and invertebrates. Beech (*Fagus sylvatica*) has been prescribed for hedgerow planting within the Site Plan ((PP)001, GILROYMCMAHON).

Native Trees

6.4 The aim is to establish individual trees appropriate to their location. Individual feature trees should be maintained to ensure regular form and formal appearance and to enhance key features such as leaf colour, flowers and fruits. Suitable varieties include:

- Cherry (*Prunus sp.*);
- Rowan (*Sorbus aucuparia*);
- Birch (*Betula sp.*);
- Willow sp. (*Salix sp.*).

6.5 Individual trees which help to make up tree belts and tree clumps should be monitored to ensure growth does not impede other trees whilst encouraging canopies to thicken and help provide screening for residents, and habitat for foraging and breeding birds, bats and invertebrates.

Native Shrubs

6.6 The aim is to establish native shrub cover to provide adequate enclosure and shelter, visual interest and provide habitat for the foraging and breeding of birds, bats and invertebrates. Suitable species include:

- English Lavender (*Lavandula angustifolia*)
- Rosemary (*Salvia Rosmarinus*)
- Primrose (*Primula vulgaris*)
- Spiked Speedwell (*Veronica spicata*)

Log Pile

6.7 A log pile will provide a source of decaying material to provide an important foraging and breeding resource for invertebrates such as stag beetles. These areas will also provide hibernation opportunities for reptiles and amphibians. Log piles should feature partially buried vertical logs as well as nearby signage to alert the new residents to the significance of the ecological value of the log piles.

Hedgehog Tunnels

6.8 Holes in close board fencing will enable hedgehogs to pass freely through the site and across the wider area.

Bird Boxes

6.9 As detailed in *BS 42021:2022 Integral nest boxes* (BSI, 2022), integral nest boxes should be installed in all new developments. These should be installed within the new buildings, whilst avoiding areas that are exposed to extended periods of direct sunlight, prevailing weather conditions or near areas which could put any nesting birds at risk of predation by avian predators, cats, rats and squirrels. These could be installed at gable ends, under eaves and / or into walls and at the highest possible height. Guidance states that new residential developments should have a number of integral nest boxes at least equal to the number of dwellings (i.e., a number of integral nest boxes equivalent to the number of units proposed).

- 6.10 A total of 2no. bird boxes (3no. nesting areas), provided by BirdBrickHouses Ltd will be installed on the new dwellings. BirdBrickHouses Ltd offer mesh fronted boxes that are compatible with rendered or cladded home design. Boxes should be at least 3 meters from the ground, avoiding the southern aspect. Plot 1 will feature a mesh fronted sparrow terrace (Code MFSPTER) located on the northern gable end of the new dwelling. The sparrow terrace features 2no. separate nesting compartments. Plot 2 will feature a mesh fronted swift box (Code MFSW) located on the northern gable end of the new dwelling. Deviation from the named bird box designs should be agreed with the project ecologist. Please see Figure No. 01 – Ecological Enhancement Plan.

Bat Boxes

- 6.11 1no. mesh fronted bat box from BirdBrickHouses Ltd will be installed within the southern gable end of the dwelling in plot 2. BirdBrickHouses Ltd offer mesh fronted boxes that are compatible with rendered or cladded home design. 1no. Elisa Bat Box will be fitted to the southern aspect of the retained mature tree at the southern corner of plot 3. Bat boxes should be installed at a minimum height of 3.0m. Please see Figure No. 01 – Ecological Enhancement Plan.

Invertebrate boxes

- 6.12 Invertebrate boxes suitable for a range of species will be installed in undisturbed corners of the site to create new habitat.

5.0 MANAGEMENT PRESCRIPTIONS

- 5.1 In order to ensure the long-term viability of the ecological mitigation and enhancement measures outlined above, detailed prescriptions for initial maintenance requirements and long-term management are provided within this section.

5.1 Flowering Lawn

Ground preparation and sowing

- 5.1.1 The ground shall be cleared of all weeds and vegetation and cultivated to a fine tilth prior to sowing. Autumn (August – October) is the best time to sow but spring (March – April) is also acceptable. The seed shall be sown at a rate of 1.5 grams / m² (as specified by the manufacturer). Bulk up the seed with an inert carrier such as sand to make distribution easier. The seed must be surface sown and can be applied by machine or broadcast by hand. Rolling is not usually necessary.

Cutting

- 5.1.2 All debris, litter and large stones over 25mm diameter to be removed prior to cutting. Grass shall be cut during the growing season (generally April-October) using a suitable mower to a height of 50mm. Grass will be cut at intervals of not more than 10-14 days depending on growing conditions, with one cut every 2-4 weeks between May and July to allow forbs to flower. The final cut of the season shall be down to c. 20mm to create a tight lawn. Spike annually in October to increase aeration. Arisings shall be collected and removed from the area after each cut.

Weed Removal

- 5.1.3 The sward shall be maintained weed free by hand pulling as appropriate.

Rectification of Defects

- 5.1.4 Should bare patches of grass develop, area is to be cultivated to 150mm and then seeded with flowering lawn mix to be cross-sown in two directions at right angles to each other, (half the seed being used in each direction) at the rate of 35 gm per square meter and the ground lightly raked over on a still dry day when the top 25mm of soil is dry.

5.2 Native Trees, Shrubs and Hedges

- 5.2.1 Planting pits shall be excavated to a depth and size that contains the plant's root system and allows the collar of the plant (*the mark on the tree where it has been growing above ground*) to be level with the top of the soil. The soil shall be carefully backfilled in layers, ensuring the plant is held upright.

Watering

- 5.2.2 All plants shall be watered as may be required to maintain healthy growth following planting, during the maintenance period and subsequently in cases of extreme drought (Trees – 5Ltr's per tree, Shrubs 1Ltr each, Grass 5Ltr's/m²). Watering to commence following 10 consecutive days of no rainfall, during the months of June to August.

Pruning / Trimming – Ongoing

- 5.2.3 Pruning and trimming of trees, shrubs and hedgerows should occur outside of the bird breeding season (*nesting season: March – August inclusive*). Trees and shrubs should be checked bi-annually for shape, form and size, and pruned accordingly whilst they are still in leaf. Hedges should be cut in alternate years, if possible, to allow individuals to flower and fruit on the previous year's growth. Pruning of hedgerows should be carried out in such a way to achieve a dense hedgerow.

Weeding

- 5.2.4 Areas around the new plants should be kept clear of weeds to allow the plants to establish by weeding twice a year in the Spring and Autumn. Any litter or debris should be removed as soon as it is found.

5.3 Bird and Bat Boxes

Maintenance – Long Term

- 5.3.5 The bat and bird boxes specified above do not require any cleaning. A visual inspection should be carried out annually to ensure the boxes are secure and entrance holes are clear of debris. If required, some models of integrated bird boxes can be cleared of old nesting material at the end of the nesting season (*September – October*) and any parasites removed using boiling water; the use of any detergents etc should be avoided (please consult bird box supplier). Only a suitably qualified ecologist may remove, relocate or otherwise disturb the bat boxes for any reason.

5.4 Log Piles

Creation and Maintenance

- 5.4.1 A log pile can be of any size and constructed from piling logs up horizontally. Log piles can be created using any type of wood, although it would be advantageous to utilise arisings from site clearance. Log piles should require no maintenance, but an annual visual check should be carried out to make sure it is intact.

5.5 Hedgehog Tunnels

Proposal

- 5.5.1 It is recommended that hedgehog tunnels are used to maintain connectivity through any new secure fencing proposed in the scheme.

Creation and Maintenance

- 5.5.2 Holes are to be cut at the base of fences to provide connectivity throughout the site. These should be 13 x 13 cm and can be marked using a 'Hedgehog Highway' sign (*available from www.hedgehogstreet.org*) to ensure residents are aware of them. These hedgehog tunnels should be kept open and free from vegetation. Alternatively, ready-made hedgehog-friendly gravel boards are available from numerous suppliers.

5.6 Invertebrate boxes

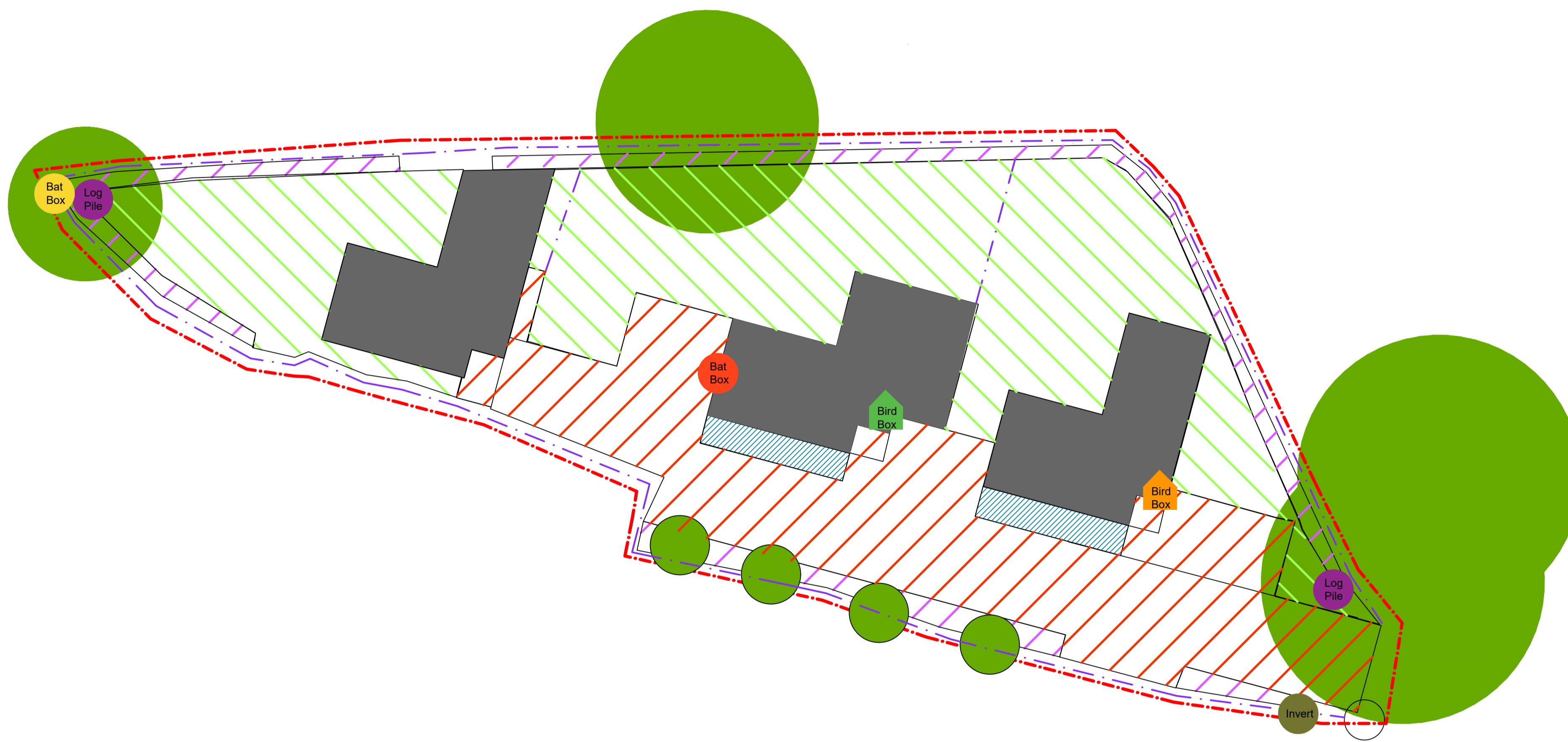
Maintenance

- 5.6.2 Little maintenance is required. A bi-annual inspection should check to ensure the boxes are still intact and replace if this is not the case.

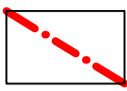
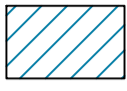
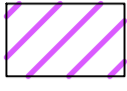
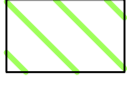
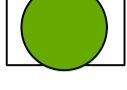


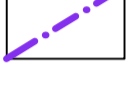



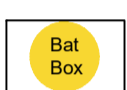
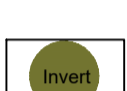

6.0 IMPLEMENTATION SCHEDULE

Table No. 01 – Maintenance Summary

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
FLOWERING LAWN												
Mowing				X	X	X	X	X	X	X		
Weed Control					X					X		
Spiking										X		
NATIVE TREES, SHRUBS & HEDGING												
Watering (as required)				X	X	X	X	X	X	X		
Pruning			X									
Check Ties / Stakes (1st yr.)				X						X		
Replace Losses											X	
Maintain 500mm dia. clear base				X		X		X				
Weeding					X				X			
BIRD AND BAT BOXES												
Cleaning (bird boxes) if required										X		
Check condition											X	
LOG PILES												
Check Integrity			X									
Re-stock if needed			X									
HEDGEHOG TUNNELS												
Check Integrity			X					X				
INVERTEBRATE BOXES												
Check Integrity			X									



Legend

-  Site Boundary
-  Native Shrub Planting
-  Proposed Beech Hedgerow
-  Proposed Flowering Lawn
-  Existing Trees to be Retained
-  Proposed Buildings
-  Proposed Hardstanding
-  Fencing with Inbuilt Hedgehog Holes
-  Proposed Bird Box
Product: Mesh fronted sparrow terrace
Supplier: BirdBrickHouses
-  Proposed Bird Box
Product: Mesh fronted swift box
Supplier: BirdBrickHouses
-  Proposed Bat Box
Product: Mesh fronted bat box
Supplier: BirdBrickHouses
-  Proposed Bat Box
Product: Elisa Bat box
Supplier: NHBS.com
-  Proposed Insect hotel
-  Proposed Log Pile

*Notes: The original of this drawing was produced in colour - a monochrome copy should not be relied upon.
Habitat areas are indicative and for information only - please do not scale from this drawing.*

Planning Issue

Rev	Description	Date	Initials
00	Planning Issue	31.01.24	SH



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<i>Client</i> Victus Homes			
<i>Project Title and Location</i> Penlan Kingfield Close, Woking			
<i>Drawing Title</i> Figure No.1 - Ecological Enhancement Plan			
<i>Scale</i> 1:200 @ A1	<i>Drawn</i> SH	<i>Approved</i> LB	<i>Date</i> 31.01.24
<i>Drawing No</i> LLD3115-ECO-FIG-002	<i>Revision</i> 00		

Figure No.1 - Ecological Enhancement Plan
Penlan, Kingfield Close, Woking

