



**13A Walden Road, Swards End, CB10 2LF**

**Biodiversity Enhancement Layout Plan**



**September 2022**



Client	Mr Chris Anderson
Job title	13A Walden Road, Swards End
Job number	0427
Date	16/09/22

	Name	Position	Date
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### **Declaration of compliance**

The information we have provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

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# 1. Introduction

## 1.1 Aims of Study

Denny Ecology was commissioned in September 2022 to write a Biodiversity Enhancement Layout Plan for the development of a new dwelling, garage and associated landscaping and access, known as 13A Walden Road (from hereon referred to as 'the Site').

Precautionary and enhancement measures with respect to ecology have been recommended within the Preliminary Ecological Assessment (PEA) report (Denny Ecology 2022<sup>1</sup>). These recommendations have been secured by way of Planning Condition 4 to minimise harm to protected species and to ensure a biodiversity net gain is achieved in accordance with the adopted Uttlesford Local Plan Policies GEN7, ENV8, and the National Planning Policy Framework (2021). So that all ecology information is available in one place, this plan also includes the relevant sections of the PEA report pertaining to mitigation and protection work required.

This Biodiversity Enhancement Layout Plan has been produced to fulfill the requirements of the Planning Conditions 4 & 5, worded thus:

2. *All ecological mitigation and enhancement measures and/or works shall be carried out in accordance with the details contained in the Preliminary Ecological Appraisal Report (Denny Ecology, June 2022), as already submitted with the planning application and agreed in principle with the local planning authority prior to determination. This may include the appointment of an appropriately competent person e.g. an ecological clerk of works (ECoW) to provide on-site ecological expertise during construction. Thereafter, the appointed person shall undertake all activities, and works shall be carried out, in accordance with the approved details. The enhancement measures and/or works shall be carried out strictly in accordance with the approved details and shall be maintained as such in perpetuity.*
3. *Prior to slab level, a Biodiversity Enhancement Layout, providing the finalised details and locations of the enhancement measures contained within the Preliminary Ecological Appraisal Report (Denny Ecology, June 2022) shall be submitted to and approved in writing by the local planning authority. Thereafter, the enhancement measures shall be implemented in accordance with the approved details and shall be retained in that manner in perpetuity.*

The plan is structured into two main sections. The first, detailing the requirements with respect to avoiding harm to valued biodiversity features during the construction and operational phases of the project, compliant with Condition 4. The second, detailing the requirements with respect to creating new, and enhancing existing, biodiversity features to provide enhancement, compliant with Condition 5.

If the plan is fully implemented, there are likely to be no impacts on protected or notable species during works, and it is likely to result in an overall biodiversity net gain.

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<sup>1</sup> Denny Ecology 2022. 13A Walden Road, Swards End, CB10 2LF. Preliminary Ecological Appraisal Report. July 2022

## **2. Mitigation measures and working practises for protection of features of existing ecological value**

This section details mitigation measures that will be implemented to ensure existing features of ecological value on the site are adequately protected during the site clearance and construction phases of the development.

A poster has been included in Appendix A, which summarises the protection measures for wildlife that are relevant during site clearance and construction. This will be displayed in the site compound and all contractors made aware of the information.

### **Bats**

No evidence of bat presence, or potential roosting features, was found on the Site, but it is likely that a small number of common bats make some use of the western hedgerow for foraging and commuting. Consideration has therefore been given to the design of external lighting, which may be introduced as part of the redevelopment of the site, to ensure impacts on bats are avoided.

- 1. If external lights are required during the operational phase, only illuminating areas that require it will be illuminated. Lighting will be positioned and designed follow these key parameters to minimise impacts on bats:**
  - **space lights as widely as possible;**
  - **keep height of lighting columns as low as possible – low level bollard lights are best;**
  - **keep light spread below the horizontal, using cowls or other shielding devices as well as directional beams;**
  - **white light from LEDs is usually produced by emitting a combination of different wavelength colours - if possible, use narrow spectrum lamps emitting a peak higher than 550nm;**
  - **keep brightness as low as possible and below 3 lux (1 lux preferable) at ground level;**
  - **limit the illumination times by using movement sensors on a 1-minute timer.**
  - **Keep lights from illuminating existing and new hedgerows and bat roosting features.**

### **Nesting birds**

All wild birds, their nests, eggs and dependent young are protected from destruction, killing and injury. There is potential for birds to nest within the western hedgerow.

- 2. Pruning of the western boundary should be undertaken outside March to August inclusive (the nesting bird season). If this is not possible, a nesting bird check is recommended within 24 hours prior to pruning work being undertaken to ensure nesting birds are not present.**
- 3. To prevent risk of damaging active nests, during works the western boundary**

hedgerow will be protected using standard tree protection measures, in compliance with British Standards (BS5837-2012). This will also ensure the trees and shrubs to be retained are protected from damage.

### **Great crested newts and reptiles**

As discussed above, it is unlikely that GCNs or reptiles make regular use of the Site. However, they may occasionally disperse across the Site, and we recommend that precautionary measures be undertaken during clearance of the Site, and during construction.

4. **There is a small area of sunken brickwork (the existing foundations - see photo 1 in the PEA report) within the grass and some building supplies on the hardstanding (see photo 3 of the PEA report), which should be removed or checked for GCNs by hand before work commences, and other areas should be checked for potential features that could be used by GCNs (e.g. cracks and fissure in the ground) prior to work commencing. A suitably qualified ecologist should undertake all such checks.**
5. **The grassland is currently managed through frequent mowing, and this mowing should be continued until works commence to deter use by GCNs and reptiles. Should the mowing lapse, grass should be cut to 15cm height between 24-48 hours prior to work commencing to encourage any animals using the taller grassland to disperse away.**
6. **During construction, materials, such as brick stacks, should only be left overnight if they are raised on pallets and placed on top of plastic sheeting, so that newts and reptiles don't crawl into gaps between the bricks.**

### **Hedgehogs and badgers**

The survey found no evidence of hedgehogs or badgers using the Site, but given the suitable hedgehog habitat and the frequent records of the species in the local area, and the potential presence of badgers in the area, we recommend the following:

- **During work, any pits left overnight should either be covered or boarding should be placed to allow an escape route for any animals falling in.**

### **Trees and hedgerows**

Native trees and a hedgerow are present on the Site and these are to be retained.

7. **To ensure these are not damaged during site clearance and the construction phase, an adequate root protection zone will be calculated before site clearance commences, and will be protected using standard tree protection methods. This will be applied along the length of the hedgerow.**
8. **Oil, bitumen, concrete, cement or other materials likely to cause damage to the hedgerow will not be stacked or discharged within 10m of the hedgerow or within the root protection zone.**

### 3. Ecological Enhancements

#### Ecologist supervision / Site visits

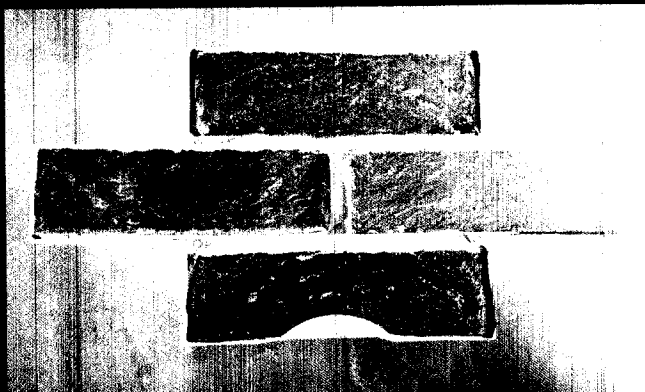
An Ecologist will visit site on completion of the construction phase to make an assessment of the incorporation of ecological enhancement features and ensure that they have been installed correctly.

There are opportunities for the new development to provide enhancement specifically for bats in line with the NPPF (2019). This will be achieved through the creation of the planned bog garden and wildflower meadow, the planting of native trees, the installation of hedgehog nesting boxes and features and access holes in fence panels, and the installation of dedicated bat roosting features within the fabric of the new garage. Three new integrated roosting features are proposed for the garage (either Habibat or Ibstock) to be faced with the chosen wall brick and mounted on the east, south and west elevations, with locations shown in the architects plans for the double garage (P-03 Rev B).

#### Bats

There was no evidence of bats using the building for roosting. However, gaps in the brickwork, which will be lost during the building conversion, support some low bat roost potential. The addition of three bespoke bat boxes, sited in suitable locations/aspects, will not only provide compensation for the loss of cracked brickwork, but also deliver a valuable net ecological enhancement.

1. **Three integrated bat boxes will be installed on the garage/home office building, in the locations shown in Appendix 2: one each near the apex of the east and west elevations, and one near eaves height in the centre of the southern elevation. These will be bespoke boxes built into the cavity walls, (e.g. Habibat or Ibstock) to be faced with the chosen wall brick. An example (before and after installation) of such a box used for a recent project is shown here:**





## Birds

House sparrows *Passer domesticus* (Red List, declining species) are known to occur in the local area, and the converted building and surrounding hedgerows, gardens and farmland will provide ideal breeding habitat for the species.

2. **Two wall-mounted sparrow nest boxes will be installed on east and west gable end walls of the garage/home office building, in the locations shown in Appendix 2. The following type will be used:**
  - **2x Eco Sparrow Tower:** <https://www.nhbs.com/eco-sparrow-tower>

## Hedgehogs, amphibians and reptiles

The new garden will provide ideal foraging habitat for hedgehogs.

A new bog garden and wildflower meadow area is to be created within the new garden (see Soft Landscaping Scheme in Appendix 1 for details). These will provide habitat suitable for amphibians and reptiles and enhance the Site for these species.

3. **A hedgehog nesting feature will be installed within the new garden, in the northeast corner (as shown in Appendix 1), where it will be least disturbed. The box should be either of the following:**
  - **HH7 Hogilo Hedgehog / Mammal House:**  
<https://www.nhbs.com/search?q=hedgehog+box&qtview=182807>
  - **Wooden Hedgehog Nest Box:**  
<https://www.nhbs.com/search?q=hedgehog+box&qtview=162120>
4. **New closed fenced boundaries will include hedgehog access holes (5 in total) at the base to allow continued use of the Site (see Appendix 1 for location details). These will be squares or arches measuring at least 13cm x 13cm;**
5. **Three hedgehog nesting and hibernation features will be created on edge of bog garden by stacking logs and brash (see Appendix 1 for location details).**



## **Garden landscaping**

The wildflower meadow will be sown with EM2 mixture from Emorsgate Seeds in the area marked in Appendix 1. This can be sown in early spring or autumn (ideally autumn). During sward establishment in the first year of growth, this area will be regularly mown to ensure persistent annuals, such as thistles and docks, are discouraged. From the second year onwards, the area will be managed as a traditional wildflower meadow, with a single cut in September and continued cutting thereafter through the remaining growing season (with the option for an early spring cut in March). Any arisings will be removed to reduce nutrient input to soil in this area. These arisings will be stacked within a dedicated open compost area, providing suitable habitat for grass snakes, amphibians and other animals.

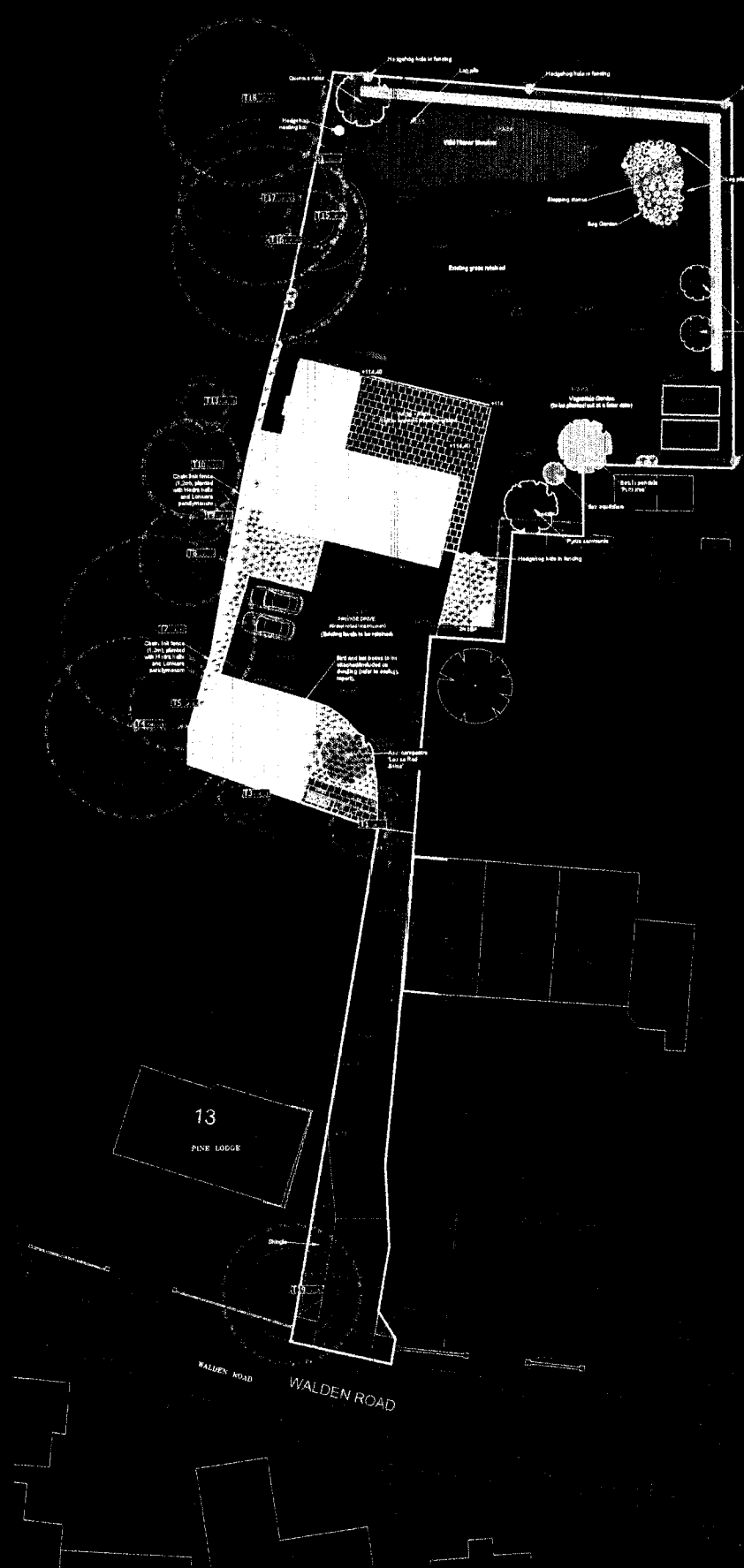
A new bog garden feature will be created as a biodiversity enhancement feature. Details on how this will be created and planted are provided in the Soft Landscaping Scheme (Appendix1).

Appendix 1 shows that new native species hedgerow will be planted along the north boundary and part of the eastern boundary, comprising mainly hornbeam (see Appendix 1 for full planting details). New native tree species will be planted within the garden, including an oak and two local variety fruiting plum trees. It is recommended that the hedgerow be cut in the winter on a two-year, or up to seven-year, rotation to allow any fruit to be available as a winter food resource for animals and overwintering insects to survive in alternate years.

New soft landscaping areas around the driveway will include species known to attract pollinating invertebrates, such as hebe and lavandula, and will provide additional new wildlife value to the Site. A full planting list for the bog garden, the formal garden beds and hedgerows are given in the soft landscaping scheme layout (Appendix 1).

Slug pellets and other insecticides should not be used in the garden as these can kill hedgehogs and other animals, which themselves provide natural pest control.

**Appendix 1: Soft Landscaping Scheme showing locations of biodiversity enhancement habitats and features**



**Plant Selection**

Check selection of Planting - both size, height and planting depth can be located locally or nationally. A list of soil should be considered.

**Planting**

**General Preparation:** Where existing hard paving is to be removed to make room for planting, it must be ensured that all foreign aggregate materials are removed to a depth of at least 150mm.

Following the removal of the former tree stumps, a high quality, organic loam soil should be used to level the ground.

A weed matting membrane must then be installed over the planting bed. Once planted out, this should be covered with 50mm of mulch.

**Planting:** Cut a 'T' shaped pit into the weed matting membrane (if present). Dig a square hole 150mm wider than the pot/containers hole, and approximately the same depth as the container. Force the plant in so the hole making sure the root collar is at the proposed surface level. Adjust depth as required. Backfill the hole, ensuring that the soil horizons are in a back in roughly order that they were encountered.

The soil around the new plants/must be irrigated to saturation point within 1 hour of planting.

**Special Protection:** Newly planted trees should be supported with 2 wooden stakes and rubber or resistant plastic tieing with, and at a distance of 100-200mm from the trunk stem.

Around the base of a newly planted tree a 50mm deep layer of mulch should be spread. This should extend 100mm from the base of the tree.

If grass surrounds the base of the newly planted tree, rubber mulch should be installed around the base of the tree's stem.

**Watering:** It is advised that for the next 2 weeks following planting, each plant will be watered between 3 times to 5 times per week, during the summer months.

It is recommended that newly planted trees receive supplemental irrigation for the next 2 weeks. Irrigation will need to occur every 3-5 days, during the summer months.

**Light:** Ligna Consultancy recommends the use of a 75% shade cloth to help to reduce the frequency of watering.

**Bag Garden**

After marking out the footprint of the bag garden remove the soil and self-leveling to one side by one layer. Excavate to 100mm.

Lay a 50mm sand layer in the hole and make a small 20mm long indentation every 200mm.

Apply a 20mm layer of 20/40 washed gravel, and then return the excavated soil to the hole. Self-level first. Water the soil thoroughly.

Leave the soil to settle for about a week before planting in.

**Site Information**

Site: 13A Walden Road  
 Client: John Anderson  
 Site: Soft Landscaping Scheme  
 Project: P2251-04-001 V2 20/09/2022  
 1:200 - A1 B. Walker  
 Proposed Site Plan

**Ligna Consultancy**

**Shrubs**

Ref.	Species	Size	Type	Quantity
BuDa	Buddleia di Asia 'Nanho Blue'	2-5L Pot	P.st	1
ChHy	Chrysa hydrifolia	2-5L Pot	P.st	47
ChT	Chrysa ternata	2-5L Pot	P.st	3
EuCG	Eucomyrus fortunei 'Canada Gold'	2-5L Pot	P.st	27
EuCG	Eucomyrus fortunei 'Emerald Gem'	2-5L Pot	P.st	33
HeBa	Hebe 'Sunny Morn'	2-5L Pot	P.st	19
HeBa	Hebe rakaiensis	2-5L Pot	P.st	52
Hh	Hebe hillebrandii	2-5L Pot	P.st	34
HyH	Hypericum 'Midcote'	2-5L Pot	P.st	4
LA	Lavandula angustifolia 'Midcote'	2-5L Pot	P.st	70
LoP	Lonicera periclymenum	2-5L Pot	P.st	15
Op	Origanum onites 'Kotányi'	2-5L Pot	P.st	19
RiS	Ribes sanguineum	2-5L Pot	P.st	5
SaH	Sarcococca humilis	2-5L Pot	P.st	3
Vi	Vincetoxicum 'Iris Gertrude Jekyll'	2-5L Pot	P.st	20
ViDa	Viburnum davidii	2-5L Pot	P.st	3
ViDo	Viburnum opulus 'Roseum'	2-5L Pot	P.st	3

**Bag Garden**

Ref.	Species	Size	Type	Quantity
Csp	Caltha palustris	2-5L Pot	P.st	6
DiP	Diarrhea pallida	2-5L Pot	P.st	1
FmM	Fritillaria meleagris	2-5L Pot	P.st	6
HoP	Hosta plantaginea	2-5L Pot	P.st	3
Irf	Iris sibirica	2-5L Pot	P.st	5
Irf	Iris x roborata 'Gerard Darby'	2-5L Pot	P.st	8
Lip	Lilium 'Przewalskii'	2-5L Pot	P.st	4
Lf	Lilium 'Mrs. G. C. Sargent'	2-5L Pot	P.st	6
Lys	Lysichiton albertinum	2-5L Pot	P.st	4
Md	Muscicapa scoropoides	2-5L Pot	P.st	6
PrPu	Primula pulverulenta	2-5L Pot	P.st	6
PrP	Primula prostrata	2-5L Pot	P.st	7
RhM	Rhodiola maritima	2-5L Pot	P.st	1
StP	Stachys palustris	2-5L Pot	P.st	5
Tr	Trollius x cultorum 'Alabaster'	2-5L Pot	P.st	10

**Hedging**

Ref.	Species	Size	Type	Quantity
	Hornbeam Hedging - (80% Carpinus betulus, 10% Prunus padus)	60-90cm whips	Whips planted in double staggered rows, 5p/m	265

**Trees**

Ref.	Species	Size	Type	Quantity
	Acer campestre 'Louis Red Shine'	3-3.5m, 12-14cm girth	35L Container / Bare root	1
	Betula pendula 'Purpurea'	3-3.5m, 12-14cm girth	35L Container / Bare root	1
	Ilex aquifolium	1m	Bare root	1
	Prunus domestica	1.5m	Cork liner / Bare root	2
	Pyrus communis	1.5m	Cork liner / Bare root	1
	Quercus robur	3-3.5m, 12-14cm girth	35L Container / Bare root	1

**Other**

Ref.	Species	Size	Type	Quantity
	Patches in existing grass to be seeded (Mixed lawn grass variety)		Seed	required
	Native wildflower meadow mixture EM2 from Emongata seeds.		Seed	106 m2

**Appendix 2: Locations for bird and bat box locations on the proposed Garage – Home Office building elevation plans**