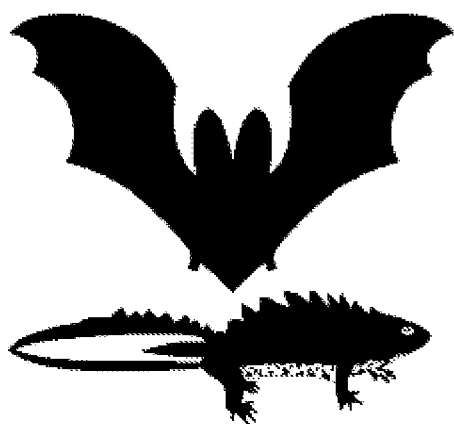




AEWC Ltd

Animal Ecology & Wildlife Consultants

Ecological Enhancement Plan

Windmill Views (formerly Angels Nursery)

**Yapton Road
Barnham
West Sussex
PO22 0AX**

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**16-005-EEP
January 2021**

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The information and data which has been prepared and provided is true and has been prepared and provided in accordance with the 'Guidelines for Preliminary Ecological Appraisal' and 'Code of Professional Conduct' issued by the Chartered Institute of Ecology and Environmental Management (CIEEM). We confirm that the opinions expressed are our true and professional bona fide opinions.

1. Introduction

- 1.1 AEWCLtd were commissioned by Redrow Homes Limited to produce an Ecological Enhancement Plan (EEP) for a site at Windmill Views (formerly Angels Nursery), Yapton Road, Barnham, Bognor Regis, PO22 0AX at grid reference SU 963 041 to help satisfy the ecological conditions for the site.
- 1.2 Surveys carried out on site previously, by a number of ecological consultancies, have identified the presence of common reptiles, nesting birds and bats present on the site. An exclusion fence was installed previously, and reptile translocation carried out to an agreed receptor site. Destructive search of the buildings under EPS licence and ecological supervision was carried out for the confirmed bat roost and two bat boxes installed on site as compensation.

Site Location

- 1.3 The development site is located at the former Angels Nursery, Yapton Road, Barnham, Bognor Regis, PO22 0AX at grid reference SU 963 041. The site is located in a semi-rural setting on the south side of the B2233 toward Yapton. See Figure 1.

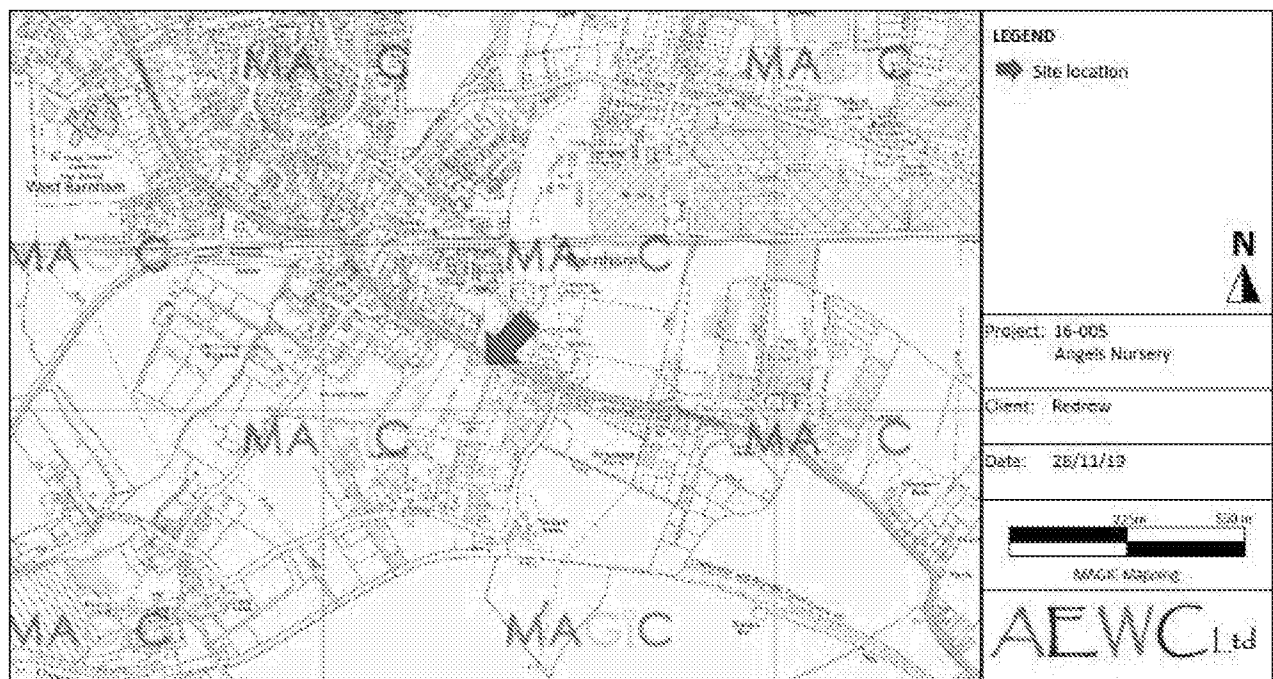


FIGURE 1: SHOWING THE LOCATION OF THE SITE

Proposed development

- 1.4 A development of 95 dwellings together with access, landscaping open space & associated works was granted planning permission for the site by Arun District Council. The project passed over to Redrow Homes Limited from West Sussex District Council in 2019. See Figure 2.

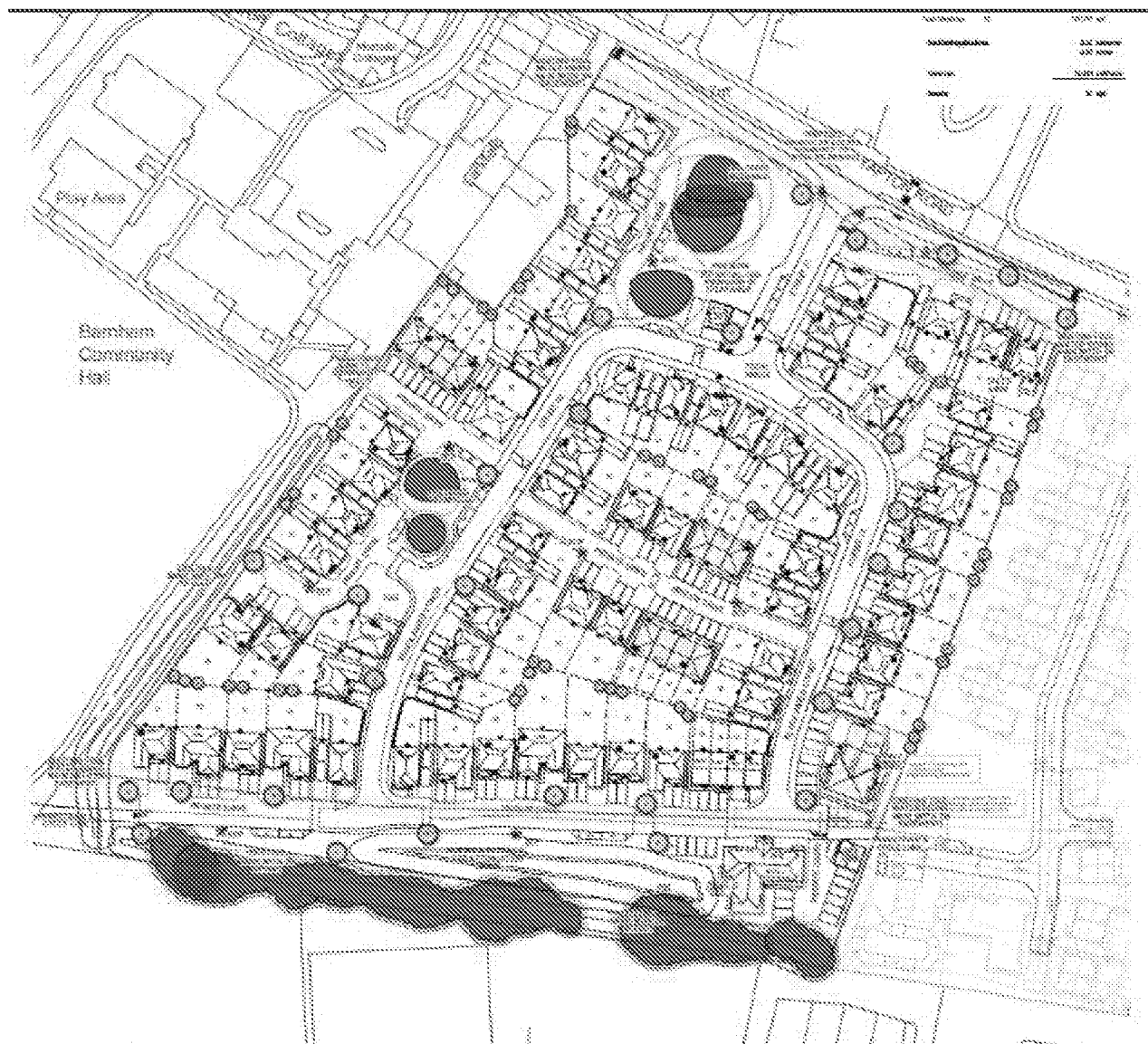


FIGURE 2: PROPOSED OUTLINE DEVELOPMENT

2 Ecological Enhancement Plan

- 2.1 In order to provide the background for providing advice on appropriate ecological enhancements given in this EEP the findings of the Phase 1, bat survey and reptile survey method statements are taken into account.
- 2.2 Habitat or species-specific recommendations are given in **bold** below. Ecological enhancements and proposed locations of features are illustrated in Figure 4.

Habitat Protection and Enhancement

General

- 2.3 In order to enhance the habitat for wildlife, the **planting schemes for the proposed development will use native species or species with known benefit to wildlife** wherever possible.
- 2.4 In line with best practice, **the use of peat in composts or topsoil will be avoided.**
- 2.5 **Vegetation or tree removal must be undertaken outside the breeding bird period from March to August.** Should any vegetation clearance be scheduled to take place between the beginning of March and the end of August, this must be immediately preceded by a survey to check for nesting birds. No vegetation can be cleared whilst a nest is occupied, regardless of species.
- 2.6 Good building practice must be adhered to throughout works.

Hedgerows and trees

- 2.7 A number of trees are being retained across the site within designated amenity spaces. Additionally, the tree and hedge line to the south of the site is also to be retained.
- 2.8 The proposed outline development includes significant tree planting across the site. **All trees to be planted must be of native species**, with a range of species chosen for suitability within the chosen planting areas.
- 2.9 **The retained trees, retained hedgerow and newly planted trees will all be protected from the works** area with Heras fencing or similar in line with the tree protection zones. The fence will remain until the completion of all construction works and will be in line with BS 5837:12 to ensure all root protection zones are adequately protected.

Grassland

- 2.10 The **grassland will be retained in the area of the proposed relocated footpath rather than this being surfaced with hard standing.**

Species Enhancement

Reptiles and amphibians

- 2.11 To enhance the site for reptiles and amphibians a ‘hibernaculum’ will be created in a sunny corner in the south of the site. This will use materials such as logs, inert hardcore, bricks or building rubble to form the body of each hibernaculum, ensuring that materials likely to decompose are not placed beneath bricks or rubble to avoid collapse. Woodchips or soil may be incorporated to fill some of the larger cavities within the structure.

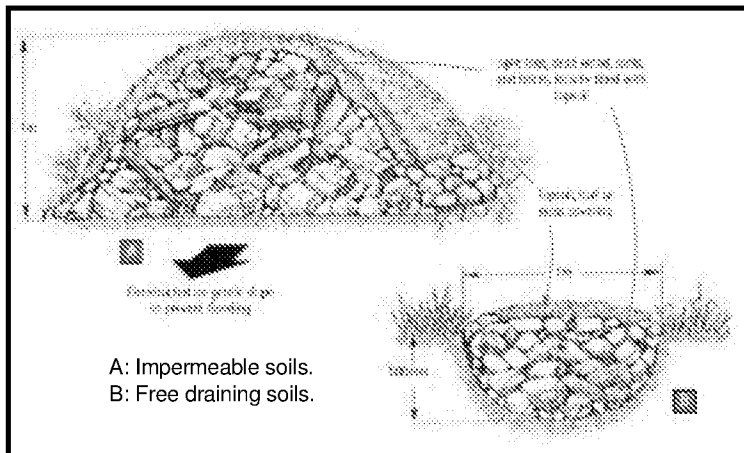
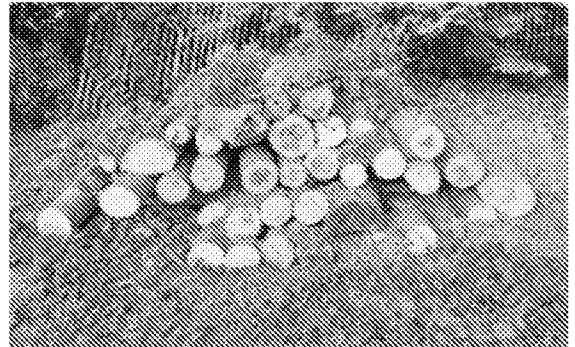
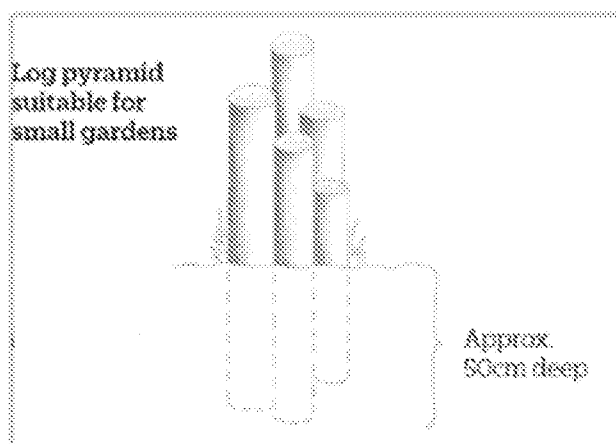


Diagram from Great Crested Newt Conservation Handbook



Stag Beetles

- 2.12 A log stack will be created in a discrete corner in the south of the site to provide dead wood habitat features for stag beetle and other species.
- 2.13 A suitable log pile comprises of a variety of lengths of hard wood at least 5cm in diameter, this should be sited in partial shade and the wood partially buried to prevent it drying out. See below diagram and picture below from the PTES ‘how to build a loggery’ factsheet, (<https://ptes.org/get-involved/wildlife-action/help-stag-beetles/>)



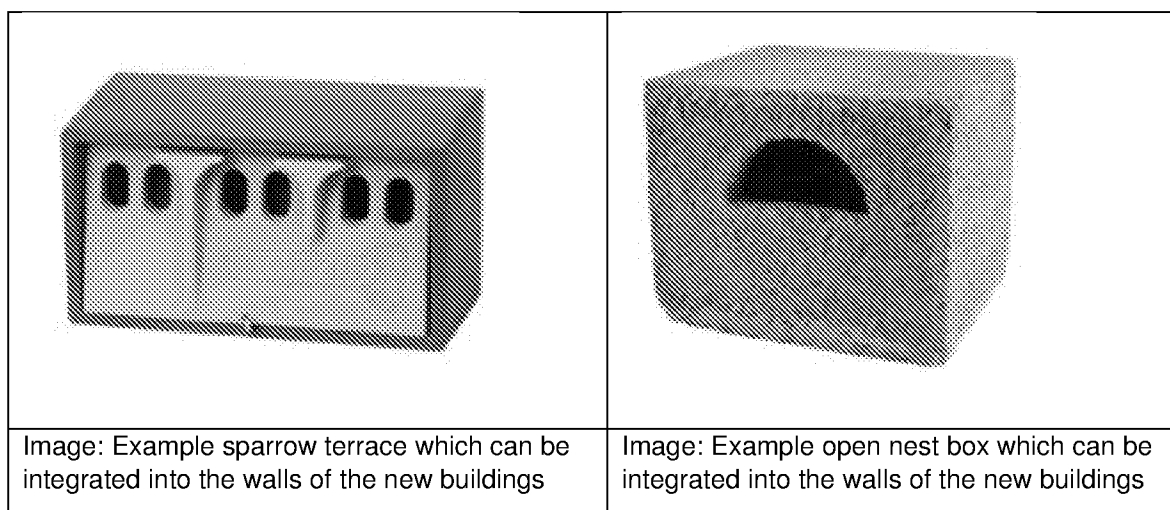
Birds

2.14 Appropriate bird boxes will be installed on site.

2.15 A minimum of 15 small bird nest boxes will be integrated within buildings on site to replace lost nesting opportunities.

2.16 Integrated boxes will include four triple chamber sparrow terraces, four swift bricks, four starling boxes and three open nest box blocks. These integrated features will provide suitable nesting sites for sparrows, swifts, starlings, robins, wrens, tits, redstarts and nuthatches. Boxes will be integrated into the walls of the new buildings.

2.17 Sparrow terraces and open nest boxes must be installed a minimum of 2m above ground level at the eave or soffit level, or alternatively built into these structures where practicable. Features should be situated adjacent to retained, and/or planted, vegetation to allow the birds to hop from the vegetation to the box and back again to increase likelihood of use and should be east-facing where practicable.



2.18 Starling boxes should be installed a minimum of 3m above ground level. These should be situated at the eaves or soffit level, or alternatively built into these structures where practicable. Where practicable these should be situated out of direct sunlight on an east facing aspect, but should be kept away from the main living area as the birds can be noisy.

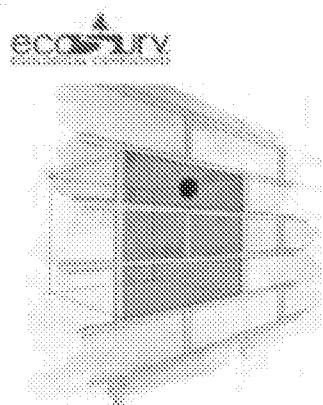


Image: Example integrated starling nest box

- 2.19 Swift bricks must be installed at a minimum height of 5m above ground level and away from obstructions and creepers. They should be situated in the shade, away from windows. It is important to have several potential nest sites within one area.

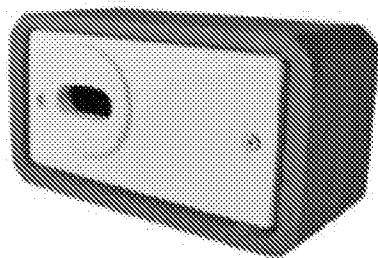
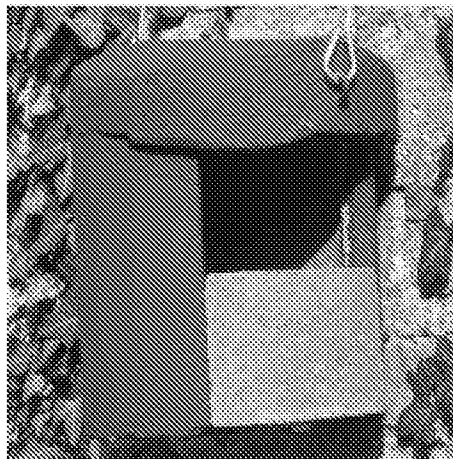
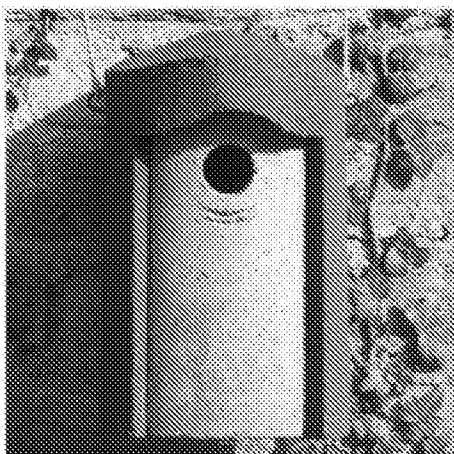


Image: Example integrated swift nest box

- 2.20 **A further 5 small bird boxes will be installed on trees on site to further enhance the suitability of the site for nesting birds.**

- 2.21 Tree mounted bird boxes will comprise a mix of traditional '32mm round-holed' (below left: which are suitable for tits, sparrows, redstarts and nuthatches) and open-fronted boxes (below right: these are suitable for pied wagtails, robins and wrens) and also ideally be woodcrete or similar hard-wearing material (rather than the less durable traditional wooden boxes). Boxes should be installed with an aluminium nail or screw to prevent tree damage, between 2m and 4m above ground for round-holed boxes, and low down (below 2m), well hidden in vegetation for open-fronted boxes, and (unless shaded by buildings or trees) be facing north or east.



- 2.22 The above example nest boxes are available from the RSPB online shop, (<https://shopping.rspb.org.uk/>).

Bats

- 2.23 **A minimum of 4 appropriate bat roosting features will be integrated into the buildings on site as enhancement features.** These features will be integrated within the walls of the new houses at the southern end of the site near to the retained bank and tree line, to provide ease of access to suitable foraging areas.
- 2.24 Five bat species have been recorded on site during the surveys carried out; common and soprano pipistrelle, brown long-eared bat, serotine and noctule. Of these species

a single brown-long eared bat was recorded to be roosting in buildings previously present on site. Pipistrelle and serotine bats were the most commonly recorded foraging on site.

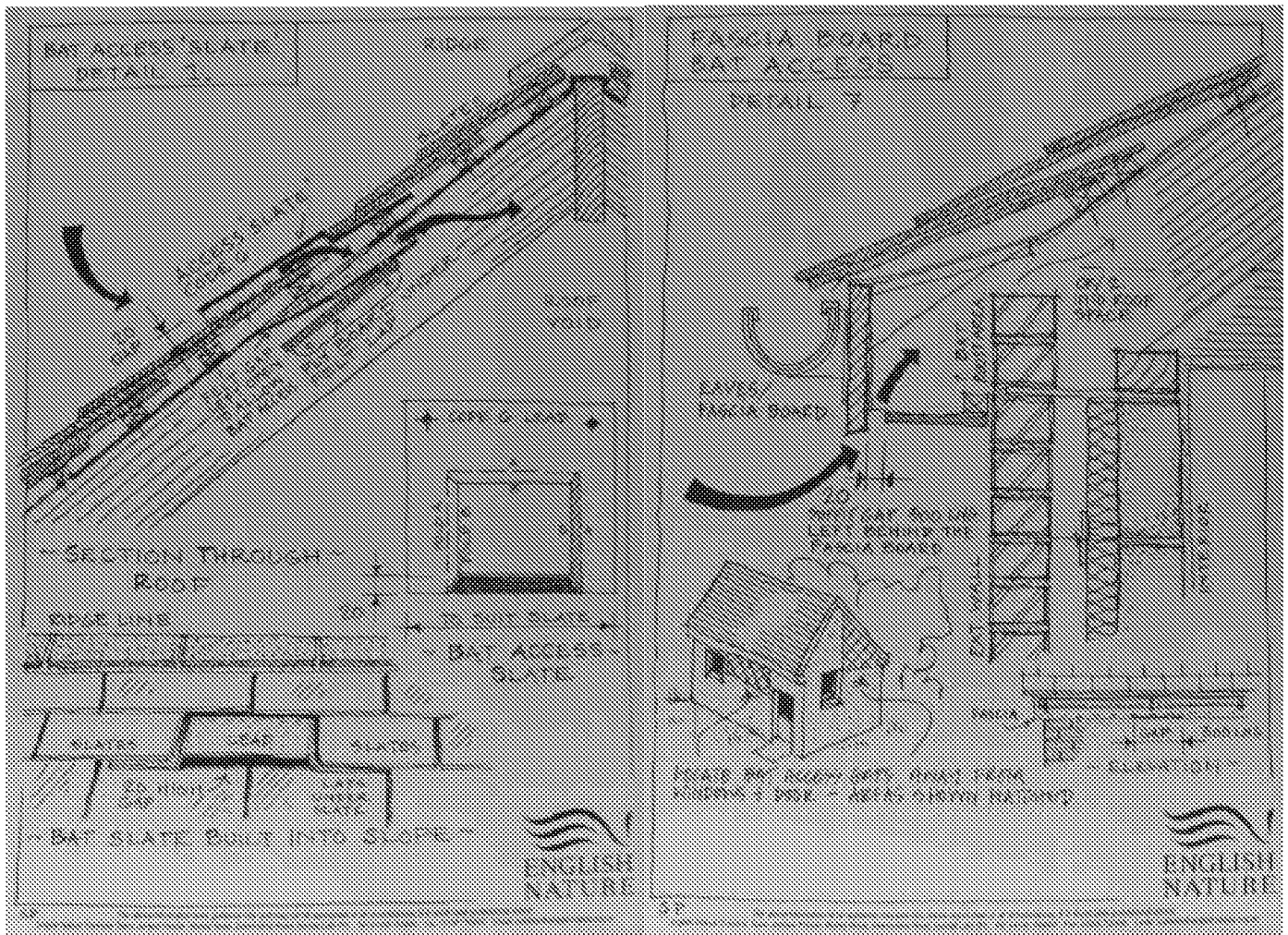
- 2.25 Tree-mounted bat boxes were installed on site previously as part of the compensation required for the bat licence.
- 2.26 Lighting can have notable negative impacts on commuting bats, that are known to be present locally. There is potential for lighting during and post-development to cause indirect disturbance in these areas. Lighting of the retained trees and hedge line should be avoided or kept to the minimum necessary, and preferably on a motion sensor to reduce lighting time.
- 2.27 Lighting around the new buildings should be sensitively designed and should not illuminate roosting areas or access points.
- 2.28 A lighting plan must be approved by a suitably qualified ecologist to ensure minimal impact upon bats within the area.
- 2.29 Bat features integrated into the buildings on site must be suitable for the use by the species recorded to be using the site.
- 2.30 Suitable integrated features for these species include ridge tile access into a roof void, or ridge crevice, bat tiles; which can provide access into just the batten space, or into a roof void, eave roosting sites, purpose built integrated bat boxes, fascia and soffit box access and tile hangings.
- 2.31 Where bat access is installed within buildings it is important that the roofing underlay used in the construction of all new and existing buildings is Bitumen Type 1F (with a hessian Matrix). Polypropylene filaments used in the manufacture of modern underlays are known to entangle and kill bats and warranty can be invalidated; therefore, they must not be used in any buildings on the site.
- 2.32 Due to the design of the buildings pegged roof and hanging tiles would be the most suitable features and these have been marked on figure 3. Examples of other suitable features are shown below.



Pegged roof tile



Pegged hanging tile



Ibstock enclosed bat box 'C'	Habitat bat box – plain for rendering	1FR Schwegler Tube



FIGURE 3: PROPOSED ECOLOGICAL ENHANCEMENTS

AEWCLtd