



RIVERDALE ECOLOGY

# Biodiversity Enhancement Strategy

Pine House Company, Ixworth Road, Stowlangtoft, Suffolk

February 2024

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## RIVERDALE ECOLOGY

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## 1 Introduction

### 1.1 Background

- 1.1.1 Riverdale Ecology Ltd were commissioned by Locus Planning Ltd on behalf of their client to produce a Biodiversity Enhancement Plan (BEP) for the demolition of a commercial building and the construction of two detached residential properties at the Pine House Company, Ixworth Road, Stowlangtoft, Suffolk; situated around Ordnance Survey Grid Reference TL 95153 67830.
- 1.1.2 The BEP was required to discharge Condition 8 associated with the full planning permission reference DC/23/04344 issued by Mid- Suffolk Council on 16<sup>th</sup> September 2023 for: Erection of 2no. dwellings and garaging with bat house including alterations to vehicular accesses (following demolition of existing building).
- 1.1.3 **Condition 8:** ACTION REQUIRED PRIOR TO ANY WORKS ABOVE SLAB LEVEL: BIODIVERSITY ENHANCEMENT LAYOUT Prior to works above slab level, a Biodiversity Enhancement Layout, providing the finalised details and locations of the enhancement measures contained within the Bat Survey Report (Riverdale Ecology, September 2023) shall be submitted to and approved in writing by the local planning authority.
- 1.1.4 The BEP will also provide some additional detail relating to wildlife sensitive lighting which was included under Condition 9 of the planning permission:
- 1.1.5 Condition 9 of the planning permission requires a lighting design scheme for biodiversity:
- 1.1.6 **Condition 9:** ACTION REQUIRED PRIOR TO OCCUPATION: WILDLIFE SENSITIVE LIGHTING DESIGN SCHEME: *'Prior to the first occupation of the dwellings hereby approved, a lighting design scheme for biodiversity as recommended in the Bat Survey Report (Riverdale Ecology, September 2023) shall be submitted to and approved in writing by the local planning authority. The scheme shall identify those features on site that are particularly sensitive for bats and that are likely to cause disturbance along important routes used for foraging; and show how and where external lighting will be installed (through the provision of appropriate technical specifications) so that it can be clearly demonstrated that areas to be lit will not disturb or prevent bats using their territory. All external lighting shall be installed in accordance with the specifications and locations set out in the scheme and maintained thereafter in accordance with the scheme. Under no circumstances should any other external lighting be installed without prior consent from the local planning authority.'*
- 1.1.7 This BEP report will highlight areas of the site which are valuable habitat for bats and other species vulnerable to the effects of artificial lighting and provide recommendations for maintaining lighting exclusion zones or areas where lighting should be restricted to avoid indirect impacts to wildlife.

### 1.2 Site Description and Context

- 1.2.1 The Application Site is an existing commercial building and associated curtilage measuring approximately 0.2 hectares, in Stowlangtoft, a village approximately 9km northeast of Bury St Edmunds, within the administrative area for Babergh and Mid-Suffolk Council. Access to the site is via Ixworth Road on the eastern edge of the site.
- 1.2.2 The site comprises a small warehouse-style building approximately 330m<sup>2</sup> in area, arranged east to west and roughly centrally within the plot. To the front and rear are areas of hardstanding and gravel, with some raised ornamental planting to the front (east). The site comprises very little 'natural' habitat with the majority of the site area being urban hardstanding and the building itself although, there are boundary hedges and hedgerows. In addition, the site is located opposite Stowlangtoft Spinney, an area of mostly mature broadleaved woodland.

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- 1.2.3 There is a summer day roost of brown long-eared bats within the building numbering six in 2022. A European Protected Species Mitigation (EPSM) is being applied for and the mitigation and or enhancement measures relating to bats form part of the license application details. These elements are included within this report but are subject to changes that may be requested by Natural England in their determination of the licence and the requirement to maintain the Favourable Conservation Status of the bats.

### 1.3 Acknowledgements

- 1.3.1 The BEP has been prepared with reference to best practice as published by the Chartered Institute for Ecology and Environmental Management (CIEEM, 2017) and to British Standard 42020:2013 (BSI, 2013). This report provides recommendations for enhancement of the site for biodiversity in line with the National Planning Policy Framework (NPPF) (Department of Communities and Local Government, 2019) and best practice guidelines.
- 1.3.2 It has been prepared by Danny Thomas CECol<sup>1</sup>, MCIEEM<sup>2</sup>, Principal Ecologist at Riverdale Ecology Ltd. Danny has over 20 years' experience within ecological consultancy and as such is suitably qualified to undertake habitat surveys and protected species assessments, identify mitigation recommendations, and design habitat enhancement and biodiversity net gain features. He is a Chartered Ecologist and has a BSc (Hons) in Ecology with Biology and an MSc in Environmental Sciences from the University of East Anglia. He is a specialist in protected species ecology and holds current Natural England survey licences for great crested newts, bats, dormice and water vole and has a Schedule 1 licence for several protected bird species including barn owl and Cetti's warbler.

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1 Chartered Ecologist

2 Full Member of the Chartered institute of Ecology and Environmental Management

## 2 Pre-Construction and Construction Phase Mitigation

### 2.1 Spatial Scope

- 2.1.1 BEP applies to all land within the site boundary of the development, as shown in Appendix 1.

### 2.2 Site Conditions

- 2.2.1 This BEP has been prepared based on ecological information provided within the previous Ecological Reports and subsequent mitigation measures are recommended based upon this information.

### 2.3 Responsible Persons and Lines of Communication

#### *Developer*

- 2.3.1 The developer/owner is legally responsible, throughout the development process, for ensuring no unlawful acts are committed and that the planning conditions set by the Local Planning Authority (LPA) are fulfilled. The developer may need to request periodic reports and advice from the Lead Contractor and Ecological Clerk of Works (ECoW) in order to achieve this.
- 2.3.2 The developer/owner is responsible for ensuring that the measures included within the BEP are delivered and appropriate advice and supervision is sought where necessary from a qualified ecologist.

#### *Ecological Clerk of Works*

- 2.3.3 An Ecological Clerk of Works (ECoW) may be employed on site to oversee certain activities and provide expert advice where necessary. The responsibilities of the ECoW will include the following:
- Undertaking a pre-construction survey of the site to ensure baseline conditions have not changed since previous surveys, e.g. habitats are still the same.
  - Reviewing and updating the BEP in consultation with the developer and LPA, where necessary, to ensure habitats and wildlife are protected throughout construction.
  - Monitoring on-site works and practical undertaking of ecological works, where necessary.
  - Being the main point of contact should any ecology-related issues arise during construction.
- 2.3.4 The ECoW role may be fulfilled by multiple ecologists who are current members of the Chartered Institute of Ecology and Environmental Management (CIEEM) with differing experiences and skill sets. Where less experienced ecologists fulfil this role, they will be supported by more experienced senior staff who will be available at all times during regular construction hours to provide advice and guidance.

### 2.4 Practical Measures to Avoid or Reduce Impacts During Construction

#### *Habitats*

- 2.4.1 Much of the site area comprises hardstanding which provides very few opportunities as habitat for wildlife but there are boundary hedgerows and non-native hedges which could support nesting birds and the building itself may occasionally support nesting birds. A pre-commencement check for nesting birds will be carried out if the demolition works are scheduled to begin during the nesting period (March to August inclusive).

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- 2.4.2 Heras fencing or equivalent fencing will be erected around the entire construction zone, affording a minimum 2m buffer (where possible) to all retained habitats and 5m around the replacement bat house. This will prevent the accidental movement of machinery from straying into and/or causing damage to areas of retained habitats. No machinery or materials can be stored within 5m of the bat house and the area to the east of the bat house must remain clear of obstruction which could affect flight lines to and from the roost.
- 2.4.3 If invasive plant species are found on the site at a later date, advice should be sought from an invasive species specialist and measures taken to prevent their spread.

### *Species*

#### *General Precautionary Measures*

- 2.4.4 Precautionary measures will be employed for the full duration of construction activities, including the following:
- Any trenches or excavations should be covered overnight, or a ramp provided (no greater than 45 degrees in angle) to allow animals to escape. They should also be checked for animals prior to the continuation of works each morning or infilling.
  - Any open or exposed pipe work should be capped to prevent animals from gaining access.
  - Care should be taken to ensure any imported aggregate and soil onto the site is not contaminated with invasive plant material, e.g. Japanese knotweed and giant hogweed.
  - Any construction materials stored at the site overnight or for long periods of time should be kept on hardstanding or raised off the ground, e.g. on pallets, to reduce the risk of being used by animals for shelter.
  - Oils, fuels and chemicals should be stored in sealed containers and not be left out overnight.
  - Adequate dust and noise suppression facilities will be used on site throughout construction.
  - Hedgehog tunnels should be installed in any new fence lines to ensure permeability across the site for small mammals and other terrestrial wildlife.



## 2.5 Bat Mitigation and Habitat Creation

### *European Protected Species Mitigation Licence*

- 2.5.1 No demolition or any other works to the existing building can commence until the EPSM license has been received from Natural England and the timing restrictions within the Works Schedule of the approved EPSM are observed.
- 2.5.2 Prior to the demolition of the existing building the replacement bat house and garages must be constructed to ensure that bats are not left without any roost sites during the active period for bats (May to October).
- 2.5.3 Once the replacement roost is constructed the demolition can commence. The initial roof removal will be carried out in accordance with the EPSM works schedule which permits the works to be undertaken between March and May 2024 or from November 2024 to May 2025. Following the roof removal the building will no longer be suitable for bats and can be demolished and removed at any time.
- 2.5.4 The removal of the roof must be carried out by hand and also be supervised by the named ecologist on the EPSM license or a suitably qualified accredited agent. The roof is asbestos and will require specialist contractors, the usual method for asbestos removal would also require it to be done carefully by hand and as such the required methods are synonymous.

### *Bat House/Bat Lofts*

- 2.5.5 As mitigation for the loss of the existing roost site, a replacement building suitable for roosting brown long-eared bats will be constructed to ensure no net loss of roost site for bats locally.
- 2.5.6 The bat house will be a separate annex from the standalone garages at the front of the development. The bat house will be constructed in a similar style to the main dwelling and garages with brick walls and a pitched roof supporting pantiles or equivalent. The gable wall of the bat house will have three arrow slits as access points for bats and two bat access tiles on the roof.
- 2.5.7 Internally the bat house will utilise Type 1F bitumen felt only. No breathable membranes are permitted to be used for the bat house under the EPSM agreement.
- 2.5.8 The two new dwellings will contain small loft spaces which will also be made accessible for bats with two bat access tiles on each dwelling. These loft sections will utilise TLX bat safe membrane or equivalent breathable membranes which have passed the snagging propensity test to demonstrate they are safe and unlikely to entangle bats. Alternatively, the loft will be clad with plywood to prevent any access to the membrane.

### *Bat Boxes*

- 2.5.9 At least two additional bat boxes will be provided, one on each of the gables of the dwellings. Habitat Bat Box 003 (Appendix 2, Photograph 1) or other integrated bat boxes such as those supplied by birdbrickhouses (<http://www.birdbrickhouses.co.uk/brick-nesting-boxes/bat-box>) (Appendix 2, Photograph 2) or Ibstock EcoHabitats Bat Box B (Appendix 2, Photograph 3) will be installed to provide opportunities for bats to roost in the external walls of the new dwellings. The boxes are brick faced making them very discrete and they require no maintenance.

### *House Sparrow*

- 2.5.10 At least 2no. house sparrow terrace boxes will be installed, one on each of the new dwellings on the eastern elevation facing Ixworth Road. Integrated boxes produced by birdbrickhouses (Appendix 2, Photograph 3), Schwegler (Appendix 2, Photograph 4) or Habitat (Appendix 2, Photograph 5) would be the most appropriate options.
- 2.5.11 Boxes will be installed on the front elevation just below the eaves to provide secure nesting sites for house sparrows.



### *Landscape Planting*

- 2.5.12 Appropriate soft landscaping is the most effective site-wide enhancement, using selected native species and species of known wildlife value. A key point for many species groups is the need for insect prey for bats and also for the chicks and fledgling of many birds. Thus, a range of native plant types should be planted to provide a range of resources across the seasons from spring to autumn (insects and their predators), and also fruit and berry producing species in autumn and winter (birds).
- 2.5.13 Shrubs suitable for planting within the scheme include most of the species listed for hedgerows. Suitable small trees include flowering fruit trees, silver birch *Betulus Pendula*, rowan *Sorbus spp.*, whitebeams *Sorbus spp.*, and fastigate forms of hornbeam *Carpinus betulus*. At least three new trees should be planted along the northern edge of the site between the dwellings and Ixworth Road. The trees will provide some linear structure for commuting between the bat house and woodland on the opposite side of the road.
- 2.5.14 Varieties of flowering fruit trees would be the most beneficial providing nectar in the spring for invertebrates, in turn providing prey items for birds and bats. Additional small trees and shrubs should be planted wherever possible on the site.
- 2.5.15 New native species hedgerow will be planted along the eastern edge of the site adjacent to Ixworth Road. The hedgerow will contain only native species and ideally will include a mix of at least five species to provide greater biodiversity benefit.

### 2.6 Lighting Recommendations

- 2.6.1 Bats are sensitive to artificial lighting which can disrupt the normal 24-hour pattern of light and dark and is likely to affect the natural behaviour of bats. Bright light may reduce social flight activity or restrict access to foraging areas causing bats to move away from the light area. Studies have shown that in extreme cases continuous lighting can sometimes create barriers which some bat species will not cross. Lighting can be particularly harmful if used near high value foraging and commuting habitat such as woodland edges, hedgerows or rivers.
- 2.6.2 Lighting on site will be designed in accordance with the Bat Conservation Trust Guidance using directional lighting and PIR lighting to avoid illuminating habitat which could be utilised by bats. External lighting at the development site will be managed carefully and designed in line with Bat Conservation Trust guidance to avoid excessive light spill which could disrupt bats.
- 2.6.3 The lighting plan should be a two-part design incorporating a Lighting Exclusion Zone (LEZ) with zero exterior lighting or light spill around the bat house.
- 2.6.4 The LEZ will be established within 10m of the bat house on the eastern edge of the site and along the northeast corner of the site where bats are likely to forage and commute. No lighting will be permitted between the bat house and the road to maintain a dark corridor to the woodland opposite. Lighting should also be avoided along the northern and southern boundaries which will maintain dark corridors for foraging and commuting bats.
- 2.6.5 To the rear of the dwellings lighting should be managed carefully to avoid excessive light spill on surrounding habitats but also to maintain a dark approach to the bat boxes on the gables. Lighting here must be directional only and use Passive Infrared (PIR) sensors to reduce illumination time – maintaining extensive dark periods. Occasional periods of lighting during the summer months when the outdoor space is used for entertaining is generally considered to be low impact, provided that the dark periods are maintained for the majority of the active season for bats (April to October).
- 2.6.6 Winter lighting (November to March) is not considered to be significant as bats will be hibernating and are unlikely to utilise the site for hibernation.



## Appendix 1: Figures

Figure 1: Bat Mitigation and Enhancement Plan

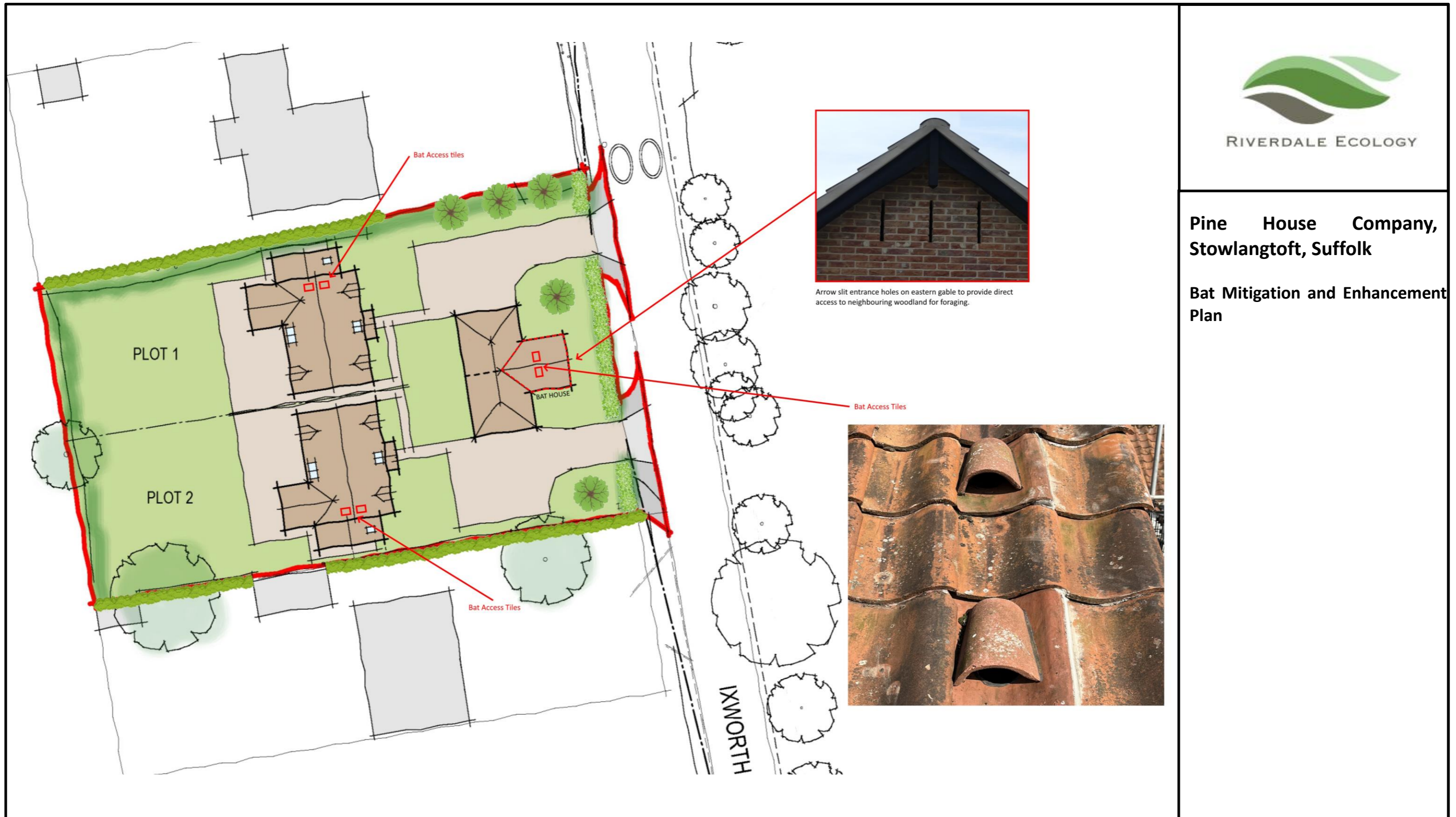
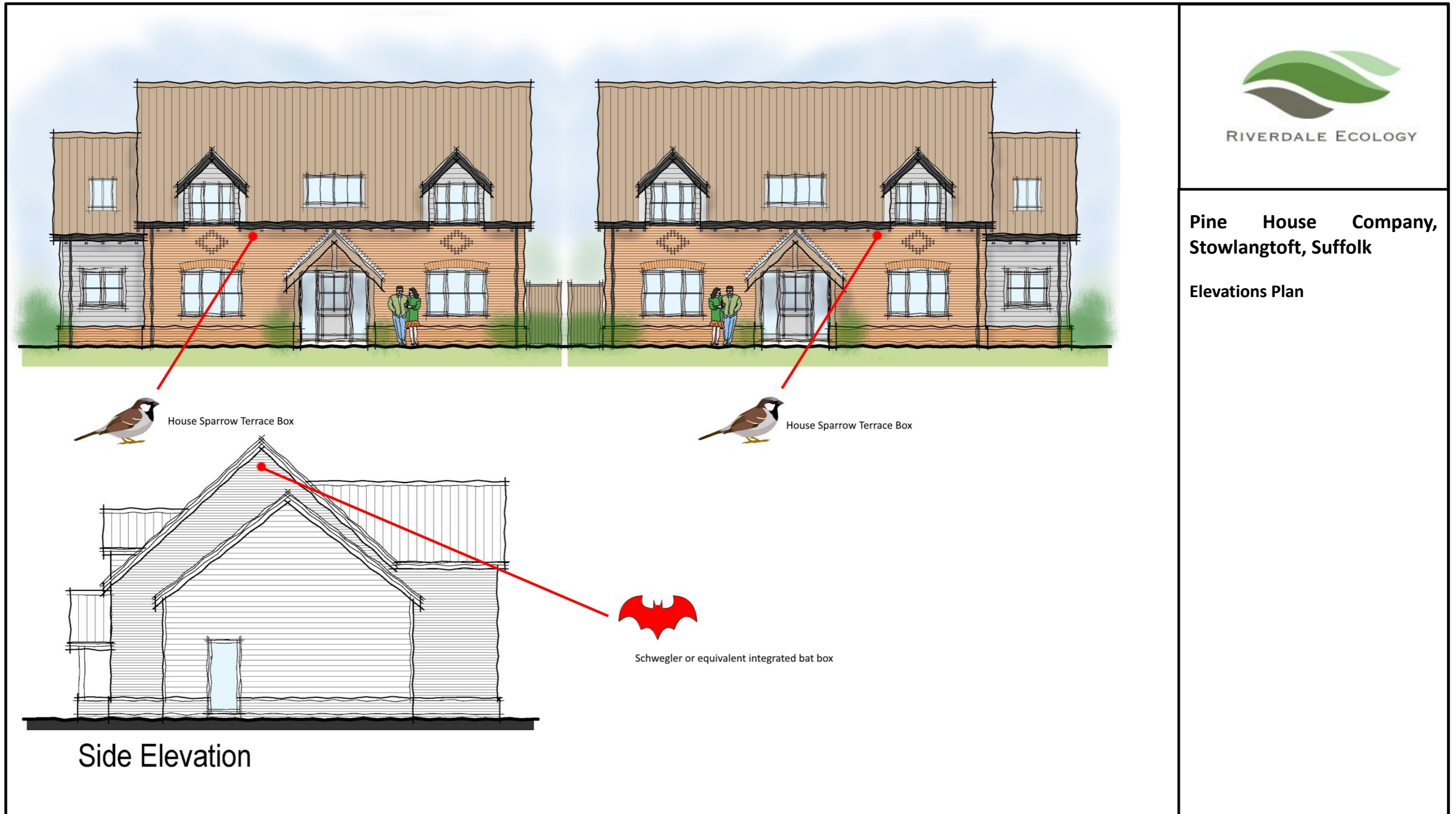




Figure 2: Elevations Plan



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Pine House Company,  
Stowlangtoft, Suffolk

Elevations Plan

Figure 3: Low Impact Lighting Plan





## Appendix 2: Photographs





**Photograph 1**  
Habibat Bat Box 003



**Photograph 2**  
Birdbrickhouses Bat Box



**Photograph 3**  
Ibstock EcoHabitats Bat Box B (Large).



**Photograph 4**  
Birdbrickhouses House Sparrow nest box.



**Photograph 5.**  
Schwegler House Sparrow Terrace.



**Photograph 6.**  
Habibat House Sparrow Terrace box.



