Maydencroft Limited, Maydencroft Manor, Gosmore, Hitchin, Hertfordshire SG4 7QA
Tel 01462 420851 | Fax 01462 453826 | info@maydencroft.co.uk | www.maydencroft.co.uk

MAYDENCROFT®

BAT ENHANCEMENT PLAN

Angel Farm, Great Offley, Hertfordshire

JANUARY 2018

Registered in England and Wales 6344187 Registered office as above VAT registration 914 6695 00

1.0 Introduction

Maydencroft Limited was commissioned by Tom Harrison of Savills Limited to design a bat enhancement plan for a site at Angels Farm, Great Offley, Hertfordshire. This was required as a planning condition following completion of the development of five industrial units from two regenerated barns and a stable block. The principle aim of the bat mitigation was to provide a net gain for biodiversity in line with current planning policy guidelines.

To aid the recommendations in this document, a desk study was undertaken to build an understanding of the species of bats roosting and foraging in the surrounding area, and a site survey was undertaken on 3rd January 2018, by Assistant Ecologist John Salisbury of Maydencroft Limited.

The section of land concerned in the survey (referred to as the 'Site' hereafter) lies immediately north-west of Great Offley House, on the west side of King's Walden Road. The Site covers approximately 0.2ha and consists of three separate buildings and an area of hard standing. Mature trees are absent from the immediate site.

Recommendations have been made for the installation of a minimum of four Kent bat boxes on the exterior of buildings at carefully selected locations around the site. These locations were selected with consideration given to height, amount of shelter, exposure to sunlight, exposure to artificial lighting, accessibility and connectivity to natural linear features. Locations were also selected with the aim of achieving variations in micro-climatic conditions between individual boxes, to provide a variety of appropriate environments for bat roosts.

2.0 Desk Study

2.1 Local Bat Populations

A search for records of bat species within a 2km radius of the site was made using the online National Biodiversity Network (NBN) Atlas. The most common species recorded within the search area is Natterer's bat *(Myotis natereri)*. There are also numerous records of pipistrelle bats *(Pipistrellus sp.)*. These species are known to frequently use suitably placed bat boxes, roosting both solitarily and in large maternity clusters. Provision of bat boxes at the site is therefore likely to provide a significant gain in potential roosting habitat to the local bat population.

3.0 Bat Box Specifications

3.1 Kent Bat Box

The Kent bat box was designed by members of the Kent Bat Group and is now widely used to aid both conservation and mitigation objectives throughout the United Kingdom with a well-documented success rate. These boxes are simple to construct and install, are

self-cleaning, and require little maintenance. Because these are 'flat' bat boxes which have an open bottom, they are much less likely to be occupied by nesting birds than certain other designs and therefore remain available exclusively to bats.

Kent bat boxes, alongside a range of other boxes of varying shapes and sizes, are commercially available through organisations such as *Wildcare Nationwide Ecology Supplies* https://www.wildcareshop.com/, *NHBS* https://www.nhbs.com/, and a number of alternative suppliers. Maydencroft Limited does not endorse any particular product, brand or supplier.

Alternatively, Kent bat boxes can be manually constructed from untreated rough-sawn timbers. Specifications for design are provided in *Appendix C*.

4.0 Bat Box Locations

Bat boxes should be fitted high up on the sides of buildings, as close to the eaves as possible in order to provide maximum shelter from wind and rain. Efforts should however be made to ensure that boxes are unshaded and have an adequate exposure to sunlight, as a lack of warmth is the most common known reason for bat boxes being unsuitable for roosting. Boxes can be directly fixed to a wall or structure, or hung using a wire; the latter option being less intrusive to the surface upon which it is placed, as well as allowing easy removal for the purpose of repair or replacement.

It is recommended that a minimum of four bat boxes are installed on the Site in appreciation of the three farm buildings which were regenerated during the development, as the potential for roosting opportunities in these may have decreased when compared to their pre-development state. Assuming that bat boxes are appropriately placed, this is considered to be adequate to provide a net gain to biodiversity with regard to local bat populations.

Units 2, 3 and 4 are regarded as unsuitable for the installation of bat boxes due to a high level of artificial lighting, a lack of shelter resulting from shallow eaves, and a dense line of trees along the north-eastern and south-eastern edge preventing easy access for bats. Unit 5 is also considered to be unsuitable due to a high volume of artificial lighting and the low height of the walls at approximately 2.5m.

Unit 1, a refurbished barn, is the only structure on Site which is considered to be suitable for the installation of bat boxes, with high walls, limited shade, and shelter from wide eaves. A Kent bat box placed near the eastern corner of the barn, facing south-east, would receive ample exposure to sunlight during the brightest part of the day whilst avoiding becoming too warm, as the other converted barn which makes up Units 2, 3, and 4 would provide some shade in the later parts of the day when the sun is low in the sky. From this position, roosting bats would have immediate linear flight paths in the form of hedgerows and tree lines, connecting them with nearby foraging grounds.

A second box, placed on the north-eastern gable end of Unit 1, could be placed at a height in excess of 5m, with similar proximity to natural linear features. Whilst a bat box placed here would receive a lower exposure to sunlight, it would be more sheltered from human disturbance as there is no access directly beneath this end of the building. It should however be noted that on this end of the building there is a small artificial light which should be deactivated before placing a bat box here.

The final two bat boxes should be placed at either end of the north west facing side of Unit 1, as high up and as close to the eaves as possible. This face of the barn may already provide some exterior bat roosting potential as it is lined with horizontal timber cladding, of which bats will frequently roost behind when there are large enough gaps between the boards. Adjacent to the building on this side is a marshy field with some-mature trees, which would provide immediate foraging opportunities for bats. There is a line of mature and semi mature trees extending from the northern corner of the barn which would provide connectivity to other key foraging sites for bats roosting in these boxes.

The south-western gable end of Unit 1 is unsuitable for the installation of bat boxes because there are two large floodlights on this side of the building, above the main entrance which comprises a large electric shutter. The immediate surrounding area is void of any structures or natural linear features which, alongside the shallower eaves at the gable end, constitutes a high level of exposure to wind and rain.

The recommended locations for bat box installation are shown on the map in *Appendix A*, and are accompanied by pictures of the locations in *Appendix B*.

5.0 Further Recommendations

5.1 Bat Box Monitoring

Once installed, bat boxes should not be disturbed. It is recommended that an annual inspection is undertaken during the summer months by a licensed ecologist, during the three years following installation.



Legend

- Trees
- Site Boundary
- Bat Box
- Building

Client: Mr Tom Harrison	Date: 03/01/2018
Project: Angels Farm Bat Enhancement	Drawing No: Appendix A
Title: Bat Box Installation Plan	Revision: Issue
Scale: 0 5 10 15 m	Original Size: A3
	Drawn: John Salisbury
	Checked: Alison Hood
Licensing: Contains OS data © Crown copyright and database right (2016)	This drawing is confidential and the property of MAYDENCROFT LIMITED and must not be copied or used without written permission

MAYDENCROFT®

Orientation: N

Appendix B. Angel Farm Bat Mitigation Plan Photos



Plate 1: Unit 5 (south-west facing).



Plate 2: Unit 5 (north-west facing gable end).



Plate 3: Units 2, 3, and 4 (south-west facing).



Plate 4: Units 2, 3 and 4 (north-east facing).



Plate 5: Unit 1 (south-west facing gable end).



Plate 6: Marshy grassland foraging area to north-west.



Plate 7: Unit 1 (south-east facing). **Bat box location 1.**



Plate 8: Unit 1 (north east facing gable end). **Bat box location 2.**

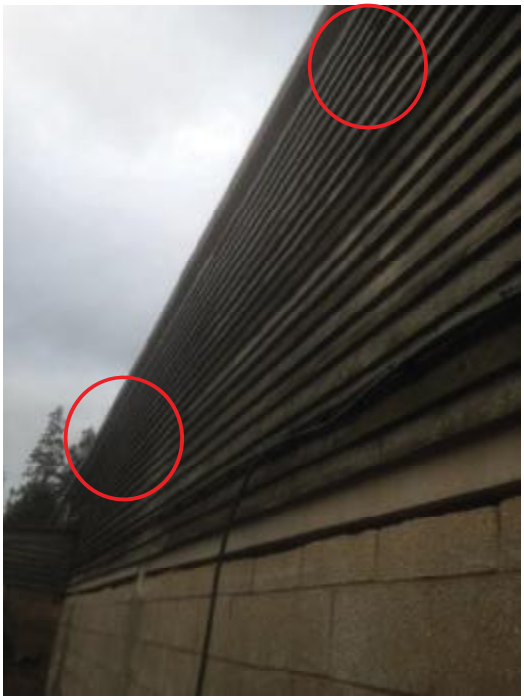


Plate 8: Unit 1 (north-west facing). **Bat box locations 3 & 4.**

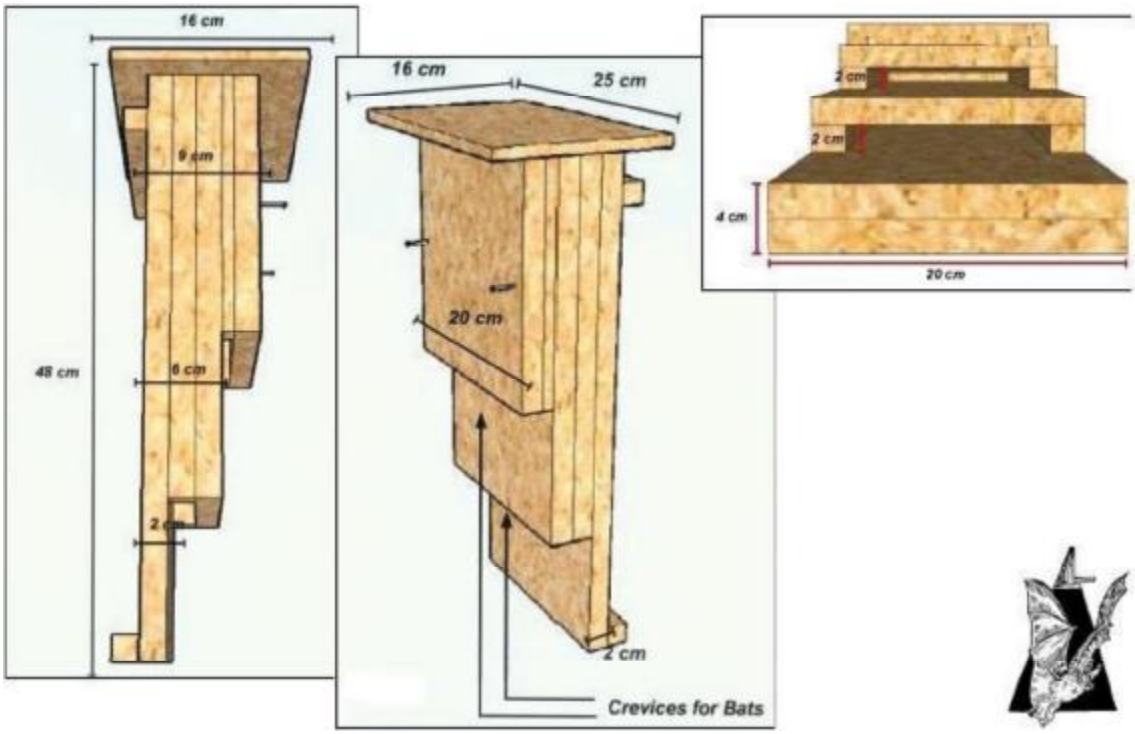


Plate 9: Line of trees extending from northern corner of Unit 1.



Plate 10: hedge and tree line extending from eastern corner of Unit 1.

Appendix C: Kent Bat Box Design



Source: Kent Bat Group



Source: Kent Bat Group