

SF 2856 | PSL THURNSCOE

ECOLOGICAL MITIGATION STRATEGY REVISION A

October 2019

Quality Assurance

|                                                |              |             |                    |             |
|------------------------------------------------|--------------|-------------|--------------------|-------------|
| Job Title: PSL Thurnscoe                       |              |             | Job Number: SF2856 |             |
| Document title: Ecological Mitigation Strategy |              |             |                    |             |
| Issue                                          | Date         | Prepared by | Checked by         | Approved by |
| Original                                       | October 2019 | MG          | CW                 | CW          |
| Revision A                                     | October 2019 | CW          | CW                 | CW          |
|                                                |              |             |                    |             |
|                                                |              |             |                    |             |
|                                                |              |             |                    |             |

**Name:**                      **Initials:**      **Status:**

Maria Gill                      MG                      BSc (Hons) ACIEEM

*Ecologist*

Catherine White      CW                      BSc (Hons) MA (LD) CMLI MCIEEM

*Associate*

**REVISIONS**

**Revision A:** 23.10.2019: Updated to current landscape proposals SF2856 LL01 Rev F

**SMEEDEN FOREMAN**

Landscape Architecture • Ecology • Arboriculture

Somerset House, Low Moor Lane, Scotton, Knaresborough, North Yorkshire, HG5 9JB  
www.smeedenforeman.co.uk tel: 01423 863 369

## CONTENTS

|                                                     |           |
|-----------------------------------------------------|-----------|
| <b>1.0 INTRODUCTION .....</b>                       | <b>1</b>  |
| <b>2.0 SITE DESCRIPTION.....</b>                    | <b>2</b>  |
| <b>3.0 THE DEVELOPMENT .....</b>                    | <b>3</b>  |
| <b>4.0 PRE-CONSTRUCTION.....</b>                    | <b>4</b>  |
| 4.1 Tree Protection.....                            | 4         |
| 4.2 Vegetation Clearance .....                      | 4         |
| <b>5.0 DURING CONSTRUCTION .....</b>                | <b>4</b>  |
| 5.1 Tree Protection.....                            | 4         |
| 5.2 Precautionary Working Methods .....             | 4         |
| 5.3 Lighting - Temporary Lighting During works..... | 5         |
| 5.4 Lighting - Permanent Lighting Design.....       | 5         |
| 5.5 Planting Design.....                            | 5         |
| 5.6 Bat Box Installation.....                       | 6         |
| 5.7 Bird Box Installation.....                      | 7         |
| <b>6.0 POST CONSTRUCTION.....</b>                   | <b>8</b>  |
| 6.1 Tree and Shrub Management.....                  | 8         |
| 6.2 Hedgerow Management.....                        | 8         |
| 6.3 Wildflower Grassland Management.....            | 8         |
| <b>7.0 Timetable .....</b>                          | <b>9</b>  |
| <b>Appendices.....</b>                              | <b>10</b> |

## LIST OF FIGURES

|                                                                         |   |
|-------------------------------------------------------------------------|---|
| Figure 01: Aerial view of site location .....                           | 2 |
| Figure 02: Development proposals (SF2856 LL01 Landscape Proposals)..... | 3 |

## APPENDICES

|                                             |    |
|---------------------------------------------|----|
| Appendix 01: Bat and Bird Box Location Plan | 11 |
| Appendix 02: Protected Species Legislation  | 12 |

## 1.0 INTRODUCTION

1.1.1 Smeeden Foreman Limited has been commissioned by PSL to prepare an Ecological Mitigation Strategy in respect to their proposed development site in Thurnscoe, Barnsley, South Yorkshire (central grid reference SE 4645 0533), hereafter referred to as the 'site'.

1.1.2 The proposals are for the construction of industrial units, with associated road infrastructure, car parking and soft landscaping. Full planning permission for the site has been granted (reference 2019/010) with the following condition in respect to ecological mitigation measures:

**Condition 16:** *Prior to commencement of development full details of the mitigation measures identified in the Ecological Survey (Smeeden Foreman, Rev A 14/2/19), including a timetable for their implementation, shall be submitted to and approved in writing by the Local Planning Authority. The development shall be implemented in accordance with the approved details. Reason: To conserve and enhance biodiversity in accordance with Local Plan Policy BIO1.*

1.1.3 This strategy document will address all of the requirements of the above condition and will include:

- A brief description of the site and surroundings;
- The methods to be employed to protect the existing biodiversity of the site during construction;
- The proposed planting and habitat creation to enhance the biodiversity of the site;
- The future management of these features to maintain and enhance biodiversity of the site post construction.

1.1.4 The mitigation follows the recommendations detailed within the corresponding ecological appraisal report submitted as part of the planning application (SF2856\_Ecological Appraisal Rev A\_November 2018) as follows:

- Retention of the trees and shrubs on site wherever possible;
- Use of temporary demarcative fencing to protect retained vegetation;
- Appropriate timing of vegetation clearance with respect to breeding birds;
- Precautionary working methods during construction with respect to mammals;
- Planting of native trees/shrubs known to be of value to wildlife within soft landscaping, particularly to site boundaries;
- Creation of wildflower grassland;
- Use of directional lighting during construction;
- Implementation of a sympathetic lighting design with respect to wildlife;
- Installation of bat and bird boxes.

1.1.5 PSL will be responsible for the implementation of this strategy.

## 2.0 SITE DESCRIPTION

- 2.1.1 The site is located within the outskirts of Thurnscoe, which is a village in the metropolitan borough of Barnsley in South Yorkshire. The site is approximately 2.1 hectares, comprising grassland with amenity planting around the boundaries, with roads to the northern, southern and eastern sides. It is located within the centre of a small industrial estate, with warehouses and units situated to the north, south and west of the site, and an animal medical centre to the east. Refer to *Figure 01* below.
- 2.1.2 In the wider area there are built up residential areas to the north and west of the site, and to the south and east of the site there is Pheonix Park which comprises managed woodland and grassland. The site, surrounding industrial estate and park are situated where the former Hickleton Colliery once stood, which closed in the 1990's.



Figure 01: Aerial view of site location

### 3.0 THE DEVELOPMENT

3.1.1 The proposals include the erection of 16 industrial units, with associated road infrastructure, car parking and soft landscaping (refer to Figure 02 for the landscape proposals drawing compiled by Smeeden Foreman SF2856 LL01 RevF).

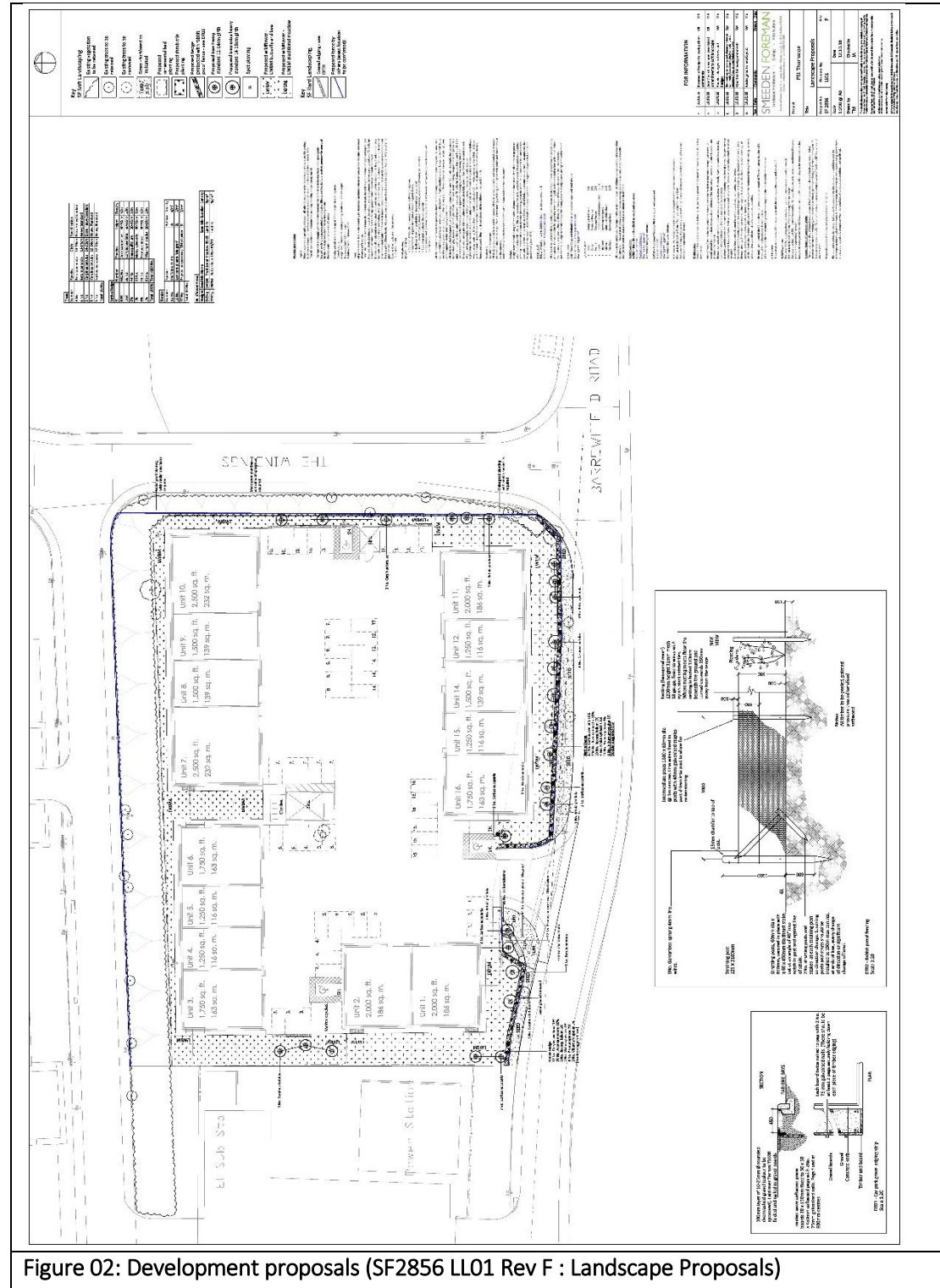


Figure 02: Development proposals (SF2856 LL01 Rev F : Landscape Proposals)

## 4.0 PRE-CONSTRUCTION

### 4.1 TREE PROTECTION

---

- 4.1.1 Temporary protective fencing will be installed around all trees/shrubs proposed for retention. The fencing must be in accordance with BS5837:2012 'Trees in Relation to Design, Demolition and Construction', extend outside the canopy of the retained trees, and remain in position until construction is complete. The installation of protective fencing will ensure there is no accidental damage to the trees or their root zones during the construction phase, and will also discourage the storage of construction material around the base of the trees.

### 4.2 VEGETATION CLEARANCE

---

#### *Breeding birds*

- 4.2.1 Nesting birds are afforded protection under the Wildlife and Countryside Act 1981 (*as amended*). The existing vegetation present within the construction zone provides suitable habitat for breeding birds. As such removal of these features should be undertaken outside the bird nesting season (March to August inclusive). If any demolition or vegetation clearance works are to be undertaken during the nesting season, a check for nesting birds will be carried out by a Suitably Qualified Ecologist (SQE), to ensure breeding birds, their nests, eggs or young are not affected.
- 4.2.2 If nesting birds are identified during the check the advising ecologist will issue guidance in relation to the protection of the nesting birds in conjunction with the scheduled works. Measures such as applying a set boundary around the nest may be necessary until the young birds have fledged.

#### *Hedgehogs*

- 4.2.3 Precautionary working methods will be adopted to ensure hedgehogs are not harmed/killed during works. Such works would include the removal of any tree/shrub cuttings from site, once vegetation is cut so as to avoid the creation of brash piles; these may be attractive to hedgehogs, which could subsequently be harmed if the brash pile is burnt or removed with machinery.

## 5.0 DURING CONSTRUCTION

### 5.1 TREE PROTECTION

---

- 5.1.1 Temporary protective fencing installed pre-construction must remain in place for the duration of development works to ensure there is no damage to the trees or their root zones during the construction phase. The protection fencing will also discourage the storage of construction material and trafficking around the base of the trees.

### 5.2 PRECAUTIONARY WORKING METHODS

---

- 5.2.1 Precautionary working methods will be adopted to ensure mammals such as badger and hedgehogs are not accidentally harmed or killed during construction works. Such methods will include:

- The removal of any tree/shrub cuttings from site, once vegetation is cut so as to avoid the creation of brash piles; these may be attractive to hedgehogs, which could subsequently be harmed if the brash pile is burnt or removed with machinery;
- Any open trenches created on site will be covered or a means of escape shall be provided to avoid animals becoming trapped.
- Any open pipe work will be capped at the end of each working day.

### 5.3 LIGHTING - TEMPORARY LIGHTING DURING WORKS

---

- 5.3.1 Any flood lighting used during the construction phase will be directed away from areas of existing tree/shrub vegetation which may be used as foraging habitat or as a commuting corridor by wildlife, including bats. This includes all site boundaries. Directional lighting will be adopted and for additional information reference will be made to the Bat Conservation Trusts '*Bats and Artificial Lighting in the UK*' (2018).

### 5.4 LIGHTING - PERMANENT LIGHTING DESIGN

---

- 5.4.1 To minimise disturbance to wildlife including foraging/commuting bats, the permanent lighting scheme within the development has been designed to avoid illuminating site existing vegetation and new planting to site boundaries.
- 5.4.2 Refer to the corresponding lighting design document prepared by Ansell Lighting 24198 *Thurnscoe Bowness Lighting Plot Rev A 191009*). Luminaire specifications include cool white LEDs with PIR movement sensors where appropriate.

### 5.5 PLANTING DESIGN

---

- 5.5.1 With respect to the planting design for the scheme the mitigation/enhancement recommendations included appropriate native tree and hedgerow planting to site boundaries and wildflower seeding in association with these area. This has been achieved as follows:

Native tree planting

**Location:** Along boundaries to the east, south and west

**Species:** silver birch *Betula pendula*, hornbeam *Carpinus betulus* and rowan *Sorbus aucuparia*, crab-apple *Malus sylvestris*, blackthorn *Prunus spinose* and guelder-rose *Viburnum opulus*.

Native hedgerow planting

**Location:** Along boundaries to the south

**Species:** field-maple *Acer campestre*, hazel *Corylus avellana*, holly *Ilex aquifolium*.

Wildflower seeding

**Location:** To all boundaries in association with existing vegetation and new hedge and tree planting.

**Specification:** Landlife seed mixes *LWBM – Butterfly and Bee 80/20* (or equal and approved) and *LW1M – Traditional Meadow 80/20*.

## 5.6 BAT BOX INSTALLATION

5.6.1 In order to enhance the site for roosting bats, the following bat boxes are to be installed upon new units on site, with specification and installation details:

| BOX 1                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                    |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Manufacturer               | Schwegler                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |
| Model                      | Bat Roost 1FQ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                    |
| Number                     | 3 No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                    |
| Description & Installation | <p>This is the ideal bat box for all types of bats that inhabit buildings. The bats may use it for roosting, to form a colony or to shelter their young. If desired, the front panel can be painted to match your building using an air-permeable paint.</p> <p>Position 3-6 metres above the ground in a place where there is clear flight path for bats entering and leaving the box; on south east to south west elevations, out of strong winds.</p> <p><b>Lighting:</b> Bat boxes should be located away from existing/proposed street lighting to ensure they are attractive to bats.</p> |                                                                                    |
| Dimensions                 | Dimensions:<br>Height: 60 cm<br>Width: 35 cm<br>Depth: 9 cm<br>Weight: 15.8 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                    |

5.6.2 Refer to Appendix 01 for the proposed location plan of these boxes.

## 5.7 BIRD BOX INSTALLATION

5.7.1 In order to enhance the site for nesting birds, the following boxes are to be installed upon new units on site, with specification and installation details:

| BOX 2                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                    |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Manufacturer               | Schwegler                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |
| Model                      | Type 1a<br>(lightweight)<br>Swift box.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                    |
| Number                     | Install in groups of 3 in 2 locations (6No in total).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                    |
| Description & Installation | <p>Due to the effective sealing of eaves in new build houses, swift numbers are declining as nesting opportunities are lost and new sites difficult to find. This box is ideal for inclusion in heat insulation systems on external walls to provide vital nesting habitat. The ring-shaped entrance enables the box to be installed flush with the wall surface, leaving only the entrance visible, or it can be surfaced mounted.</p> <p>To be installed at least 5.5 to 7m above the ground. Ensure unobstructed access for birds entering and leaving the box. A clear distance (drop) below the box is recommended, preferably 5 m or more. Installed to face between north and east and out of direct sunlight, unless shaded by buildings. Ideally bricks should be installed in groups, positioned at least 1m apart.</p> |                                                                                    |
| Dimensions                 | Approximately 135 x 340 x 150mm (plus 17mm for the entrance ring)<br>Entrance hole: 70 x 30mm<br>Material: Schwegler wood-concrete<br>Weight: 2.7kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                    |

5.7.2 Refer to Appendix 01 for the proposed location plan of these boxes.

## 6.0 POST CONSTRUCTION

### 6.1 TREE AND SHRUB MANAGEMENT

---

- 6.1.1 Areas of native tree and shrub planting should generally be allowed to grow to their natural form and size. Shrub planting may be pruned to remove material encroaching over kerbs and to encourage vegetative renewal. General pruning should be undertaken to preserve the natural form of plants and their propensity to bear flowers, fruits or exhibit winter stem colour.
- 6.1.2 Sympathetic management of existing and newly planted trees and shrubs should be undertaken to avoid disturbance to breeding birds. This involves the avoidance of management during the active season March – August inclusive and preferably only to be carried out during January and February when the majority of the berry crop has been utilised.

### 6.2 HEDGEROW MANAGEMENT

---

- 6.2.1 Native hedgerow planting should be managed to produce a dense, bushy, 'A' form hedge with a minimum width of 1.5m and height of 2-3m. Shrubs may be pruned to remove material encroaching over kerbs and to encourage vegetative renewal. Initial cutting should be yearly to encourage bushy growth, however, once established, hedgerows should be cut on a biennial rotation to maximise their propensity to bear flowers and fruits. Cutting and any pruning operations required should be undertaken in January or February to avoid disturbance during the bird breeding season and to allow any fruit to be utilised through the early winter.

### 6.3 WILDFLOWER GRASSLAND MANAGEMENT

---

- 6.3.1 Native wildflower seeding is to be planted in association with areas of existing planting and new native tree and hedgerow planting. This will aim to be visually attractive as well as increasing the wildlife value of the site by providing a botanically diverse, invertebrate rich and structurally varied habitat.

#### *First year*

- 6.3.2 Wildflower areas should be cut 4/5 times to reduce competition from grasses and control weeds. Cut sward to a height of 50mm every two months. All cut material to be removed to reduce nutrient build up and smothering.

For Autumn sowing: first cut to be March/April - final cut to be September/October.  
For Spring sowing: first cut to be May – final cut to be September/October.

#### *Subsequent years*

- 6.3.3 Wildflower areas shall be cut once annually in July/August, following seed set. All cuttings are to be collected and removed from site to contractor's tip, to avoid a build-up of soil fertility.
- 6.3.4 Selective/spot weeding, by hand or herbicide weed-wipe or similar spot applicator is to be undertaken to remove aggressive/invasive weed species, if necessary.

## 7.0 TIMETABLE

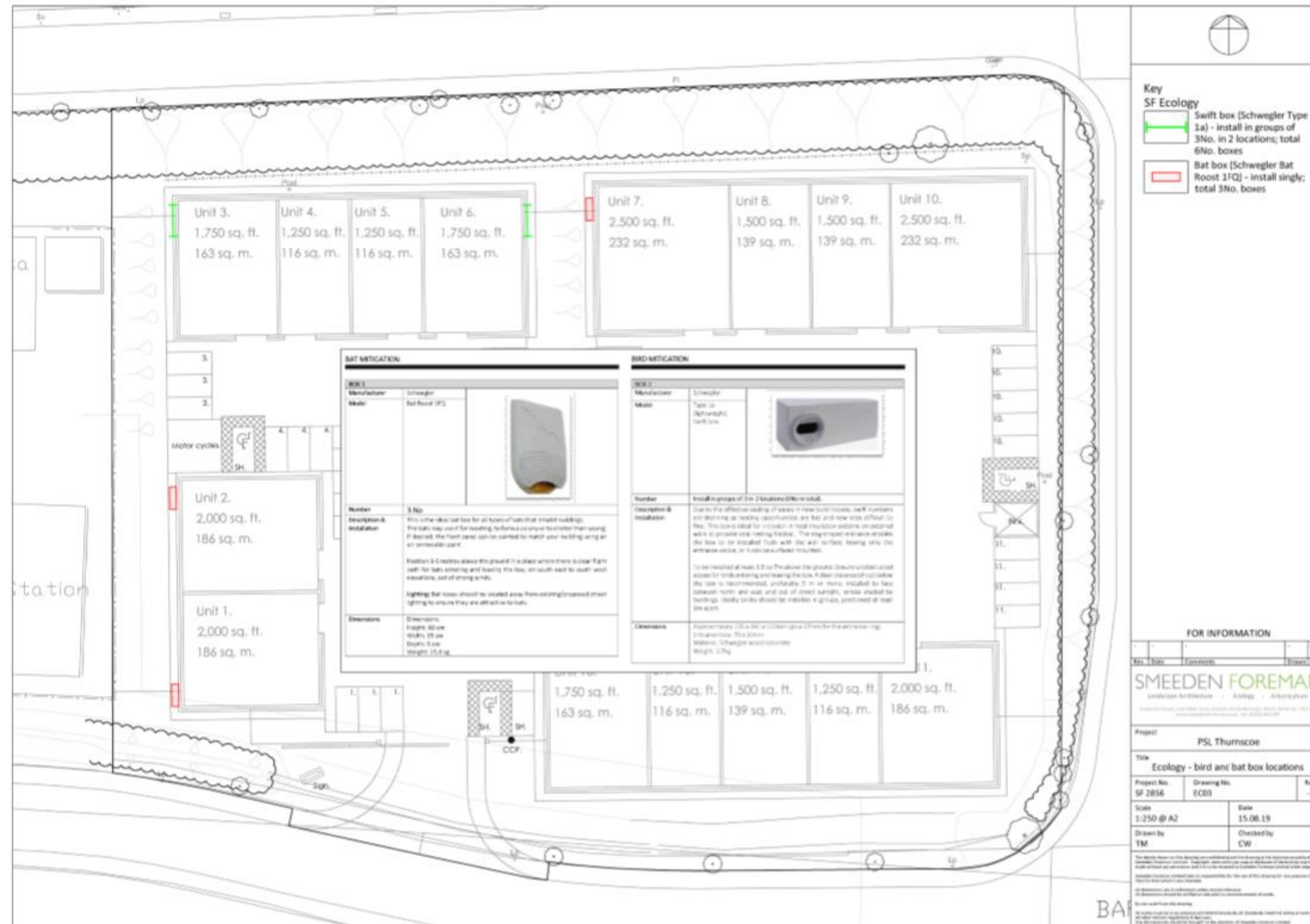
| ITEM LOCATION | DESCRIPTION             | PRE-CONSTRUCTION                                                             | DURING CONSTRUCTION                                                          | POST CONSTRUCTION                                                                    |
|---------------|-------------------------|------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 4.1, 5.1      | Tree protection         | Install                                                                      | Maintain                                                                     | N/A                                                                                  |
| 4.2.1, 4.2.2  | Vegetation clearance    | Following nesting bird check if undertaken between March - August inclusive. | Following nesting bird check if undertaken between March - August inclusive. | N/A                                                                                  |
|               |                         | Working methods with respect to hedgehog.                                    | Working methods with respect to hedgehog.                                    | N/A                                                                                  |
| 5.2           | Working methods         | N/A                                                                          | Precautionary working methods with respect to badger and hedgehog            | N/A                                                                                  |
| 6.1           | New tree/shrub planting | N/A                                                                          | Planting of native trees (November – March)                                  | Pruning (January – February)                                                         |
| 6.2           | New hedgerow planting   | N/A                                                                          | Planting of native hedgerows (November – March)                              | Cutting (January – February)                                                         |
| 6.3           | Wildflower grassland    | N/A                                                                          | Wildflower seeding (April – May or September – October)                      | Cutting (1 <sup>st</sup> year 4/5 cuts May-Oct; subsequent years annual cut in July) |
| 5.3, 5.4      | Lighting                | N/A                                                                          | Temporary                                                                    | N/A                                                                                  |
|               |                         | N/A                                                                          | Permanent installation                                                       | N/A                                                                                  |
| 5.6           | Bat boxes               | N/A                                                                          | Installation on new units                                                    | N/A                                                                                  |
| 5.7           | Bird boxes              | N/A                                                                          | Installation on new units                                                    | N/A                                                                                  |

## APPENDICES

Appendix 01: Bat and Bird Box Location Plan

Appendix 02: Protected Species Legislation

# APPENDIX 01: Bat and Bird Box Location Plan



---

## APPENDIX 02: PROTECTED SPECIES LEGISLATION

---

### *Bats*

Bats and their roosts are afforded full legal protection under both UK and European legislation. The Conservation (Natural Habitats & c.) Regulations 1994 (as amended, 2017) transpose the Habitats Directive into UK law, making it an offence to:

- deliberately disturb a bat;
- deliberately kill, injure or capture a bat;
- damage, destroy or obstruct access to a breeding site or resting place (note this applies to both deliberate and reckless actions).

The Wildlife and Countryside Act 1981 (as amended) (Schedule 5) made it an offence to:

- intentionally kill, injure or take a bat ;
- damage, destroy or obstruct a bat roost \*;
- disturb a bat at a roost \*;
- possess or control a bat or any part thereof;
- sell, offer for sale, possess or transport for sale any bat or part thereof;
- set traps for catching, killing or injuring bats;
- possess articles for the purposes of committing offences against bats;

[\*= intentional and reckless offences covered].

This protection applies whether bats are present within the roost at the time or not.

### *Breeding birds*

The Wildlife and Countryside Act 1981 (as amended) makes it an offence to:

- kill, injure, or take any wild bird;
- take, damage or destroy the nest of any wild bird while that nest is in use or being built or,
- take or destroy an egg of any wild bird.

This protection applies from the moment the nest is being built. Additional protection against disturbance on the nest or of dependent young is provided for birds included on Schedule 1.

### *Badger*

Badgers and their setts are protected by the Protection of Badgers Act 1992. Under the Act it is illegal to:

- Wilfully kill, injure or take a badger or attempt to do so;
- Cruelly ill-treat a badger; and,
- Interfere with a sett by doing any of the following:
  - (i) damaging a badger sett or any part of it;
  - (ii) destroying a badger sett;
  - (iii) obstructing access to a badger sett;
  - (iv) causing a dog to enter a sett; and,
  - (v) disturbing a badger while it is occupying a sett.