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ECOLOGICAL DESIGN STRATEGY

At

Land at Manor Street
Newsome
Huddersfield
HD4 6NW

NGR: SE 14824 15700

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Approved by:	Toby Hart, UES Managing Director

Date:	13th November 2024
UES reference:	UES04734/01

Contents

1 INTRODUCTION

1.1 Author and qualifications

This report has been compiled and written by Ysobella Cox BSc MBiol and Ecologist at United Environmental Services Ltd (UES).

1.2 Development proposals

This ecological design strategy (EDS) has been produced for Land at Manor Street, Newsome. A full planning application has been submitted to Kirklees Council (Reference number 2022/62/90655/W). The application is for:

"*Erection of 10 student residential units with associated landscaping."*

The planning application was granted with conditions on 8th March 2023. This report has been produced to discharge Condition 14 of the planning application, which details:

"Development shall not commence until an Ecological Design Strategy to include the mitigation and enhancement measures (as detailed in the Preliminary Ecology Appraisal) has been submitted to and approved in writing by the Local Planning Authority. The findings and recommendations shall be implemented in accordance with the Strategy and thereafter retained.

Reason: In the interests of the biodiversity of the area and to accord with Policy LP30 of the Kirklees Local Plan and Chapter 15 of the National Planning Policy Framework. This is a pre-commencement condition in order to ensure that adequate mitigation and enhancement measures are incorporated into the development at the appropriate stage of the development."

1.3 Objectives and scope

This Ecological design strategy (EDS) details the mitigation measures that will be implemented during the construction phase of the development to protect wildlife and habitats on and adjacent to the proposed development site.

This document also details ecological enhancement measures that will be implemented in order to compensate for the loss of habitat features and to enhance the biodiversity value of the proposed development with regards to local wildlife. This document covers and is relevant to all phases of the development and has been prepared to fully discharge Condition 14 as detailed above.

1.4 Structure of the report

This report sets out the baseline ecological information and the key ecological receptors that this report focuses on, before detailing the mitigation measures that will be implemented to protect these receptors during the construction phase of the development and to provide sufficient habitat during the operational phase.

This report should be read in conjunction with appendices 1 to 3, which include visual representations and further details on the proposed ecological enhancements.

2 BASELINE ECOLOGICAL INFORMATION

2.1 Habitats

A preliminary ecological appraisal (PEA) was undertaken of the proposed development site by Steven Whitcher on 20th June 2022 (Report reference: 20220024-PEA; Revision 1). The following principal habitat types were characterised on site, or within the immediate vicinity of the site:

- g4 – Modified grassland
- u1b – Developed land; sealed surface

The UK Habitat Classification (UKHab) plan produced for the proposed development site is provided at Appendix 1.

The results of the PEA also highlighted issues relating to the following ecological receptors on site:

- Badgers *Meles meles*
- Bats
- Breeding birds
- Hedgehogs *Erinaceus europaeus*

2.3 Bats

There are no trees or buildings located within the proposed development site. However, the area of modified grassland may provide low-quality foraging and commuting opportunities for bats in the local area.

This report details external lighting guidance to be implemented onsite during the construction and operational phases of the development, in addition to detailing the provision of bat boxes onsite to provide an enhancement in the availability of roosting opportunities for bats.

2.4 Breeding birds

The proposed development site comprises modified grassland and developed land which provides low-quality habitat for birds in the local area. As such, it is considered unlikely that the proposed development will impact local bird populations.

This report details the provision of bird boxes onsite to provide an enhancement in the availability of nesting opportunities for bird species that are likely present within the local area.

2.5 Hedgehogs

No evidence of hedgehog activity was identified onsite during the walkover survey. However, the modified grassland may provide foraging opportunities for hedgehog.

This report details reasonable avoidance measures that will be implemented to protect any hedgehogs which may be present onsite during the construction phase of the development.

3 ECOLOGICAL DESIGN STRATEGY

This section of the report details how impacts on the previously detailed ecological receptors will be avoided or mitigated during the development. It has been split into subsections which address the design and working methods that will be implemented to protect each ecological feature.

3.2 Bats

Any external lighting used or installed during the construction and operational phases of the development should be designed to be wildlife friendly and avoid overspill onto the surrounding areas (see Appendix 3 – External lighting guidance).

Ecological enhancement – bat boxes:

The provision of a bat box as part of the development proposals will increase the roosting opportunities for bats on site, securing suitable habitat for roosting bats in the long term. A single bat box will be installed onsite, the precise location of which is shown at Appendix 2 – Ecological enhancement plan. The following type of bat box will be installed onsite:

- 1x Schwegler 1FR Bat Tube – integrated within the external wall of the newly constructed building, and positioned close to the eaves on a southerly aspect to expose the box to high levels of sunlight.

It should be noted that once inhabited by a bat, boxes may only be inspected by a licenced bat ecologist.

If the proposed models of bat box is not available due to stock shortages, alternative models can be used instead. However, all proposed changes must be discussed and agreed with the project ecologist to ensure that they provide similar roosting opportunities. The use of woodcrete or woodstone boxes will be prioritised due to their durability and longevity.

Bat boxes can be installed any time of year. External lighting will be designed and directed to avoid overspill onto the bat box, in order to minimise disturbance and increase the likelihood of occupancy. Where necessary, this may require the use of cowling or the relocation of light sources or bat box if necessary.

3.3 Breeding birds

Ecological enhancement - bird boxes:

The inclusion of bird box provisions will provide an enhancement in the availability of nesting opportunities. A single bird box will be installed onsite, affixed to the newly constructed building. The exact location of the bird box is indicated in Appendix 2 – Ecological enhancement plan. The bird box installed will provide nesting opportunities for swifts *Apus apus,* that have the potential to be present onsite and are likely to be present within the local area. The following bird box will be provided as part of the development:

- 1x Schwegler No.16 Swift Box – sited 6 to 7m above the ground, on the northern aspect of the building, whilst ensuring unobstructed access for birds entering and leaving by having a clear distance (drop) below the box of preferably 5m or more. It will be installed within an external wall (maximum depth is 17cm in order to prevent the underneath entrance hole being blocked) or attached to the surface of an external wall (or within render or an external insulation layer) with the use of a fixing bracket. The box can be painted, if desired, using standard air-permeable external wall paint.

If the proposed model of bird nest box is not available due to stock shortages, an alternative model can be used instead. However, all proposed changes must be discussed and agreed with the project ecologist to ensure that it provides similar nesting opportunities. The use of woodcrete or woodstone boxes will be prioritised due to their durability and longevity.

Bird boxes can be installed any time of year. External lighting will be directed away from the entrance of the bird box in order to minimise disturbance and increase the likelihood of occupancy.

3.4 Hedgehogs

The following reasonable avoidance measures will be implemented during the construction phase of the development to protect hedgehogs and other mammals in the event they are present on site:

- No trenches or excavations will be left open overnight. They will be backfilled or covered with board, or alternatively fitted with a means of escape for any hedgehogs (or other animal) which may become trapped within, such as a plank or slope leading out of the bottom of the excavation at an angle of 45°. All excavations left open overnight will be checked for trapped wildlife in the morning.

- Any potential refugia on site or created as part of the works should be removed by hand or checked for sheltering hedgehogs prior to their removal by mechanical means or burning. Potential refugia can include piles of leaf litter, log piles and brash piles.

- Any pipes will be stored with caps on to prevent entry by hedgehogs and other animals, and materials such as barbed wire will be stored so that animals cannot become entangled in them.

- Any chemicals or harmful materials will be stored so that they cannot be accessed by hedgehogs or other animals.

- Excavations will be checked immediately before they are backfilled to ensure that no animals have become trapped. If animals are present, then the site manager should be informed and a suitably experienced ecologist should be contacted for advice on how best to proceed.

Ecological enhancement – hedgehog highways:

To allow continued use of the site by hedgehog and to ensure commuting routes aren't blocked, any fences installed on site should be designed to allow passage of hedgehogs. This can either be through the choice of material e.g. choosing a fence style that naturally contains holes at the base, or through the inclusion of hedgehog highways. Hedgehog highways are small 13cm x 13cm holes at the base of fences. A small sign (an example can be found at www.hedgehogstreet.org) should be provided above the hedgehog hole to encourage new residents to keep the holes open.

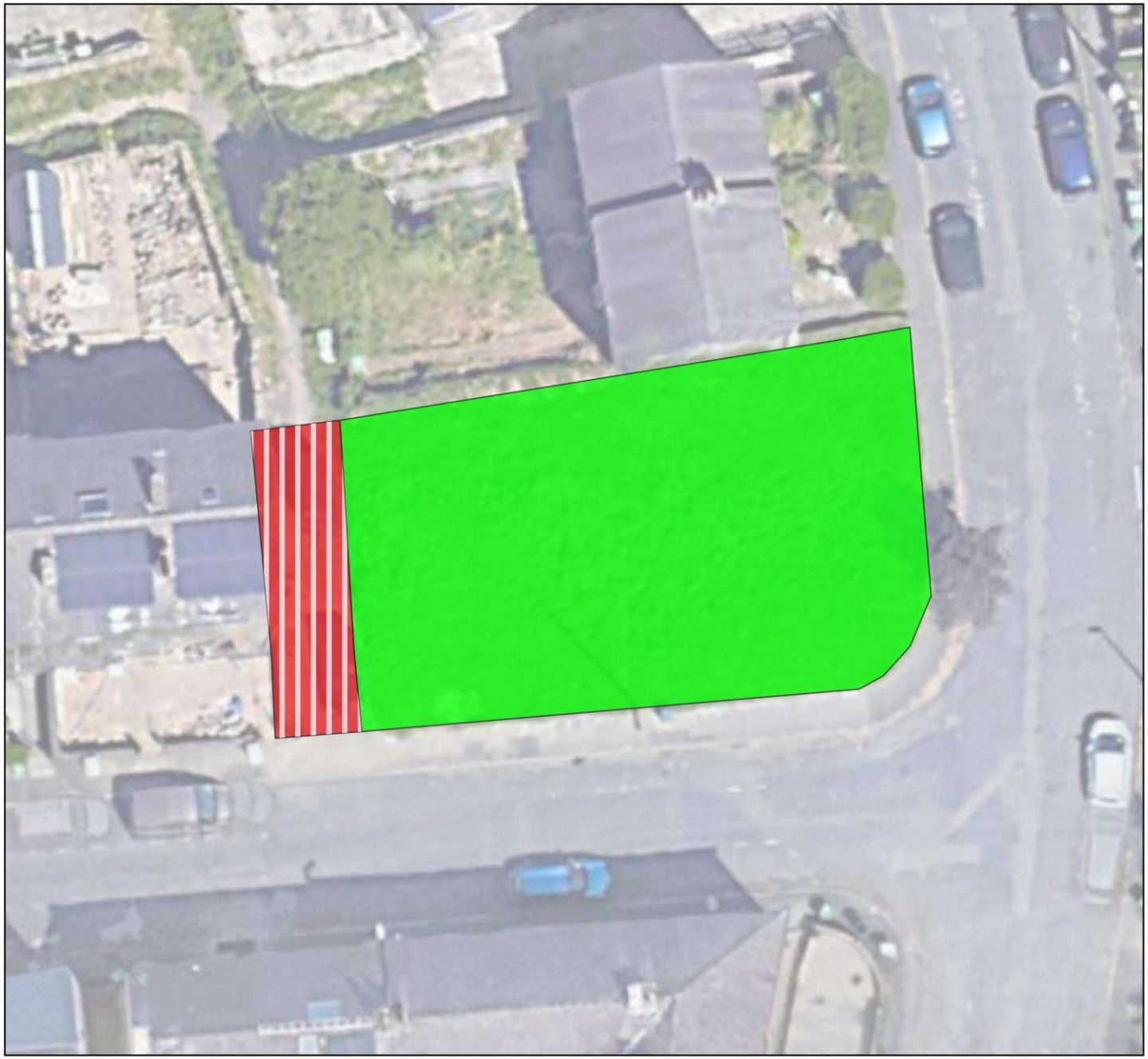
4 CONCLUSION

Once implemented, the ecological measures set out in this EDS will ensure that protected species on, and immediately adjacent to the proposed development site are safeguarded throughout the construction phase of the development.

In addition, the proposed ecological enhancements onsite, including bat and bird box provisions, will ensure that roosting and nesting habitats will be readily available for the local population of bat and bird species in the vicinity. The inclusion of hedgehog highways will also ensure that there is no fragmentation of habitats or severance of commuting corridors onsite.

APPENDICES

Appendix 1 – UKHab Plan



Appendix I: Habitat Map

Land off Manor St, Newsome
20220024-PEA

Habitats

- g4 Modified grassland
- u1b Developed land; sealed surface

0 5 10 m

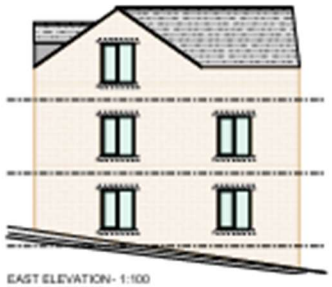
Appendix 2 – Ecological Enhancement Plan

Ecological Enhancement Plan
Land at Manor Street, Newsome

Key:

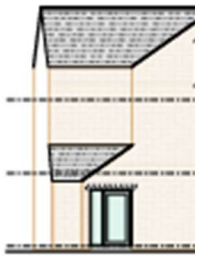
- Schwegler 1FR Bat Box
- Schwegler No. 16 Swift Box

SOUTH ELEVATION - 1:100
BELL STREET

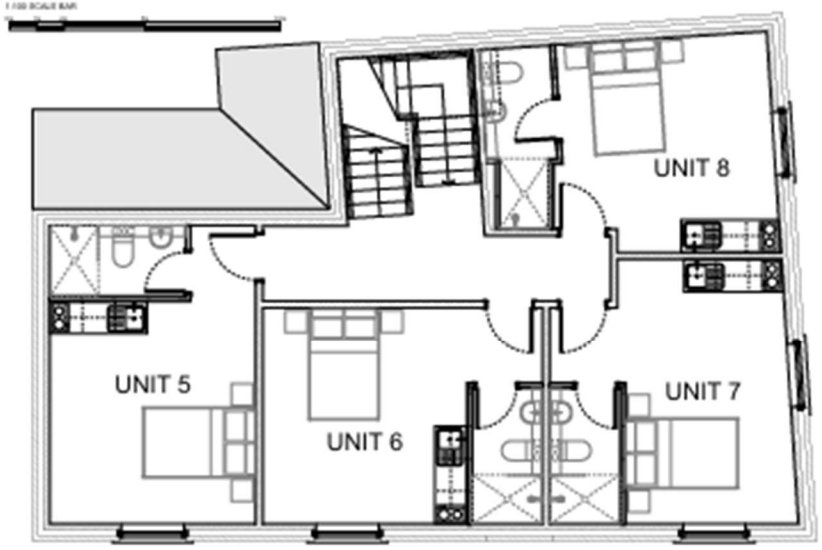


EAST ELEVATION - 1:100
MANOR STREET

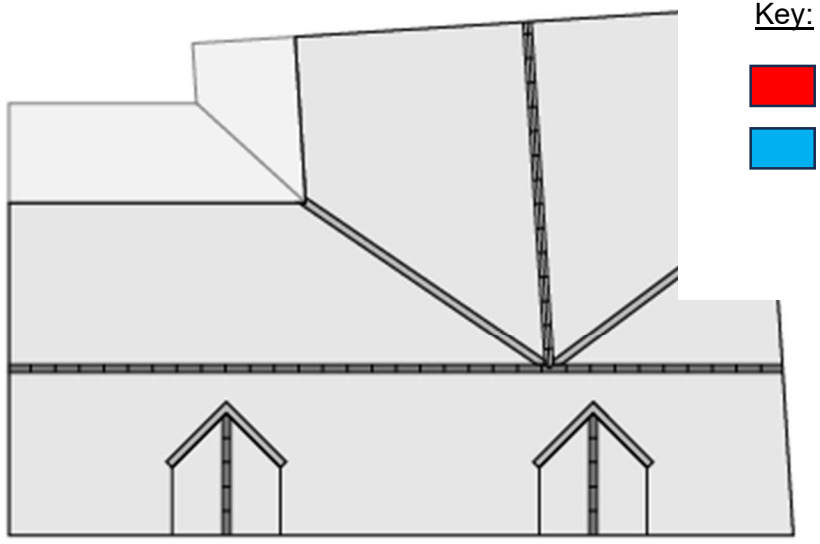
NORTH ELEVATION - 1:100



WEST ELEVATION - 1:100

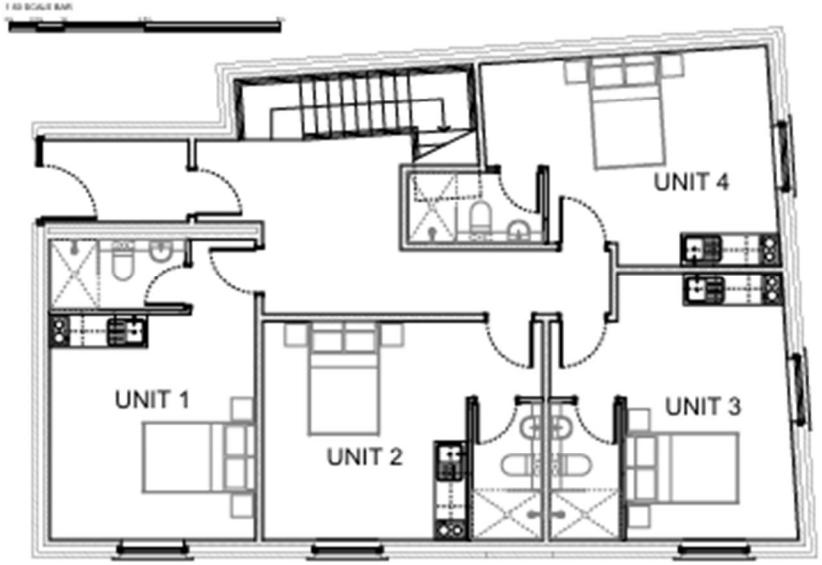


FIRST FLOOR PLAN - 1:50

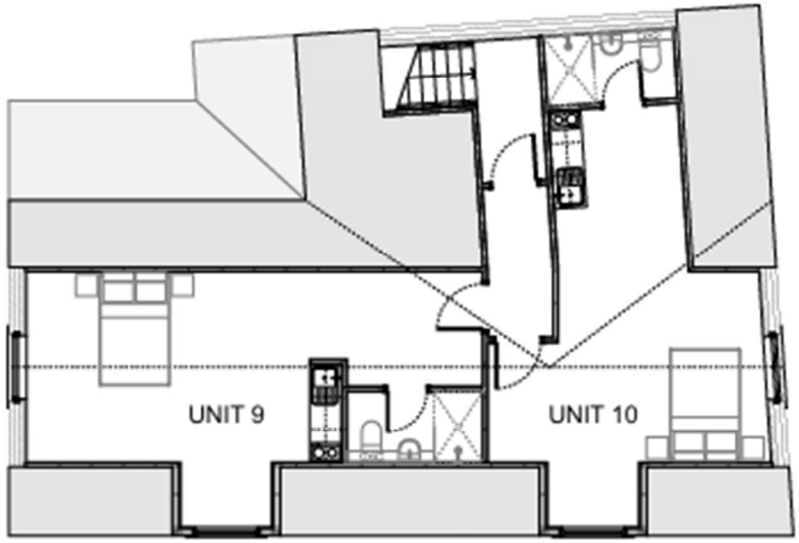


ROOF PLAN - 1:50

BELL STREET - 1:200



GROUND FLOOR PLAN - 1:50



SECOND FLOOR PLAN - 1:50

WHP ARCHITECTURE

HOLDA LIMITED

LAND AT MANOR STREET, NEWSOME

GENERAL ARRANGEMENT DRAWING

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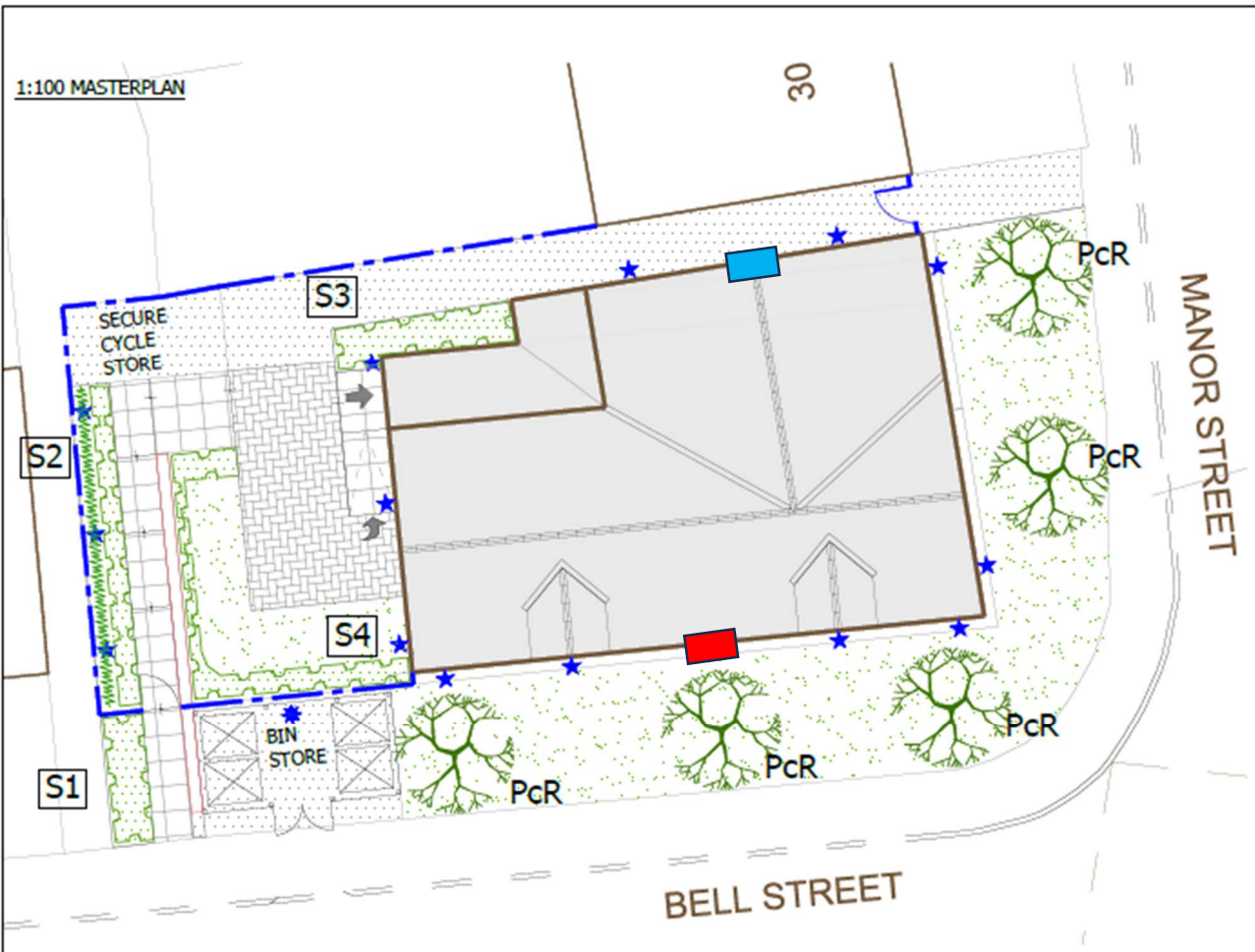


PLANTING NOTES

All trees to be planted and procured in accordance with BS 8545:2014 and BS 3936:1992 Nursery Stock Part 1. The providing nursery shall demonstrate Plant Healthy Certification and/or an adopted biosecurity policy and plant passport scheme.
Aftercare shall be in accordance with the approved Landscape Management Document.

GROUND PREPARATION

- Where required all existing topsoil and subsoil shall be stripped and stored separately on site. Heaps must not exceed 3m in height and should be used within 12 months in accordance with BS 4425 (Code of practice for general landscape operations).
- Existing topsoil and inert sub soils, shall be analysed in accordance with BS 3882 to determine available nutrients, texture, organic matter content and pH. Where required, existing soils are to be improved in accordance with BS 3882:2015. Subsoils shall conform to BS 8601:2013
- In all instances, where soil is to be retained and relatively undisturbed for the purposes of planting new vegetation on site, then it must be alleviated to avoid compaction, must be tested for pH for specific species suitability, and may require the addition of biochar + compost + organic fertiliser + native soil.
- Imported topsoil and site won soils shall be to British Standards BS 3882 - Multipurpose Grade. Spread to 300mm depth over areas to be planted with trees and shrubs. Remaining minimum rooting depth to be provide by a good quality subsoil to BS 8601:2013, free of building material debris to achieve the following overall rooting depths:
  Grass - 450mm
  Shrubs - 600mm
  Trees - 900mm

Ecological Enhancement Plan
Land at Manor Street, Newsome

Key:

- Schwegler 1FR Bat Box
- Schwegler No. 16 Swift Box

All trees to have clear stems to 1.8m above ground level with well developed branching heads with a single, central leader and healthy, fibrous root systems. Trees shall be either container grown or rootballed in accordance with season of planting.
Trees shall be planted into pits of an appropriate size to accommodate the root system without restriction, backfilled with a 3:1 topsoil:compost mix and shall be secured to a machine rounded stake using 1 no. tree tie with rubber spacer. Finished height of stake shall not exceed 1/3 height of staked tree above ground.
Foundation design of new buildings shall accommodate proposed tree planting in accordance with NHBC guidelines.

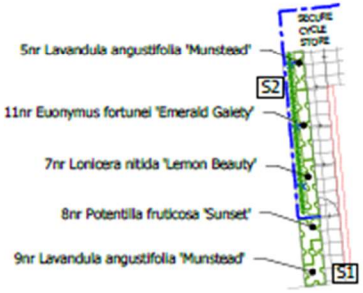
TURFING TO FRONTAGE

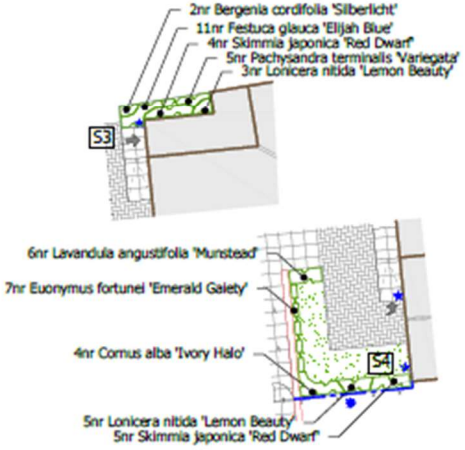
The topsoiled area to be turfed, is to be grade and cross-graded to even running falls, to allow the finished levels of the turf to be 40mm above the adjoining paved areas.
The surface should be lightly and uniformly firmed by rolling or treading and reduced to a fine tilth up to 25mm in depth. All rubbish, stones greater than 50mm in diameter etc, shall be removed from the surface.
Apply an even application of approved fertiliser at a rate of 70g/m² and rake in. No turves shall be laid in exceptionally frosty weather or in other unsuitable weather conditions.
The turves shall be laid in a stretcher bond pattern, closely butted and firmed into position, to th correct levels. The turves should be laid off planks, working over turves previously laid. A dressing of fine, sifted topsoil (complying with BS 3882) should be applied to the laid turf and brushed well into the joints.
Turves shall be watered regularly to prevent them drying out before they establish.

KEY

- Proposed heavy standard (12-14cm girth) tree
- Proposed Beech hedging
- Proposed ornamental shrub planting
- Proposed species rich turf
- Proposed 1800mm high close boarded timber fencing (detailed by others)
- Proposed tarmac
- Proposed block paving (specified by others)
- Proposed concrete flag paving (specified by others)

1:200 PLANTING DETAILS





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client: Holda Ltd

project: Proposed Residential Development
MANOR STREET
NEWSOME

drawing title: LANDSCAPE DETAILS

scale	date	drawn by	drawing no
1:100 @A2	Oct 24	SF	R/2810/1

Appendix 3 – External Lighting Guidance

Lighting scheme in relation to bats

The two most important features of street and security lighting with respect to bats are:

1. The UV component. Low or zero UV installations are preferred to reduce attraction of insects to lighting and therefore to reduce the attraction of foraging bats to these areas.

2. Restriction of the area illuminated. Lighting must be shielded to maintain dark areas, particularly above lighting installations, and in many cases, land adjacent to the areas illuminated. The aim is to maintain dark commuting corridors for foraging and commuting bats. Bats avoid well lit areas, and these create barriers for flying bats between roosting and feeding areas.

UV characteristics:

Low

- Low pressure Sodium Lamps (SOX) emit a minimal UV component.
- High pressure Sodium Lamps (SON) emit a small UV component.
- White SON, though low in UV, emit more than regular SON.

High

- Metal Halide lamps emit more UV than SON lamps, but less than Mercury lamps
- Mercury lamps (MBF) emit a high UV component.
- Tungsten Halogen, if unfiltered, emit a high UV component
- Compact Fluorescent (CFL), if unfiltered, emit a high UV component.
- Variable
- Light Emitting Diodes (LEDs) have a range of UV outputs. Variants are available with low or minimal UV output.
- Glass glazing and UV filtering lenses are recommended to reduce UV output.

Street lighting

- Low-pressure sodium or high-pressure sodium must be used instead of mercury or metal halide lamps. LEDs must be specified as low UV. Tungsten halogen and CFL sources must have appropriate UV filtering to reduce UV to low levels.
- Lighting must be directed to where it is needed and light spillage avoided. Hoods must be used on each lamp to direct light and contain spillage. Light leakage into hedgerows and trees must be avoided.
- If possible, the times during which the lighting is on overnight must be limited to provide some dark periods. If the light is fitted with a timer this must be adjusted to reduce the amount of 'lit time' and provide dark periods.

Security and domestic external lighting

The above recommendations concerning UV output and direction apply. In addition:

- Lighting should illuminate only ground floor areas. Light should not leak upwards to illuminate first floor and higher levels.
- Lamps of greater than 2000 lumens (150 W) must not be used.
- Movement or similar sensors must be used. They must be carefully installed and aimed, to reduce the amount of time a light is on each night.
- Light must illuminate only the immediate area required, by using as sharp a downward angle as possible. Light must not be directed at or close to bat roost access points or flight paths from the roost. A shield or hood can be used to control or restrict the area to be lit.
- Wide angle illumination must be avoided as this will be more disturbing to foraging and commuting bats as well as people and other wildlife.
- Lighting must not illuminate any bat bricks and boxes placed on buildings, trees or other nearby locations.

Taken from the Bat Conservation Trust