CARRS LANE, CUDWORTH

Ecological Mitigation Plan

Prepared for Barratt and David Wilson Homes

SLR Ref: 415.03696.00033
Version No: 1
July 2017

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1.0 INTRODUCTION AND BACKGROUND

SLR Consulting Ltd was commissioned by Barratt and David Wilson Homes to prepare an Ecological Mitigation Plan in order to discharge a planning condition for a site known as 'Carrs Lane, Cudworth'.

The relevant planning condition states:

"Prior to commencement of development full details of the mitigation measures identified in the Ecology Survey (SLR Ref: 424.03696.00024), 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".

This ecology report (424.03696.00024) was produced by SLR Consulting in September 2014, and made the following recommendations:

Section 5.1.2 (Birds)
It is recommended that vegetation clearance within the site should be scheduled to avoid the main bird breeding season, which for most species extends between March and August inclusive. If this is not possible then a breeding bird survey of habitat to be removed should be carried out by a suitably experienced ecologist, immediately prior to clearance taking place. If any active nests are found the nest and surrounding vegetation should be protected until the nesting attempt is concluded, and the young have fledged.

In order to ensure that the site retains its value to nesting, and foraging birds, it is recommended that landscape planting should include shrubs which provide both cover, and berries or fruits; potentially suitable species include hawthorn, blackthorn, crab apple and rowan.

Section 5.1.3 (Bats)
In order to retain its value for foraging bats, it is recommended that a sensitively designed landscaping and lighting scheme should be employed. The landscaping scheme should aim to retain existing hedgerows wherever possible, and to plant new or replacement hedgerows wherever necessary.

In order to enhance the site for roosting bats, it is recommended that a number of tree-mounted wooden and/ or woodcrete bat boxes should be erected, and that a proportion of the new houses should be fitted with externally mounted bat boxes, or internally fitted bat 'tubes' or 'in cavity bat boxes'.

It should be noted that a further planning condition states:

"Notwithstanding the Landscape Masterplan (R/1789/1B) submitted with this application, no development shall take place until there has been submitted to and approved in writing by the Local Planning Authority, full details of both hard and soft landscaping works, including details of the species, positions and planted heights of proposed trees and shrubs (updated to reflect ecological mitigation measures".

SLR Consulting therefore worked alongside FDA Landscape, who produced the landscape masterplan, in order to ensure relevant ecological mitigation measures were incorporated into this plan (refer to FDA Landscape Masterplan Rev C (Amended to incorporate Ecological recommendations) dated July 2017.

2.0 MITIGATION MEASURES

2.1 Vegetation Removal during the Bird Breeding Season

It is confirmed that should tree or shrub clearance be required during the main bird breeding season (March to August inclusive) a pre-commencement ornithological survey of the areas to be affected will be carried out by SLR Consulting Limited. Any active nests, if found, shall be protected, along with a suitable buffer, until the young have fledged, or the nesting attempt is complete. A short report would be provided to the local authority on completion of these surveys, if such works are undertaken within the March to August window.

Vegetation clearance works undertaken outside of the main bird breeding season (i.e. within the period September to February inclusive) will not require a pre-commencement survey.

2.2 Landscape Planting of Value to Breeding and Foraging Birds

Proposals for tree and shrub/ hedgerow planting are set out in Landscape Masterplan document R/1789/1C Rev C (Amended to incorporate Ecological recommendations) dated July 2017, prepared by FDA Landscape Limited.

This confirms that the existing boundary vegetation will be retained and cut back to form manageable hedgerows, and that additional hedgerow planting will take place along all boundaries outside of private gardens. This boundary hedgerow planting shall consist of the following native species mix:

Hawthorn	*Crataegus monogyna*	40%
Blackthorn	Prunus spinosa	20%
Hazel	*Corylus avellana*	10%
Dog rose	*Rosa canina*	10%
Field maple	*Acer campestre*	5%
Holly	*Ilex aquifolium*	5%
Honeysuckle	*Lonicera pericyclemum*	5%
Guelder rose	*Viburnum opulus*	5%

The associated Landscape Management Document[1], confirms that once established the native species hedgerows located outside of the curtilage of properties, shall be cut back outside of the bird breeding season, and where feasible during the late winter (ideally January or February[2]). This will ensure that the fruits and berries are available to birds such as 'winter thrushes', as well as other wildlife, late into the season, but that all management

[1] FDA Landscape, Landscape Management Plan for Carrs Lane, Cudworth, July 2017

[2] Section B2.2 in the above document

works will be completed prior to the start of the main bird breeding season (i.e. by March). Regular maintenance of these hedgerows will ensure that they retain the dense structure required by nesting passerine birds.

The Landscape Masterplan also states that a range of tree standards shall be planted throughout the site, including with areas of Public Open Space (POS), along the new boundary hedgerows, and within front and rear gardens of some of the properties.

A range of native and non-native tree species, including ornamental cultivars of some native species, will be used, as appropriate for the position and location concerned. Extra heavy standards shall be used within grass verges along the central boulevard, and heavy standards will be used at plot frontages in key locations, whilst selected standards shall be used at all other plot frontages and within rear gardens at key focal points. Light standards shall be planted along the lengths of new hedgerow and within remaining rear gardens to extend the wildlife corridor throughout the site. Foundation design of new buildings shall accommodate proposed tree planting in accordance with NHBC guidelines.

The Landscape Masterplan lists those tree and shrub species to be used, which includes the following native species, in addition to a number of non-native species, or ornamental cultivars of native species:

Field maple	*Acer campestre*
Common alder	*Alnus glutinosa*
Silver birch	*Betula pendula*
Hornbeam	*Carpinus betulus*
Beech	*Fagus sylvatica*
Crab apple	*Malus sylvestris*
Bird cherry	*Prunus padus*
Pedunculate oak	*Quercus robur*
Rowan	*Sorbus aucuparia*

These trees, including a number of the non-native trees/ non-native cultivars, will provide additional feeding and nesting opportunities for a range of birds, particularly once they have established.

Furthermore, the central part of the 'western POS' and the attenuation basin in the south-eastern part of the site will be seeded with a native wildflower meadow mix, which, once established, will be cut once a year, and the majority of the arisings removed. A hedgerow edge wildflower mix shall also be seeded alongside the new and retained boundary hedgerows.

These areas of wildflower grassland, along with other areas of infrequently cut amenity grassland and, to a lesser extent, frequently mown amenity grassland, will provide further foraging opportunities for a range of birds. The wildflower grassland within the attenuation basin is likely to be relatively undisturbed, and may therefore provide nesting opportunities for a limited range of ground-nesting birds, such s meadow pipit (*Anthus pratensis*).

In addition, some of the arisings cut from the attenuation basin will be piled into mounds (each measuring at least $1m^3$) along the eastern side of the basin, to provide suitable egg laying opportunities for grass snake (*Natrix natrix*). A minimum of three mounds will be created in total, and these will be replenished on a three-year

rotation. For example, a minimum of $1m^3$ of cuttings will be placed at Location A in Year 1; Location B in Year 2; Location C in Year 3; Location A in Year 4 and so on. An example of a grass snake egg-laying mound is provided in Plate 1.



Plate 1: Example of a grass snake egg-laying mound, which shall be created alongside the new attenuation basin.

2.3 Landscape Planting of Value to Foraging Bats

The measures outlined in Section 2.2 (breeding and foraging birds) shall also benefit foraging bats. The majority of the new tree and shrub planting, in addition to the new boundary hedgerow planting, shall occur in clumps or corridors, to provide relatively unbroken commuting routes and foraging areas. The provision of scattered trees throughout the site will also provide focal points for foraging bats, once these have matured.

2.4 Provision of New Bat Roosting Opportunities

As none of the retained trees are suitable for the erection of bat boxes, a total of 20 Ibstock Enclosed Bat Box C 'in cavity boxes' (refer to Plate 2 overleaf), or similar design, shall be incorporated into a selection of the new properties.

The properties chosen to receive these in cavity bat boxes are located along the southern margin of the site, adjacent to existing or proposed native hedgerows, and closest to open countryside beyond. The boxes shall be built into the fabric of the new properties, as they are constructed, and are designed to be 'self cleaning' by having an angled opening at the bottom.

The majority of the boxes have been located away from windows and doors, and positioned away from street lights; the majority of the boxes face south-west to south-east, which is the aspect generally preferred by roosting bats.

This will ensure that ample provision is made for roosting bats, within the new development.



Plate 2: Ibstock Enclosed Bat Box C (www.nhbs.com/title/193867/ibstock-enclosed-bat-box-c).

N

LEGEND

20 BAT BOX LOCATION (PLOT NUMBER)

A A, B AND C GRASS SNAKE MOUNDS (>1m² OF GRASS CUTTINGS PER YEAR, ON ROTATION)

NEWTOWN AVENUE

SUMMERDALE ROAD

El Sub Sta

LINK ROAD

CENTRAL BOULEVARD

CARRS LANE

Track

Sycamore Farm

Poplar House Farm

T11 (location estimated)

T12 (location estimated)

T5 (location estimated)

T21

T22

T23

65 64 63 62 86

60 58 57

46 47 33 35

20 21 22 23 24 25 26 27

A B C

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PROPOSED LOCATION OF 'IN CAVITY BAT BOXES' (IBSTOCK ENCLOSED BAT BOX C, OR SIMILAR)

DRAWING 1

Scale: NTS @ A3

Date: JULY 2017

424.03696.00033 Cudwoth - Proposed Location Of Bat Boxes CL.dwg

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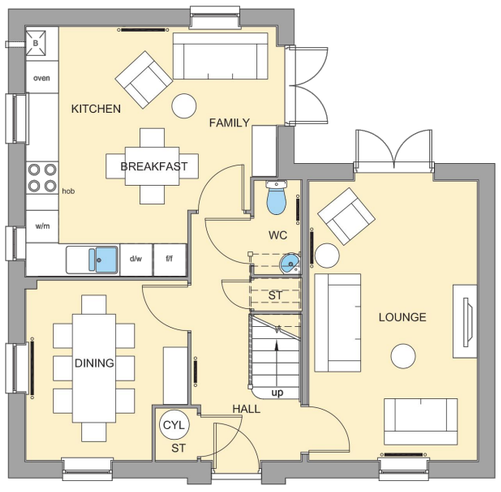
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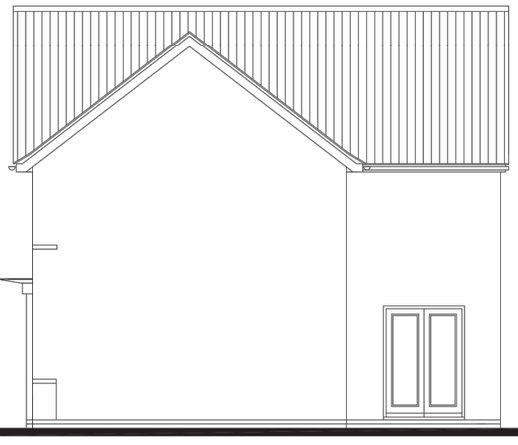
FRONT ELEVATION 1

FRONT ELEVATION 2

REAR ELEVATION







SIDE ELEVATION

GROUND FLOOR PLAN

FIRST FLOOR PLAN

0 10 20 30 40m 60 80 100

Metres 1:1250

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PROPOSED LOCATION OF ALDERNEY HOUSING BAT BOXES

DRAWING 2A

Scale	Date
1:1250 @ A3	JULY 2017

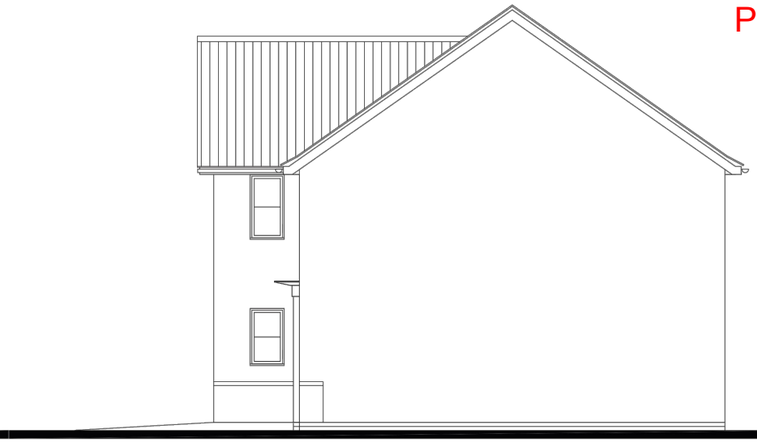
424.03696.00033 Cudwoth - Alderney Bat Box Locations CL.dwg

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NOTES



FRONT ELEVATION



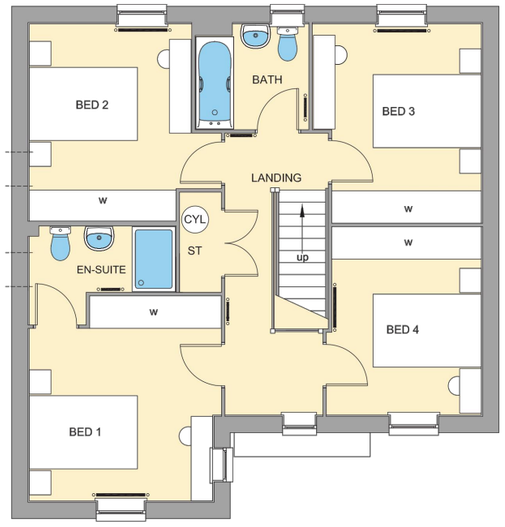
SIDE ELEVATION



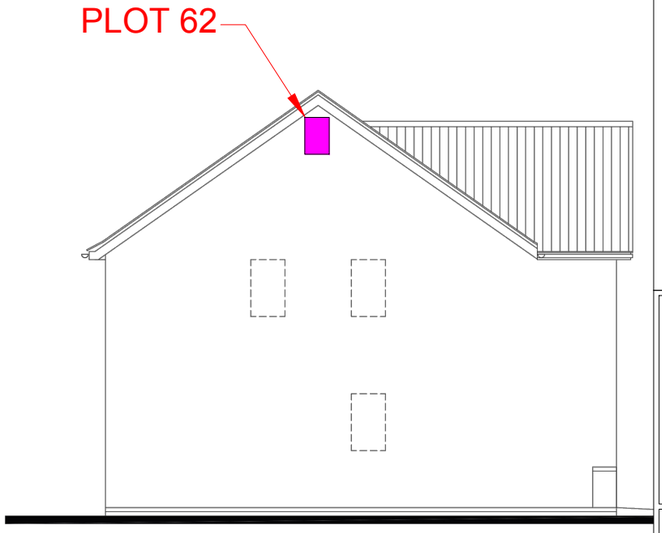
REAR ELEVATION



GROUND FLOOR PLAN



FIRST FLOOR PLAN



SIDE ELEVATION

0 10 20 30 40m 60 80 100

Metres 1:1250

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PROPOSED LOCATION OF HALTON HOUSING BAT BOXES

DRAWING 2E

Scale 1:1250 @ A3

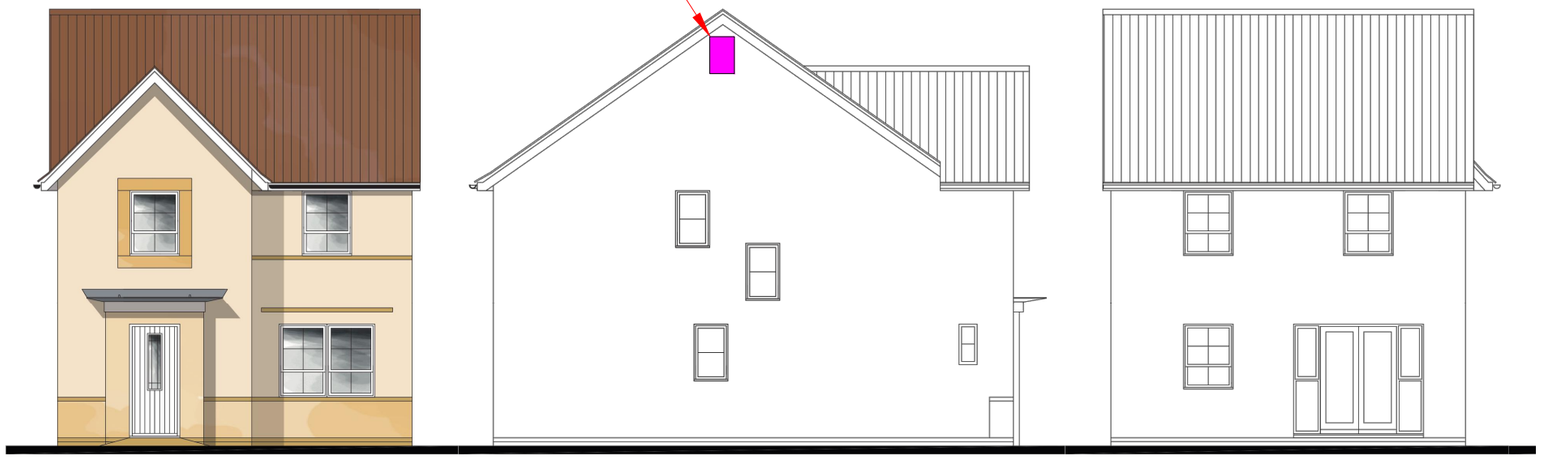
Date JULY 2017

424.03696.00033 Cudworth - Halton Bat Box Locations CL.dwg

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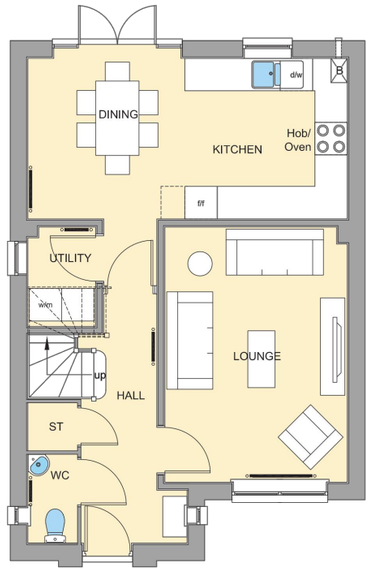
PLOTS 21,20,25



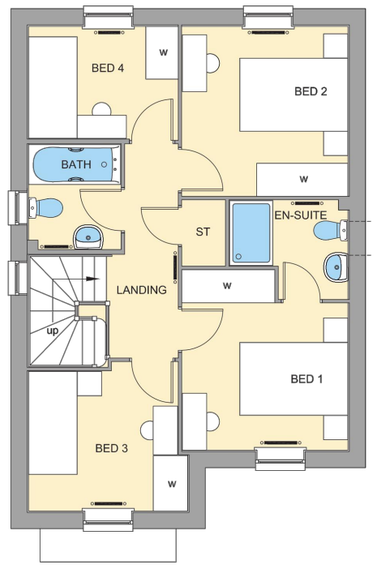
FRONT ELEVATION

SIDE ELEVATION

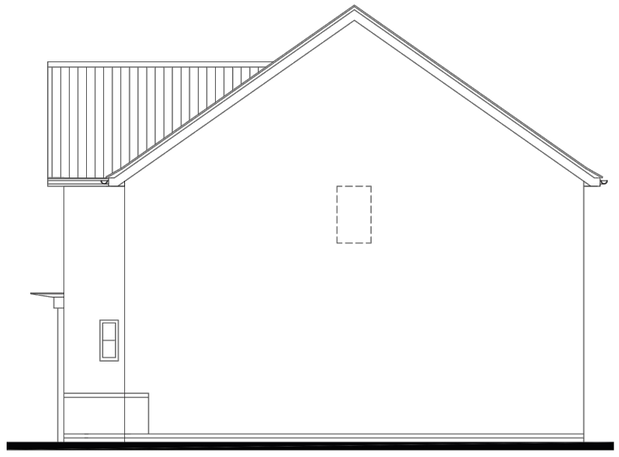
REAR ELEVATION



GROUND FLOOR PLAN



FIRST FLOOR PLAN



SIDE ELEVATION

0 10 20 30 40m 60 80 100

Metres 1:1250

NOTES

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PROPOSED LOCATION OF KINGSLEY HOUSING BAT BOXES

DRAWING 2B

Scale 1:1250 @ A3

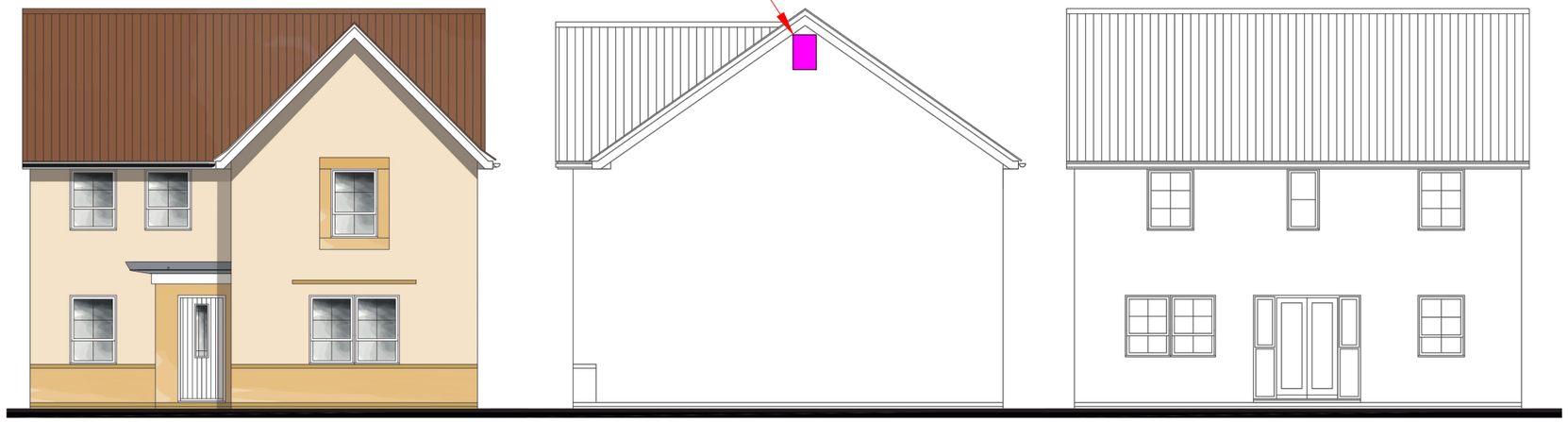
Date JULY 2017

424.03696.00033 Cudworth - Kingsley Bat Box Locations CL.dwg

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PLOTS 47,46



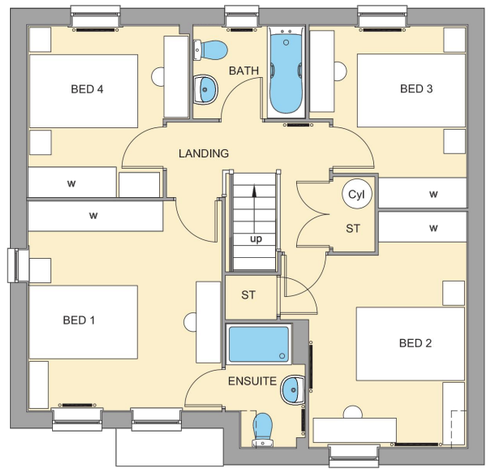
FRONT ELEVATION

SIDE ELEVATION

REAR ELEVATION



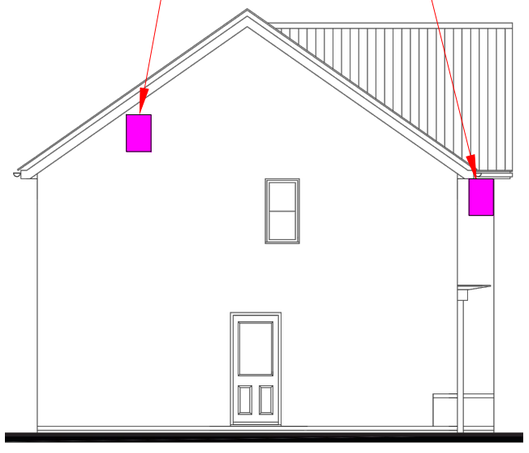
GROUND FLOOR PLAN



FIRST FLOOR PLAN

PLOTS 33,26

PLOT 24



SIDE ELEVATION

0 10 20 30 40m 60 80 100

Metres 1:1250

NOTES

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PROPOSED LOCATION OF RADLEIGH HOUSING BAT BOXES

DRAWING 2D

Scale	Date
1:1250 @ A3	JULY 2017

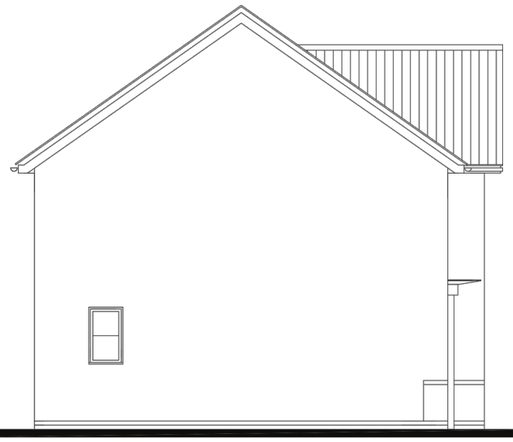
424.03696.00033 Cudworth - Radleigh Bat Box Locations CL.dwg

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PLOTS 63,64







FRONT ELEVATION

SIDE ELEVATION

REAR ELEVATION

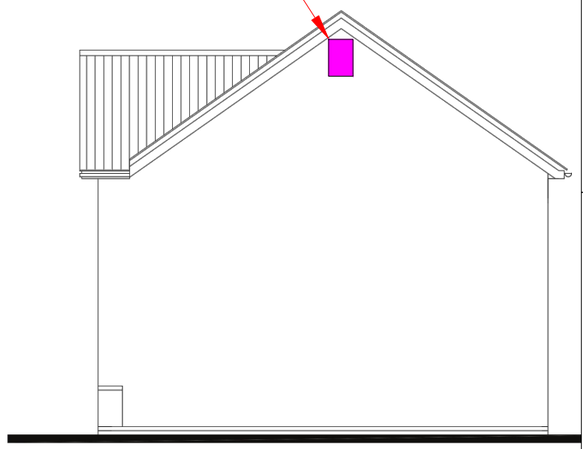




GROUND FLOOR PLAN

FIRST FLOOR PLAN

PLOT 57



SIDE ELEVATION

0 10 20 30 40m 60 80 100

Metres 1:1250

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PROPOSED LOCATION OF RIPON HOUSING BAT BOXES

DRAWING 2F

Scale 1:1250 @ A3

Date JULY 2017

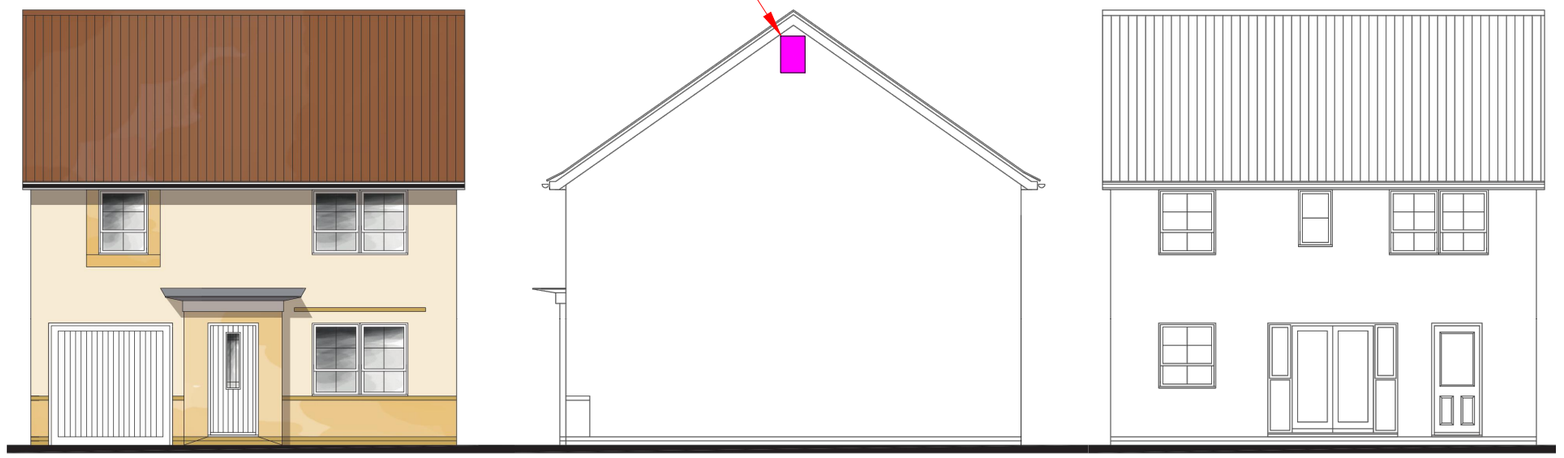
424.03696.00033 Cudworth - Ripton Bat Box Locations CL.dwg

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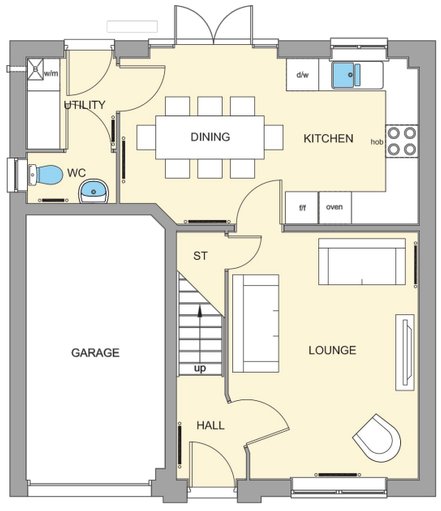
PLOT 23



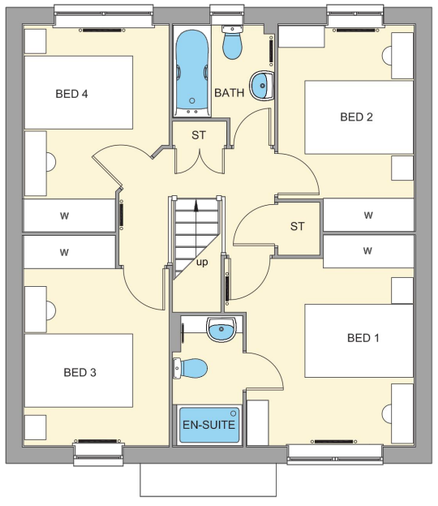
FRONT ELEVATION

SIDE ELEVATION

REAR ELEVATION

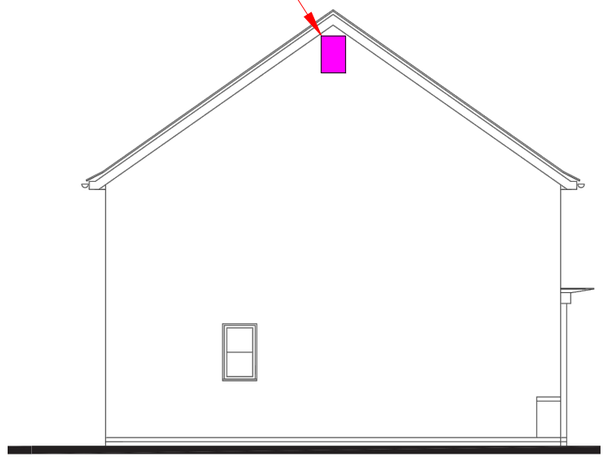


GROUND FLOOR PLAN



FIRST FLOOR PLAN

PLOTS 58,60



SIDE ELEVATION

0 10 20 30 40m 60 80 100

Metres 1:1250

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PROPOSED LOCATION OF WINDERMERE HOUSING BAT BOXES

DRAWING 2C

Scale 1:1250 @ A3

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424.03696.00033 Cudworth - Windermere Bat Box Locations CL.dwg

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