Liz Lord Ecology

Land off Richer Rd, Badwell Ash, Suffolk

Biodiversity Compensation & Enhancement Strategy

Client: Mr B Sutton

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Date: 26th October 2023

Ref: 1833A BCES

Issue: FINAL

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1.0 INTRODUCTION

Instruction

1.1 This report has been prepared by Liz Lord following instruction by Mr B Sutton to address condition 12 of planning permission DC/20/02989 relating to land west of Richer Road, Badwell Ash, Bury St Edmunds, Suffolk IP31 3EU. Outline permission has been granted for the construction of 14 residential dwellings at the site, accessed off Richer Road.

1.2 Condition 12 of DC/20/02989 states:

"Concurrently with the first application for approval of reserved matters a Biodiversity Compensation and Enhancement Strategy for Protected and Priority species & Habitats shall be submitted to and approved in writing by the local planning authority, following the details contained within the Preliminary Ecological Appraisal (Liz Lord Ecology Ltd, July 2020).

The content of the Biodiversity Compensation and Enhancement Strategy shall include the following:

a) Purpose and conservation objectives for the proposed enhancement measures;

b) detailed designs to achieve stated objectives;

c) locations of proposed enhancement measures by appropriate maps and plans;

d) persons responsible for implementing the enhancement measures;

e) details of initial aftercare and long-term maintenance (where relevant).

The works shall be implemented in accordance with the approved details and shall be retained in that manner thereafter.

Reason - To enhance Protected and Priority Species/habitats and allow the LPA to discharge its duties under the s40 of the NERC Act 2006 (Priority habitats & species)."

Relevant Documents

1.3 This report refers to and incorporates information presented in the Preliminary Ecological Appraisal report dated 7th July 2020, the Reptile Survey Report dated 28th September 2020, and the results of eDNA surveys for great crested newts presented in an addendum letter dated 19th July 2020; all by Liz Lord.

Site Description

1.4 In 2020 the site comprised a field of patchily grazed semi-improved grassland with ruderal and short perennial vegetation, partially bordered by semi-mature tree and shrubs. Further detailed habitat descriptions and images are provided in the PEA report (Lord, 2020).

1.5 The site lies on the southern outskirts of Badwell Ash village, with Richer Road running along the eastern site boundary and arable fields extending to the east and south east. Small fields of grazed pasture lie offsite to the south, surrounded by a network of hedgerows. To the north is a small area of waste ground and woodland with residential development beyond, and to the west extends further closely grazed semi-improved grassland with a copse and fallow arable land beyond.

1.6 An aerial location plan is provided below.

Fig 1: *Aerial plan, with approximate site boundary outlined in red. Aerial photograph sourced from Google Earth Pro*

2.0 AIMS AND OBJECTIVES

2.1 The aim of the compensation and enhancement measures is to maintain and increase the value of the site to protected and priority species, in a way which is appropriate to the scale and nature of the use of the site and which relates to the recommendations of the Preliminary Ecological Appraisal report, Reptile Survey Report and results of the great crested newt eDNA surveys.

2.2 A relatively limited number of features of significant ecological value were recorded onsite, with no reptiles recorded during presence / absence surveys and no evidence of the presence of great crested newts recorded following eDNA surveys of nearby ponds in 2020.

2.3 Mature boundary hedges and trees were noted to provide habitat for a range of suburban and farmland bird species, and mammals such as hedgehogs. All are due to be retained, and will be located outside of residential garden boundaries.

2.4 Low growing areas of invertebrate foraging habitat such as creeping buttercup and self-heal were recorded at the western end of the field, where grass cover was less dominant. All such foraging habitat will be lost as part of the proposals.

2.5 Negligible overall impacts upon foraging and commuting bats were predicted as part of the development proposals, subject to best practice measures relating to lighting, which will be implemented in accordance with planning condition 13 (addressed by a separate Wildlife Sensitive Lighting Design Scheme).

2.6 This report details the measures necessary to maintain the value of the site to the species identified above, as well as features which aim to enhance the site for a range of invertebrates (pollinators and saproxylic species), foraging mammals and bird species.

2.7 The target species are house sparrow, starling, stag beetle, soprano pipistrelle bat, brown long-eared bat and hedgehog, all of which are Priority species; as well as a range of pollinating insects.

Conservation Objectives

2.8 The conservation objectives will be to:

1. Maintain the value of the site to pollinating insects;
2. Maintain and enhance the value of the site to foraging and roosting bats
3. Maintain the value of the site to hedgehogs;
4. Enhance the value of the site to nesting house sparrows and starlings; and

5. Enhance the overall value of the site for saproxylic invertebrates – notably stag beetles.

Enhancements

2.9 The enhancement features will focus on both the provision of artificial nest / roost boxes, the creation of new habitat features and the creation of new nectar rich habitats.

2.10 All bird and bat boxes will be constructed of long-lasting and well insulated materials aimed at increasing uptake / use and ensuring longevity.

3.0 COMPENSATION & ENHANCEMENT MEASURES

3.1 The number and type of boxes to be installed and the habitat features to be created are detailed below. For exact locations of all compensation and enhancement features refer to Appendix 1.

Bird Boxes

3.2 **5 no. double or triple house sparrow boxes** will be provided within the new development, with the box types taken from the designs shown below. They will be erected on the northern or eastern facades of the garages shown in Appendix 1, at a minimum height of 2m. The boxes will be built in to the garage walls. Where the box designs detailed below are unavailable, any alternative will be agreed with an ecologist.

Estella House Sparrow Box

Made of long lasting woodstone

290 x 160 x 210mm

Available from CJ Wildlife

Habibat House Sparrow Terrace Box

Made of concrete, to be integrated into buildings during construction. Can be supplied with various brick facings, or without brick facings for incorporation into a rendered or weatherboarded wall.

440 x 215 x 150mm

Available from habibat.co.uk

3.3 **5 no. woodstone starling bird boxes** will be provided on separate semi-mature trees within the red and wider blue line boundary, at a height of 3-6m, and facing between north and east. The box type is shown below and can be fixed with a nail or a strap. The locations of the boxes are shown in Appendix 1.

Woodstone Starling Nest Box

Made of long lasting woodstone; can be fixed to trees with a nail or screw

Dimensions 22 x 21.5 x 38.5cm, weight 7.4kg

Available from CJ Wildlife

Bat Boxes

3.4 **4 no. bat boxes** will be built in to the side elevations of four separate garage plots, as shown in Appendix 1. The boxes will be located at the very top of the gable end apexes, away from all external lighting features, and with a 1-2m clear drop beneath the box entrances i.e. clear of all wires etc. The box designs to be used are shown below.

Vivara Pro woodstone build in bat tube – to be built in to a wall and covered externally with render or weather boarding

Habibat Bat Box – to be built in to a brick wall. Also ***available with no facing to be rendered or built into a weatherboarded wall***

Bat Box

To fit in to the outside skin of 75mm / 3" brickwork course; or ***can be supplied without brick facings for incorporation into a rendered or weatherboarded wall.*** *Can be provided with bespoke brick facings, or faced on site.*

Available from birdbrickhouses.co.uk

3.5 **6 no. Eco Kent bat boxes** will be fixed to the trunks of mature trees located along the southern site boundary. The boxes will be located at least 3m high (ideally 3-6m) with a clear 1-2m unobstructed drop beneath the box entrance i.e. free of all branches, leaves and ivy. Boxes are to face in different directions, depending upon the availability of clear trunks / large branches on which to locate the boxes. The locations of the boxes are shown in Appendix 1.

Eco Kent Bat Box

Wooden bat box for crevice dwelling species with a recycled black plastic shell for longevity and increased heat absorption

Widely available

Log Piles

3.6 **5 no. log piles** no less than 1m² in size and created with logs >150mm in diameter will be created along the southern site boundary, amongst the existing mature trees and shrubs. Logs will be **wired and pegged** into position to prevent collapse and / or removal of logs. The locations of the log piles are shown in Appendix 1.

Log Pile

*Example log pile, however note that **ALL LOGS are to be at least 150mm diameter** to ensure longevity of the pile*

SuDS Wildflower Mix

3.7 The SuDS area will be sown with a specific SuDS wildflower mix, and will comprise a minimum of 50% wildflowers, but ideally higher (80% wildflowers and 20% grasses). The mix will be species rich, providing at least 30 wildflower species, such as the widely available wildflower SuDS turf. The mix will be sown on a low fertility subsoil and as per the supplier's recommendations, generally at a rate of 5g/m² and rolled / pressed to provide contact with the soil, or will be planted as a semi-established wildflower turf / mat.

3.8 Part of the northern boundary will provide both a depression (attenuation basin) and a raised mound, created with the basin spoil. The banks of both features will provide valuable microclimates for invertebrates, and will also be sown / turfed with the flowering SuDS mix.

3.9 The SuDS wildflower areas will be cut in September / October, with all arisings collected and removed from the site.

3.10 **No topsoil** should be added to the SuDS area, and **topsoil should be removed** wherever possible, since high soil fertility favours competitive grasses / weeds over flowers.

Native hedging

3.11 Front gardens and parking / access areas will be delineated with native hedging, planted in double staggered rows and mulched with woodchip. Hedges will be a combination of single species native hedges and species rich native mixes.

Tree line

3.12 New native tree planting along the eastern site boundary will provide enhanced tree cover alongside the existing retained trees, creating a new foraging / commuting corridor for bats. The trees will comprise field maple, silver birch, hawthorn and bird cherry.

Hedgehogs

3.13 1 no. small hole (130mm x 130mm) will be created in the base of the concrete gravel boards of each of the dividing fences in the rear gardens of Plot numbers 1, 2, 4, 5, 8 and 13, to aid hedgehog access into and through gardens which may not otherwise be accessible. Each hole will be accompanied by an explanatory 'hedgehog highway' sign to discourage later closure, using the following:

Hedgehog Highway Sign

Made of recycled plastic

130 x 80mm

Widely available

(Note that all of the remaining plots will be accessible to hedgehogs due to the use of post and rail fencing along the rear garden boundaries, or due to a lack of fencing along the southern existing tree line)

Location

3.14 The location of all bird boxes, bat boxes, log piles, hedgehog holes, SuDS mix and native hedgerow planting are shown in Appendix 1.

Implementation

3.15 The site manager(s) at Hartog Hutton Ltd (to be confirmed) will be responsible for overseeing the purchase / creation and installation / implementation of all of the features detailed above.

3.16 Ground preparation and planting will be overseen by, and be the ultimate responsibility of, Hartog Hutton Ltd, who may employ a subcontractor to undertake the works.

Management

3.17 Hartog Hutton Ltd will be responsible for overseeing the installation and maintenance of the soft landscaping until handover to a grounds maintenance team. This document is to be handed to the site owners, occupants and management company (where applicable), upon completion of all hard and soft landscaping works. It is suitable for incorporation into a landscape management plan.

3.18 It is the responsibility of the management company, instructed by Hartog Hutton Ltd / site owners / tenants, to ensure the ongoing ecological functionality of all features listed above and below by carrying out all works in accordance with this document. The defined roles and responsibilities for deliverance of this management plan are detailed above and in the Management Table on page 13.

4.0 MANAGEMENT

Bird Boxes

4.1 The bird boxes are unlikely to require any on-going management. Where a build-up of old nesting material can be seen from the bird boxes, this should only be removed outside of the bird nesting season (October to January inclusive).

Bat Boxes

4.2 All of the specified bat boxes are self-cleaning and will not require further management other than to check that the boxes remain intact and fully functional i.e. in-situ, with no obstructions 1-2m below the box entrance. The boxes themselves should not be moved or inspected without a bat survey licence.

Hedgerows

4.3 New hedging will be trimmed annually by one third in the first three years to encourage dense and bushy growth. The base of the hedges will be topped up with mulch where necessary to prevent competitive weed growth. In the long term the hedges will only be trimmed outside of the bird nesting season, and wherever possible at the end of winter when wildlife has had an opportunity to use the berries.

Deadwood piles

4.4 The log piles should be left to decompose naturally. Where the piles have been dismantled or removed, they should be topped up and / or reinstated as necessary.

Wildflowers

4.5 The SuDS wildflower areas should be mown to a height of no less than 100mm once in September / October, with arisings removed from site. Where possible, cuttings should be allowed to sit on the turf for 7-10 days before removing, to allow seeds to drop.

4.6 Where necessary, thistles and similar pernicious weeds should be spot sprayed with Glyphosate or similar.

4.7 Where the wildflower areas adjoin trees and shrubs alongside the offsite quarry to the north, a long grass margin should be established, with half of the margin cut every two years on rotation. The retained long grass margins will provide habitat for overwintering invertebrates.

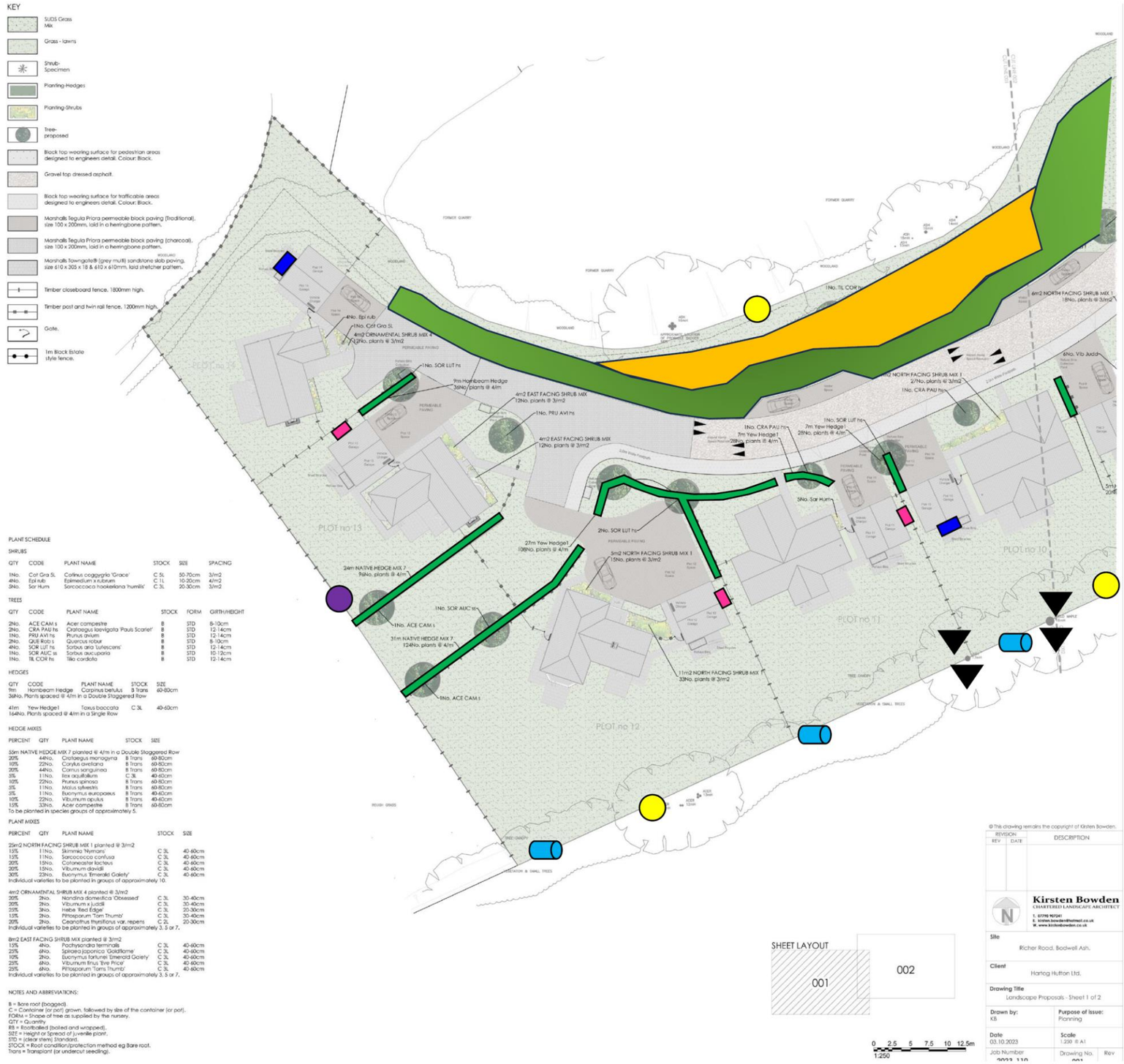
4.8 A summary of the management works required is provided in a table format overleaf.

Table 1: Management works, frequencies and timings

Habitat	*Action required*	*Year*	*Timing*
Bird boxes	Ensure boxes remain fully functional and accessible, and replace where necessary	1-30	All year
	Where the boxes become full of nesting material, empty between Oct and Jan only	1-30	October to January inclusive
Bat boxes	Check boxes have not become damaged, obstructed (e.g. by branches, leaves, wires) or artificially lit at night. Do not directly access or disturb boxes without a licence	1-30	All year
Log piles	Check annually to ensure piles remain intact	1-30	All year
	Replenish / top up wood where necessary to maintain original size	1-30	April to October
Native hedge	Trim by one third annually	1-3	October to February
	Top up base with bark mulch	1-3	All year
	Trim annually, or biannually where possible	4-30	October to February
SuDS wildflowers **(inc. bank and attenuation basin)**	Where sown from seed, mow the establishing wildflower areas every 8-10 weeks to a height of 40-60mm. Spot spray thistles and similar pernicious weeds with Glyphosate or similar, and remove all arisings from site	1	All year as required
	Where established from turf, or during the second year, cut once and remove all arisings. Where possible allow cuttings to remain insitu for 7-10 days before removing. Continue spot spraying if necessary to control pernicious weeds.	2-30	September to October
	Where the wildflowers and grassland adjoin trees and shrubs alongside the offsite quarry to the north, divide into two section and mow each section in alternate years, once per year to ground level, and remove arisings	2-30	September to October

Appendix 1:

Biodiversity Feature Locations



PLANT SCHEDULE

SHRUBS

QTY	CODE	PLANT NAME	STOCK	SIZE	SPACING
1No.	Cot Gra SL	Cotinus coggygria 'Grace'	C 5L	50-70cm	3/m2
4No.	Epi rub	Epimedium x rubrum	C 1L	10-20cm	4/m2
5No.	Sar Hum	Sarcococca hookeriana 'humilis'	C 3L	20-30cm	3/m2

TREES

QTY	CODE	PLANT NAME	STOCK	FORM	GIRTH/HEIGHT
2No.	ACE CAM s	Acer campestre	B	STD	8-10cm
2No.	CRA PAU hs	Crataegus laevigata 'Pauls Scarlet'	B	STD	12-14cm
1No.	PRU AVI hs	Prunus avium	B	STD	12-14cm
2No.	QUE Rob s	Quercus robur	B	STD	8-10cm
4No.	SOR LUT hs	Sorbus aria 'Lutescens'	B	STD	12-14cm
1No.	SOR AUC ss	Sorbus aucuparia	B	STD	10-12cm
1No.	TIL COR hs	Tilia cordata	B	STD	12-14cm

HEDGES

QTY	CODE	PLANT NAME	STOCK	SIZE
9m	Hornbeam Hedge	Carpinus betulus	B Trans	60-80cm

36No. Plants spaced @ 4/m in a Double Staggered Row

41m	Yew Hedge I	Taxus baccata	C 3L	40-60cm

164No. Plants spaced @ 4/m in a Single Row

HEDGE MIXES

55m NATIVE HEDGE MIX 7 planted @ 4/m in a Double Staggered Row

PERCENT	QTY	PLANT NAME	STOCK	SIZE
20%	44No.	Crataegus monogyna	B Trans	60-80cm
10%	22No.	Corylus avellana	B Trans	60-80cm
20%	44No.	Cornus sanguinea	B Trans	60-80cm
5%	11No.	Ilex aquifolium	C 3L	40-60cm
10%	22No.	Prunus spinosa	B Trans	60-80cm
5%	11No.	Malus sylvestris	B Trans	60-80cm
5%	11No.	Euonymus europaeus	B Trans	40-60cm
10%	22No.	Viburnum opulus	B Trans	40-60cm
15%	33No.	Acer campestre	B Trans	60-80cm

To be planted in species groups of approximately 5.

PLANT MIXES

PERCENT	QTY	PLANT NAME	STOCK	SIZE

25m2 NORTH FACING SHRUB MIX 1 planted @ 3/m2

15%	11No.	Skimmia 'Nymans'	C 3L	40-60cm
15%	11No.	Sarcococca confusa	C 3L	40-60cm
20%	15No.	Cotoneaster lacteus	C 3L	40-60cm
20%	15No.	Viburnum davidii	C 3L	40-60cm
30%	23No.	Euonymus 'Emerald Gaiety'	C 3L	40-60cm

Individual varieties to be planted in groups of approximately 10.

4m2 ORNAMENTAL SHRUB MIX 4 planted @ 3/m2

20%	2No.	Nandina domestica 'Obsessed'	C 3L	30-40cm
20%	2No.	Viburnum x juddii	C 3L	30-40cm
20%	3No.	Hebe 'Red Edge'	C 3L	20-30cm
15%	2No.	Pittosporum 'Tom Thumb'	C 3L	30-40cm
25%	2No.	Ceanothus thyrsiflorus var. repens	C 2L	20-30cm

Individual varieties to be planted in groups of approximately 3, 5 or 7.

8m2 EAST FACING SHRUB MIX planted @ 3/m2

15%	4No.	Pachysandra terminalis	C 3L	40-60cm
25%	6No.	Spiraea japonica 'Goldflame'	C 3L	40-60cm
10%	2No.	Euonymus fortunei 'Emerald Gaiety'	C 3L	40-60cm
25%	6No.	Viburnum tinus 'Eve Price'	C 3L	40-60cm
25%	6No.	Pittosporum 'Toms Thumb'	C 3L	40-60cm

Individual varieties to be planted in groups of approximately 3, 5 or 7.

NOTES AND ABBREVIATIONS:

B = Bare root (bagged).
C = Container (or pot) grown, followed by size of the container (or pot).
FORM = Shape of tree as supplied by the nursery.
QTY = Quantity.
RB = Rootballed (balled and wrapped).
SIZE = Height or Spread of juvenile plant.
STD = (clear stem) Standard.
STOCK = Root condition/protection method eg Bare root.
Trans = Transplant (or undercut seedling).

KEY

- House sparrow box
- Starling box
- Log pile
- Grassland – half to be cut every other year
- Flowering lawn mix
- Native hedgerow
- Built-in bat box
- Eco Kent bat box
- Hedgehog hole

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SITE: Richer Road, Badwell Ash

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