

Report for: Stockwell Gate, Whaplode

Commissioned by: Mr Simon Percival

Biological Impact Assessment



Proposed Block Plan (HA Architectural Services, 2023)

Stockwell Gate, Whaplode

Report No: J3179-0623

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SUMMARY

On the instructions of Mr Simon Percival, Morgan & Stuckey Ecological Consultants carried out a Biological Impact Assessment for the site of Stockwell Gate, Whaplode.

Proposals for the site includes for the redevelopment of the existing arable field into a new housing development with 37 residential plots and associated access roads and amenity play area.

The proposed development will result in an 10.35% BNG gain in Habitat Area Units with the trading rules satisfied.

Recommendations for the site can be found in Section 6.

CONTENTS

1	INTRODUCTION.....	5
1.1	Instructions and Objectives	5
2	Method.....	6
2.1	BIODIVERSITY NET GAIN.....	6
2.1.1	Data Sources	6
2.2	Surveyor Information	6
2.3	Limitations	6
3	Results.....	7
3.1	Site Location and Settings	7
3.2	Desk Study	7
3.3	BNG Assessment	8
3.3.1	Baseline Units.....	8
3.3.2	Post-Development Units	9
3.3.3	BNG Gain/Loss	10
4	Discussion.....	12
4.1	Biodiversity Net Gain (BNG)	12
5	Conclusion	13
6	Recommendations	14
6.1	Other Neutral Grassland.....	14
6.2	Urban Trees	15
6.3	Hedgerows.....	15

TABLES

Table 3.4	Baseline Area Units.....	8
Table 3.5	Baseline Linear Units	9
Table 3.6	Post-development Area Units	9
Table 3.7	Post-development Linear Units	10

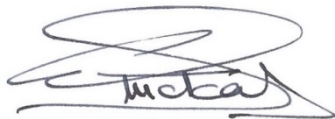
FIGURES

Figure 3-1	Proposed development area with red boundary.	7
Figure 3-2	MAGIC Map.....	8
Figure 3-3	Baseline Habitats.....	9
Figure 3-3	Post Development Habitats	10
Figure 3-4	Metric 4.0 Headline results.....	11

DOCUMENT CONTROL

Document Title:	Biological Impact Assessment Stockwell Gate, Whaplode
The Client:	Mr Simon Percival

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Reviewed by		
Page no	Page 4 of 16	

Biological Records of species identified during this survey, the date, their location and a brief description of the circumstances of their identification, may be passed on to Biological Records Centre's, local wildlife groups, the Wildlife Trust, Natural England and other interested parties unless written instructions not to do so are received within 30 days of receipt of this report.

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1 INTRODUCTION

1.1 INSTRUCTIONS AND OBJECTIVES

On the instructions of Mr Simon Percival, Morgan & Stuckey Ecological Consultants carried out a Biological Impact Assessment for the site of Stockwell Gate, Whaplode.

Proposals for the site includes for the redevelopment of the existing arable field into a new housing development with 37 residential plots and associated access roads and amenity play area.

The aim of this report is to determine the Biodiversity Net Gain (BNG) for the proposed development and, where necessary, provide recommendations for increasing net gain.

Biodiversity net gain (BNG) is an approach to developments that aims to measurably improve the natural environment from its previous state. The mitigation hierarchy is followed to first avoid the loss of biodiverse habitats, secondly to enhance and create biodiverse habitats on site and thirdly to seek off-site compensation as a last resort.

2 METHOD

2.1 BIODIVERSITY NET GAIN

This report uses the Biodiversity Metric 4.0 (Natural England, 2023) to make the calculations for the baseline biodiversity units and the post-development biodiversity units, to quantify the net gain of the development.

Supporting documentation for the Biodiversity Metric 4.0 (listed below) is used and adhered to:

Biodiversity Metric 4.0 Auditing and accounting for biodiversity- User Guide (Natural England, 2023)

Biodiversity Metric 4.0 Auditing and accounting for biodiversity- Technical Supplement (Natural England, 2023)

Biodiversity Metric 4.0 Habitat Condition Assessment Sheets with Instructions (Natural England, 2023).

2.1.1 DATA SOURCES

QGIS Open-Source software and Google Earth are used to measure and calculate the habitat areas and lengths.

The Preliminary Ecological Appraisal (Greenlight Environmental Consultancy, 2022) was used to determine the baseline habitats.

Drawings 4162-100 Site Block Plan and 4162-101 Landscape Plan (HA Architectural Services, 2022) were used to determine the post-development habitats.

2.2 SURVEYOR INFORMATION

This report and the BNG calculation has been carried out by Dr Clifford Stuckey BSc (Hons), PHD, CEnv, MCEEIM.

2.3 LIMITATIONS

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour and the ecological survey of this site has not produced a complete list of plants and animals. Nevertheless, the results of the ecological survey allow evaluation of nature conservation value, assessment of the significance of potential impacts that may arise from the proposals and consideration of appropriate mitigation measures.

3 RESULTS

3.1 SITE LOCATION AND SETTINGS

The site is centred on OS NGR TF 33250 24686, with the nearest post code of PE12 6GS, in Spalding, Whaplode.

The site is surrounded by residential dwellings and arable fields in the immediate vicinity and Whaplode River runs just outside of the eastern boundary.

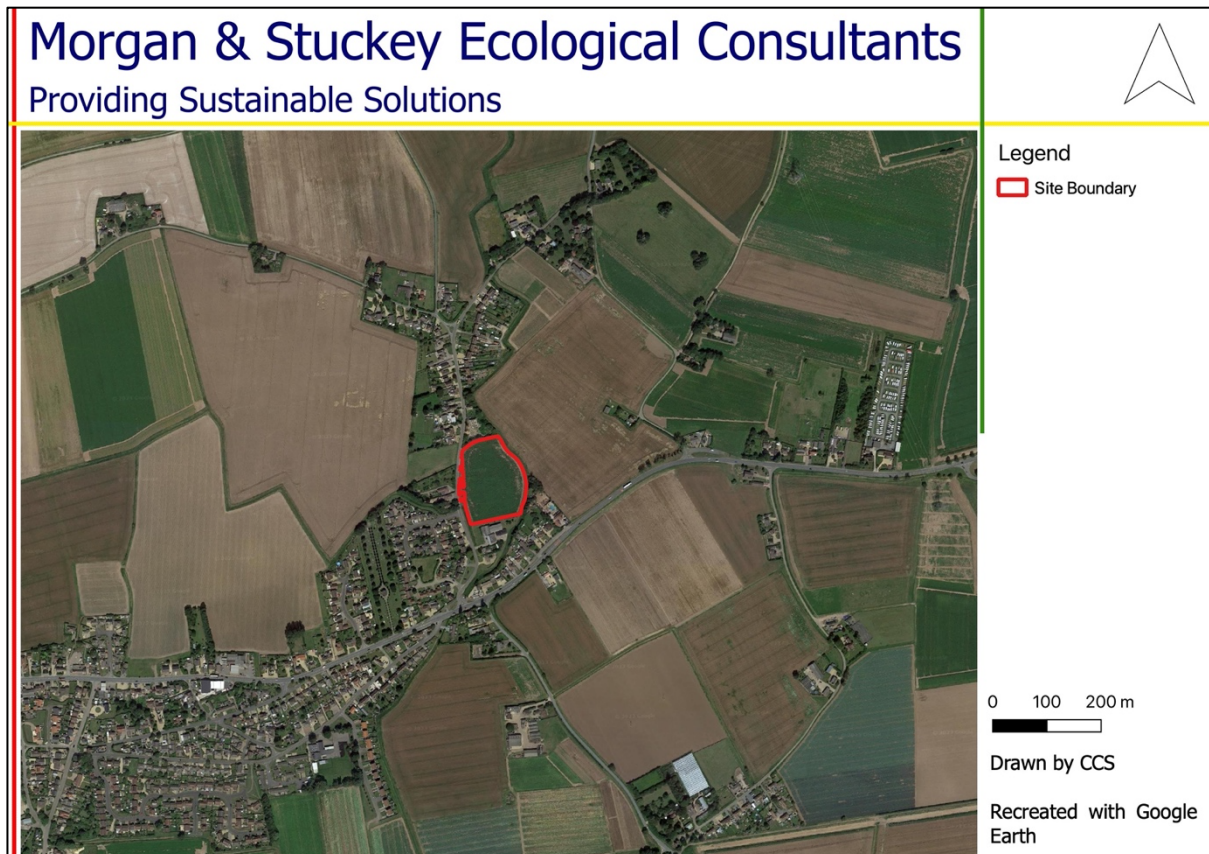


Figure 3-1 Proposed development area with red boundary.

3.2 DESK STUDY

Interrogation of the Multi-Agency Geographic Information for the Countryside (MAGIC) showed that there are no statutory sites within the search area of 2,000m. The site falls into the SSSI Impact Risk Zone for The Wash SSSI, located at its nearest point approx. 8,950m to the northeast.

The desk study, undertaken by Greenlight Environmental Consultancy (2022), found and one Country Wildlife Site (CWS)- Guy Wells Pit located approx. 600m southeast.

The closest priority habitat is Coastal and Floodplain Grazing Marsh, located approx. 410m north.

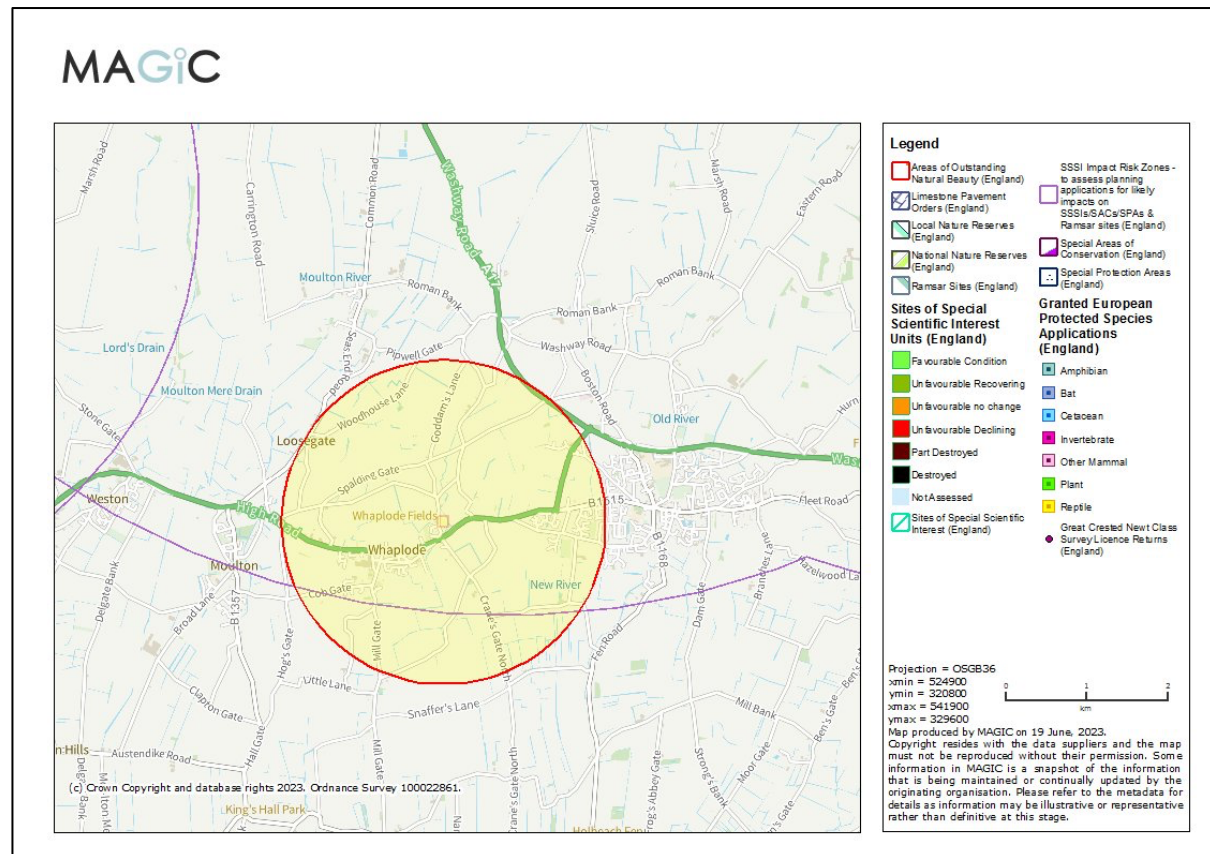


Figure 3-2 MAGIC Map

3.3 BNG ASSESSMENT

3.3.1 BASELINE UNITS

The site is comprised of arable field used for cereal crops, which at the time of the field survey in May 2022, was fallow and featured sparse ruderal/ ephemeral vegetation with field margins comprised of modified grassland (Greenlight Environmental Consultancy, 2022).

A hedgerow is present just outside of the northern boundary of the site, which is to be retained.

The pre-development habitats on site were entered into the Biodiversity Metric 4.0 and the results are summarised below.

Table 3.1 Baseline Area Units

UKHab Classification	Condition	Area (ha)	Units
Cereal crops	N/A	1.34	2.69
Modified grassland	Poor (Fails Criterion 1 of Habitat Assessment)	0.16	0.32
Total area units			3.01

Table 3.2 Baseline Linear Units

UKHab Classification	Condition	Linear (km)	Units
N/A			
		Total linear units	

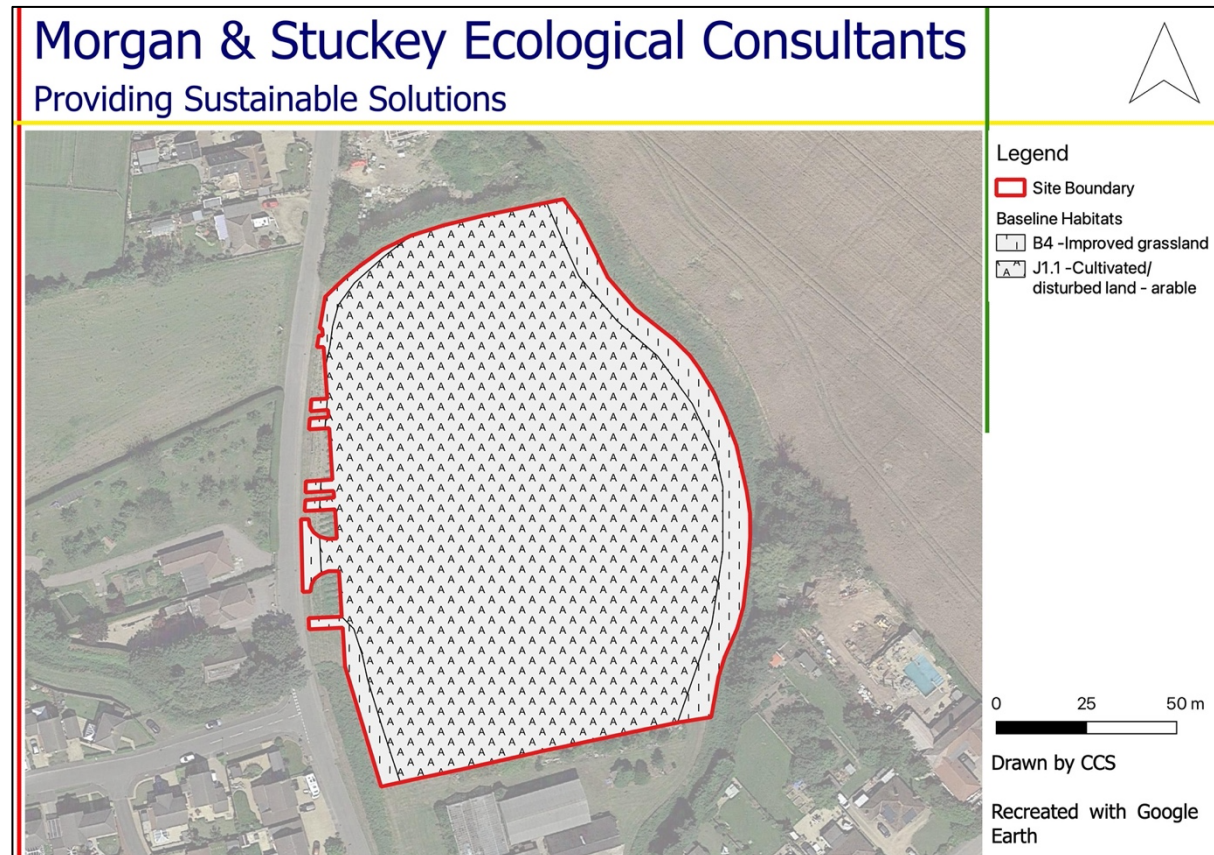


Figure 3-3 Baseline Habitats

3.3.2 POST-DEVELOPMENT UNITS

The post-development habitats proposed for the site were entered into the Biodiversity Metric 4.0 and the results are summarised below.

Table 3.3 Post-development Area Units

UKHab Classification	Condition	Area (ha)	Units
Developed land; sealed surface	N/A	0.80	0.00
Vegetated gardens	N/A	0.36	0.69
Modified grassland	Good	0.15	0.69
Other Neutral Grassland	Good	0.19	1.61
Urban Tree – 26 Small	Moderate	0.11	0.32

Baseline units retained

N/A			
		Total Area Units	3.32

Table 3.4 Post-development Linear Units

UKHab Classification	Condition	Linear (km)	Units
N/A			
Baseline units retained			
N/A			
		Total Linear Units	

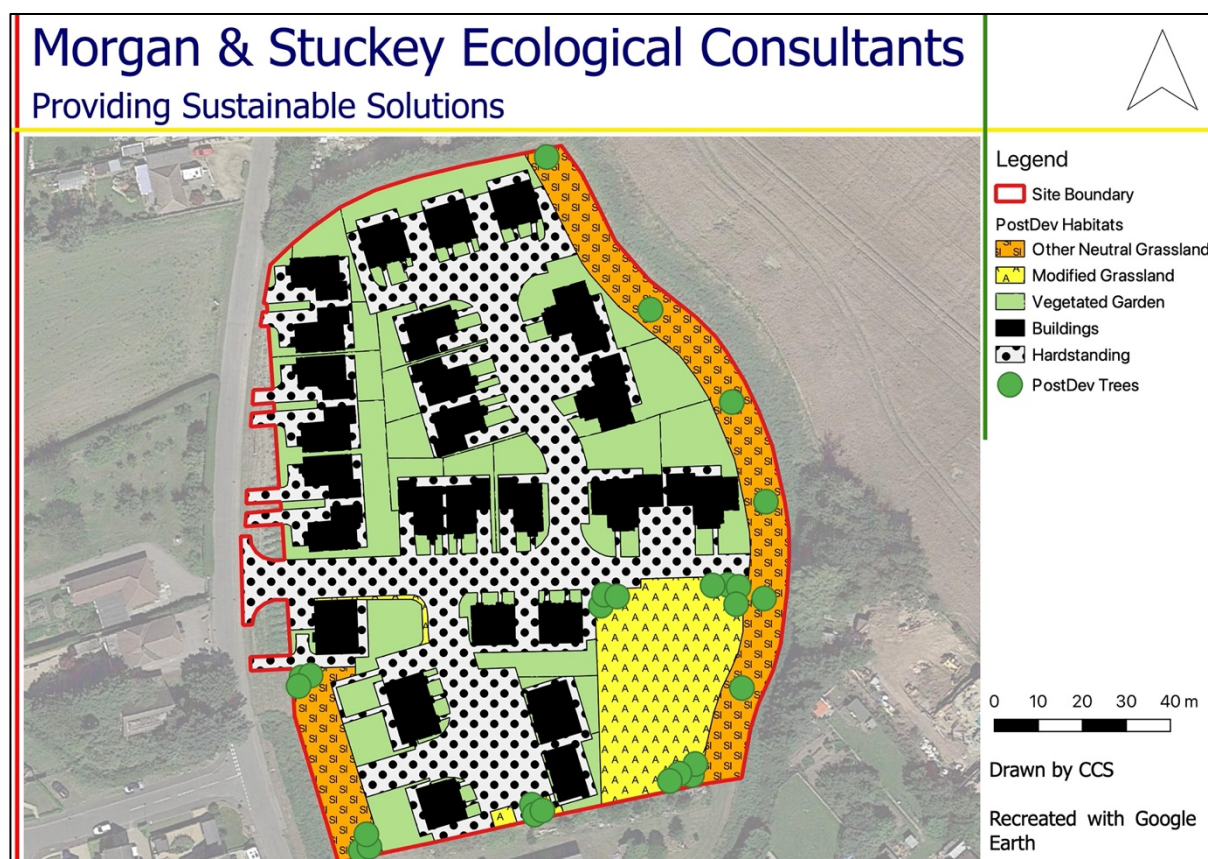


Figure 3-4 Post Development Habitats

3.3.3 BNG GAIN/LOSS

The proposed development will result in an 10.35% BNG gain in Habitat Area Units with the trading rules satisfied.

Stockwell Gate Whaplode Spalding

Headline Results

Scroll down for final results

Return to results menu

On-site baseline	Habitat units	3.01			
	Hedgerow units	0.00			
	Watercourse units	0.00			
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	3.32			
	Hedgerow units	0.00			
	Watercourse units	0.00			
On-site net change (units & percentage)	Habitat units	0.31	10.35%		
	Hedgerow units	0.00	0.00%		
	Watercourse units	0.00	0.00%		
Off-site baseline	Habitat units	0.00			
	Hedgerow units	0.00			
	Watercourse units	0.00			
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00			
	Hedgerow units	0.00			
	Watercourse units	0.00			
Off-site net change (units & percentage)	Habitat units	0.00	0.00%		
	Hedgerow units	0.00	0.00%		
	Watercourse units	0.00	0.00%		
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.31			
	Hedgerow units	0.00			
	Watercourse units	0.00			
Spatial risk multiplier (SRM) deductions	Habitat units	0.00			
	Hedgerow units	0.00			
	Watercourse units	0.00			
FINAL RESULTS					
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.31			
	Hedgerow units	0.00			
	Watercourse units	0.00			
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	10.35%			
	Hedgerow units	0.00%			
	Watercourse units	0.00%			
Trading rules satisfied?		Yes			
Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	10.00%	3.01	3.31	0.00	Unit requirement met or surpassed
Hedgerow units	10.00%	0.00	0.00	0.00	Unit requirement met or surpassed
Watercourse units	10.00%	0.00	0.00	0.00	Unit requirement met or surpassed

Figure 3-5 Metric 4.0 Headline results

4 DISCUSSION

4.1 BIODIVERSITY NET GAIN (BNG)

The proposed development will result in an 10.35% BNG gain in Habitat Area Units with the trading rules satisfied.

No baseline habitats are to be retained, however, these are of low ecological value, consisting of cereal crop and poor modified grassland.

Boundary habitats are of a higher value, including the hedgerow along the northern boundary and the Whaplode River along the eastern boundary- both sit outside the site boundary, are to be retained and are unimpacted by the development.

The proposed habitats consist mainly of developed land; sealed surface in the form of new residential dwellings, driveways and new access roads, with associated vegetated gardens.

A 9m buffer zone along the eastern and part of the western boundaries have been incorporated into the proposed plans to protect the river and the drain in these areas. This habitat will be planted with a species-rich grassland mix and will be managed to create diverse sward heights by mowing intentional pathways through the grassland to allow for human footfall and allowing the remainder to grow up.

Occasional small trees will be planted within this area and also within the modified grassland communal park/ play area on site.

Recommendations for these habitats can be found in Section 6.

5 CONCLUSION

On the instructions of Mr Simon Percival, Morgan & Stuckey Ecological Consultants carried out a Biological Impact Assessment for the site of Stockwell Gate, Whaplode.

Proposals for the site includes for the redevelopment of the existing arable field into a new housing development with 37 residential plots and associated access roads and amenity play area.

The proposed development will result in an 10.35% BNG gain in Habitat Area Units with the trading rules satisfied.

6 RECOMMENDATIONS

6.1 OTHER NEUTRAL GRASSLAND

The buffer zone around the site will be planted with a species-rich grassland mix and managed to create diverse sward heights by mowing intentional pathways through the grassland to allow for human footfall and allowing the remainder to grow up. Log piles and hibernaculum's could also be incorporated into this area to provide additional habitat for herpetofauna species.

Below are recommendations for the sowing and management of this habitat, taken from Emmorsgate Seeds <https://wildseed.co.uk/additional-information/sowing-and-aftercare-mixtures/>

MEADOW CREATION BY SOWING ONTO PREPARED SOIL

Ground Preparation: Select ground that is not highly fertile, and does not have a problem with perennial weeds. Remove any existing vegetation by repeated cultivation or turf stripping. Then plough, surface cultivate or dig to bring up clean soil, harrow or rake to produce a medium tilth, and roll or tread to produce a firm surface. Aim to produce a firm, weed free, medium tilth, seed-bed.

Sowing Rate: Sow at 4g/m² in a landscaping or garden setting. A reduced rate of around 2g/m² may be used in an agricultural setting or on large areas.

Sowing: Sow in the autumn or the spring, or at any other time of the year if the ground conditions are good. Divide the quantity of seed and sow half in one direction over the entire area and the remainder across the whole area in the other direction. The seed must be sown on the surface and can be applied by seed drill, seed fiddle, or broadcast by hand. Do not incorporate or cover the seed, but firm in with a roll, or by treading, to give good seed/soil contact.

Aftercare: Most of the sown meadow species are perennial and are slow to establish. Soon after sowing there will be a flush of annual weeds, arising from the soil seed bank. These weeds can look unsightly, but they will offer shelter to the sown seedlings, are great for bugs, and they will die before the year is out. So resist cutting the annual weeds until mid to late summer, especially if the mixture contains Yellow Rattle, or has been sown with a nurse of cornfield annuals. Then cut, remove and compost. Early August is a good time. This will reveal the young meadow, which can then be kept short by grazing or mowing through to the end of March of the following year.

In the second growing season, and each year thereafter, leave the meadow uncut and un-grazed from the end of March to mid-summer, allowing the sown species to flower in June and July. After flowering, cut and remove the vegetation. This may be taken off as hay, or cut and stacked nearby to rot. The meadow may then be kept mown or grazed through to the end of March in the following year. Moderate winter poaching is beneficial. Flowering in the second growing season will be very good, and as the years go by, and with good management, species diversity will increase.

Cutting date can be varied from year to year, bringing it forward to early July if the meadow becomes rank, or taking a later cut in early August if the structure is good. Perennial weeds can be controlled by selective scything or topping. Cut perennial weeds at flowering and before seed set.

6.2 URBAN TREES

Twenty-six small sized trees are proposed within the development. These must have a trunk diameter at breast height of up to 30cm within the 30-year time span of the Metric.

These trees will be planted within the communal areas, including within the buffer zone along the boundaries of the site. The Preliminary Ecological Appraisal (Greenlight Environmental Consultancy, 2022) found evidence of water voles along the riverbank, therefore, any trees planted within the buffer zone should be a minimum of 6m from the top of the river/drain bank to avoid impacting any water vole burrows that may be present.

Recommended tree species for planting include:

- Alder *Alnus glutinosa*
- Field Maple *Acer campestre*
- Whitebeam *Sorbus aria*
- Rowan *Sorbus fruticose*
- Small-leaved Lime *Tilia cordata*
- Hornbeam *Carpinus betulus*
- Silver Birch *Betula pendula*

6.3 HEDGEROWS

There are no linear features currently on site or proposed within the development, however, native hedgerows could be included to provide further biodiverse habitat on site. Recommended species for the hedgerows include:

- Hawthorn *Crataegus monogyna*
- Blackthorn *Prunus spinosa*
- Hazel *Corylus avellana*
- Holly *Ilex europaeus*
- Wild Privet *Ligustrum vulgare*
- Field Maple *Acer campestre*
- Guelder Rose *Viburnum opulus*
- Wayfaring Tree *Viburnum lantana*
- Dog Rose *Rosa canina*
- Spindle *Euonymus europaea*

The following guidance is adapted from The Wildlife Trusts:

<https://www.wildlifetrusts.org/wildlife/managing-land-wildlife/how-manage-hedgerow-wildlife>

Ideally the hedgerows should be planted between November-March when the trees aren't losing their leaves or producing buds. In the first spring, the shrubs should be cut down to 45-60cm above the ground to encourage a thick hedge. Replace any failures in the following November-March.

Once established, no cutting should take place between March-September as this is peak bird nesting season. Ideally, any maintenance work should be delayed

until January/ February as hedgerow berries provide an autumn/ winter food source for birds.

Trim hedges on a two or three year rotation as flower buds often form on second-year growth and this will ensure there are flowers for pollinators in spring and berries for birds in autumn. Hedges cut every three years can produce two and a half times as much blossom as those cut annually.