envirotech

Ecological Consultants
Environmental and Rural Chartered Surveyors

Biodiversity Net Gain

Flosh Meadows

Green at Heart BEN GOLD

RICS The mark of property professionalism worldwide

Tel: 015395 61894
Email: info@envtech.co.uk
Web: www.envtech.co.uk
Envirotech NW Ltd
The Stables, Back Lane, Hale, Milnthorpe, Cumbria. LA7 7BL
Directors: A. Gardner BSc (Hons), MSc, MRICS, Dip NDEA
H. Gardner BSc (Hons), MSc, CEnv, MRICS
Registered in England and Wales. Company Registration Number 5028111

ACCURACY OF REPORT

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, all of the protected species this survey covers are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and/or in their interaction with protected species. If protected species are found during a work programme, and continuing the work programme could result in their disturbance, injury or death, either directly or indirectly an offence may be committed.

If in doubt, stop work and seek further professional advice.

Quality and Environmental Assurance

This report has been printed on recycled paper as part of our commitment to achieving both the ISO 9001 Quality Assurance and ISO 14001 Environmental Assurance standards. Envirotech have been awarded the Gold standard by the Cumbria Business Environmental Network for its Environmental management systems.

Author	Andrew Gardner	Date	29/05/2024
Checked by	Andrew Gardner	Date	18/06/2024
Report Version	2		
Field data entered	☐		
Report Reference	9200		

Contents

INTRODUCTION

Purpose of this Report

Envirotech were requested to carry out a biodiversity assessment of land at Flosh Meadows. The aim was for an ecologist with botanical expertise to carry out a site visit to map the habitat types present at the site in order to establish the biodiversity baseline.

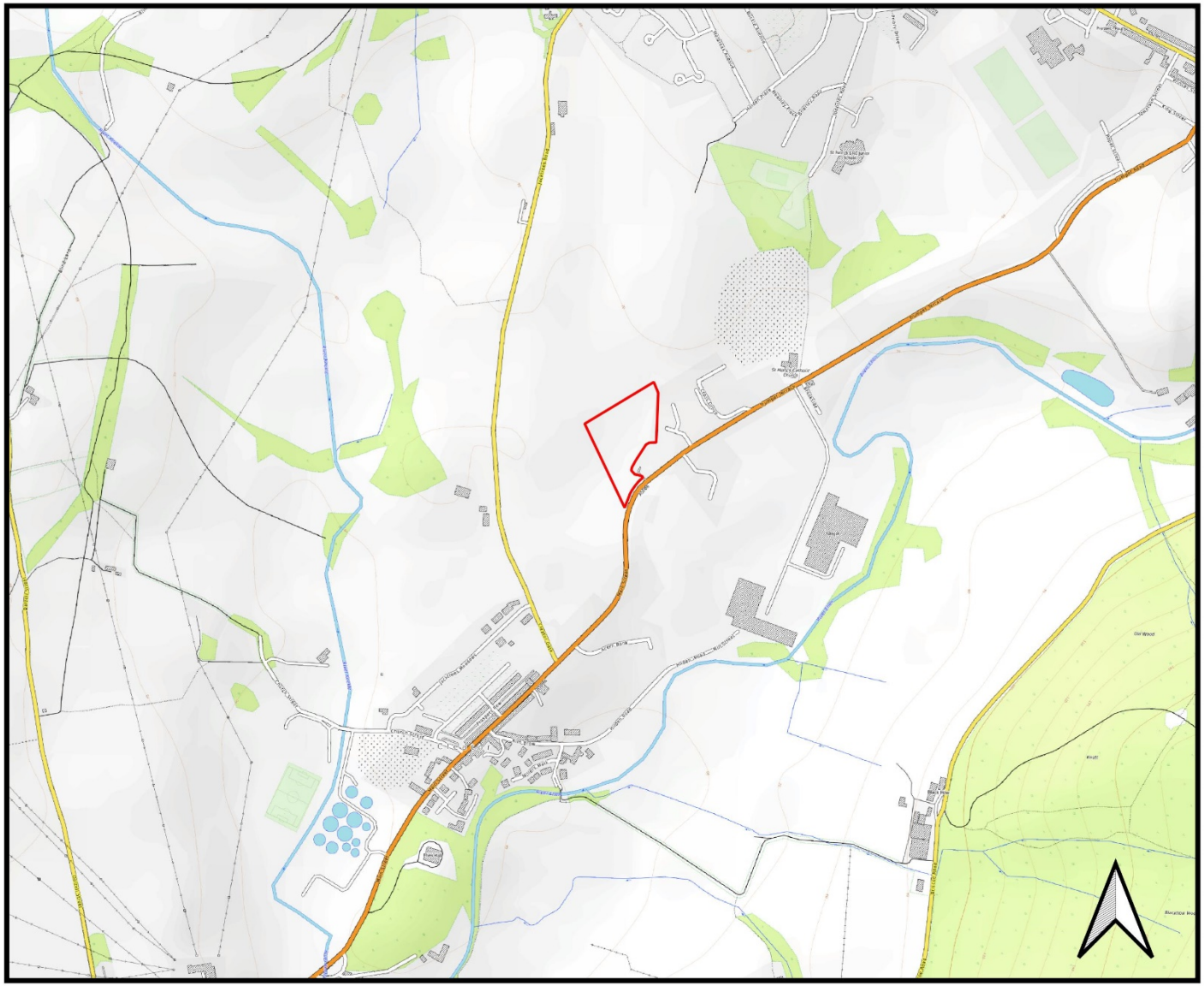
Each habitat type was mapped using the standard habitat mapping convention using UK Habitat Classification V2 (Butcher et al., 2023) for the purposes of using the Defra metric.

Using the findings of the baseline surveys, pre-construction ecology was measured against proposed habitat changes arising from future ecological enhancements based on an Illustrative Plan (post-construction) provided by the client.

This report presents the results of this desk-based study to assess net change in biodiversity 'units' in connection with the removal of habitats for the proposed development at the site.

Ecological Context

The site is 1.2269Ha and *Figure 1* shows the site location.



Red Line Boundary

Figure 1

Site Location

envirotech

Policy context

The primary aims of Biodiversity Net Gain are to secure a measurable improvement in habitat for biodiversity, to minimise biodiversity losses and to help to restore ecological networks whilst streamlining development processes.

The National Planning Policy Framework (NPPF) makes provisions for the delivery of biodiversity net gain. Additionally, there is a 10% net gain requirement in the Environment Bill.

METHODS

Introduction

The statutory biodiversity metric is designed to quantify biodiversity to inform and improve planning, design, land management and decision-making (Natural England, 2024).

This study has been carried out as a desk-based exercise, using the results of field surveys carried out at the site by Envirotech and an Illustrative Plan provided by the client.

Biodiversity Assessment Methods

To calculate biodiversity units for the site and assess any changes arising from the proposed development this study uses methods set out the latest Statutory Biodiversity Metric user guide (Natural England, 2024).

The biodiversity metric uses three core measurements:

- Habitat area
- Length of linear terrestrial habitats
- Length of linear aquatic habitats.

Consequently, a site can have three biodiversity unit values, which are assessed using the same metric, but cannot be summed together.

Habitat area is multiplied by several factors that indicate its quality: distinctiveness, condition, strategic location and connectivity, and this gives its biodiversity unit value. This can be used for existing and future created habitats. In addition, when habitats are to be enhanced or newly-created, the risk of failure is accounted for by applying multipliers for risk factors (difficulty, time to target condition, and off-site risk).

Habitat Distinctiveness

Habitats are classified using the UK habitat classification V2 system (Butcher et al., 2023).

The metric pre-assigns each habitat type to a distinctiveness band according to its distinguishing features, i.e. species richness, rarity (at local, regional, national and international scales), and the degree to which it supports species rarely found in other habitats. On rare occasions, the habitat distinctiveness of a habitat can be altered up or down from the preassigned value. Any

alterations must then be fully explained using evidence relevant to the site, e.g. an increase in distinctiveness because of rare flora or fauna or a decrease in distinctiveness because of significant damage to the habitat.

Habitat Condition

Habitat condition measures the varying quality of similar habitats against what is perceived to be their optimal state. The statutory biodiversity metric technical supplement (Natural England, 2023) contains condition sheets for all habitats to which the metric can apply. The condition sheets contain a habitat description, contextual information to aid the assessment, and the assessment criteria. The criteria describe what components need to be present for a habitat to be in good, moderate or poor condition.

Strategic Location

Strategic location - sometimes called 'strategic significance' – works at a landscape scale, allowing additional value to be added to habitats in 'priority' or 'biodiversity target areas'. They include statutory and non-statutory sites and other areas with biodiversity value or potential, and they are mainly identified from local plans and objectives. If a habitat is within such a target area, a multiplier is applied to increase its value.

Difficulty of Creation and Restoration

The risks associated with creating new or enhancing existing habitats, are known as difficulty factors; for example, where habitats fail to establish owing to natural changes in local conditions, incorrect management or for unknown reasons. The statutory biodiversity metric contains default values for each habitat based on the average difficulty of creating or enhancing a habitat. Occasionally, under exceptional circumstances, these can be modified, but any deviation from the default value must be fully justified.

Time to Target Condition

There is often a lag between a habitat being removed and the new compensation habitats achieving their target condition. This gives reduced biodiversity value for a time. The statutory biodiversity metric preassigns the time to target condition based on good practice and typical conditions, and assigns a multiplier based on the number of years required to achieve it.

Using bespoke techniques under unique conditions, or creating compensation habitats prior to impacts taking place, the time to target condition can be adjusted. Any changes must again be fully justified.

Off-site Risk

Sometimes it is not possible to compensate adequately for loss of biodiversity within the site boundary, so off-site compensation is required. If the off-site compensation is a significant distance from the development site, then there will be a local loss of biodiversity and a multiplier is applied to any off-site compensation.

BIODIVERSITY ASSESSMENT

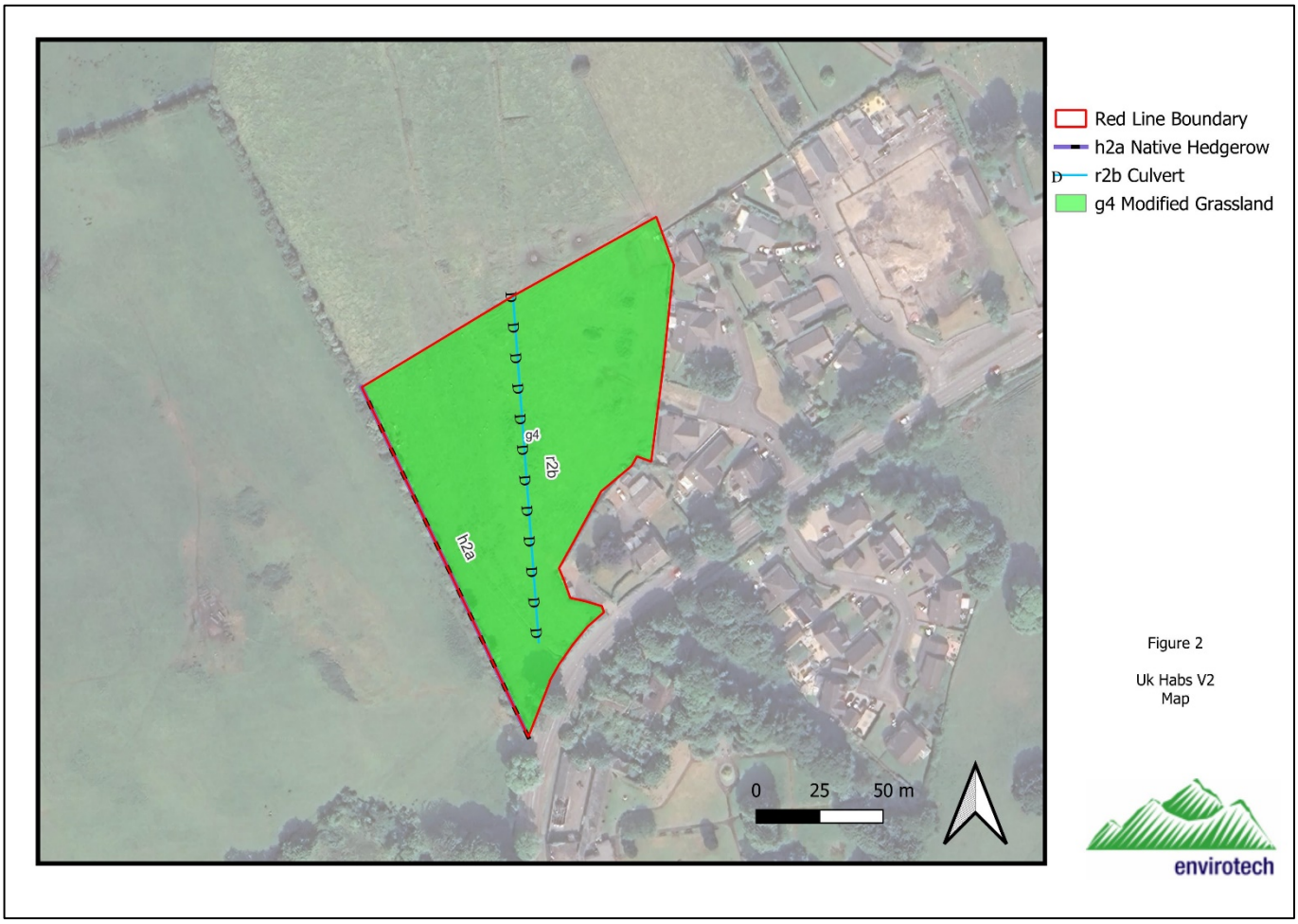
Baseline:

The sites baseline BNG value was calculated using the Statutory BNG metric and UKHabs v2 methodology. This was shown on Figure 2.

The baseline value for the site is as at 24.5.2024. This is the date that our assessment was undertaken. We consider there will have been no substantive changes to habitat condition at the time of the planning application being made.

We are not aware of any habitat features which have been purposefully degraded after 30th January 2020.

The type, area and distinctiveness values are shown on Table 1.



Habitat	Area	Distinctiveness
Modified grassland	1.2269	Low
Native hedgerow	0.152	Low
Culvert	0.145	Low

Table 1- *Habitat, Area and Distinctiveness Values*

The UK Habs V2 habitat survey has been used to identify relevant habitat areas, linear habitat areas and watercourse units.

These habitats have been input into the statutory biodiversity metric calculator R1 and indicate a total of 2.45 area units, 0.30 terrestrial linear units and 0.21 watercourse units. The results of the calculations are presented in the full biodiversity assessment calculation in the Excel document 'Flosh Meadows Statutory Biodiversity Metric'.

The condition assessments for each of the area, linear and water course habitat are presented in Appendix A. No deviations have been made from the default methods for baseline habitats assessment.

Post-development Habitat Creation and Enhancement

The Illustrative Landscape Plan has been used to identify that there will be no retained habitats, one enhanced habitat (Modified grassland) and two new habitats (Gardens and Buildings). 0.0537Ha of Modified grassland will be enhanced with the sowing of a "flowering lawn" seed mix and infrequently mown, no more than three times per year. Other habits require no management and are in default condition.

Linear features are retained (the boundary hedge) and 60m of new species rich native hedge is planted to the Southern boundary. Watercourse features are retained (a culvert), Figure 3.

Given there is no loss or gain of Watercourse units onsite, a small gain in linear habitat and there is a loss of area habitat features, offsite compensation will be undertaken.

0.0478Ha of modified grassland in poor condition will be enhanced to neutral grassland in moderate condition. This will require reduced mowing and oversowing with a suitable wildflower seed mix such as a "flowering lawn" seed mix. The grassland can be left to grow longer over summer, with cuts in later summer to 10cm. It is required that flowers be allowed to set seed, cutting should therefore not occur until late summer. Ideally arisings should be removed.

58m of new species rich native hedgerow will be planted connecting adjacent existing hedgerows. 10m of culvert will be opened up to create an open stream which will flow through the area of neutral grassland.

These figures have been put in to the Statutory Biodiversity Metric and would comprise a total of -1.35 biodiversity area units, +0.79 terrestrial linear biodiversity units and +0.02 watercourse units.

This represents a LOSS in Habitat area units -54.96%, a GAIN in Hedgerow units +259.86% and a GAIN in Watercourse units +10.27%.

Details of the assumptions made to achieve the proposed conditions are found in Appendix B

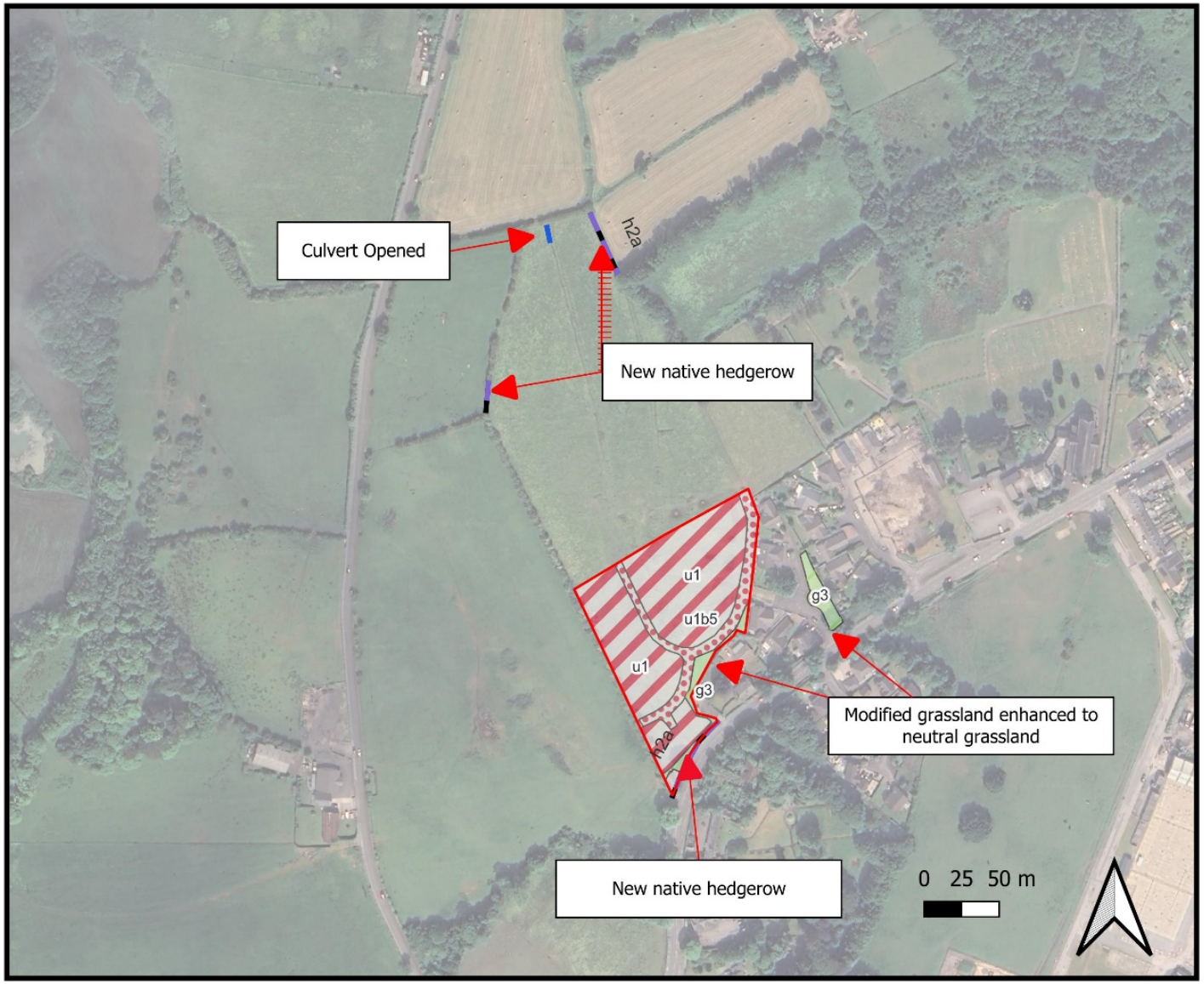


Figure 3

UK Habitats Survey Map

Post Development on and offsite habitat

envirotech

Change in Biodiversity Value

Under the current proposals set out in the Illustrative Landscape Plan Figure 3 there will be a LOSS in biodiversity area units -1.35, a GAIN in terrestrial linear biodiversity units of +0.79 and GAIN in watercourse units of +0.02.

This represents a LOSS in Habitat area units -54.96%, a GAIN in Hedgerow units +259.86% and a GAIN in Watercourse units +10.27%.

Table 2. *Change in Biodiversity Units Calculation*

On-site baseline	*Habitat units*	2.45		
	Hedgerow units	0.30		
	Watercourse units	0.21		
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.90		
	Hedgerow units	0.71		
	Watercourse units	0.21		
On-site net change (units & percentage)	*Habitat units*	-1.55	-63.15%	On-site net gain is less than target set ⚠
	Hedgerow units	0.40	132.13%	
	Watercourse units	0.00	0.00%	
Off-site baseline	*Habitat units*	0.10		
	Hedgerow units	0.00		
	Watercourse units	0.01		
Off-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.30		
	Hedgerow units	0.39		
	Watercourse units	0.06		
Off-site net change (units & percentage)	*Habitat units*	0.20	210.08%	
	Hedgerow units	0.39	N/A	ero baseline units - % cannot be calculated
	Watercourse units	0.04	318.24%	
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	-1.35		
	Hedgerow units	0.79		
	Watercourse units	0.04		
Spatial risk multiplier (SRM) deductions	*Habitat units*	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.02		

FINAL RESULTS			
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	-1.35	
	Hedgerow units	0.79	
	Watercourse units	0.02	
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	-54.96%	Total net gain achieved is less than target set ▲
	Hedgerow units	259.86%	
	Watercourse units	10.27%	
Trading rules satisfied?	No - Check Trading Summaries ▲		

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	0.00%	2.45	2.45	1.35	
Hedgerow units	0.00%	0.30	0.30	0.00	No additional hedgerow units required to meet target ✓
Watercourse units	0.00%	0.21	0.21	0.00	No additional watercourse units required to meet target ✓

REFERENCES

Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2023), UK Habitat Classification – Habitat Definitions V2.01 at http://ukhab.org

Natural England 2023. Natural England The Statutory Biodiversity Metric User Guide (draft)

APPENDIX A – BASELINE DETAILED CONDITION ASSESSMENTS

This appendix presents the assessment of the post-development habitats against the condition sheets in the statutory biodiversity metric technical supplement published by Natural England, 2023. Any deviations from the published guidance is explained and justified.

UK Hab Equivalent	Condition Sheet	Other Habitat Criteria Score									Total Score	Condition Assessment	Notes
		C1	C2	C3	C4	C5	C6	C7	C8	C9			
Modified Grassland	GRASSLAND: Low distinctiveness	F	F	P	P	P	P	P			5	Poor	Fails C1 so can only be poor

Key:
P – Criteria passed
F – Criteria failed

Appendix Table A1: Condition Assessment for Area Habitats

Phase 1 Habitat	UK Hab Equivalent	Hedgerow Criteria Score										Condition Assessment	Notes
		A1	A2	B1	B2	C1	C2	D1	D2	E1*	E2*		
Intact Species-poor hedgerow	Native Hedgerow	P	P	F	P	F	F	P	F			Poor	Gappy at base, grazed out, tamping to hedge bottom

Key:
P – Criteria passed
F – Criteria failed
* - Application to Hedgerows with trees only

Appendix Table A2: Hedgerow Condition Assessment

APPENDIX B – POST DEVELOPMENT DETAILED CONDITION ASSESSMENTS

This appendix presents the assessment of the post-development habitats against the condition sheets in the statutory biodiversity metric technical supplement published by Natural England, 2023. Any deviations from the published guidance is explained and justified.

UK Hab Equivalent	Condition Sheet	Other Habitat Criteria Score									Total Score	Condition Assessment	Notes
		C1	C2	C3	C4	C5	C6	C7	C8	C9			
Other neutral grassland	GRASSLAND: Medium-Very High distinctiveness	P	P	P	P	P	F				5	Moderate	Flowering Lawn

Key:
P – Criteria passed
F – Criteria failed

Appendix Table B1: Condition Assessment for Area Habitats

Phase 1 Habitat	UK Hab Equivalent	Hedgerow Criteria Score										Condition Assessment	Notes
		A1	A2	B1	B2	C1	C2	D1	D2	E1*	E2*		
Intact Species-poor hedgerow	Native Species Rich Hedgerow	P	P	F	P	F	P	P	F			Moderate	New hedges planted

Key:
P – Criteria passed
F – Criteria failed
* - Application to Hedgerows with trees only

Appendix Table B2: Hedgerow Condition Assessment