



The Ecology Co-op

ENVIRONMENTAL CONSULTANTS

Unit 4, Langham Stables, Langham Lane, Lodsworth, Petworth, West Sussex, GU28 9BU.

Tel: 01798 861 800 – E-Mail: info@ecologyco-op.co.uk – Web: www.ecologyco-op.co.uk

Biodiversity Impact Calculation

Site Name

Langley Bottom Farm

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Client

Fairfax Acquisitions

Author

Paul Whitby

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The Ecology Co-operation Ltd

Registered Office: Unit 4, Langham Stables, Langham Lane, Lodsworth, West Sussex, GU28 9BU

Company number: 8905527





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Original	Paul Whitby BSc (Hons) MCIEEM, CEcol	Sam Lunn BSc, MSc, MCIEEM	02.07.23	N/A	

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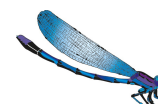
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About the Author

This report has been prepared by Paul Whitby, a Principal Ecologist at The Ecology Co-op, with 19 years' experience. He has a Level 2 bat survey license and has prepared numerous European Protected Species licenses for bats. As a Full member of the Chartered Institute for Ecology and Environmental Management (CIEEM) and as a Chartered Ecologist through this body, he is bound by their code of professional conduct.

About the Reviewer

This report has been reviewed by Sam Lunn, who is a Principal Ecologist with 12 years' experience. As a Full member of the Chartered Institute for Ecology and Environmental Management (CIEEM), he is bound by their code of professional conduct.



Report Summary

Purpose	The Ecology Co-operation was commissioned by Fairfax Acquisitions to undertake a Biodiversity Impact Calculation of a proposal to build up to 110 homes on land at Langley Bottom Farm, using the Statutory Biodiversity Metric, to quantify net change in biodiversity.
Summary of Losses and Gains	The proposed development scheme at this site will result in the loss of: • 4.817ha of cereal crops • 0.045ha of other neutral grassland • 0.078ha of modified grassland • 0.007ha of bramble scrub • 0.032ha of vegetated garden • 0.038ha of developed land; sealed surface The proposed development scheme at this site will retain: • 0.194ha of other neutral grassland • 0.012km line of trees • 0.031km Native hedgerow The following habitat will be enhanced • 0.005ha of other neutral grassland from poor to moderate condition Post intervention the following habitats will be created: • 0.252ha of other neutral grassland (moderate condition) • 0.738ha of other neutral grassland (good condition) • 0.201ha of modified grassland (poor condition) • 0.257ha of bioswale (good condition) • 0.191ha of mixed scrub (good condition) • 0.1914 of urban trees (moderate condition) • 1.467ha of vegetated garden (condition N/A) • 1.911ha of developed land; sealed surface (condition N/A)
Final Metric Results	The Biodiversity Impact Calculation has demonstrated that the proposed scheme will result in a likely gain of 3.91 habitat units (33.03%). The linear feature calculation for the proposed scheme indicates a likely gain of 4.06 hedgerow units (+2745.45%). The current scheme satisfies the trading rules of the Statutory Biodiversity Metric.
Does the scheme meet net gain requirements?	The current scheme meets the 10% mandatory net gain value set out within the Environment Act 2021.



CONTENTS PAGE

1	INTRODUCTION	1
1.1	Purpose of the Report.....	1
1.2	Background.....	1
1.3	Summary of Previous Survey Work	4
1.4	Policy and Legislation	4
2	METHODOLOGY	5
2.1	Data Sources	6
3	RESULTS	7
3.1	Existing Habitats Assessment.....	7
3.2	Habitat Losses and Gains.....	7
4	CONCLUSIONS	8
APPENDIX 1 – Habitat Condition Assessment Sheets.....		Error! Bookmark not defined.



1 INTRODUCTION

1.1 Purpose of the Report

There has been a mandatory requirement for all new developments to demonstrate 'net gains' in biodiversity from the 12th February 2024, following the release of updated National Planning Policy Framework¹ by the Department of Housing, Communities and Local Government and the Environment Act 2021². A mandatory value of 10% net gain in biodiversity value for all developments (that do not meet exemption criteria) is required under the Environment Act 2021.

This document includes a baseline 'Biodiversity Impact Calculation' (BIC) for the proposed development at Langley Bottom Farm. The calculation utilises the Statutory Biodiversity Metric and assigns 'biodiversity units' to the pre-existing habitats contained within a proposed development site and those that are predicted to be lost, restored and/or created once the development has been constructed. This allows an objective comparison to be made between the existing biodiversity value of a given site and the predicted biodiversity value post development, with the net change in biodiversity value subsequently quantified.

The purpose of this document is to present the findings of the BIC based on the most up-to date existing habitat survey information and the most current outline plans for the proposed development of the site. BICs provide an evidence base for discussions between the ecological consultant, developer and the local planning authority regarding on-site avoidance, on-site mitigation and off-site compensation requirements.

This report will be used in relation to a proposal for the construction of up to 110 new homes. Given the likelihood of proposed changes in the design scheme, some of the recommendations will potentially be subject to change. The results of the BIC are deemed accurate for the most recent layout plan.

This report was commissioned and produced at the request of Fairfax Acquisitions.

1.2 Background

The site measures 5.22ha in area and comprises largely of arable land currently sown with cereal crops (4.8ha), a residential property with associated garden and some small areas of grassland.

The site was subject to extensive surveys across 2019 and 2024 by the Ecology Co-op and an Ecological Impact Assessment summarising this survey work and identified ecological constraints and opportunities has been produced³.

Habitats (UKHAB) within the site and along the site boundaries are shown in (Figure 1), these include:

- 4.817ha Cereal Crops
- 0.22ha other neutral grassland (ONG) in moderate condition (this is actually 'other calcareous grassland

¹ HM Government (2023). National Planning Policy Framework. Department for Housing, Communities and Local Government. Available online at: https://assets.publishing.service.gov.uk/media/65a11af7e8f5ec000f1f8c46/NPPF_December_2023.pdf

² HM Government (2021). Environment Act 2021 Available online at:

<https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

³ Ecology Co-op (2025) Ecological Impact Assessment, Langley Bottom Field



under UKHab but reverts to ONG within the statutory metric).

- 0.024ha ONG in poor condition
- 0.078ha modified grassland in moderate condition
- 0.007ha bramble scrub (condition N/A)
- 0.032ha Vegetated garden (condition N/A)
- 0.038ha Developed land sealed surface (condition N/A)

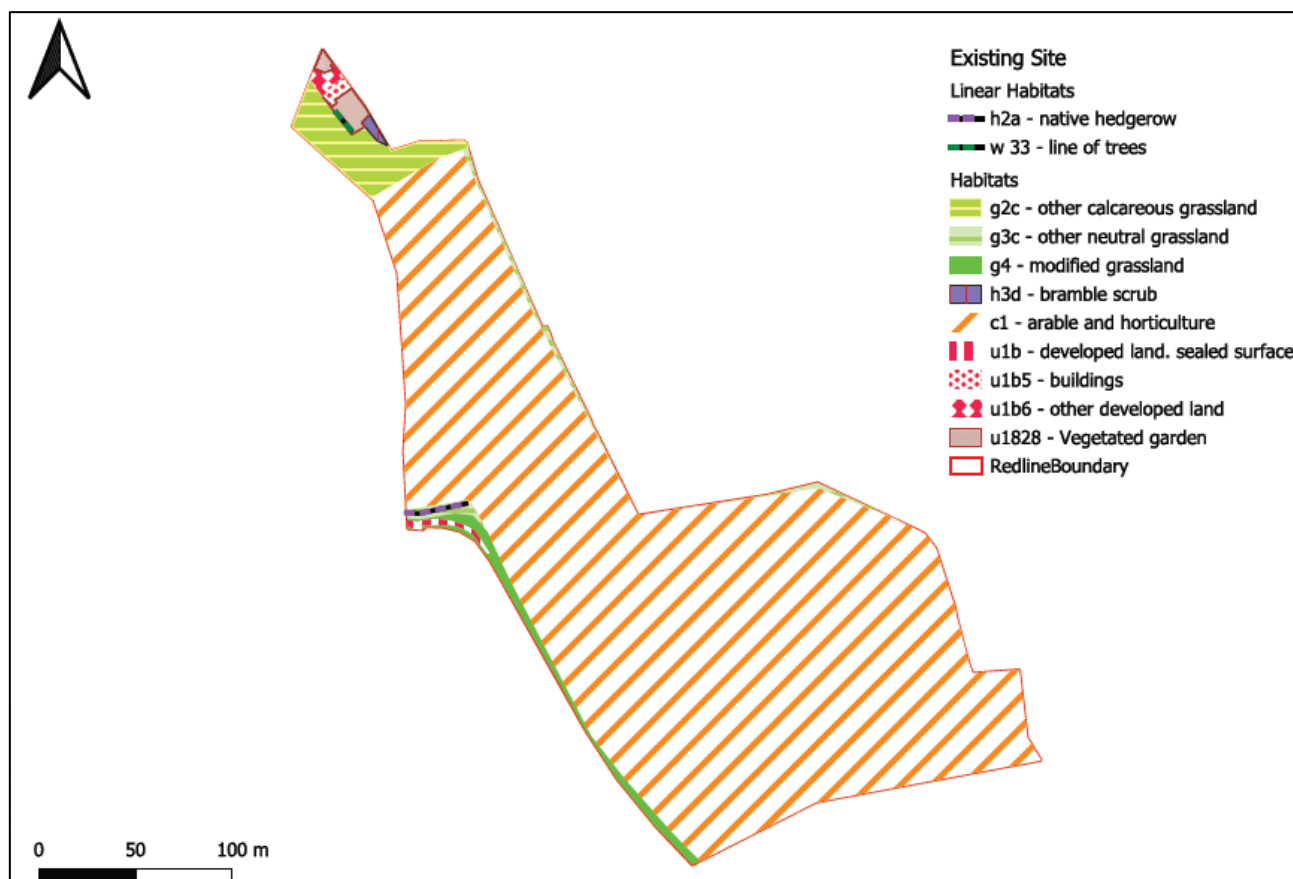


Figure 1. UKHAB map showing existing habitats within the site. The site boundary is indicated with a black line. Produced using QGIS software, version 4.06.3 – Hannover.



Figure 2. The Landscape Masterplan, produced by Fabrik.

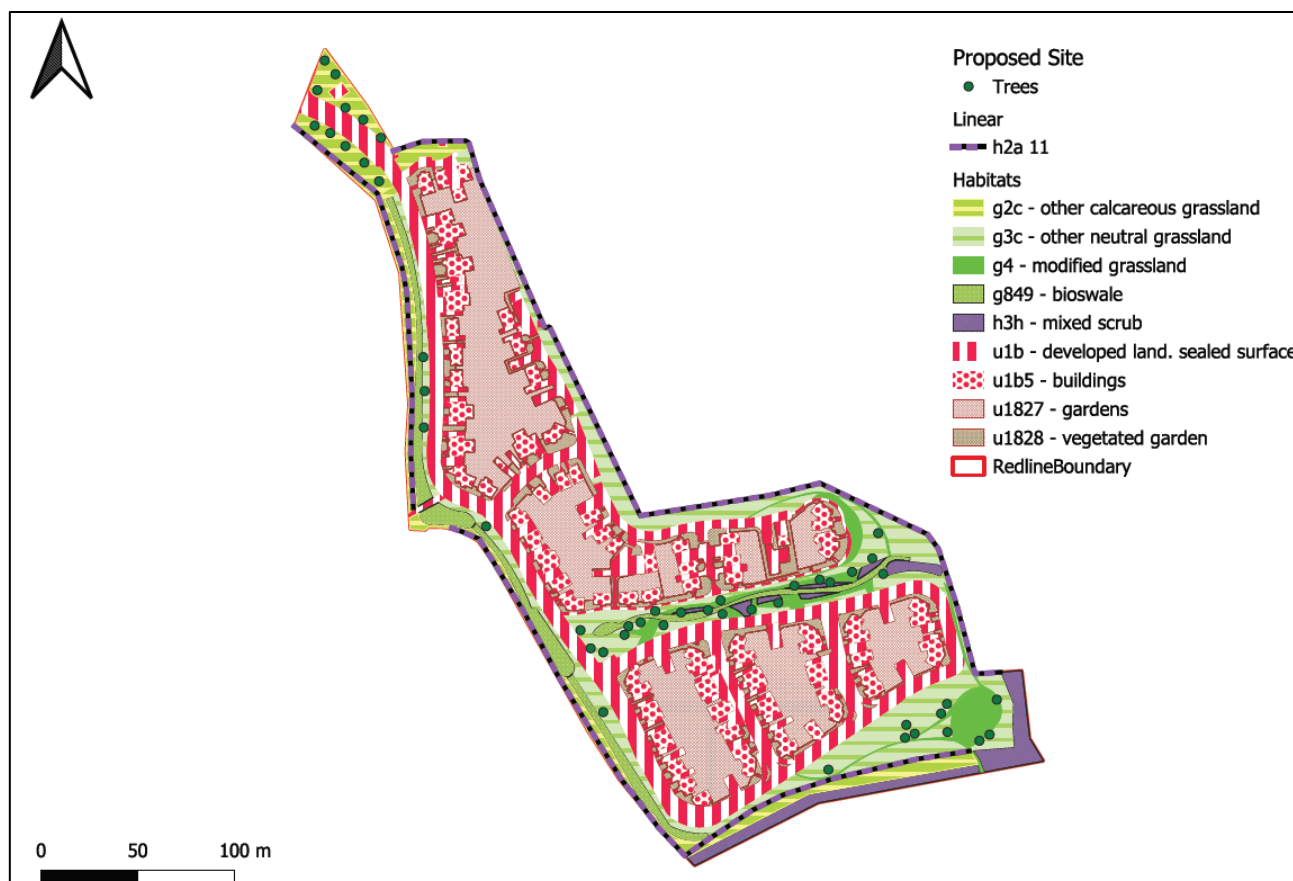


Figure 3. Proposed scheme layout for the development at Langley Bottom Farm, mapped in UKHab codes, based on the Landscape Masterplan produced by Fabrik. Produced using QGIS software, version 4.06.3 – Hannover.

1.3 Summary of Previous Survey Work

A UKHab map of the site was produced in May 2024, with updated botanical assessments also undertaken on the 25th March 2025 to map a residential property and its grounds. An Ecological Impact Assessment has been produced using data gathered at the site across 2019 and 2024, with detailed surveys undertaken for reptiles, breeding birds, arable plants and bats.

Phase 2 surveys identified the presence of a low population of grass snakes, a common assemblage of bats and breeding birds typical for urban fringe and arable habitats.

1.4 Policy and Legislation

NPPF (2024)

The NPPF sets out the Government's view on how planners should balance nature conservation with development and helps ensure that Government meets its biodiversity commitments with regards to the operation of the planning system.

Paragraph 187d, states that planning policies and decisions should contribute to and enhance the local environment by:

- “*minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.*”



Paragraph 192b, states that to protect and enhance biodiversity and geodiversity, plans should;

- “promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.”

Paragraph 193d, states that when determining planning applications, authorities should apply the following principle:

- “development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

Environment Act (2021)

The Environment Act sets a target of halting the decline in species through the inclusion of a legally binding 2030 species abundance target. Aiming to restore natural habitats and enhance biodiversity, the Act requires new developments to improve or create habitats for nature (through mechanisms such as mandatory Biodiversity Net Gain), and tackle deforestation. Going forwards, UK businesses will need to look closely at their supply chains as amongst other measures they will be prohibited from using commodities associated with wide-scale deforestation. Woodland protection measures are also strengthened through the Act.

Local Policy

Table 1. Epsom and Ewell Borough Council – Local Development Framework Core Strategy 2007

Policy number/title	Policy summary
CS 3 (Biodiversity and designated conservation areas)	SSSIs and ancient woodland are afforded the highest level of protection from the council. Development that would harm Grade 2, Grade 3 SNCIs or Local Nature Reserves will not be permitted unless: suitable mitigation measures are put in place, and it has been demonstrated that the benefits of a development would outweigh the harm caused. Elsewhere, development that is detrimental to the Borough’s biodiversity will be minimised, and where it does take place, adequate mitigating measures should be provided. Wherever possible, new development should contribute positively towards the Borough’s biodiversity.

2 METHODOLOGY

This Biodiversity Impact Calculation uses the Statutory Biodiversity Metric calculation tool published by Natural England⁴. This is used to calculate ‘habitat units’ and ‘hedgerow units’ by multiplying the area (ha) or lengths (km), ‘distinctiveness’ (habitat type), ‘condition’ (quality), and strategic significance (location in relation to the authority’s local strategy) of each habitat parcel.

The calculation provides a negative value to the biodiversity units where habitat is being directly lost to

⁴ Natural England (2023) *The Statutory Biodiversity Metric – Calculation Tool*. Available online at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>



development. Where habitats are enhanced or created on-site, or off-site, the calculation gives a positive value but adds risk factors that account for uncertainty - difficulty in creating new habitats and time delays while they establish; habitats that are more difficult to restore or that will take a long time to reach a set target condition will score lower and therefore make a smaller positive contribution.

Where on-site gains are equal to or larger than the losses, the project is deemed to have neutral biodiversity impact or biodiversity 'net gain' respectively.

Where on-site gains do not outweigh on-site losses and a biodiversity 'net loss' is calculated, this becomes an 'offset requirement'. Offsets can be provided by further habitat creation or enhancement in-situ or elsewhere and are assessed using the same metric to balance the predicted gains against the losses to ensure no net loss will be achieved. It follows that a biodiversity net gain can still be achieved by providing higher biodiversity gains through the offset than the net loss resulting from the development.

Note that the metric does not allow for 'trading down'; one of the key principles in measuring biodiversity net losses or gains is that habitats of high ecological importance cannot be offset by the creation of larger areas of habitats with lower value. The Statutory Biodiversity Metric calculation tool includes a 'trading down correction' that deducts the number of biodiversity units that are not accounted for through the creation of equivalent high distinctive habitats than that lost. For example, the loss of a small area of lowland meadow priority habitat (high distinctiveness) will not be offset by a larger area of modified grassland (medium distinctiveness) and will only be offset by an equivalent area of habitat of the same distinctiveness or higher.

2.1 Data Sources

This calculation uses the most up to date survey information, using botanical data gathered during the site visits across 2024 and 2025 and specific condition assessments. The areas of each habitat category were measured using The UK Hab App⁵ and GIS mapping tools (QGIS). Condition assessments were made in accordance with the Statutory Biodiversity Metric condition assessments document⁶ and the Statutory Biodiversity Metric: draft user guide⁷. Applying the precautionary principle, a presumption for the higher condition was used where there was any uncertainty in the condition of existing habitats.

To predict habitat/hedgerow units supported by the site after completion of the development, the aerial imagery was overlaid by the proposed scheme layout (see Figure). This allowed direct losses of habitats to be measured where the built environment overlaps with pre-existing habitat, with gardens and amenity areas treated separately. The habitats that are 'created' after development are assumed to achieve the highest level of condition as appropriate; a separate landscape and enhancement plan should be produced to ensure this condition is achieved.

The Statutory Biodiversity Metric calculation tool uses a separate calculator spreadsheet for linear features. This works under the same principles as above but replaces areas of habitat with linear length of a feature. It should be noted that because linear features often have higher ecological importance, linear habitats are assigned higher distinctiveness and must be offset with other linear features. The hedgerow units generated for linear features are

⁵<https://ecountability.co.uk/ukhabsurvey-app/>

⁶ Natural England (2023) *Statutory Biodiversity Metric Condition Assessments* Available online at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>

⁷ Natural England (2023). *Statutory Biodiversity Metric draft user guide*. Available online at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>



not equivalent or interchangeable with biodiversity calculations for areas of habitat.

3 RESULTS

3.1 Existing Habitats Assessment

A summary of habitats and condition assessments is provided in Table 2. Full results of condition assessments for habitats which require it (using the Statutory Biodiversity Metric condition assessment document) are provided in Appendix 1.

Overall, the on-site calculated baseline is 11.89 habitat units and 0.15 hedgerow units.

Table2. Existing habitat conditions for Langley Bottom Farm.

Habitats		Condition Assessments
UK Habitat (UKHAB) Classification System	Location/Reference (habitat parcels split if multiple areas with different condition assessments)	Condition
Cereal crops	Forms the main body of the site	Condition Assessment N/A
Other neutral grassland	Found at the northern end of the site	Moderate
Other neutral grassland	North of site (small parcel) – G1	Poor
Other neutral grassland	North of site (larger parcel) – G2	Poor
Other neutral grassland	South-western corner of site – G3	Poor
Modified grassland	Forms part of the south-western site boundary – G5	Moderate
Bramble scrub	Unmanaged area adjacent to the property	Condition Assessment N/A
Developed land; sealed surface	The footprint of the property at the northern boundary	N/A - Other
Developed land; sealed surface	Hard-standing areas surrounding the property	N/A - Other
Vegetated garden	Garden space associated with the property	Condition Assessment N/A
Developed land; sealed surface	An area of surfaced track on the western boundary	N/A - Other
Line of Trees	A short length of garden boundary trees – H1	Poor
Native Hedgerow	A short length of hedging at the western boundary – H2	Moderate

3.2 Habitat Losses and Gains

The proposed development scheme at this site will result in the loss of:

On-site

- 4.817ha of cereal crops
- 0.045ha of other neutral grassland
- 0.078ha of modified grassland
- 0.007ha of bramble scrub
- 0.032ha of vegetated garden
- 0.038ha of developed land; sealed surface

The proposed development scheme at this site will retain:

On-site

- 0.194ha of other neutral grassland



The proposed development scheme at this site will enhance:

On-site

- 0.005ha other neutral grassland from Poor condition to moderate condition

Post intervention the following habitats will be created:

On-site

- 0.252ha of other neutral grassland (moderate condition)
- 0.738ha of other neutral grassland (good condition)
- 0.201ha of modified grassland (poor condition)
- 0.257ha of bioswale (good condition)
- 0.191ha of mixed scrub (good condition)
- 0.1914 of urban trees (moderate condition)
- 1.476ha of vegetated garden (condition N/A)
- 1.911ha of developed land; sealed surface (condition N/A)

The overall results of the calculations are presented in Table 3. Please refer to the Statutory Biodiversity Metric calculation tool supplied with this document (submitted separately) for full details of the calculation.

Table 3. Headline results of the Biodiversity Impact Calculation for the proposed development at Langley Bottom Farm.

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	3.93
	Hedgerow units	4.06
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	33.03%
	Hedgerow units	2745.45%
	Watercourse units	0.00%
Trading rules satisfied?	Yes ✓	

4 CONCLUSIONS

The Statutory Biodiversity Metric calculation has demonstrated that the proposed scheme will result in a likely net gain of **3.93 habitat units (33.03%)**

The linear feature calculation for the proposed scheme results in a likely gain of **4.06 hedgerow units (2745.45%)**. The current scheme satisfies the trading rules within the Statutory Biodiversity Metric and achieves significantly more biodiversity net gain than is required under the Environment Act 2021.

Should you need any further advice on the information provided above, please do not hesitate to contact The Ecology Co-op.



Appendix 1. Condition assessment scores recorded for medium distinctiveness grassland habitats

On-site or off-site, site name and location	Langley Bottom Farm	Survey date and Surveyor name		Libby Morris, BSc (Hons), 1st May 2024		
		Survey reference (if relating to a wider survey)		N/A		
Limitations (if applicable)		Habitat parcel reference				
		G1	G2	G3	G4	
Condition Assessment Criteria		Grid reference				
		Criterion passed (Yes or No)				Notes (such as justification)
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description). ¹ Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Y	N	N	N	Most grassland areas have poor botanical diversity overall
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	N	N	N	N	No grazing or other management at might encourage a varied sward present



Langley Bottom Farm – BIODIVERSITY IMPACT CALCULATION

C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens ² .	Y	Y	Y	Y	No notable bare ground areas
D	Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.	Y	Y	Y	Y	No bracken present anywhere at the site
E	Combined cover of species indicative of suboptimal condition ³ and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species ⁴ (as listed on Schedule 9 of WCA ⁵) are present, this criterion is automatically failed.	Y	Y	Y	Y	
Additional Criterion - must be assessed for all non-acid grassland types						
F	There are 10 or more vascular plant species per m ² present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). Note - this criterion is essential for achieving Good condition for non-acid grassland types only.	N	N	N	N	
Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)						
Number of criteria passed		4	3	3	3	



Condition Assessment Result	Condition Assessment Score	Score Achieved ×/√			
Non-acid grassland types (Result out of 6 criteria)					
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)				
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	X			
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)		X	X	X