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Biodiversity Net Gain Assessment

Site Address:

Land at Engine Lane, Grimethorpe, Barnsley, South Yorkshire, S72 7BN

Client:

Enviromena

Assessment Date:

4th February 2026

Project:

This report is prepared to inform a planning application with the Barnsley Metropolitan Borough Council**.** The proposal is described as:

Construction of a temporary solar farm providing 49.9MW (AC) output, to include the installation of ground-mounted solar panels together with associated works, equipment and necessary infrastructure.

BNG assessment methodology and legislation can be found in the Arbtech Supplement: **BNG Methodology and Legislation – 2025.**

The results and recommendations contained within this report are valid for 18 months. An updated site visit and BNG assessment may be required if the report is to be used any longer than 18 months after completion.

Version Control			
Status	**Issue**	**Name**	**Date**
Final	1.0	Jamie-Lee Anderson BSc (Hons), Consultant Ecologist	08/11/2024
Updated	2.0	Jamie-Lee Anderson BSc (Hons), Consultant Ecologist	16/12/2024
Updated	3.0	Jamie-Lee Anderson BSc (Hons), Senior Ecologist	28/10/2025
Updated	4.0	Jamie-Lee Anderson BSc (Hons), Senior Ecologist	09/12/2025
Updated	5.0	Jamie-Lee Anderson BSc (Hons), Senior Ecologist	04/02/2026
Updated	6.0	Jamie-Lee Anderson BSc (Hons), Senior Ecologist	06/02/2026

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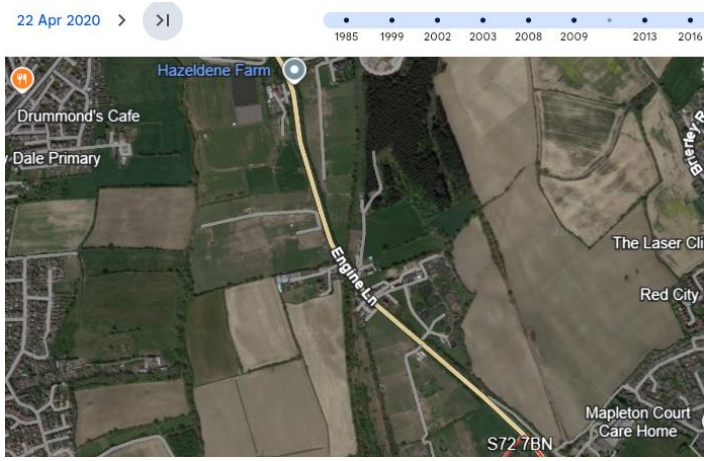
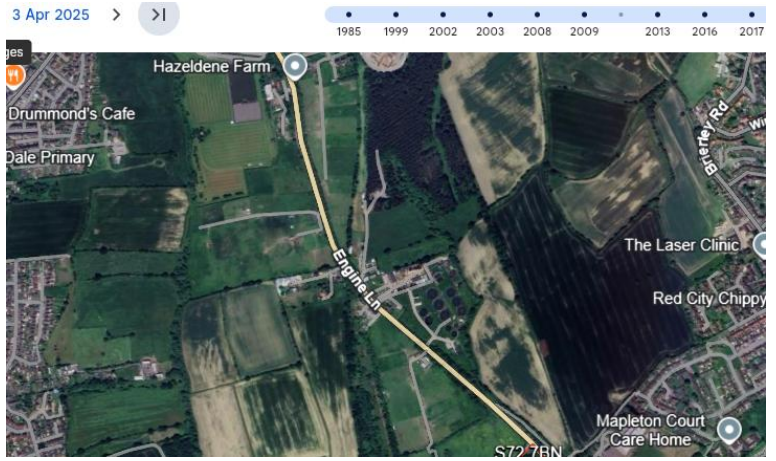
Site Location and Context
A baseline habitat map is provided in **Appendix 1**, a post development habitat map in **Appendix 2**, a proposed development plan in **Appendix 3**, and headline BNG results in **Appendix 4**.
The site is centred at National Grid Reference SE 40539 09965 and has an area of approximately 89ha. The site is characterised by grassland, cropland, scrub and developed land, with interspersed hedgerows. This report should be read in conjunction with the following documents: • Statutory BNG Metric: Land at Engine Lane, S72 7BN V6 (Arbtech Consulting Ltd., 2026) • Proposed Plan: Landscape Strategy (FPCR Environment and Design Ltd, 2026) • Preliminary Ecological Appraisal (PEA): Land at Engine Lane, S72 7BN (Arbtech Consulting Ltd., 2026)
Executive Summary
The development results in a net gain of 150.04% area habitat units, and a net gain of 11.22% hedgerow linear units. The proposed development is currently compliant with legislation.

Introduction

BNG Informative		
Habitat Degradation Statement	Date reflected by BNG calculations	24th November 2022
	The baseline biodiversity value of the site is derived from the site as observed during the PEA field survey (Arbtech Consulting Ltd., 2022). As evident in the screenshots of satellite imagery obtained from GoogleEarth dated 22nd April 2020 and 3rd April 2025, the site does not appear to have undergone any degradation. The habitats on site, and therefore biodiversity value of the site, is not considered to have undergone degradation since 30th January 2020.  
Irreplaceable Habitat Statement	No irreplaceable habitats as listed under the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations (2024) are currently present nor were present before 30th January 2020.	
Metric Version & Publication Date	Statutory Biodiversity Metric Calculation Tool first published 29th November 2023 with last updates to metric tools and user guides on 23rd July 2024.	
BNG Target Uplift	+10%	
National Character Area (NCA)	38 - Nottinghamshire, Derbyshire and Yorkshire Coalfield	
Strategic Significance	Barnsley Metropolitan Borough Council is actively involved in developing a South Yorkshire Local Nature Recovery Strategy (LNRS) in partnership with the South Yorkshire Mayoral Combined Authority, which is part of the new mandated England-wide strategy.	

	Alongside this, the council operates through the Barnsley Biodiversity Trust and the Barnsley Biodiversity Action Plan (BAP), which are being updated to support nature recovery, https://www.southyorkshire-ca.gov.uk/explore/local-nature-recovery-strategy.

Limitations
There were no specific limitations to the assessment.

Baseline

Baseline Biodiversity Value: On-Site				
Area-Based Habitats (A-1)				
Habitat	**Area (ha)**	**Description**	**Condition Assessment**	**Strategic Significance**
Cropland	72.9604	Cereal crops.	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	**Low** Strategic Significance
Grassland	15.2013	Modified grassland.	***Poor*** – see PEA, fails condition assessment criterion A.	**Low** Strategic Significance
Urban	0.0427	Buildings.	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	**Low** Strategic Significance
Heathland and shrub	0.6659	Bramble scrub.	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	**Low** Strategic Significance
Urban	0.5878	Artificial unvegetated, unsealed surface.	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	**Low** Strategic Significance

Baseline Biodiversity Value: On-Site				
Linear-Based Habitats (B-1)				
Habitat	**Length (km)**	**Description**	**Condition Assessment**	**Strategic Significance**
Hedgerow	8.623	Native hedgerow with trees.	***Moderate*** – see PEA.	**Low** Strategic Significance

Post-Development

Post-Development Biodiversity Value: On-Site					
Area-Based Habitats					
	Habitat	**Area (ha)**	**Description**	**Condition Assessment**	**Strategic Significance**
Created (A-2)	Urban	41.4113	Developed land, sealed surface – solar panels.	N/A.	**Low** Strategic Significance
	Grassland	39.9748	Other neutral grassland (meadow grassland).	Anticipated to achieve ***good*** condition. Habitat Management and Monitoring Plan (HMMP) required.	**High** Strategic Significance
	Grassland	0.637	Modified grassland (amenity lawn).	Anticipated to achieve ***good*** condition. Habitat Management and Monitoring Plan (HMMP) required.	**High** Strategic Significance
	Grassland	3.421	Other neutral grassland (shade tolerant mix).	Anticipated to achieve ***moderate*** condition. Habitat Management and Monitoring Plan (HMMP) required.	**High** Strategic Significance
	Heathland and shrub	4.014	Proposed mixed scrub planting.	Anticipated to achieve ***moderate*** condition. Habitat Management and Monitoring Plan (HMMP) required.	**High** Strategic Significance
	Trees	0.1588	Proposed planting of 39 small trees.	Anticipated to achieve ***moderate*** condition. Habitat Management and Monitoring Plan (HMMP) required.	**High** Strategic Significance

Post-Development Biodiversity Value: On-Site					
Linear-Based Habitats					
	Habitat	**Length (km)**	**Description**	**Condition Assessment**	**Strategic Significance**
Retained (B-1)	Hedgerow	8.623	Native hedgerow with trees.	***Moderate*** – see PEA.	**High** Strategic Significance
Created (B-2)	Hedgerow	1.201	Native hedgerow with trees.	Anticipated to achieve ***moderate*** condition. Habitat Management and Monitoring Plan (HMMP) required.	**High** Strategic Significance

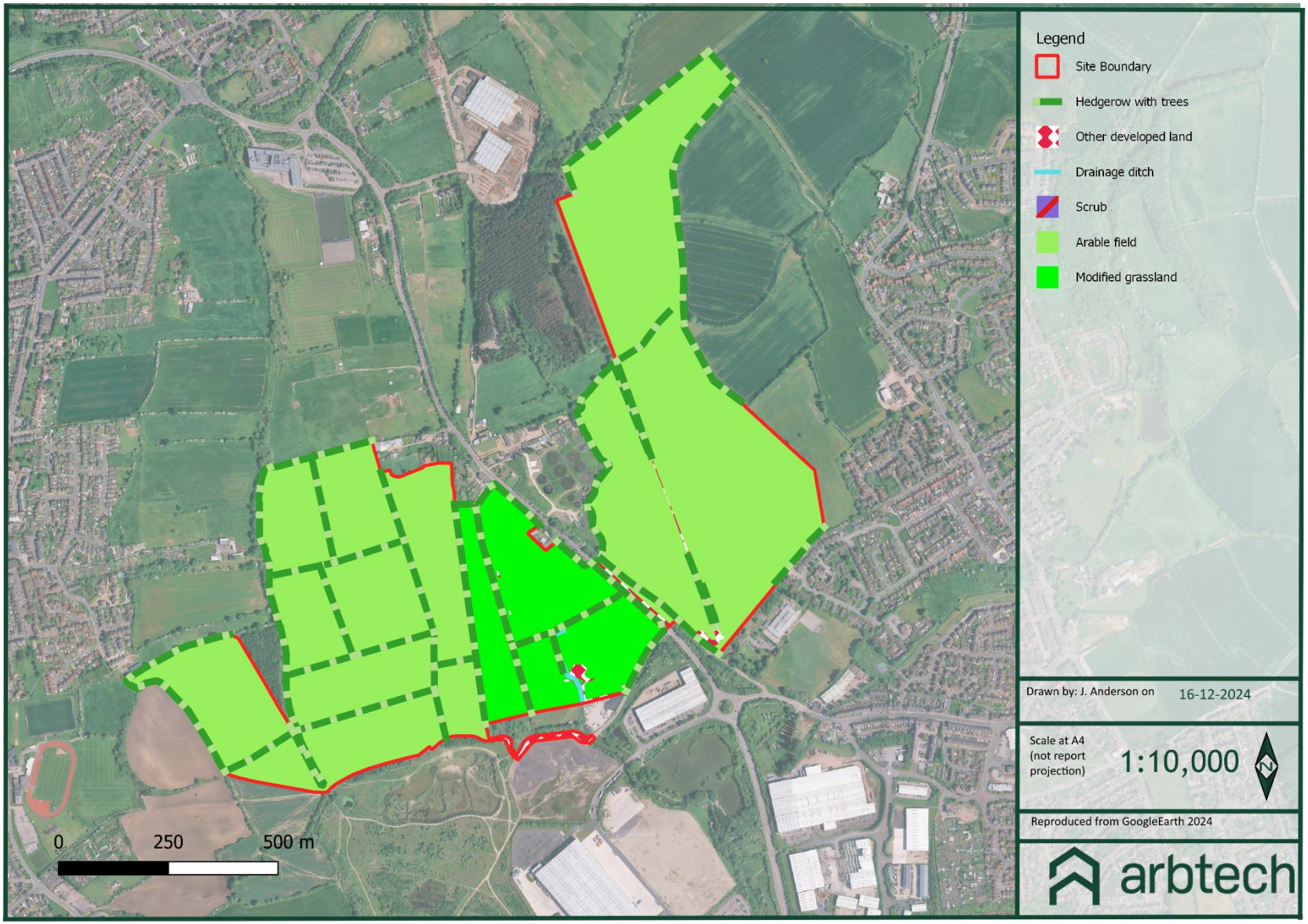
Change of Biodiversity Value

		Biodiversity Units		
		Area-Based	**Linear-Based**	**Watercourse-Based**
On-Site	Baseline	178.99	68.98	N/A
	Post-Development	447.54	76.72	
	Net Change	+268.55	+7.74	
Overall Net Change		**150.04%**	**11.22%**	**-**

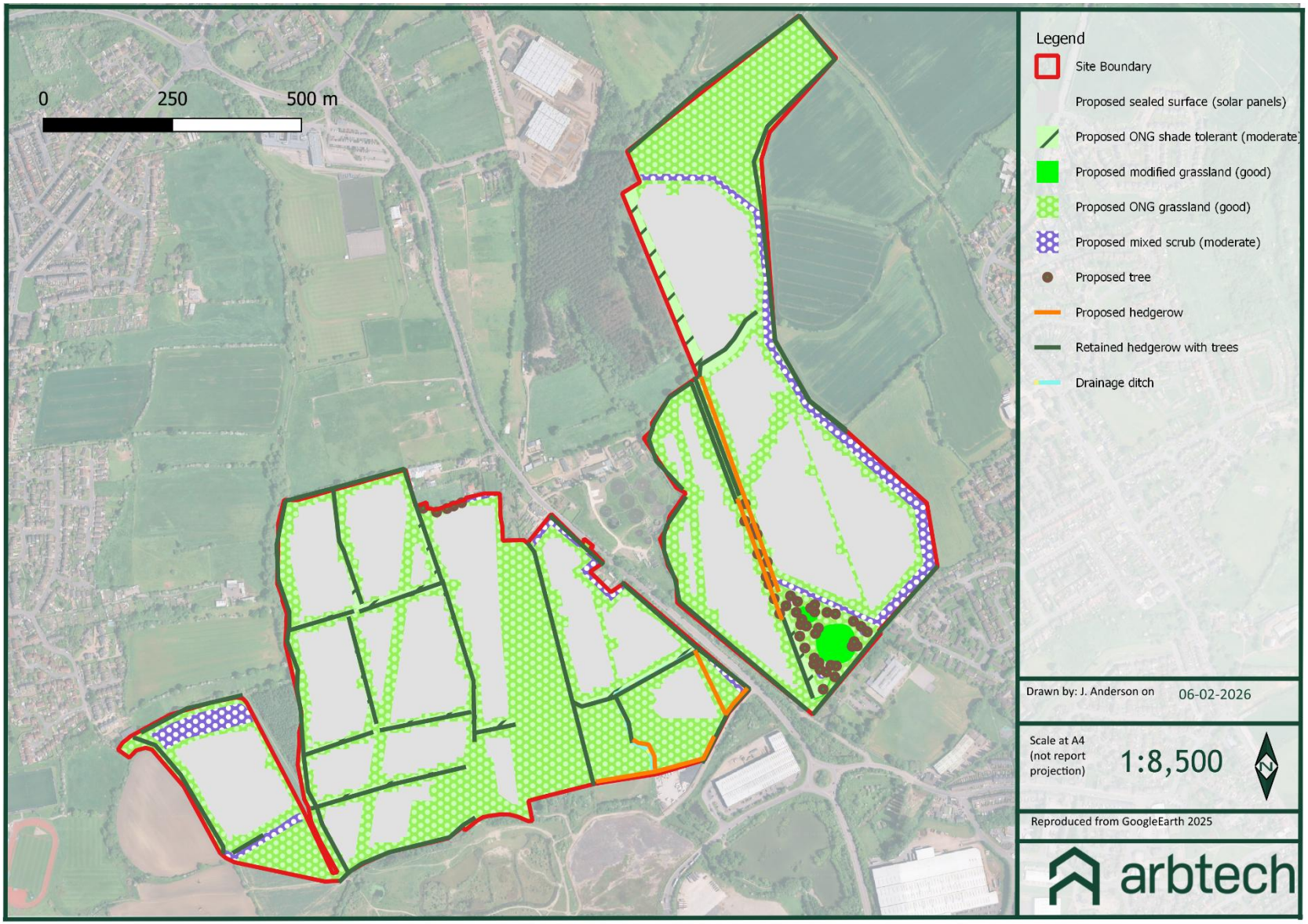
Results, Discussion, and Next Steps

BNG Informative	
Results and Next Steps	The current landscaping proposal generates a net gain of area-based habitat units (+150.04%), and a net gain of linear-based habitat units (+11.22%). As such, the proposed development is compliant with current legislation (Environment Act 2021) and planning policies (National Planning Policy Framework, 2024) as a minimum biodiversity net gain of +10% was achieved for area- and linear-based habitat units. All trading conditions have been satisfied. A Biodiversity Gain Plan (BGP) and Habitat Management and Monitoring Plan (HMMP) must be produced for the site. This should include recommendations for the implementation, management and monitoring of the site for at least 30 years to ensure that biodiversity net gain is delivered.
BNG Mitigation Hierarchy	
Avoidance	The layout of the solar PV installation has been designed to retain all existing boundary hedgerows, associated trees, and the on-site ditch, thereby avoiding direct impacts on these higher-value linear and aquatic habitats and maintaining existing ecological connectivity across the site.
Minimisation	Potential impacts on retained habitats have been minimised by locating solar arrays within the existing cropland and improved grassland, maintaining appropriate stand-off distances from hedgerows and the ditch, and implementing construction controls to prevent damage to root protection areas, soil structure, and adjacent habitats.
Mitigation	The loss of arable cropland will be mitigated through its conversion to permanent grassland beneath and between the solar arrays, using a range of seed mixes to create a structurally diverse sward that provides varied nectar sources, shelter, and foraging opportunities throughout the year.
Offset	Residual impacts are offset through the planting of new hedgerows and additional trees to strengthen habitat connectivity and landscape structure, alongside the long-term management of retained and newly created grassland to deliver a measurable net gain in biodiversity in accordance with BNG requirements.

Appendix 1: Baseline Habitat Plan



Appendix 2: Post-Development Habitat Plan



Appendix 3: Proposed Development Plan

Appendix 4: Headline BNG Results

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Area habitat units*	268.55
	Hedgerow units	7.74
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Area habitat units*	150.04%
	Hedgerow units	11.22%
	Watercourse units	0.00%
Trading rules satisfied?	Yes ✓	

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Area habitat units	10.00%	178.99	196.89	0.00	No additional area habitat units required to meet target ✓
Hedgerow units	10.00%	68.98	75.88	0.00	No additional hedgerow units required to meet target ✓
Watercourse units	10.00%	0.00	0.00	0.00	No additional watercourse units required to meet target ✓