BIODIVERSITY NET GAIN ASSESSMENT (BNGA)

PROJECT NAME: Yews Farm, Blue Gowt Lane, Pinchbeck, Lincolnshire

PURPOSE: Prepared in order to inform a planning application.

DATE: September 2022

1. Introduction

1.1. Background

1.1.1. Allied Ecology has been appointed to undertake a Biodiversity Net Gain Assessment of Yews Farm, Blue Gowt Lane, Pinchbeck, Lincolnshire (grid reference TF 24373 24573).

1.1.2. The site is located to the south of Pinchbeck, north of Spalding, Lincolnshire, and is bound by residential development to the north, east and south, with open countryside to the west. Habitats within the site are dominated by arable, with occasional bare ground, bound by ditches and hedgerows.

1.1.3. The site benefits from allocation (Pin045) for residential development within the adopted South East Lincolnshire Local Plan 2011-2036 (Phases 1 and 2 of the Vernatts Sustainable Urban Extension).

1.1.4. The proposals are for residential development with associated landscaping and access infrastructure, and extensive areas of public open space, submitted as a hybrid planning application comprising a detailed application for 100 new dwellings and outline application for up to 300 new dwellings within part of Phase 1 of the Vernatts Sustainable Urban Extension.

1.2. Ecological Survey Work

1.2.1. This Biodiversity Net Gain Assessment has been informed by ecological survey work undertaken at the site. The site was initially subject to a Phase 1 habitat survey in November 2021 by a third-party ecologist, in order to inform the coding of the DEFRA 3.1 Biodiversity Metric.

1.3. Basis of Reporting

1.3.1. The following Biodiversity Net Gain Assessment is intended to establish whether the proposals are able to deliver a biodiversity net gain, and what that percentage net gain would be.

2. Methodology

2.1. Habitat Survey

2.1.1. Phase 1 habitat survey work was carried out in November 2021, based on standard JNCC Phase 1 Habitat Survey Methodology[1], whereby habitat types present were noted and mapped, together with an assessment of the general 'ecological value' of each habitat. A detailed species list was compiled for each habitat type, and from this the botanical composition of the site was classified into areas of similar community types. Species identification is based on the Botanical Society for the British Isles (BSBI) Checklist. This methodology provides an initial appraisal of the basic habitat types present and is translated into corresponding UK Habitat classifications detailed within the DEFRA 3.1 biodiversity calculator.

2.2. Condition Assessment Survey

2.2.1. In order to inform the coding of the DEFRA 3.1 biodiversity calculator, each of the identified habitats was assessed against the condition criteria set out within the DEFRA 3.1 technical supplements. This enables an objective assessment of the baseline conditions for each habitat present, and represents the most robust and replicable method to establish the ecological baseline for Biodiversity Net Gain purposes.

2.3. Survey Constraints

2.3.1. The Phase 1 habitat survey and Condition Assessment survey was undertaken outside the optimal time of year, albeit given the nature of habitats present within the site, all assessment criteria were able to be assessed / distinguished. As such, it is considered that the condition assessment data underpinning the metric calculations is reliable and suitably robust to inform the assessment.

2.4. Biodiversity Metric Calculation

2.4.1. All identified habitats within the site are measured using QGIS software, in order to accurately establish their extents (see Plan 22036-BNGA1). The identified habitats, and their extents, are coded into the DEFRA 3.1 biodiversity calculator, alongside their condition assessment information and other spatial / locally strategic information. This information generates the baseline number of 'biodiversity units' present within a site. The extents of proposed habitats are measured from the relevant landscape strategy plans / details (see Plan 22036-BNGA2) and input to the DEFRA 3.1 biodiversity calculator, alongside the realistically achievable conditions that are targeted for each habitat type. Additional spatial / locally strategic information is also input, which enables the number of proposed 'biodiversity units' to be established.

2.4.2. Where detailed landscaping information is available for the Phase 1 area of the hybrid planning application (submitted as a full application), the proposed habitats are mapped and measured accordingly. As the proposals for the remainder of the hybrid application are submitted as an outline application, only high-level landscaping information is available at this stage (which is entirely appropriate). As such, the Biodiversity Net Gain Assessment for the likely built-form areas of the wider application site has been undertaken on a precautionary basis, based on the extent of habitats included within the detailed application area.

[1] Joint Nature Conservation Committee (2010, as amended) *'Handbook for Phase 1 habitat survey: A technique for environmental audit.'*

2.4.3. In order to understand the 'net' biodiversity gains or losses of a project, the proposed biodiversity units are subtracted from the baseline conditions, from which a percentage change in biodiversity can be calculated.

2.4.4. In calculating the biodiversity net gains that can be delivered under the proposals, the mitigation hierarchy has been followed at all times. This approach aims to ensure that, in the first instance, potential ecological harm is avoided. Where this is not always possible, such harm must be suitably reduced and only then compensated for as a last resort, when other potential design interventions have been exhausted.

3. Results

3.1. Baseline – Site Habitat Baseline

3.1.1. The status of existing habitat areas, and a summary of their current conditions, are detailed at Table 3.1 below.

Table 3.1 Baseline habitat conditions

Ref	Habitat	Condition	Condition Assessment	Description
1	Cropland: Temporary grass and cover leys	N/A	The DEFRA 3.1 Metric automatically assigns the condition data.	Covers the majority of the site.
2	Urban: Vacant / derelict land / bare ground	Poor	**Criteria Passed** 3 **Criteria Failed** 1,2	Located in the eastern part of the site.
3	Grassland: Modified grassland	Moderate	**Criteria Passed** 1, 3, 4, 6, 7 **Criteria Failed** 2, 5	Located in the south-eastern part of the site. Can be entirely retained under the proposals.
4	Urban: Urban Tree	Moderate	**Criteria Passed** 1, 4, 5, 6 **Criteria Failed** 2,3	Located at the western and south-eastern parts of the site. Can be entirely retained under the proposals.
5	Grassland: Other neutral grassland	Moderate	**Criteria Passed** 1, 2, 4, 5 **Criteria Failed** 3, 6	Comprising the dry ditch located within the south of the site, which does not fall within the assessment criteria for ditches.

3.1.2. Based on the extent of habitats within the site, and their current condition, existing habitats are assessed to provide 54.14 biodiversity units. After retaining existing urban trees and existing modified grassland, **39.51** biodiversity units would be initially lost under the proposals.

3.2. Baseline – Site Hedge Baseline

3.2.1. The status of existing hedgerows within the site, and a summary of their current conditions, are detailed at Table 3.2 below.

Table 3.2 Baseline hedgerow conditions

Ref	Habitat	Condition	Condition Assessment	Description
H1	Native Hedgerow	Good	**Criteria Passed** A1, A2, B1, B2, C1, C2, D1, D2 **Criteria Failed** -	Located in the southern part of the site. Can be entirely retained under the proposals.

3.2.2. Based on the extent of hedgerows within the site, and their current condition, existing hedgerows are assessed to provide **1.06** biodiversity units.

3.3. Proposed – Site Habitat Creation

3.3.1. Details of proposed habitat areas, and a summary of their targeted conditions, are detailed at Table 3.3 below.

Table 3.3 Proposed habitat details

Ref	Habitat	Condition	Condition Assessment	Description
Phase 1 – Detailed Planning Application				
1	Urban: Developed Land / Sealed Surface	N/A	The DEFRA 3.1 Metric automatically assigns the condition data.	Buildings / structures.
2	Urban: Developed Land / Sealed Surface	N/A	The DEFRA 3.1 Metric automatically assigns the condition data.	Includes areas of hardstanding, such as roads and pavements etc.
3	Urban: Vegetated Garden	N/A	The DEFRA 3.1 Metric automatically assigns the condition data.	Includes rear gardens / lawns.
4	Urban: Introduced shrub	N/A	The DEFRA 3.1 Metric automatically assigns the condition data.	Ornamental planting associated with new properties.
5	Urban: Sustainable urban drainage feature	Moderate	**Criteria Targeted** 2,3	Supporting a diverse range of flowering plant species and with no Schedule 9 invasive weeds.
6	Heathland and shrub: Mixed scrub	Moderate	**Criteria Targeted** 1, 3, 4	Native scrub underplanted with Emorsgate EH1.
7	Grassland: Modified grassland	Good	**Criteria Targeted** 1,2,3,4,6,7	Comprising Emorsgate EM8.
8	Grassland: Modified grassland	Moderate	**Criteria Targeted** 1,4,6,7	Comprising Emorsgate EM8.
9	Grassland: Modified grassland	Moderate	**Criteria Targeted** 1,4,6,7	Comprising Emorsgate EL1.
13	Urban: Urban tree	Poor	**Criteria Targeted** 1,6	Comprising 59 small trees planted within urban areas

Wider Outline Planning Application				
10	Urban: Developed Land / Sealed Surface	N/A	The DEFRA 3.1 Metric automatically assigns the condition data.	Assumed up to 60% of the develop footprint may comprise residential dwellings and / or other sealed surfaces.
11	Urban: Vegetated Garden	N/A	The DEFRA 3.1 Metric automatically assigns the condition data.	Assumed up to 40% of the develop footprint may comprise residential gardens.
12	Grassland: Modified grassland	Moderate	**Criteria Targeted** 1,4,6,7	Located within Public Open Space area.
14	Urban: Urban tree	Poor	**Criteria Targeted** 1,6	A total of 85 small and 15 medium proposed throughout the site.
15	Heathland and shrub: Mixed scrub	Moderate	**Criteria Targeted** 1, 3, 4	Located within Public Open Space area.
16	Grassland: Other neutral grassland	Moderate	**Criteria Targeted** 1, 2, 4, 5	Located within Public Open Space area.

3.3.2. Based on the extent of proposed habitats within the site, and their targeted conditions, proposed habitat areas are assessed to provide **45.08** biodiversity units.

3.4. Proposed – Site Hedge Creation

3.4.1. Details of proposed hedgerows, and a summary of their targeted conditions, are detailed at Table 3.4 below.

Table 3.4 Proposed hedgerow details

Ref	Habitat	Condition	Condition Assessment	Description
1	Native Hedgerow	Good	**Criteria Targeted** A1, A2, B1, B2, C1, C2, D1, D2	Located across the site

3.4.2. Based on the extent of proposed hedgerows within the site, and their targeted conditions, proposed hedgerows are assessed to provide **0.72** biodiversity units.

3.5. Evaluation

3.5.1. A summary of the net biodiversity gains or losses resulting from the proposals is detailed at Table 3.6 below.

Table 3.6 Summary of Biodiversity Net Gains or Losses

	Biodiversity Unit Change	Percentage Change
Habitats	+5.56	+10.27%
Hedgerows	+0.72	+68.12%

3.5.2. The above measurable net biodiversity gains predicted under the proposals are considered to represent a conservative assessment for the wider application site and it is highly likely that, as detailed landscaping plans are prepared to inform reserved matters applications for subsequent phases, additional measurable biodiversity gains will likely be brought forwards in excess of the above figures (albeit not a policy requirement). It is therefore recommended that a confirmatory Biodiversity Net Gain Assessment be submitted for each subsequent phase of the development at the time of their reserved matters applications, to provide the necessary detail / confirmation. This can be readily secured by a suitably worded planning condition.

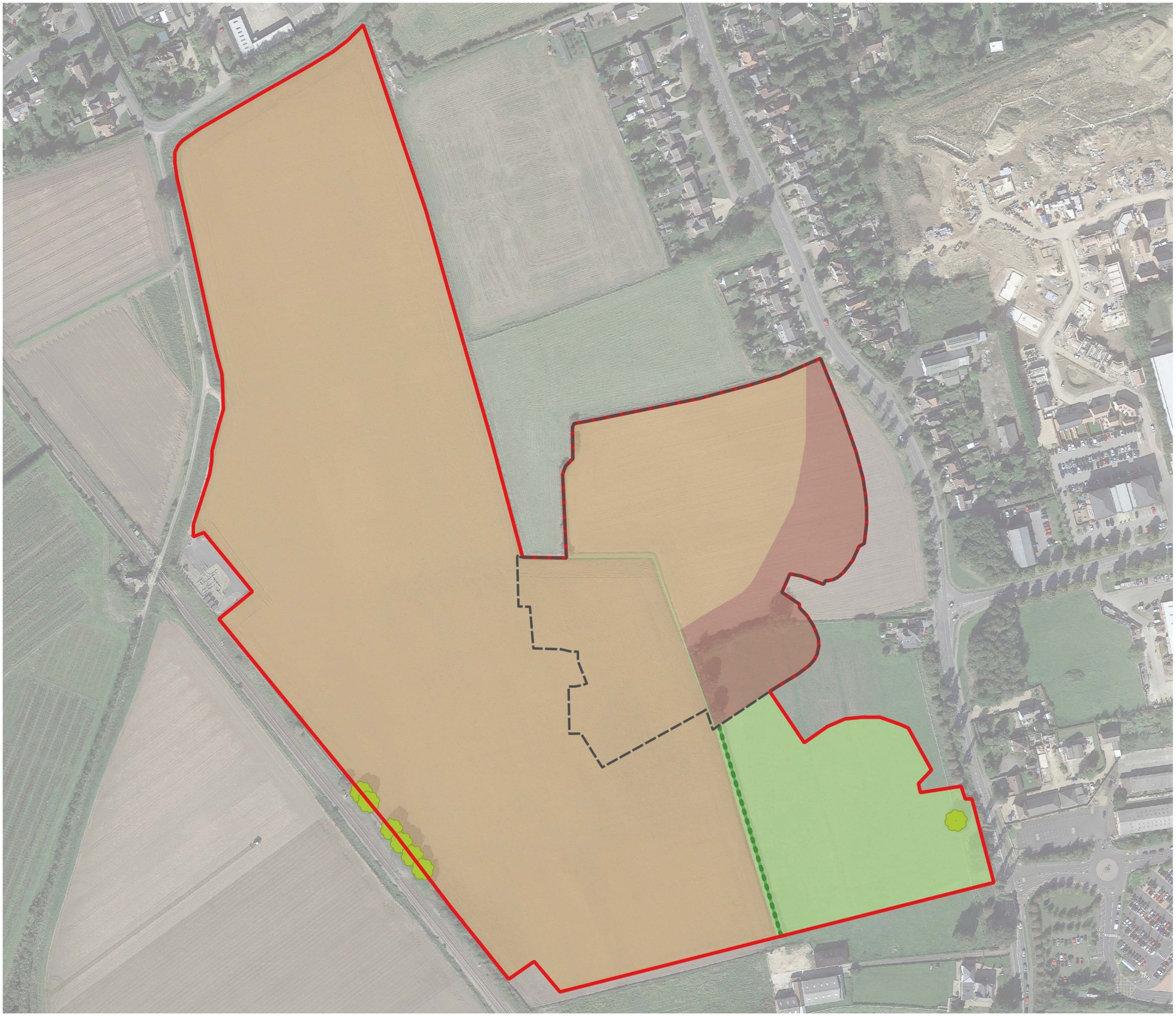
3.5.3. Additional measures proposed under the consented scheme including faunal enhancements such as bat roost boxes, bird nest boxes, log piles, insect towers, and new refuge features for hedgehogs will bring forward considerable additional biodiversity net gains that are unable to be reflected within the DEFRA 3.1 biodiversity calculator.

4. Conclusions

4.1 Allied Ecology has undertaken a Biodiversity Net Gain Assessment of the proposals utilising the DEFRA 3.1 biodiversity calculator. This assessment has established that Biodiversity Net Gain can be achieved under the proposals, with >10% net gains demonstrated for habitat areas and hedgerows across the application site.

Enclosed

Plan 22036-BNGA1 – Baseline Habitats
Plan 22036-BNGA2 – Proposed Habitats
Appendix 22036-1 – DEFRA 3.1 Biodiversity Metric Headline Results Extract
DEFRA 3.1 Biodiversity Metric Excel File – **Available Upon Request**



Key:

- Site Boundary
- Detailed Application Boundary
- Cropland: Temporary Grass and Clover Lays (15.8679ha)
- Urban: Vacant/derelict land/bare ground (1.2445ha)
- Grassland: Modified Grassland (2.1093ha)
- Urban: Urban Tree (7 large trees, 0.5349ha)
- Native Hedgerow (0.154km)

Yews Farm, Blue Gowt Lane, Pinchbeck, Lincolnshire

Baseline Habitats

22036-BNGA1

September 2022

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Key:

- Site Boundary
- Detailed Application Boundary

Detailed Application:

- Urban: Developed land; sealed surface (0.7461ha)
- Urban: Developed land; sealed surface (1.3522ha)
- Urban: Vegetated garden (1.3696ha)
- Urban: Introduced shrub (0.0349ha)
- Urban: Sustainable urban drainage feature (0.2076ha)
- Heathland and shrub: Mixed scrub (0.0236ha)
- Grassland: Modified grassland (0.3457ha)
- Grassland: Modified grassland (0.0683ha)
- Grassland: Modified grassland (0.384ha)
- Urban: Urban Tree (59 small trees, 0.2401ha)
- Native Hedgerow (0.185km)

Outline Application:

- Developable Area (8.2772ha)
- Public Open Space (4.3216ha)

Yews Farm, Blue Gowt Lane, Pinchbeck, Lincolnshire

Proposed Habitats

22036-BNGA2

September 2022

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Headline Results

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On-site baseline	*Habitat units*	54.14
	Hedgerow units	1.06
	River units	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	59.70
	Hedgerow units	1.79
	River units	0.00
On-site net % change (Including habitat retention, creation & enhancement)	*Habitat units*	10.27%
	Hedgerow units	68.12%
	River units	0.00%
Off-site baseline	*Habitat units*	0.00
	Hedgerow units	0.00
	River units	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.00
	Hedgerow units	0.00
	River units	0.00
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	5.56
	Hedgerow units	0.72
	River units	0.00
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	10.27%
	Hedgerow units	68.12%
	River units	0.00%
Trading rules Satisfied?		Yes ✓

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