

Land off Tenford Lane, Staffordshire

Biodiversity Net Gain Assessment

2024

Rev.B



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Client Markden Homes Ltd

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Executive Summary

Development Details

The client is proposing a residential development at land off Tenford Lane, Staffordshire, hereafter referred to as the 'site'. This report assesses the predicted changes in biodiversity units resulting from the proposed development.

Biodiversity Impact Assessment

Baseline habitats score 24.01 units. Following a change to the landscaping proposals, due to a request for a minimum of 10% Biodiversity Net Gain in habitats, post-development habitats now score 27.86 units. This represents a gain of 16.06% in habitat units. Baseline hedgerow units score 3.11. Post-development hedgerows score 3.31. This represents a gain of 6.42% in hedgerow units.

Outcomes

The development is predicted to achieve over 10% Biodiversity Net Gain, satisfying national and local planning policy at the time of the planning submission. Further ecological enhancement can be sought by providing other habitats, such as bat and bird boxes.

1. Introduction

1.1 Project Brief

- 1.1.1 Rachel Hacking Ecology Limited was commissioned in 2024 by Markden Homes Ltd to carry out a Biodiversity Net Gain (BNG) Assessment at Land off Tenford Lane, Stoke-on-Trent, Staffordshire (O.S. grid reference SK 01008 40428 – see Figure 1). The site currently comprises open pastureland, of which the majority consists of improved grassland and species-poor intact hedgerows. The site is in a semi-rural location, with an existing housing development opposite.

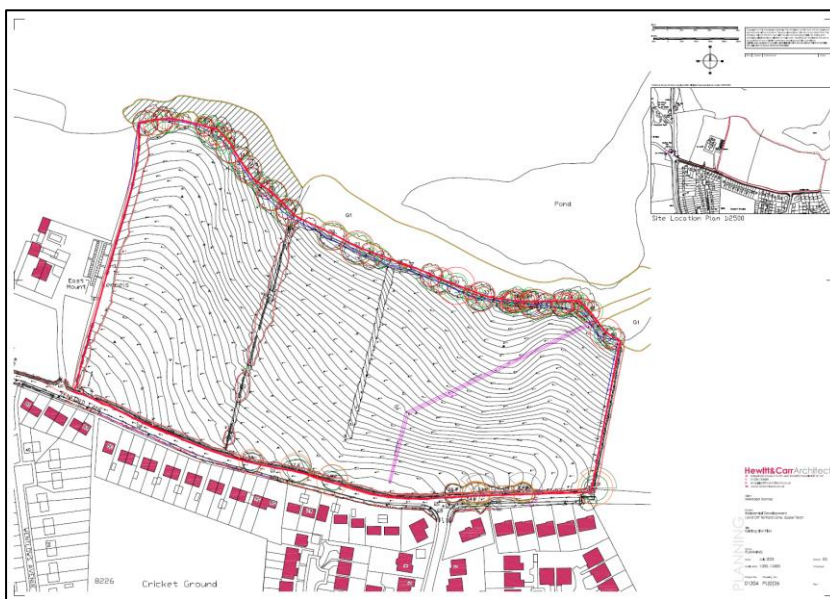


Figure 1. Map showing the location of the site at Tenford Lane.

Description of Development

- 1.1.2 The site is the subject of a planning application with Staffordshire Moorlands District Council (SMDC) for 87 dwellings with associated landscaping and access (planning reference: SMD/2023/0423). Part of the site benefits from planning permission for 40 dwellings, approved under Reserved Matters application SMD/2021/0491. These 40 dwellings are under construction.
- 1.1.3 As part of the planning application, SMDC approached Staffordshire Wildlife Trust (SWT) for comment and SWT requested a BNG assessment pre-determination, to ensure the development achieves 'net gain' (comments dated 15th November 2023). The application was submitted prior to 10% BNG becoming mandatory.
- 1.1.4 Following feedback at Planning Committee, the site landscaping was revised to increase the BNG to a minimum of 10%. This included planting an extra 100no. trees and increasing the spread of wildflower grassland with a reduction in amenity grassland.

1.2 Scope of Work

- 1.2.1 The Client commissioned Rachel Hacking Ecology to calculate the baseline and predicted post-development biodiversity units.

2. Methods

2.1 Ecological Appraisal

- 2.1.1 A Preliminary Ecological Appraisal of the site was undertaken in June 2023 by Elite Ecology Ltd. The site was walked, and habitats were recorded and mapped. Species lists, habitat descriptions and photographs provided by Elite Ecology provided enough information to allow a BNG habitat condition assessment to take place.

2.2 Biodiversity Impact Assessment

- 2.2.1 The Statutory DEFRA Metric calculation tool was used to assess the predicted changes in habitat units resulting from the proposed development.
- 2.2.2 It was decided that, due to the application encompassing the whole site, including the consented scheme, the BNG assessment would include the whole site. Moreover, BNG rules stipulate that a BNG assessment must correlate to red line application boundaries. Therefore, the following methodology was followed:
- The baseline habitats recorded during the ecological walkover were measured using GIS software.
 - The baseline habitats were translated into UKHab classification using the translation tool in the metric.
 - Habitat conditions were assessed using the Statutory Habitat Condition Assessment sheets.
 - The strategic significance of baseline and proposed habitats was assessed on whether they are formally identified in a local strategy or policy, or whether they are in an ecologically desirable location.
 - The proposed habitats, including any retained or enhanced habitats, were assessed based on information provided by Geoff Perry Associated Limited and Barnes Walker (areas of proposed habitats).
- 2.2.3 The predicted change in biodiversity units was determined by calculating the difference between the baseline units and the post-development units.
- 2.2.4 Dr Rachel Hacking (Principal Ecologist) carried out the calculations and assessment in August 2024 and October 2024. Rachel is an experienced ecologist and has undertaken many BNG Assessments.
- 2.2.5 This document should be read in conjunction with the Preliminary Ecological Appraisal (Elite Ecology, June 2023) and The_Statutory_Biodiversity_Metric_Calculation_Tool_-_Macro_enabled_02.24 -

Tenford Lane REV. B (Rachel Hacking Ecology). The revised Landscaping Scheme can be seen within the Barnes Walker plan M3774-PA-01-V6-Landscape Layout.

3. Baseline Habitats

- 3.1.1 The baseline habitat units of the site are calculated to be 24.01 (see Appendix 2). 11.69 habitat units are being retained as part of the proposals (existing trees) and 0.77 habitat units are being enhanced (improved grassland).

Developed Land; Sealed Surface

- 3.1.2 A small area of bare ground exists on site, measuring 0.006ha. This habitat is of low strategic importance and very low distinctiveness (automatically assigned by the metric). No condition assessment is required, and this habitat scores no habitat units.

Modified Grassland

- 3.1.3 Modified grassland (improved grassland) is the dominant habitat on site. This measures 6.12ha. This habitat is of low strategic importance and low distinctiveness. The habitat achieves 'poor' condition because of the low species diversity (it does not pass the Core Criterion for species-richness). This habitat achieves 12.24 habitat units. 0.385ha of this habitat will be enhanced (see section 3.2).

Tall Forbs

- 3.1.4 An area of tall, ruderal vegetation exists on site, measuring 0.038ha. This habitat is of low strategic importance and low distinctiveness. It achieves 'poor' condition due to the lack of species diversity and structure. Tall forbs scores 0.08 habitat units.

Broad-leaved Scattered Trees

- 3.1.5 A large number of trees exist on the site boundaries, some medium and some small. In total the trees measure 1.4617ha under the Tree Helper within the metric. They have been assessed collectively as in moderate condition. All trees are to be retained. The trees score 11.69 habitat units.

Native Hedgerows

- 3.1.6 Native hedgerows (species-poor) occur on the western, eastern and southern boundaries of the site. Most of these will be retained with the exception of part of the southern hedgerow for access. These are all classed as in 'moderate' condition due to height, width, species, adjacent habitats and lack of disturbance. These hedgerows collectively measure 0.688km and score 2.75 hedgerow units, with 2.71 hedgerow units retained.
- 3.1.7 A defunct, species-poor hedgerow exists on an internal field boundary. This appears to be mostly retained and will be enhanced (see section 3.2). It measures 0.18km.

Baseline River Units

- 3.1.8 There are no aquatic habitats on site, therefore no river units exist.

3.2 Retained & Enhanced Habitats

- 3.2.1 As previously stated, all trees will be retained, securing 11.69 habitat units for the development. The trees will be subject to Root Protection Areas and a sensitive lighting scheme.
- 3.2.2 The majority of the boundary hedgerows will be retained, securing 3.01 hedgerow units for the development.
- 3.2.3 A linear stretch of 0.385ha of modified grassland will be retained and enhanced. This lies along the northern boundary beneath the tree canopy. This will be enhanced by scarifying the existing sward and sowing a shade-tolerant native wildflower and grass seed mixture. The enhancement of this part of the site achieves 2.39 habitat units.
- 3.2.4 The 0.18km of defunct hedgerow will be enhanced, by planting up with native woody species, to enable the hedgerow to achieve 'moderate' condition. This achieves 0.57 hedgerow units.

4. Proposed Habitats

4.1 Created Habitats

- 4.1.1 Habitats that are being created within the landscape scheme provide 13.78 habitat units.

Developed land; Sealed Surface

- 4.1.2 This habitat includes the new dwellings, roads and hardstanding pathways (including within the Public Open Space - POS) as part of the development. This equates to a total habitat area of 2.112ha. This habitat does not provide any habitat units.

Vegetated Garden

- 4.1.3 Front and rear gardens measure a total of 1.78ha. This habitat requires no condition assessment and achieves 3.44 habitat units.

Modified Grassland

- 4.1.4 Amenity (modified) grassland is proposed for the site, within the POS. This will cover an area of 0.8852ha, which is reduction from the original scheme. The target condition is 'poor' due to the intensive management of the grassland. Modified grassland provides 1.71 habitat units.

Other Neutral Grassland

- 4.1.5 Wildflower grassland is proposed for the site, within the POS. This will cover an area of 0.9768ha, including on the SUDS banks. This is an increase from the original scheme. The target condition is 'moderate', due to the seed mixture procured. Wildflower grassland provides 6.54 habitat units.

Introduced Shrub

- 4.1.6 This habitat will consist of planting beds within the POS. The shrub beds have a total measurement of 0.019ha. This habitat provides 0.04 habitat units.

Sustainable Drainage System

- 4.1.7 A small area devoted to SUDS is proposed on site, measuring 0.0084ha. The target condition is 'poor' due to the size of the feature and achieves 0.01 habitat units.

Urban – Urban Trees

- 4.1.8 A total of 180 trees, an increase of 100 from the original scheme, are proposed across the site, with sizes assumed of 'small' given their locations and a target condition of 'poor'. The trees will cover 0.7329ha, as per the Tree Helper. The new trees provide 2.05 habitat units.

Hedgerow

- 4.1.9 A total of 314m ornamental hedgerows are proposed. This habitat is of very low distinctiveness and is given an automatic 'poor' condition. Ornamental hedgerows provide 0.03 hedgerow units.

5. Assessment

Area Habitats

- 5.1.1 The baseline site provides 24.01 habitat units. With all retained, enhanced and created habitats, the proposed development is expected to achieve 27.86 habitat units. This is an uplift of **+3.86** habitat units, which equates to **16.06%** net gain.

Linear Hedgerows

- 5.1.2 The baseline site provides 3.11 hedgerow units. With all retained, enhanced and created hedgerows, the proposed development is expected to achieve 3.31 hedgerow units. This is an uplift of **+0.20** hedgerow units, which equates to **6.42%** net gain.

Trading Rules

- 5.1.3 The Trading Rules are satisfied, due to the creation of wildflower grassland across the site.

6. Summary

- 6.1.1 The development is expected to achieve Biodiversity Net Gain, of 16.06% in habitat units and 6.42% in hedgerow units. This satisfies national and local planning policy which was relevant at the time of the planning application submission.

Appendix 1: Layout Plan (courtesy of Geoff Parry Associates)



Appendix 2: Headline Results

On-site baseline	<i>Habitat units</i>	24.01
	<i>Hedgerow units</i>	3.11
	<i>Watercourse units</i>	0.00
On-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	27.86
	<i>Hedgerow units</i>	3.31
	<i>Watercourse units</i>	0.00
On-site net change (units & percentage)	<i>Habitat units</i>	3.86
	<i>Hedgerow units</i>	0.20
	<i>Watercourse units</i>	0.00
Off-site baseline	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>Watercourse units</i>	0.00
Off-site post-intervention (Including habitat retention, creation & enhancement)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>Watercourse units</i>	0.00
Off-site net change (units & percentage)	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>Watercourse units</i>	0.00
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	3.86
	<i>Hedgerow units</i>	0.20
	<i>Watercourse units</i>	0.00
Spatial risk multiplier (SRM) deductions	<i>Habitat units</i>	0.00
	<i>Hedgerow units</i>	0.00
	<i>Watercourse units</i>	0.00
FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	3.86
	<i>Hedgerow units</i>	0.20
	<i>Watercourse units</i>	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	16.06%
	<i>Hedgerow units</i>	6.42%
	<i>Watercourse units</i>	0.00%
Trading rules satisfied?	Yes ✓	