

Biodiversity Net Gain (BNG) Assessment

Land off Tilstock Road, Tilstock

January 2025

For and on behalf of

Boningale Developments Ltd



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This document does not constitute legal advice.

0.0 SUMMARY

- 0.1 Beamsley Ecology Ltd was commissioned by Boningale Developments Ltd to carry out a Biodiversity Net Gain (BNG) Assessment relating to a proposed residential development on land off Tilstock Road, Tilstock.

Baseline Conditions

- 0.2 The Site is primarily grassland, with pond and boundary hedgerows. An assessment of the biodiversity value of these habitats has been carried out according to DEFRA and Natural England Methodology. The Site has a baseline value of 8.62 area Biodiversity Units (BUs) and 4.93 linear BUs. No watercourses are found on Site or within 10m of the Site boundary.

Post-Development Habitat Value

- 0.3 The assessment applies a precautionary approach to the current landscape design to determine the Project's BNG score and assess likely compliance the Environment Act 2021.

Summary Results

- 0.4 The Proposals are expected to yield 2.32 area Biodiversity Units (BUs) and 1.09 linear BUs, representing a 26.96% and 22.01% net gain in area and linear BUs respectively.
- 0.5 Currently the trading rules are not satisfied due to a shortfall of BUs attributable to ponds (non-priority). The trading rules can be satisfied through appropriate design, management and monitoring of the newly created ponds, or via the purchase of BUs or Statutory Credits.

Next Steps

- 0.6 A Biodiversity Gain Plan will be submitted to discharge the statutory BNG condition applied to any granted permission, which will include detailed BNG Assessment a 30-year Habitat Management and Monitoring Plan.

1.0 INTRODUCTION

- 1.1 Beamsley Ecology Ltd was commissioned by Boningale Developments Ltd (the 'Client') to produce a Biodiversity Net Gain (BNG) Assessment relating to land off Tilstock Road, Tilstock (hereafter referred to as the 'Site').
- 1.2 The work is required to inform a detailed planning application (Ref: 24/04176/FUL) for proposals to develop the Site for residential use.

Site Description

- 1.3 The Site comprises of a grassland field, with boundary hedgerows, and ponds. It is located immediately to the north of the Village of Tilstock, c.3.6km from the town of Whitchurch (Centred on Ordnance Survey Grid Reference SJ 54285 38115), and is surrounded by (predominantly pastoral) farmland to the north, west and east.
- 1.4 The Site location is shown in **Figure 1**.

Proposals

- 1.5 A detailed application has been submitted for the erection of 70no. dwellings (including 10 affordable dwellings), associated landscaping, drainage and infrastructure, with access taken off Tilstock Road. As shown in the Landscape Masterplan (Pegasus drawing reference: P24-1425_EN_06) provided in **Appendix 1** (the 'Proposals').

Aims & Objectives

- 1.6 This report will estimate the anticipated losses or gains in biodiversity units (BUs) as a result of the Proposals and outline the assumptions that have been made to inform the calculations. The calculations are based on the Landscape Masterplan found in **Appendix 1**. The proposed habitats were translated into UKHab Classification Habitat Types as shown in **Figure 3**.
- 1.7 As detailed within industry guidance¹, a BNG design stage report should be used to identify the BNG predicted to be achieved for a proposed development, based on the scheme design to be submitted with planning documents which accompany a planning application.

¹ CIEEM (2021). Biodiversity Net Gain Report and Audit Templates Chartered Institute of Ecology and Environmental Management, Winchester, UK

1.8 The report aims to -

- Provide an assessment of the predicted BNG score for the Project,
- Outline an strategy for the project to achieve 10% Biodiversity Net Gain (if required)
- Assess the Project against BNG best practice guidelines².

Legislation & Policy

- 1.9 Under the Environment Act (2021), planning permissions granted in England, with a few exemptions, must deliver at least 10% biodiversity net gain, using the DEFRA biodiversity metric and associated methodologies to demonstrate this.
- 1.10 This is supported by the National Planning Policy Framework (NPPF) (e.g., Paragraphs 187(d) and 192(b) and 193(d)). The Natural Environment Planning Practice Guidance (PPG) provides further advice on achieving biodiversity net gains in practice.
- 1.11 Local policy does not explicitly reference Biodiversity Net Gain. However, consideration is given the Shropshire Biodiversity Action Plan (SBAP) which provides a detailed outline of the work necessary for the conservation of 34 species and 15 habitats, particularly when determining the strategic significance of the baseline and post-development habitat types.

2.0 METHODOLOGY

- 2.1 The Biodiversity Net Gain (BNG) assessment provides a prediction of the Site's Biodiversity Net Gain score using the Department for Environment, Food and Rural Affairs (DEFRA) Statutory Metric (the 'Metric') and associated methodologies. The assessment calculates the baseline value according to habitat data collected as part of the habitat survey and compare this to the predicted post development habitat types and conditions according to the most developed landscape design.
- 2.2 **Appendix 2** Provides a summary of the key factors of the methodology which are considered in the BNG assessment.

Habitat Survey

- 2.3 The type and condition of on-site habitats was determined through habitat survey carried out on the 5th April 2024 and followed the principles of Extended Phase 1 Habitat Survey methodology (JNCC, 2010). Habitats were classified according to the UK Habitat

² CIEEM, CIRIA, IEMA, 2016, Biodiversity Net Gain: Good practice principles for development.

Classification System (UKHab Ltd, 2023), with secondary codes used where appropriate.

- 2.4 The survey was carried out by Alasdair Grubb BSc (Hons) ACIEEM. Alasdair has over 10 years of experience carrying out habitat surveys and holds a level 5 Botanical Society for Britain and Ireland (BSBI) Field Identification Skills Certificate (FISC), which certifies him as competent to undertake botanical and habitats surveys up to national vegetation classification (NVC) survey level.

Key Criteria

- 2.5 The below table summarises the assessments made with regards to the key factors highlighted in **Appendix 2**, separating baseline and post development habitats (creation)

Table 1: *Summary of Assessment of Key Criteria in BNG Methodology (On-Site)*

Factor	Habitat Baseline	Habitat Creation
Habitat Type	The extent of the Site was mapped, and habitat types were recorded and mapped using UKHab Classification as part of the Field Survey in April 2024.	Habitat types are provided on the Proposed Habitat Features Plans (Figure 3). These UKHab categories were assigned based on the landscaping plans, and in some cases represent a 'best fit'. The feasibility of creation for certain habitat types / conditions in a residential context is taken into account. This is discussed in later sections.
Area	Habitats were separated into parcels either where they were geographically discrete or where there was a change in habitat condition across a single location. Each parcel was recorded and calculated separately within the Metric. Areas were calculated in hectares to three decimal places using digital mapping using QGIS. QGIS is a geographic information system (GIS) software.	
Distinctiveness	The distinctiveness of a habitat is automatically generated by the metric.	
Condition	A condition assessment was carried out alongside the habitat survey,	A condition assessment was carried out on the proposed habitats as

	whereby each habitat parcel was assessed for its condition according to Natural England criteria. Details of the condition assessments are provided in the Preliminary Ecological Appraisal.	shown within the Landscape Masterplan. Professional judgement of an ecologist was applied. In the absence habitat creation / monitoring details, the assessment is precautionary. Post development condition assessments may be refined following the production of a Habitat Management and Monitoring Plan (HMMP) for the Site.
Strategic Significance	Currently no habitats on the baseline or post development are considered strategically significant, and as such are assigned the lowest level of strategic significance. No Local Nature Recovery Strategy (LNRS), on which decisions on the higher strategic significance band would be based, has been produced for Shropshire.	
Time to target condition	N/A	Time to target condition is pre-determined by the Defra methodology according to the habitat type
Difficulty of creation	N/A	Difficulty of creation is pre-determined by the Defra methodology according to the habitat type
Delays in creation / enhancement of habitats	N/A	There is currently no reason to assume that there will be a delay in the creation of on-site or off-site habitats which contribute to the BNG assessment. Any delays as a result of phasing of the project or otherwise will be taken into account in future iterations of the BNG assessments submitted with the Biodiversity Gain Plan (BGP) if required.

3.0 LIMITATIONS & ASSUMPTIONS

- 3.1 The areas and conditions of post-development habitats are based solely on provided landscaping plans, with the expectation that full details of habitat management and monitoring provisions will be provided as a pre-commencement planning condition. The Biodiversity Net Gain (BNG) units and scores outlined here may change if adjustments are made to the redline planning application boundary, the proposed development layout and massing, or the extent and character of retained, created, and enhanced post-development habitats. Even minor changes to these elements could significantly affect the overall BNG outcome.
- 3.2 For some habitat classifications, especially urban habitats, the post-development habitats often represent a “best fit” within the Metric's categories.
- 3.3 Individual tree planting has been mapped on **Figure 3**. Newly planted trees native which are planted over habitats (such as grassland) are assessed as capable of achieving ‘moderate’ condition. Otherwise ‘poor’ condition is assumed.
- 3.4 Assessments of anticipated habitat types and conditions are informed by the creation and monitoring provisions outlined in the Landscape and Ecological Management Plan (LEMP) (Pegasus Group, 23/10/2024 P24_1425_EN_08).
- 3.5 This report does not specify the complete methodology for BNG assessment; relevant guidance documents should be consulted as needed.

4.0 BASELINE CONDITIONS

- 4.1 Habitats found on-site are shown on **Figure 2**. The Site a single homogenous grassland field with boundary hedgerow. Two ponds are located on site, on centrally within the grassland and another to the western boundary.
- 4.2 No watercourses are found on Site or within 10m of the Site boundary.
- 4.3 Full descriptions of habitat types and details of condition assessments are provided in the Preliminary Ecological Appraisal³ submitted with the planning application.

³ CASS Design Ltd October 2024, Preliminary Ecological Appraisal, ref: SH5037(9)C.R.01.2

5.0 POST DEVELOPMENT HABITATS

- 5.1 Post development habitat types and conditions are based on those habitats proposed on the Landscape Masterplan.
- 5.2 The design development has aimed to retain habitat of value (hedgerow, Ponds), where possible in the context of the Proposals.

6.0 BIODIVERSITY NET GAIN RESULTS

- 6.1 The full results of the BNG assessment can be found in the Statutory Metric (BE0017-XLS-01.1 Land off Tilstock Road BNG), provided as a separate document.
- 6.2 A summary of the results is provided in the table below.

Table 2: *Biodiversity Net Gain Results Summary*

	Baseline Value	Post-development Value	Predicted On-Site BNG
Area Habitats	8.62 BUs	10.94 BUs	2.32 BUs (26.96%)
Linear Features	4.93 BUs	6.02 BUs	1.09 BUs (22.01%)

Trading Rules

- 6.3 For area BUs there is a -0.04 shortfall in BUs attributable to 'ponds (non-priority)'.
- 6.4 For linear BUs the trading rules are satisfied.

7.0 DISCUSSION & RECOMMENDATIONS

- 7.1 Based on a precautionary approach to the assessment of post development habitat type and condition, the development is anticipated to be capable of achieving a net gain of - 2.32 area BUs (26.96%), and 1.09 linear BUs (22.01%).
- 7.2 The Proposals have aimed to maximise the post development biodiversity of the Site through design of available green space.
- 7.3 The trading rules are currently not satisfied due to a shortfall in BUs attributable to Ponds (Non-priority habitat). Currently, due to a lack of detail regarding the design and management of the newly created pond with the attenuation feature, it has been assessed as in 'poor' condition. However, it is likely that through appropriate design, monitoring and management this feature could achieve moderate condition. The resulting additional BUs would then satisfy the trading rules.
- 7.4 If upon further assessment the newly created pond is not capable of achieving moderate condition, the shortfall in BUs will require the purchase of either BUs or Statutory Credits.
- 7.5 The assessment currently applies a precautionary approach to assessment of post-development habitats proposed within the Site. All habitat creation will need to be supported by a Habitat Management and Monitoring Plan (HMMP) which details a methodology for the creation, management and monitoring of the Site over a minimum period of 30years.

Species Specific Enhancement

- 7.6 The overall scheme should aim to provide value over and above that which can be quantified by the BNG methodology and include enhancements for a wide range of fauna including bats, birds, invertebrates, and amphibians. Details of these enhancement can be provided in a Biodiversity Enhancement and Management Plan (BEMP), delivered as a condition of planning.

Biodiversity Gain Plan (BGP)

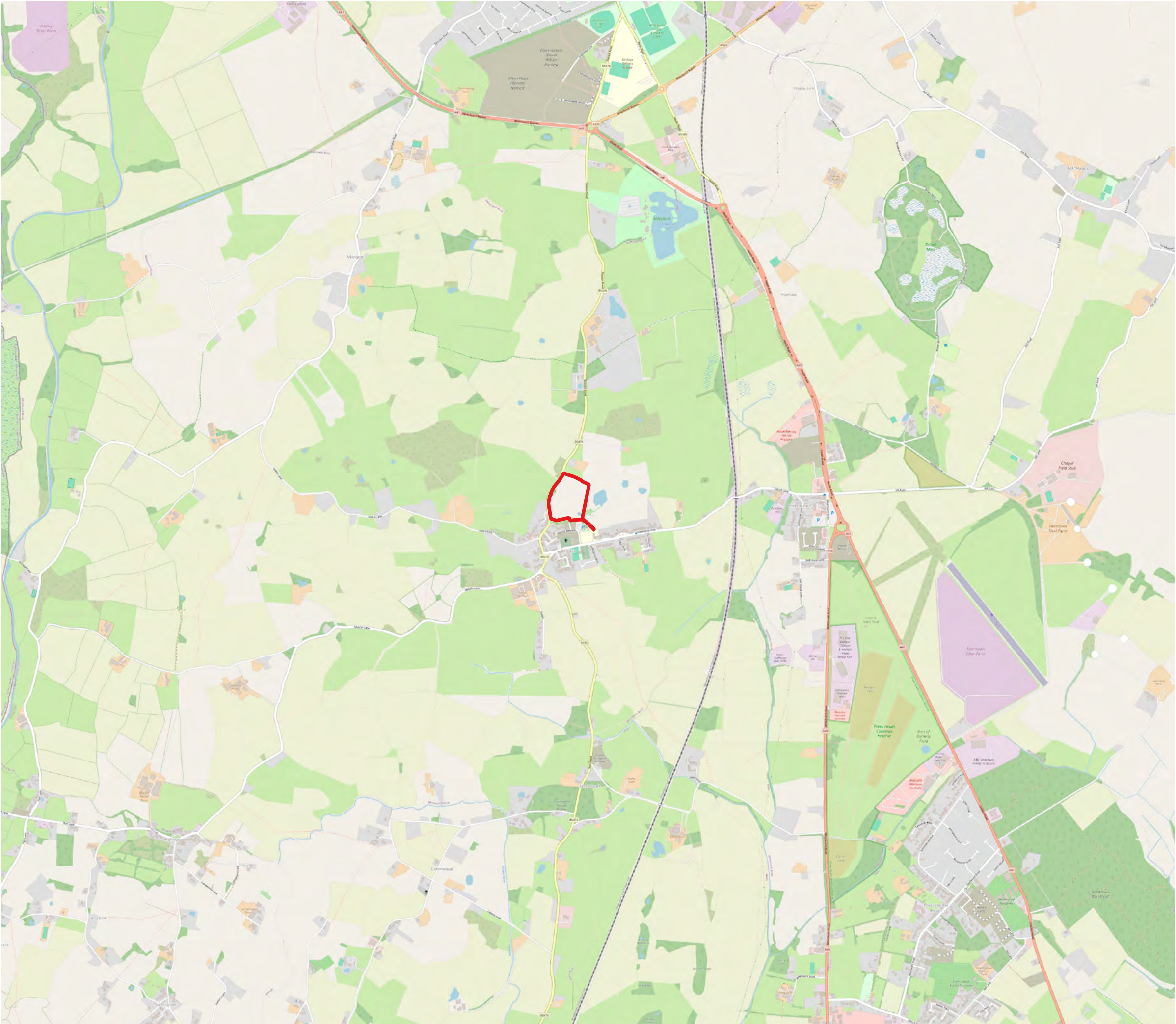
- 7.7 A Biodiversity Gain Plan will need to be submitted to discharge the Statutory BNG Condition applied to any granted planning permission. This will present details of the solution to achieve 10% BNG, and will be supported by –
- a Habitat Management and Monitoring Plan (HMMP) covering a minimum 30-year period.
 - Details of any BU purchase required

- Details of any Statutory Credit purchase required

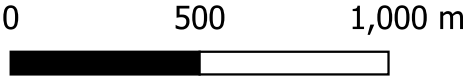
7.8 There will be a legal requirement to manage and newly created or enhanced habitat which contributes significantly to the BNG Project score for a minimum of 30-years.

FIGURES

Figure 1: Site Location



 Red Line Boundary
BASE MAPS
OpenStreetMap



Project Reference	BE0017
Project	Land off Tilstock Road, Tilstock
Figure Name	Site Location Plan
Version	1

Figure 2: *Baseline Habitat Features*



- Red Line (On-site)
- HEDGEROWS
- Ecologically valuable line of trees
 - Native hedgerow
 - Native hedgerow with trees
 - Species-rich native hedgerow
 - To be created
- HABITATS
- Bramble scrub
 - Modified grassland
 - Ponds (non-priority habitat)
- BASE MAPS
- © Google 2024



0 25 50 m

Project Reference	BE0017
Project	Land off Tilstock Road, Tilstock
Figure Name	Baseline Habitat Features
Version	1

Figure 3: *Post Development Habitat Features*



Red Line (On-site)

INDIVIDUAL TREES

Proposed Small Urban Tree

HEDGEROWS

Hedgerows Proposed

Native hedgerow

Native hedgerow with trees

Species-rich native hedgerow
Lost

HABITATS

Habitats Proposed

Bramble scrub

Developed land; sealed surface

Introduced shrub

Mixed scrub

Modified grassland

Other neutral grassland

Other woodland; broadleaved

Ponds (non-priority habitat)

Vegetated garden

BASE MAPS

© Google 2024



0 25 50 m

Project
Reference

BE0017

Project

Land off Tilstock Road,
Tilstock

Figure Name

Post Development
Habitat Features

Version

1

APPENDICES

APPENDIX 1 PROPOSED LANDSCAPE PLAN (REF P24-1425_EN_06A)



KEY

- | | | | | | |
|--|--|--|--|--|--|
| | Application boundary | | Proposed ornamental shrub, herbaceous and grass planting | | Proposed 2m width gravel footprint |
| | Existing vegetation
- Pink dashed line indicates root protection area
- As per Tree Survey Plan by FPCR (ref 12501-T-OL_A) | | Proposed marginal / aquatic planting | | Proposed 2-2.5m width macadam footprint |
| | Existing vegetation to be removed
- As per Tree Retention Plan by FPCR (12501-T-02 Rev A) | | Proposed amenity grass / mown verges | | Proposed wet pour play safety surfacing |
| | Internal visibility splay
- As per Access Proposals by DLP Planning Ltd (SH5037-IOPD-002 Proposed Site Layout) | | Proposed long mown grass meadow | | Proposed earth mounding
- Gradient to be max 1:3 with smooth flowing contours |
| | Visibility splay to access road
- As per Access Proposals by DLP Planning Ltd (SH5037-IOPD-001 Site Access) | | Proposed flowering lawn | | Proposed play equipment with impact attenuating play surfacing to fall zone |
| | Banks to attenuation basin
- As per Drainage Proposals by Eastwood Consulting Engineers (48888-ECE-XX-XX-DR-C-0002_POI - Drainage Layout) | | Proposed wet meadow grassland to SuDS basins | | Proposed timber picnic benches and seating |
| | Proposed native woodland with native shrub understorey | | Proposed pond edge mixture to banks of permanent water edge | | Proposed litter and dog waste bins |
| | Proposed feature tree | | Proposed amenity grass to play areas / village green | | Proposed timber knee rails |
| | Proposed native tree | | Proposed amenity grass to rear gardens | | Proposed anti-trap bow-top fencing to play areas |
| | Proposed street tree | | Proposed amenity grass to front gardens
- See P24-1425_EN_OIO Detailed Soft On-plot Landscape Proposals | | Proposed bow-top fencing SUDs basin - subject to engineer review |
| | Proposed orchard tree | | Proposed planting to front gardens
- See P24-1425_EN_OIO Detailed Soft On-plot Landscape Proposals | | Proposed bulb planting |
| | Proposed native hedgerow | | Proposed single-species hedgerow | | |
| | Proposed native shrub | | | | |
- # LAND AT TILSTOCK ROAD, TILSTOCK – LANDSCAPE MASTERPLAN

LAND AT TILSTOCK ROAD, TILSTOCK – LANDSCAPE MASTERPLAN

APPENDIX 2 METHODOLOGY

- 7.9 The Biodiversity Net Gain (BNG) assessment provides a prediction of the Site's Biodiversity Net Gain score using the Natural England (NE) Statutory Metric (the 'Metric') and associated methodologies. The assessment calculates the baseline value according to habitat data collected as part of the habitat survey and compare this to the predicted post development habitat types and conditions according to the most developed landscape design.
- 7.10 The summary below outlines the key assessment criteria employed in Biodiversity Net Gain (BNG) calculations.

Habitat Survey

- 7.11 The type and condition of on-site habitats was determined through habitat survey carried out on the 24th, 25th and 26th February, and 26th of April 2024 and followed the principles of Extended Phase 1 Habitat Survey methodology (JNCC, 2010). Habitats were classified according to the UK Habitat Classification System (UKHab Ltd, 2023), with secondary codes used where appropriate.
- 7.12 The survey was carried out by Alasdair Grubb BSc (Hons) ACIEEM. Alasdair has over 10 years of experience carrying out habitat surveys and holds a level 5 Botanical Society for Britain and Ireland (BSBI) Field Identification Skills Certificate (FISC), which certifies him as competent to undertake botanical and habitats surveys up to national vegetation classification (NVC) survey level.

The Statutory Metric

- 7.13 The Metric provides a standardised framework for assessing biodiversity impacts of development projects in England, aligning with the BNG requirements established by the Environment Act (2021).
- 7.14 The metric is supported by key guidance documents⁴ outlining the methodologies for BNG assessment, including –
- Statutory Biodiversity Metric User Guide
 - Statutory Biodiversity Metric: Condition Assessments
- 7.15 Biodiversity is measured in Biodiversity Units (BUs) of three distinct types: Area BUs,

⁴ See <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides> : Accessed 30/10/2024

Linear BUs and Watercourse BUs. These three BUs are not interchangeable are assessed separately. To achieve BNG a 10% net gain is required in all BU types (where applicable).

Habitat Distinctiveness

- 7.16 Distinctiveness represents the inherent biodiversity value of a habitat type based on its rarity, conservation priority, and ecological role. The metric categorises habitats into distinctiveness levels, including Very High, High, Medium, Low, and Very Low. Each category has a set score that directly impacts biodiversity calculations, particularly regarding compensatory requirements. High and very high distinctiveness habitats demand specific measures for compensation, as these are more sensitive to biodiversity losses and harder to replace with similar ecological value.

Condition Assessment

- 7.17 The condition of a habitat is assessed based on how close it is to its ecological optimum, influenced by factors such as past and current management practices. Habitat condition is scored on a scale from Poor to Good, with intermediate conditions like Fairly Good and Fairly Poor also available. These scores contribute directly to the biodiversity unit calculation, reflecting the habitat's current quality and resilience. Specific methodologies apply depending on the habitat type, with unique criteria for assessing watercourse conditions.

Strategic Significance

- 7.18 Strategic significance evaluates a habitat's local or regional importance, particularly regarding its alignment with conservation priorities set out in Local Nature Recovery Strategies (LNRS) or similar planning documents. Strategic significance is classified as Low, Medium, or High. A High designation applies to habitats that are directly linked to local conservation goals or mapped as priority areas in LNRS. This factor adjusts biodiversity units, giving greater weight to habitats that serve key roles in broader ecological networks.

Habitat Size

- 7.19 The size of each habitat, measured in hectares for area-based habitats and kilometres for linear features like hedgerows and watercourses, is a core factor in determining biodiversity units. Habitat size directly contributes to the total biodiversity score of a site and influences calculations for habitat loss, creation, and enhancement. This quantitative aspect ensures that both the extent and ecological quality of habitats are accounted for in BNG assessments.

Risk Multipliers

- 7.20 Risk multipliers address various factors that could affect the successful establishment of compensatory habitats. Spatial risk adjusts biodiversity units based on the distance between the site of habitat loss and the location of compensatory habitats, with penalties applied for habitats situated further from the impacted area. Temporal risk considers the time it takes for newly created or enhanced habitats to reach their intended condition, accounting for any ecological delays in achieving the desired biodiversity outcome. These multipliers refine the BNG calculations, ensuring a realistic measure of biodiversity value over time and space.
- 7.21 By systematically applying these criteria, the statutory biodiversity metric provides a structured and quantifiable approach to calculating biodiversity gains and losses, enabling effective planning and compensatory actions across diverse development projects.

APPENDIX 3 BNG GOOD PRACTICE PRINCIPLES FOR DEVELOPMENT

Good Practice Principle	Commentary
1. Apply the mitigation hierarchy	The design process has sought to retain habitat of higher biodiversity value including hedgerow and ponds. Hedgerow loss has been minimised as far as is feasible in the context of the development.
2. Avoid losing biodiversity that cannot be offset by gains elsewhere	No irreplaceable habitats or protected areas will be lost or affected by the Proposal.
3. Be inclusive and equitable	Consultation with the Local Planning Authority Ecologist and Local Ecological Records Centre (LERC) have taken place during the process of this application. Further consultation may be necessary through the determination of the application and the discharge of the statutory BNG condition.
4. Address risks	The assessment has applied a precautionary approach to the assessment of the on-site post development habitat types, conditions and therefore biodiversity value.
5. Make a measurable Net Gain contribution	The development has been assessed as delivering a BNG of XXX. Through a combination of local habitat creation enhancement, purchase of BUs, and purchase of Statutory Credits the development will deliver 10% BNG as measured through the Metric.
6. Achieve the best outcomes for biodiversity	The detailed design has aimed to maximise biodiversity gains whilst also considering potential conflicts arising associated with residential development.
7. Be additional	There are no existing nature conservation objectives on the site. Therefore the enhancement of retained habitats and creation of new habitats and their management for biodiversity for the next 30 years add significant legally secured benefits for local biodiversity.
8. Create a Net Gain legacy	This will be achieved through creation of a 30-year management plan which will ensure biodiverse and high quality habitats remain on site and offer foraging, commuting, nesting and hibernation potential to a range of local wildlife whilst also ensuring the

	development will have semi-natural spaces for available play and recreation.
9. Optimise sustainability	The design of the on-site green open space has been designed to retain those habitats which are of higher (ponds and hedgerow).
10. Be transparent	This report provides a transparent method for the BNG assessment ensuring that all stakeholders can understand the methodology and decision making.



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