



Biodiversity Net Gain Assessment

Home Farm, Shaw Hill, Shaw, Wiltshire, SN12 8EW
TJ Professional Builders

Status	Issue	Name	Date
Draft	1	Katie Whitfield, BSc (Hons) Graduate Ecologist	06/11/2024
Reviewed	1.1	Georgina Rennie BSc (Hons), MSc. Consultant Ecologist	11/11/2024
Final	2	Katie Whitfield, BSc (Hons) Graduate Ecologist	12/11/2024

Arbtech Consultant's Contact Details:

Katie Whitfield
Graduate Ecologist
Tel: 07955 283710 Email: kati whitfield@arbtech.co.uk
<https://arbtech.co.uk>

Limitations and Copyright

Arbtech Consulting Limited has prepared this report for the sole use of the above-named client or their agents in accordance with our General Terms and Conditions, under which our services are performed. It is expressly stated that no other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Arbtech Consulting Limited. The conclusions and recommendations contained in this report are based upon information provided by third parties. Information obtained from third parties has not been independently verified by Arbtech Consulting Limited.

© This report is the copyright of Arbtech Consulting Limited. Any unauthorised reproduction or usage by any person other than the addressee is strictly prohibited.

Industry Guidelines and Standards

This report has been written with due consideration to:

- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management, Construction Industry Research and Information Association & Institute of Environmental Management and Assessment (2019). Biodiversity Net Gain – Good Practice Principles for Development.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.

(BS 42020, 2013)

Executive Summary

Arbtech Consulting Limited was instructed by TJ Professional Builders to undertake a Biodiversity Net Gain (BNG) Assessment at Home Farm, Shaw Hill, Shaw, Wiltshire, SN12 8EW (hereafter referred to as “the site”). The assessment was required to inform a planning application for the demolition of buildings, creation of hardstanding and modified grassland (hereafter referred to as “the proposed development”).

The baseline area-based habitat value of the site is 0.57 units, comprising modified grassland of poor condition (0.15 units), bare ground of poor condition (0.10 units), and 6no. urban trees of good condition (0.32 units). The artificial unvegetated, unsealed surfaces, artificial unsealed surface with ruderals and sealed surfaces do not offer any habitat units.

The baseline linear-based habitat value of the site is 1.08 units, comprising native hedgerow with trees of good condition (1.04 units), and non-native, ornamental hedgerow (0.04).

In order to achieve a 10% biodiversity net gain for area-based habitats, a minimum area-based unit score of **0.627** will need to be achieved.

Similarly, to achieve a 10% biodiversity net gain for linear-based habitats, a minimum linear-based unit score of **1.188** will need to be achieved.

Recommendations include:

- Retention of all trees on site
- Retention and enhancement of modified grassland on site to other neutral grassland to moderate or potentially good condition (this should be achieved by increasing botanical diversity in order to pass the essential criterion for this condition class).
- Retaining or planting native hedgerows where possible

Contents

1.0 Introduction and Context	6
1.1 Site Location, Geology and Landscape Context.....	6
1.2 BNG Informative	6
1.3 Scope of this Report	7
2.0 Methodology	8
2.1 Baseline Biodiversity Value.....	8
2.3 Limitations	8
3.0 Results	9
3.1 Baseline Habitats	9
3.3 Change in Biodiversity Value of the Site	12
4.0 Recommendations to Deliver BNG.....	13
4.1 Discussion	13
4.2 Landscaping	13
4.5 Design statement.....	14
5.0 Bibliography	15
Appendix 1: Proposed Development Plan.....	16
Appendix 2: Site Location Plan	17
Appendix 3: Baseline Habitat Plan	18
Appendix 5a: Habitat Condition Assessment Sheets - Baseline	19
Appendix 6: Headline BNG Results.....	26

1.0 Introduction and Context

Arbtech Consulting Limited was instructed by TJ Professional Builders to undertake a Biodiversity Net Gain (BNG) Assessment at Home Farm, Shaw Hill, Shaw, Wiltshire, SN12 8EW (hereafter referred to as “the site”). The assessment was required to inform a planning application for the demolition of buildings, creation of hardstanding and modified grassland (hereafter referred to as “the proposed development”). A plan showing the proposed development is provided in Appendix 1.

This report should be read in conjunction with the following documents:

- Statutory DEFRA Biodiversity Metric.
- Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment: Home Farm, Shaw Hill, Shaw, Wiltshire, SN12 8EW (Arbtech Consulting Ltd., 2024).

1.1 Site Location, Geology and Landscape Context

The site is located at National Grid Reference ST 88175 65402 and has an area of approximately 0.33ha comprising 2 buildings, hardstanding, modified grassland areas of artificial unsealed surface with ruderal vegetation and artificial unvegetated unsealed surface, bare ground, native hedgerows with trees, ornamental hedgerow and fruiting trees. It is situated in a residential area of the village of Shaw with South Brook to the northeast and a pond to the southeast. The wider landscape comprises areas of deciduous woodland, woodpasture and parkland, traditional orchards, agricultural fields and farmlands in all directions as well as semi-urban recreational grounds. A site location plan is provided in Appendix 2.

1.2 BNG Informative

BNG is a specific, measurable outcome of project activities that deliver demonstrable and quantifiable benefits to biodiversity compared to the baseline situation. In order to achieve BNG, a project must be able to demonstrate that it has followed all 10 of the Principles of Biodiversity Net Gain (as outlined in the *British Standard 8683:2021 Process for Designing and Implementing Biodiversity Net Gain*).

The legalised Environment Act (2021) requires developments in England to demonstrate a measurable net gain in biodiversity and sets a target of a minimum of +10% BNG for all developments. It also stipulates that a management plan with a minimum 30-year term, should be adopted to ensure biodiversity net gain can be delivered. The requirement for biodiversity net gain is also enshrined within the National Planning Policy Framework (NPPF, 2023). As of 12th February 2024, BNG has become mandatory.

The DEFRA Statutory Biodiversity Metric is the latest and final version of the metric tool used to calculate BNG. It enables the calculation of habitat value pre- and post-development in order to determine the overall change in biodiversity value as a result of the proposed development. The Biodiversity Metric has separate BNG assessments for areas of habitat, hedgerows and watercourses.

The biodiversity value of a site should be maximised. However, it may not always be possible to achieve a +10% biodiversity net gain within a site and therefore the Statutory Biodiversity Metric can also account for offsite habitat creation, where land is available. Alternatively, developers can seek to provide an agreed financial contribution to an appropriate third party (such as the Local Authority, the UK Government or another landowner) to deliver the required biodiversity net gain elsewhere on their behalf.

1.3 Scope of this Report

This report assesses the biodiversity value of the site pre-development and outlines the minimum biodiversity units required to achieve a +10% net gain.

2.0 Methodology

2.1 *Baseline Biodiversity Value*

The baseline BNG Calculation was informed by a PEAPRA (Arbtech Consulting Ltd., 2024). A baseline habitat plan is provided in Appendix 3.

Habitat Classification

The PEA classified the habitats on site according to UK Habitat Classification User Manual (UK Habitat Classification Working Group, 2023).

Habitat Area/Length

The area or length of each habitat was calculated using qGIS software. In calculating the area or length of each habitat, habitats which occur as two or more isolated parcels across the site were combined, where they were deemed to be of a similar composition and condition. Distinctions were made between habitats to be retained (i.e. left as found in baseline), enhanced (i.e. improved condition) or lost (i.e. destroyed by proposed development). Areas of scattered trees were calculated using the Tree Helper tool within the Statutory Biodiversity Metric. Class sizes for urban trees are set out in Table 14 of the Statutory Biodiversity Metric User Guide (Natural England, 2024).

Habitat Condition

Habitat condition was assessed using the relevant condition assessment sheets found in the Statutory Biodiversity Metric Condition Assessment Supplement (Natural England, 2024).

Strategic Significance

Strategic significance was assigned for each habitat based upon a review of the following:

- Ecological value
- Function within the landscape

2.3 *Limitations*

N/A

3.0 Results

3.1 Baseline Habitats

Table 1 details the baseline habitats present within the site along with their area/length, condition and strategic significance. A full condition assessment for each habitat (where relevant) is provided in Appendix 5a.

Table 1: Baseline Biodiversity Value

Type	Habitat	Area (ha) / Length (km)	Description	Condition Assessment	Strategic Significance
Area-Based	Developed land; sealed surface (u1b)	0.1229ha	There are two buildings on-site that will be impacted by the development works - Building 1 (B1) and Building 2 (B2) which comprise four sections (B1a, B1b, B2a, B2b). Areas of hardstanding are surrounding the two buildings.	Habitat condition pre-determined as ' N/A ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).
Area-Based	Artificial unvegetated, unsealed surface (u1c)	0.0515ha	Area of artificial unvegetated, unsealed surface comprises the driveway and is adjacent to northern area of modified grassland and north-eastern site boundary.	Habitat condition pre-determined as ' N/A ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).
Area-Based	Artificial unsealed surface with ruderals (u1c-81)	0.0330ha	Area of artificial unsealed surface with ruderal vegetation is adjacent to the southern elevation of B1. The species assemblage of the ruderal vegetation includes ribwort plantain <i>Plantago lanceolata</i> , dandelion <i>Taraxacum officinale</i> agg., white clover <i>Trifolium repens</i> , wood cranesbill <i>Geranium sylvaticum</i> , creeping thistle <i>Cirsium</i> .	Habitat condition pre-determined as ' N/A ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).

Type	Habitat	Area (ha) / Length (km)	Description	Condition Assessment	Strategic Significance
Area-Based	Bare ground (u1-510)	0.0477ha	Area of bare ground is adjacent to the western site boundary along native hedgerow with trees and north-western area of modified grassland. The area of bare ground appears to have been tilled recently, with no vegetation present. The condition assessment is as follows: a) The habitat doesn't have a varied vegetation structure; b) The habitat parcel doesn't contain different plant species; c) No invasive non-native plant species were detected.	Poor: passes 1 of 3 criteria Assessed using the 'Urban' habitat type condition sheet	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).
Area-Based	Modified Grassland (g4-510)	0.0754ha	There are three areas of modified grassland. The species assemblage includes common bent <i>Agrostis capillaris</i> , white clover <i>Trifolium repens</i> , perennial ryegrass <i>Lolium perenne</i> , creeping buttercup <i>Ranunculus repens</i> , dandelion <i>Taraxacum officinale agg.</i> , ribwort plantain <i>Plantago lanceolata</i> , Yorkshire fog <i>Holcus lanatus</i> in all three areas, with ivy <i>Hedera helix</i> found within area 2 and 3. Condition assessment for all three areas of grassland are as follows. The sward height is <7cm, with scrub covering less than 20%, physical damage accounting for more than 5% of the total area and less than 10% cover of bare ground. Cover of bracken is less than 20% and no invasive non-native species were detected within all areas.	Poor: passes 5 of 7 criteria excluding essential criterion A. Assessed using the 'Grasslands Low Distinctiveness' habitat type condition sheet.	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).
Area-Based	Urban Tree (g4 – 32)	0.0244ha	There are six scattered native small trees within the area of modified grassland adjacent to the northern site boundary (Figure 9). The scattered trees include two young pear trees <i>Pyrus communis</i> (T1, T2) of <7.5 cm diameter at breast height (DBH), one semi-mature apple tree <i>Malus domestica</i> (T3) of 6.9 cm DBH, semi-mature apple tree (T4) of 8.4 cm DBH, young apple tree (T5) of <7.5 cm DBH and pruned mature apple tree (T6) of 6.8 cm DBH. T3, T4 and T6 have good canopy cover which is overselling understory vegetation and natural ecological niches like surface wounds, peeling bark and moss, and as all trees are fruit bearing trees, they provide abundant foraging opportunities for pollinators. Condition assessment for T4 is as follows: a) The tree is of native species; b) Continuous tree canopy is present; c) The tree is not mature; d) The tree doesn't exhibit adverse impacts on their health by human activities; e) Natural ecological niches for vertebrates and invertebrates are present; f) More than 20% of the canopy area is oversailing vegetation beneath.	Good: passes 5 of 6 criteria. Assessed using the 'Individual Trees' habitat type condition sheet.	Medium Strategic Significance Location ecologically desirable but not in local strategy.

Type	Habitat	Area (ha) / Length (km)	Description	Condition Assessment	Strategic Significance
Linear-Based	Non-native, ornamental hedgerow (h2b)	0.079km	Non-native, ornamental hedgerow is adjacent to the south-eastern site boundary and includes laurel <i>Laurus nobilis</i> .	Habitat condition pre-determined as ' Poor ' as detailed within the Statutory Biodiversity Metric Condition Assessment Supplement.	Medium Strategic Significance Location ecologically desirable but not in local strategy.
Linear-Based	Native hedgerow with trees (h2a-11)	0.035km	Native hedgerow with trees is adjacent to the western and northern site boundary. The species assemblage of the western hedgerow includes hawthorn <i>Crataegus monogyna</i> , hazel <i>Corylus avellana</i> , ivy <i>Hedera helix</i> , bramble <i>Rubus fruticosus agg.</i> , common elder <i>Sambucus nigra</i> , common nightshade <i>Solanum nigrum</i> . The hedgerow has a good understory vegetation with species assemblage as follows: common nettle <i>Urtica dioica</i> , dogbane <i>Apocynum cannabinum</i> , Yorkshire fog <i>Holcus lanatus</i> , perennial ryegrass <i>Lolium perenne</i> , creeping buttercup <i>Ranunculus repens</i> and yarrow <i>Achillea millefolium</i> . The species assemblage of the northern hedgerow includes hawthorn <i>Crataegus monogyna</i> , ivy <i>Hedera helix</i> , hazel <i>Corylus avellana</i> , bramble <i>Rubus fruticosus agg.</i> The composition and condition of the understory vegetation is the same as for the first hedgerow. Condition assessment for both areas of native hedgerow with trees is as follows: A1.) The height is >1.5m; A2.) The width is >1.5m; B1.) Gaps between ground and base of canopy are <0.5m for >90% of length; B2.) Gaps make up <10% of total length and no canopy gaps are >5m; C1.) There is >1m width of undisturbed ground; C2.) Species present are indicative of nutrient enrichment of soils; D1.) No invasive non-native species were detected on survey; D2.) >90% of the hedgerow is free of damage caused by human activities; E1.) There is only one age-class of tree present; E2.) At least 95% of hedgerow trees are in healthy condition.	Good: Passes 9 of 10 criteria Assessed using the 'Hedgerow' habitat type condition sheet.	Medium Strategic Significance Locations ecologically desirable but not in local strategy.

3.3 Change in Biodiversity Value of the Site

Full details are provided in the DEFRA Statutory Biodiversity Metric. The headline results are presented in Appendix 6.

Area-Based Habitat Units

The baseline area-based habitat value of the site is 0.57 units, comprising modified grassland of poor condition (0.15 units), bare ground of poor condition (0.10 units), and 6no. urban trees of good condition (0.32 units). The artificial unvegetated, unsealed surfaces, artificial unsealed surface with ruderals and sealed surfaces do not offer any habitat units.

Linear-Based Habitat Units

The baseline linear-based habitat value of the site is 1.08 units, comprising native hedgerow with trees of good condition (1.04 units), and non-native, ornamental hedgerow (0.04).

4.0 Recommendations to Deliver BNG

4.1 Discussion

In order to achieve a 10% biodiversity net gain for area-based habitats, a minimum area-based unit score of **0.63** will need to be achieved (baseline unit score of 0.57 + 10% of this value).

Similarly, to achieve a 10% biodiversity net gain for linear-based habitats, a minimum linear-based unit score of **1.19** will need to be achieved.

Recommendations include:

- Retention of all trees on site
- Retention and enhancement of modified grassland on site to other neutral grassland at good condition
 - A minimum of ten species per metre squared will be required. Species can include ribwort plantain, common sorrel, Yorkshire fog, false oat grass, cock's foot, common bent, common knapweed, red clover, oxeye daisy, yellow rattle, meadow sweet and, selfheal.
 - Sward length should be varied with rotational mowing.
 - Areas of bare ground should be planted with seed.
 - Damage from human footfall and machinery will need to be avoided to reach good condition.
- Retaining hedgerows where possible
- Planting native hedgerows within the site
 - Species should be native. Species should include a mixture of species including hazel, hawthorn, dog rose, ivy and common alder
 - Hedgerows should be 1.5m in height and width to meet essential criteria
 - As per The Management of Hedgerows (England) Regulations 2024, a 2-metre buffer area, measured from the centre of a hedgerow, where a green space must be created and maintained. Also, no cultivation or the application of pesticides or fertilisers should take place.

4.2 Landscaping

To maximise the biodiversity value of the site itself, the following alterations to the current landscaping proposals could be considered

- Additional planting of native tree species. Recommended species include hazel, silver birch, field maple, hawthorn, crab apple, alder and common juniper. If these trees are native, these can be created as small trees at moderate condition.
- Installation of bird boxes and bat boxes on existing trees or retained/created buildings.
- Bug houses can be installed within areas of grassland to increase invertebrate populations.

4.5 Design statement

This report contains recommendations on measures for achieving BNG. These recommendations do not constitute a design for BNG. In submitting these recommendations, Arbtech Consulting has no Design Liability associated with these recommendations for BNG. The strategy sets out the criteria which the landscape team can use to design the creation and management of the site.

5.0 Bibliography

- Arbtech Consulting Ltd. (2024). Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA): Home Farm, Shaw Hill, Shaw, Wiltshire SN12 8EW
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.
- CIEEM-CIRIA-IEMA (2019) Biodiversity Net Gain – Good Practice Principles for Development.
- Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey a technique for environmental audit.
http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf
- National Planning Policy Framework (2023). <https://www.gov.uk/government/publications/national-planning-policy-framework--2>
- Natural England (2024). The Statutory Biodiversity Metric User Guide. <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>
- Natural England (2024). The Statutory Biodiversity Metric. <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>
- UK Habitat Classification Working Group (2023). UK Habitat Classification – Habitat Definitions V2.0.

Appendix 1: Proposed Development Plan



Appendix 2: Site Location Plan



Appendix 3: Baseline Habitat Plan



Appendix 5a: Habitat Condition Assessment Sheets - Baseline

Modified Grassland; assessed using 'Grasslands Low Distinctiveness' habitat type condition sheet:

Condition Assessment Criteria:		Condition Achieved (Y/N)	Notes/Justification
A	There must be 6-8 vascular plant species per m ² , including at least 2 forbs. NB - this criterion is essential for achieving moderate condition.	N	There are 5 vascular plant species per m2
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 vertebrates and invertebrates to live and breed.	N	Sward height is <7cm in all three areas.
C	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y	No scattered scrub present (less than 20% coverage).
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Y	Physical damage present in less than 5% of total grassland area.
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Y	Bare ground cover between 1% and 10%.
F	Cover of bracken less than 20%.	Y	No bracken observed (less than 20% coverage).
G	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Y	Absence of invasive species.
Essential criterion 1 achieved (Y/N)			N
Number of criteria passed			5
Condition Assessment Result	Condition Assessment Score	Score Achieved x/✓	
Passes 6 or 7 of 7 criteria including passing essential criterion A	Good (3)		
Passes 4 or 5 of 7 criteria including passing essential criterion A	Moderate (2)		
Passes 0, 1, 2 or 3 of 7 criteria; OR 4, 5 or 6 of criteria but failing criterion A	Poor (1)	✓	

Bare ground; assessed using 'Urban' habitat type condition sheet:

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
Core Criteria - must be assessed for all urban habitat types :			
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	N	The habitat doesn't have a varied vegetation structure.
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	N	The habitat parcel doesn't contain different plant species.
C	Invasive non-native plant species (listed on Schedule 9 of WCA ¹) and others which are to the detriment of native wildlife (using professional judgement) ² cover less than 5% of the total vegetated area ³ . Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).	Y	No invasive species detected
Essential criteria relevant for habitat type achieved (Yes or No)		Y	
Number of criteria passed		1	
Condition Assessment Result	Condition Assessment Score	Score Achieved ×/√	

Results for habitats requiring assessment of 3 core criteria only (all listed urban habitats except Open mosaic habitat on previously developed land, Bioswale, SuDS and Green roofs):		
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C.	Good (3)	
• Passes 2 of 3 core criteria; OR • Passes 3 of 3 core criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)	
• Passes 0 or 1 of 3 core criteria.	Poor (1)	✓

Urban Trees; assessed using 'Individual Trees' habitat type condition sheet:

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
A	The tree is a native species (or more than 70% within the block are native species).	Y	All trees are native.
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y	All trees are individual trees and thus automatically pass this criterion.
C	The tree is mature (or more than 50% within the block are mature).	N	Only T6 is mature.
D	There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Y	Little to no evidence of adverse anthropogenic impacts; all trees have retained >75% of their expected canopy.
E	Natural Ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Y	Natural ecological niches are present such as surface wounds, and peeling bark and moss.
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	More than 20% of the tree canopy area has vegetation underneath.
Number of criteria passed			5
Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓	
Passes 5 or 6 of 6 criteria	Good (3)	✓	
Passes 3 or 4 of 6 criteria	Moderate (2)	✓	
Passes 0, 1 or 2 of 6 criteria	Poor (1)		

Native Hedgerow with Trees; assessed using 'Hedgerow' habitat type condition sheet:

Hedgerow favourable condition attributes				
Attributes and functional groupings (A, B, C, D & E)	Criteria (the minimum requirements for 'favourable condition')	Description	Condition Achieved (Y/N)	Notes/Justification
Core groups - applicable to all hedgerow types				
A1. Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is > 1.5 m height).	Y	Hedgerow height is >1.5m.
A2. Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (e.g. blackthorn suckers) are only included in the width estimate when they >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).	Y	Hedgerow width is >1,5m
B1. Gap – hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	This is the vertical 'gappiness' of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	Y	Gap between ground and base of canopy is >0.5m for >90% of length.
B2. Gap – hedge canopy continuity	Gaps make up <10% of total length and No canopy gaps >5 m	This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall 'gappiness', but are not subject to the >5 m criterion (as this is the typical size of a gate).	Y	Gaps make up <10% of total length and no canopy gaps >5 m

C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: - measured from outer edge of hedgerow, and - is present on one side of the hedge (at least)	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedge. Undisturbed ground should be present for at least 90% of the hedgerow length, greater than 1m in width and must be present along at least one side of the hedge. This criterion recognises the value of the hedge base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	Y	There is >1m width of undisturbed ground
C2.	Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	The indicator species used are nettles (<i>Urtica</i> spp.), cleavers (<i>Galium aparine</i>) and docks (<i>Rumex</i> spp.). Their presence, either singly or together, should not exceed the 20% cover threshold.	Y	Species present are indicative of nutrient enrichment of soils in the form of common nettles.
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native and recently introduced species	Recently introduced species refer to plant that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives.	Y	No invasives observed.
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g. excessive hedge cutting).	Y	>90% of hedgerow and understorey is free of damage caused by human activities.
E1.	Tree class	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	This criterion addresses if there are a range of age-classes or morphologies which allow for replacement of trees and provide opportunities for different species.	N	There is only one age class of tree present
E2.	Tree Health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.	Y	At least 95% of hedgerow trees are in healthy condition.
Condition categories for hedgerows with trees					

Category	Maximum number of attributes that can fail to meet 'favourable condition' criteria in Table TS1-2	Weighting (score)	
Good	No more than 2 failures in total; AND No more than 1 failure in any functional group.	3	
Moderate	No more than 5 failures in total; AND <u>Does not fail both attributes</u> in more than one functional group (e.g., fails attributes A1, A2, B1, C2 and E1 = Moderate condition).	2	
Poor	Fails a total of more than 5 attributes; OR <u>Fails both attributes</u> in more than one functional group (e.g. fails attributes A1, A2, B1 and B2 = Poor condition).	1	
Score achieved:	Good		

Appendix 6: Headline BNG Results

The DEFRA Statutory Biodiversity Metric is provided as a separate excel spreadsheet.

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-0.57
	Hedgerow units	-1.08
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-100.00%
	Hedgerow units	-100.00%
	Watercourse units	0.00%
Trading rules satisfied?		No - Check Trading Summaries ▲

Area created must match area lost for both onsite and offsite ▲				
Unit Type	Target	Baseline Units	Units Required	Unit Deficit
Habitat units	10.00%	0.57	0.63	0.63
Hedgerow units	10.00%	1.08	1.19	1.19
Watercourse units	10.00%	0.00	0.00	0.00

No additional watercourse units required to meet target ✓