Biodiversity Net Gain Assessment

'The Slips', West End Lane, Henfield, West Sussex BN5 9RG

Ben Kirk

Status	Issue	Name	Date
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Review	0.2	Kat Aburrow BSc, Consultant Ecologist	24/03/2025
Final	1.0	Rachel Wick MSci, Graduate Ecologist	26/03/2025
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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 Ben Kirk to undertake a Biodiversity Net Gain (BNG) Assessment at 'The Slips', West End Lane, Henfield, West Sussex BN5 9RG (hereafter referred to as "the site"). The assessment was required to inform a planning application for the construction of five individual plots, each containing a static caravan and dayroom, with associated landscaping and hardstanding (hereafter referred to as "the proposed development").

	Area units	Linear Units	Watercourse
% Change	**+19.48%**	**+14.48%**	**+10.00%**
Units required for a 10% net gain	None	None	None

Areas of Habitat

The baseline habitat value of the site is 4.85 units, comprising 1.18 units of modified grassland and 3.67 units of scattered trees.

The post development habitat value of the site is 5.80 units, comprising 1.71 units of other neutral grassland, 0.23 units of modified grassland, 3.67 units of retained scattered trees, and 0.18 units of vegetated garden.

Hedgerows

The baseline hedgerow value of the site is 1.20 units, comprising a total of 0.08 units of ornamental hedgerow, a total of 0.37 units of lines of trees, 0.51 units native hedgerow with trees, and 0.25 units native hedgerow.

The post development habitat value of the site is 1.38 units, comprising a total of 0.08 units of retained ornamental hedgerow, a total of 0.37 units of retained lines of trees, 0.51 units retained native hedgerow with trees, 0.25 units retained native hedgerow, and 0.17 units of new native hedgerow.

Watercourses

The baseline watercourse value of the site is 0.36 units, comprising a combined total of 0.36 units of ditches.

The post development watercourse value of the site is 0.40 units, comprising a combined total of 0.36 units of retained ditches and 0.04 units of newly created ditches.

Contents

1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Ben Kirk to undertake a Biodiversity Net Gain (BNG) Assessment at 'The Slips', West End Lane, Henfield, West Sussex BN5 9RG (hereafter referred to as "the site"). The assessment was required to inform a planning application for the construction of five individual plots, each containing a static caravan and dayroom, with associated landscaping and hardstanding (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 Biodiversity Metric Calculation Tool for 'The Slips', West End Lane BN5 9RG (Arbtech, 2025)
- Preliminary Ecological Appraisal Report for 'The Slips', West End Lane BN5 9RG (Arbtech, 2025)

1.2 Site Location, Geology and Landscape Context

The survey site is centred on National Grid Reference TQ 20116 15970 and has an area of approximately 0.6 ha. The site consists of a long, narrow field of grassland, historically used for camping and caravan parking. It is bordered by hedgerows, two ditches, several lines of trees, and features multiple mature oak trees. Located on the outskirts of Henfield village, the site sits amidst agricultural fields and large residential gardens. The wider landscape is characterized by agricultural fields, small woodland pockets, and an extensive network of bordering hedgerows, providing valuable habitat connectivity. The surrounding landscape is likely to provide value to a range of species including badgers, amphibians and bats. A site location plan is provided in **Appendix 2**.

1.3 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, 2024).

The DEFRA Statutory Biodiversity Metric is the widely accepted 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.

2.0 Methodology

2.1 Baseline Biodiversity Value

The baseline BNG Calculation was informed by Preliminary Ecological Appraisal at 'The Slips', West End Lane BN5 9RG (Arbtech, 2025). A baseline habitat plan is provided in **Appendix 3**.

Habitat Classification

The Preliminary Ecological Appraisal Report for 'The Slips', West End Lane BN5 9RG classified the habitats on site according to The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, July 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 User Guide (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
- Any site or habitat allocations under the Horsham District Planning Framework

2.2 Post Development Biodiversity Value

The post development BNG Calculation was informed by Block Plan (Drawing No. 2412WE_R1_001) which is included in Appendix 1. A post development habitat plan is provided in **Appendix 4**.

Habitat Classification

Proposed habitats were translated to their equivalents in the UK Habitat Classification using The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, July 2023) and the information provided within the Block Plan.

Habitat Area/Length

The area or length of each proposed 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 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 newly created.

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

Target habitat condition for each proposed habitat was determined assessed using the Temporal Multipliers Tool and the Enhancement Temporal Multipliers Tool included in the Statutory Biodiversity Metric spreadsheet as well as the relevant condition assessment sheets found in the Statutory Biodiversity Metric User Guide (Natural England, 2024). This is based on the assumption that a 30-year management plan will be adopted for the site.

Strategic Significance

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

- Likely ecological value
- Function within the landscape
- Any site or habitat allocations under the Horsham District Planning Framework

2.3 Limitations

The PEA survey was undertaken outside of the optimal season for surveying vegetation and as such the accuracy of botanical assessment and condition assessment data may be limited in terms of species visible and ground conditions at the time of survey. However, this is not considered a significant limitation given the mild conditions and the presence of sufficient indicator species to determine the habitats on site.

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 3.**

Table 1: Baseline Biodiversity Value

Type	Habitat	Area (ha) / Length (km)	Description	Condition Assessment	Strategic Significance
Area Based	g4 – Modified grassland	0.639 ha	Covering the majority of the site is a short, frequently mown grassland in poor condition.	**Poor condition:** passes 5 of 7 criteria AND fails essential criterion A	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).
	u1c – Artificial unvegetated, unsealed surface	0.010 ha	At the northern entrance to the site there is a rectangle of gravel surface. No vegetation is present.	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	
	Scattered trees [32]	0.3058 ha	Scattered trees T6, T7, T8, and T9 – all scoring the same good condition.	**Good condition:** passes 6 of 6 criteria	
Linear Based	h2a – Native hedgerow with trees	0.064 km	Along the western border is a stretch of mixed species native hedgerow, H3. There are trees found within H3.	**Moderate condition:** fails 3 criteria AND no more than 1 failure in any functional group	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).
	h2a – Native hedgerow	0.042 km	Along the eastern border is a stretch of hazel dominated native hedgerow, H4. A section of the eastern ditch runs beneath this hedgerow.	**Good condition:** fails 1 criterion AND no more than 1 failure in any functional group	

	h2b – Non-native ornamental hedgerow	0.074 km	Ornamental hedgerow at the northern border (H1, 0.038 km) and at the southern border (H5, 0.036 km).	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement	
	Line of trees [33]	0.029 km	The northwestern line of trees, formed of a mixture of species but dominated by hazel.	**Moderate condition:** passes 4 of 5 criteria	
		0.062 km	The southwestern line of trees, formed of a unform stretch of hazel.	**Moderate condition:** passes 3 of 5 criteria	
Watercourses	Ditch [50]	0.091 km	There are two ditches running along the western and eastern borders within the northern half of the site. The western ditch is 0.025 km long and the eastern ditch is 0.066 km long.	**Poor condition:** passes 3 of 8 criteria	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).

3.2 Post Development Habitats

Table 2 details the post development habitats present within the site along with their area/length, condition and strategic significance. An assessment of the anticipated condition for each habitat (where relevant) is provided in **Appendix 4a**, which is based on the assumption that a 30-year management plan will be implemented for the site. The proposed development will result in the loss of modified grassland.

Table 2: Post Development Biodiversity Value

Type	Habitat	Area (ha) / Length (km)	Description	Condition Assessment	Strategic Significance
Area Based	u1b5 - Buildings	0.0511 ha	Proposed new buildings including static caravans, day rooms and bike/bin stores.	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).
	u1c – Artificial unvegetated, unsealed surface	0.1214 ha	New pea shingle to cover the site entrance, driveways to each plot, a turning head, and parking areas.		
	u1 – Vegetated garden [828]	0.0934 ha	New private garden areas associated with the 5 residential plots.		
	g4 – Modified grassland	0.1163 ha	A small portion of the existing modified grassland field, retained and kept at the same condition.	**Poor condition:** passes 5 of 7 criteria AND fails essential criterion A	
	g3c – Other neutral grassland	0.2178 ha	The retained southern quarter of the grassland, enhanced into a wildflower meadow area.	**Good condition:** passes 6 criteria AND passes essential criteria A and F	
	Scattered trees [32]	0.3058 ha	Retained scattered trees TT6, T7, T8, and T9 – all scoring the same good condition.	**Good condition:** passes 6 of 6 criteria	

Linear Based	h2a – Native hedgerow with trees	0.064 km	Retained western hedgerow with trees, H3.	**Moderate condition:** fails 3 criteria AND no more than 1 failure in any functional group	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).
	h2a – Native hedgerow	0.042 km	Retained eastern hedgerow with a ditch below, H4.	**Good condition:** fails 1 criterion AND no more than 1 failure in any functional group	
	h2b – Non-native ornamental hedgerow	0.074 km	Retained ornamental hedgerow at the northern and southern borders of the site (H1 and H5).	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement	
	Line of trees [33]	0.029 km	Retained northwest line of trees.	**Moderate condition:** passes 4 of 5 criteria	
		0.062 km	Retained southwest line of trees.	**Moderate condition:** passes 3 of 5 criteria	
	h2a – Native hedgerow	0.052 km	Proposed new planting of native hedgerow along the southern border of plot 5 and to the northeast of the site.	**Moderate condition:** fails 4 criteria AND does not fail both attributes in more than one functional group	
Watercourses	Ditch [50]	0.091 km	Retained ditches at the western and eastern borders.	**Poor condition:** passes 3 of 8 criteria	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).
	Ditch [50]	0.014 km	Proposed new ditch created along the western border, to be a minimum of 14m long.	**Poor condition:** Passes 3 of 8 criteria	

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**.

Areas of Habitat

The baseline habitat value of the site is 4.85 units, comprising 1.18 units of modified grassland and 3.67 units of scattered trees.

The post development habitat value of the site is 5.80 units, comprising 1.71 units of other neutral grassland, 0.23 units of modified grassland, 3.67 units of retained scattered trees, and 0.18 units of vegetated garden.

This results in a net change in biodiversity of **+19.48%, a net gain.**

Hedgerows

The baseline hedgerow value of the site is 1.20 units, comprising a total of 0.08 units of ornamental hedgerow, a total of 0.37 units of lines of trees, 0.51 units native hedgerow with trees, and 0.25 units native hedgerow.

The post development habitat value of the site is 1.38 units, comprising a total of 0.08 units of retained ornamental hedgerow, a total of 0.37 units of retained lines of trees, 0.51 units retained native hedgerow with trees, 0.25 units retained native hedgerow, and 0.17 units of new native hedgerow.

This results in a net change in biodiversity of **+14.48%, a net gain.**

Watercourses

The baseline watercourse value of the site is 0.36 units, comprising a combined total of 0.36 units of ditches.

The post development watercourse value of the site is 0.40 units, comprising a combined total of 0.36 units of retained ditches and 0.04 units of newly created ditches.

This results in a net change in biodiversity of **+10.00%, a net gain.**

4.0 Recommendations to Deliver BNG

4.1 Discussion

The current proposed plan results in +19.48% net gain in habitat units, a +14.48% net gain in hedgerow units, and a +10.00% net gain in watercourse units. **This is more than the 10% target of biodiversity net gain.**

A 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.

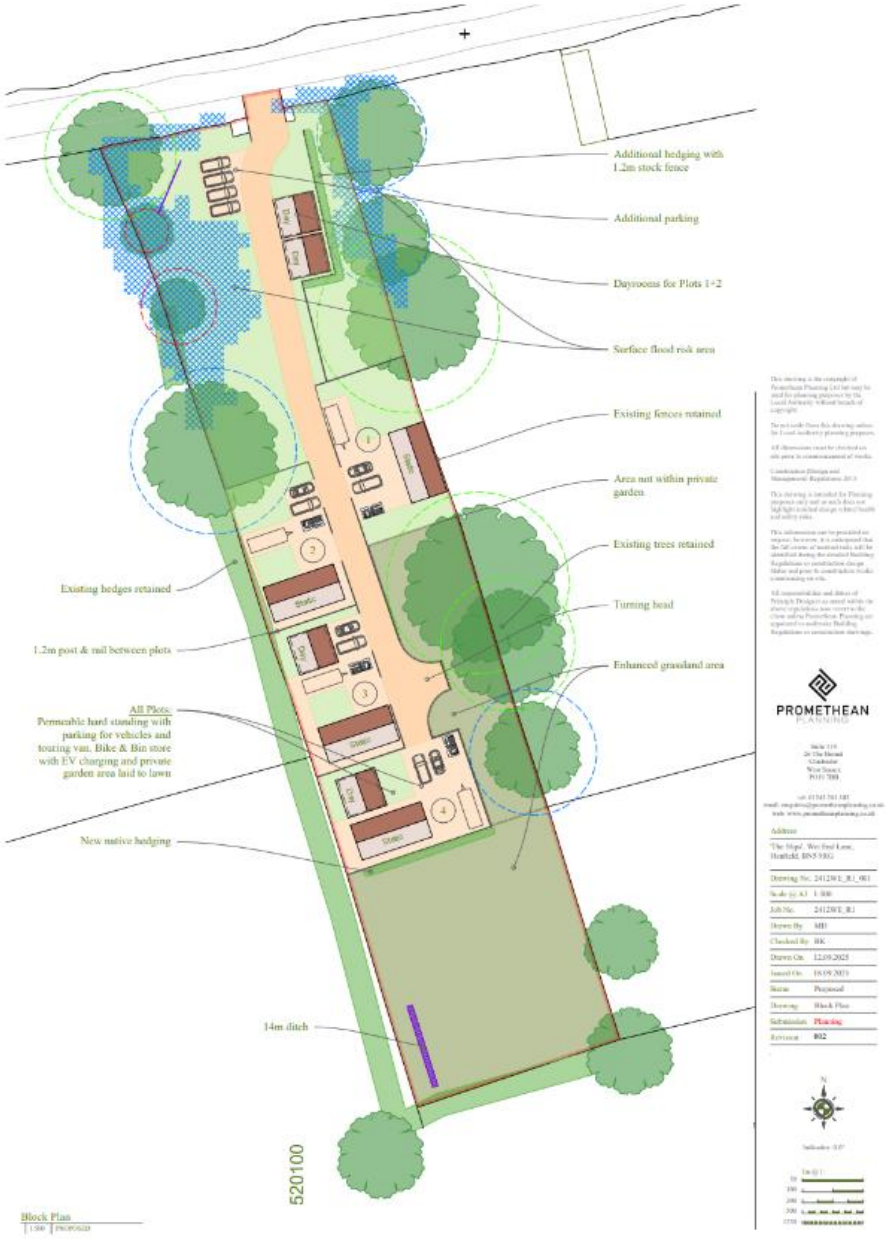
4.2 Design Statement

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.

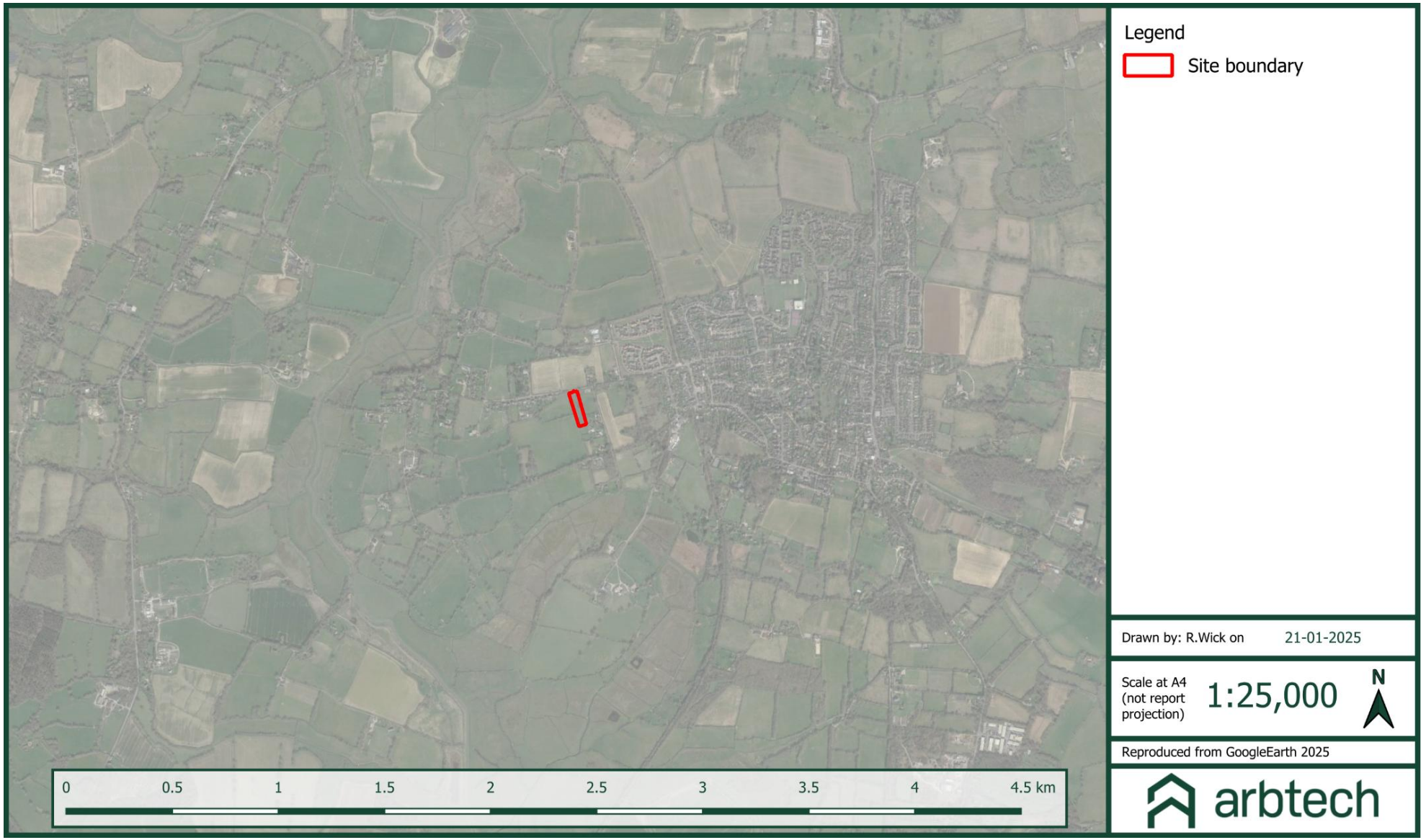
5.0 Bibliography

- Arbtech Consulting Ltd. (January 2025). Preliminary Ecological Appraisal (PEA) at 'The Slips', West End Lane, Henfield, West Sussex BN5 9RG
- 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.
- Horsham District Council (November 2015). Horsham District Planning Framework.
- 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
- Natural England (2024). The Statutory Biodiversity Metric (JP039).
- Natural England (2024). The Statutory Biodiversity Metric User Guide (JP039).
- Natural England (2024). The Statutory Biodiversity Metric Technical Annex 1 - Condition Assessment Sheets and Methodology (JP039).
- Natural England (2024). The Statutory Biodiversity Metric Technical Annex 2 – Technical Information (JP039).
- The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, July 2023)

Appendix 1: Proposed Development Plan



Appendix 2: Site Location Plan



Appendix 3: Baseline Habitat Plan

Appendix 4a: Post Development Habitat Plan

Appendix 5a: Habitat Condition Assessment Sheets - Baseline

Type	UK Habitat Classification	Habitat Type	Criteria Aims		Notes
Area based	Grassland	Modified grassland	**A**	N	**Poor condition:** passes 5 criteria AND fails essential criterion A
			B	N	
			C	Y	
			D	Y	
			E	Y	
			F	Y	
			G	Y	
	Woodland and trees	Scattered trees (T6 – T9)	**A**	Y	**Good condition:** passes 6 of 6 criteria
			B	Y	
			C	Y	
			D	Y	
			E	Y	
			F	Y	
Linear based	Lines of trees	Line of trees	**A**	Y	**Moderate condition:** passes 4 of 5 criteria
			B	Y	
			C	Y	
			D	N	
			E	Y	
	Lines of trees	Line of trees	**A**	Y	**Moderate condition:** passes 3 of 5 criteria
			B	Y	
			C	N	
			D	N	
			E	Y	
	Heathland and scrub	Native hedgerow with trees	**A1**	Y	**Moderate condition:** fails 3 criteria AND no more than 1 failure in any functional group
			A2	Y	
			B1	Y	
			B2	N	
			C1	N	
			C2	Y	
			D1	Y	
			D2	Y	
			E1	N	
			E2	Y	
	Heathland and scrub	Native hedgerow	**A1**	Y	**Good condition:** fails 1 criterion AND no more than 1 failure in any functional group
			A2	Y	
			B1	Y	

			B2	Y	
			C1	N	
			C2	Y	
			D1	Y	
			D2	Y	
Watercourses	Ditches	Ditch	**A**	N	**Poor condition:** passes 3 of 8 criteria
			B	N	
			C	Y	
			D	N	
			E	Y	
			F	N	
			G	N	
			H	Y	

Appendix 5b: Habitat Condition Assessment Sheets – Proposed

Habitats retained are assumed to remain in the same condition unless stated overwise.

Type	UK Habitat Classification	Habitat Type	Criteria Aims		Notes
Area based	Grassland	Other neutral grassland	**A**	Y	**Good condition:** passes 6 criteria AND passes essential criteria A and F
			B	Y	
			C	Y	
			D	Y	
			E	Y	
			F	Y	
Linear based	Heathland and scrub	Species-rich native hedgerow	**A1**	N	**Moderate condition:** fails 4 criteria AND does not fail both attributes in more than one functional group
			A2	N	
			B1	Y	
			B2	N	
			C1	N	
			C2	Y	
			D1	Y	
			D2	Y	
Watercourses	Ditches	Ditch (new)	**A**	N	**Poor condition:** Passes 3 of 8 criteria
			B	N	
			C	Y	
			D	N	
			E	Y	
			F	N	
			G	N	
			H	Y	

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*	0.94
	Hedgerow units	0.17
	Watercourse units	0.04
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	19.48%
	Hedgerow units	14.48%
	Watercourse units	10.00%
Trading rules satisfied?		Yes ✓

Unit Type	Target	Baseline Units	Units Required	Unit Deficit
Habitat units	10.00%	4.85	5.33	0.00
Hedgerow units	10.00%	1.20	1.32	0.00
Watercourse units	10.00%	0.36	0.40	0.00