

Biodiversity Net Gain Assessment (Part 1)

Site Address:

Brunningshams Farm, Heath Ride, RG40 3QJ.

Client:

Brunningshams Farm

Assessment Date:

May 2025

Project:

This report is prepared to inform a planning application with the Rochford District Council. The proposal is described as:

“Proposed erection of 7no. detached dwellings with associated access, parking and landscaping, following demolition of the existing buildings.”

BNG assessment methodology and legislation can be found in the Arbtech Supplement: **BNG Methodology and Legislation – 2025.**

The results and recommendations contained within this report are valid for 18 months. An updated site visit and BNG assessment may be required if the report is to be used any longer than 18 months after completion.

Status	Issue	Name	Date
1 st Issue	0.1	Oliver Bevilacqua, MSc, BSc (Hons), Consultant Ecologist	15/05/2025
Reviewed	0.2	Miriam Anderson BSc (Hons), Consultant Ecologist	19/10/2025
Final	1.0		

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Site Location and Context

A baseline habitat map is provided in **Appendix 1**, a post development habitat map in **Appendix 2**, a proposed development plan in **Appendix 3**, headline BNG results in **Appendix 4**, and condition assessments in **Appendix 5**.

The site is centred at National Grid Reference SU80853 64430 and has an area of approximately 1.925 ha. The site comprises one dwelling (B1), associated outbuildings (B2-B4), sealed surface, good-quality semi-improved neutral grassland with scattered trees, wet woodland with ditch, bracken, and bramble scrub. The site is surrounded by rural housing with gardens, priority deciduous woodland, and lowland heathland in all directions. The wider landscape is predominantly comprised of rural housing with gardens, priority deciduous woodland, lowland heathland, arable farmland and grazing pasture, and ponds.

The habitats onsite have been unmanaged for approximately 10 years, with previous land use comprising of a pig farm. Historical maps dating back to the 1800s indicate that the site was previously covered by woodland.

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

- ❖ Statutory DEFRA Biodiversity Metric.; Bunninghams Farm, Heath Ride, RG40 3QJ (Arbtech Consulting Ltd., 2025).
- ❖ Preliminary Ecological Appraisal (PEA/PRA): Bunninghams Farm, Heath Ride, RG40 3QJ (Arbtech Consulting Ltd., 2025).
- ❖ Arboricultural Survey to BS5837:2012: Bunninghams Farm, Heath Ride, RG40 3QJ (Arbtech Consulting Ltd., 2025).
- ❖ Phase 2 Botanical Survey: UKHab Survey/NVC Survey/Important Plants Survey: Bunninghams Farm, Heath Ride, RG40 3QJ (Arbtech Consulting Ltd., 2025).
- ❖ Proposed Plans (November 2025)

Executive Summary

- ❖ The site generates 13.66 area-based habitat units and 2.55 watercourse units in its baseline. Note the habitat types are calculated separately and must independently achieve net gain; any excess of one cannot be used to offset any deficits of the other. To achieve a minimum +10% uplift for both, a minimum of 15.03 area-based habitat units and 2.81 watercourse units are required.
- ❖ Compensation is likely unachievable onsite.

Introduction

BNG Informative		
Habitat Degradation Statement	Date reflected by BNG calculations	8 th April 2025
	The baseline biodiversity value of the site is derived from the site as observed during the PEA field survey (Arbtech Consulting Ltd., 2025). As evident in the screenshots of satellite imagery obtained from GoogleEarth dated 23 rd of June 2018 and 9 th of May 2025, the site does not appear to have undergone any degradation. The habitats on site, and therefore biodiversity value of the site, is not considered to have undergone degradation since 30th January 2020.	
	<div></div> <div></div>	
Irreplaceable Habitat Statement	No irreplaceable habitats as listed under the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations (2024) are currently present nor were present before 30 th January 2020.	

Metric Version & Publication Date	Statutory Biodiversity Metric Calculation Tool first published 29 th November 2023 with last updates to metric tools and user guides on 3 rd July 2025.		
BNG Target Uplift	+10%		
National Character Area (NCA)	129 - Thames Basin Heaths		
Strategic Significance	<p>The strategic significance of habitats within the baseline assessment has been determined in accordance with the BNG Metric User guide (Updated, July 2025) and the published Berkshire County Council (BCC) Local Nature Recovery Strategy (LNRS), https://rbwmtogether.rbwm.gov.uk/berkshire-local-nature-recovery-strategy.</p> <p>In line with the BNG Metric User Guide, as the LNRS has been published for the site, all baseline strategic significance values for habitat parcels on site (within the identified area of potential measure) are set to 'low' (BNG User Guide p27, 2025). Any potential increase in strategic significance would only apply to post-development habitat creation or enhancement (where possible) if it were proposed in a mapped location and aligned with an LNRS potential measure. At the baseline stage, the published guidance is clear that all existing habitats are to be scored as Low strategic significance, regardless of ecological value or local conservation interest.</p> <p>When the BNG post-development assessment is undertaken, the following should be considered in regard to post-development strategic significance of habitats according to Table 7 of the BNG Metric User Guide (p. 27), as summarised below:</p> <ul style="list-style-type: none"> • High strategic significance = Applied only if the parcel is mapped in the Local Habitat Map for a potential LNRS measure and the proposed intervention is consistent with that mapped measure. • Medium strategic significance = Cannot be applied where an LNRS is published. • Low strategic significance = Applied when the above conditions are not met. This includes cases where the intervention occurs in a mapped area but does not align with the specific potential measure proposed by the LNRS. 		
	Habitat	Baseline / Post-Development	Habitat
	Wet woodland (w1d)	N/A	Wet woodland (w1d)
Limitations			
There were no specific limitations to the assessment.			

Baseline

Baseline Biodiversity Value: On-Site				
Area-Based Habitats (A-1)				
Habitat	Area (ha)	Description	Condition Assessment	Strategic Significance
Artificial unvegetated, unsealed surface (u1c)	0.004ha	A small area of artificial ground is present at the entrance to the site.	Habitat condition pre-determined as ' N/A ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance
Developed land; sealed surface (u1b)	0.084ha	There are four buildings present onsite, including the main barn (B1) and three outbuildings (B2-4). There are also small sealed concrete surface areas surrounding the buildings.	Habitat condition pre-determined as ' N/A ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance
Other neutral grassland (g3c)	0.491ha	<p>There are grassland areas present surrounding the buildings to the north and adjacent to the bracken and woodland in the southeast. The grassland shows no signs of recent management which has greatly increased the rate of encroachment of bramble, gorse, tree saplings, and bracken from the adjacent habitats. This has also increased the proportion of grasses within the species mix and reducing the proportion of forbs. There are also extensive patches of waterlogged grassland across the site, but particularly towards the north boundary. There is also some evidence of nutrient enrichment within the grassland due to the presence of several nutrient-rich indicator species such as ribwort plantain, creeping buttercup, curly dock, cleavers, creeping thistle, and white clover. These indicators are more prevalent towards the buildings at the north boundary where previous agricultural practices were likely to be more intensive.</p> <p>The grassland was subject to a phase 2 botanical survey that determined the grassland was Holcus-Juncus neutral grassland.</p>	<p>Poor: passes 2 of 6 criteria.</p> <p>Assessed using the 'medium, high, very high distinctiveness grassland' habitat type condition sheet.</p> <p>Also failed the additional criterion for non-acid grasslands</p>	Low Strategic Significance
Bracken (g1c)	0.338ha	While there is bracken present throughout much of the woodland and grassland, there are two areas dominated by a dense layer of bracken in the east and south sections of the site where the grassland species have been outcompeted.	Habitat condition pre-determined as ' N/A ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance

Bramble scrub (h3d)	0.056ha	There are two areas of bramble scrub present along the west elevation of the outbuildings, in the centre of the site, and leading south. The bramble is tall, dense, and is encroaching into adjacent habitats across the site.	Habitat condition pre-determined as 'N/A' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance
Mixed scrub (h3h)	0.162ha	There are two small areas of mixed scrub present within the site. Acting as transitional habitats between the woodland and grassland.	Poor: passes 2 of 5 criteria. Assessed using the 'Scrub' habitat type condition sheet.	Low Strategic Significance
Wet woodland (w1d)	0.788ha	Wet woodland is present around most of the site boundaries as well as large sections in the centre of the site. The woodland shows no signs of management onsite, but some tree felling was identified beyond the site boundary within third-party land ownership. The woodland appears healthy, with a wide range of native trees and ground flora present. A ditch runs through both the west and east woodland boundaries and adjacent to north boundary with limited marginal aquatic and emergent vegetation. There are several large patches of common rhododendron present throughout the woodland, particularly in the southwest and east sections.	Moderate: passes 31 of 39 criteria Assessed using the 'Woodland' habitat type condition sheet.	Low strategic significance
Urban Tree (32)	0.0869ha	There are 14 small trees and 2 medium trees in moderate condition.	Moderate: passes 3 or 4 of 6 criteria. Assessed using the 'Individual trees' habitat type condition sheet.	Low strategic significance

Baseline Biodiversity Value

		Biodiversity Units		
		Area-Based	Linear-Based	Watercourse-Based
On-Site	Baseline	<ul style="list-style-type: none"> ❖ Artificial unvegetated, unsealed surface, u1c (0.00) ❖ Developed land; sealed surface, u1b (0.00) ❖ Other neutral grassland, g3c (1.96) ❖ Bracken, g1c (0.68) ❖ Bramble scrub, h3d (0.22) ❖ Mixed scrub, h3h (0.65) ❖ Wet woodland, w1d (9.46) ❖ Urban trees, 32 (0.70) 	❖ N/A	<ul style="list-style-type: none"> ❖ Ditches, d1w5 (1.37) ❖ Ditches, d1w5 (1.18)
Overall Units		13.66	0.00	2.55

Results, Discussion, and Next Steps

BNG Informative	
Results and Discussion	<p>The site generates 13.66 area-based habitat units and 2.55 watercourse units in its baseline. Note the habitat types are calculated separately and must independently achieve net gain; any excess of one cannot be used to offset any deficits of the other. To achieve a minimum +10% uplift, a minimum of 15.03 area-based habitat units and 2.81 watercourse units are required.</p> <p>A post-development BNG assessment must be undertaken to discern the net change of biodiversity value as a result of the proposed development.</p>
General Recommendations	<p>Trading rules are foreseen to be a constraint: the presence of wet woodland, other neutral grassland and mixed scrub must be made up for on a like-for-like or like-for-better basis. In other words, unless sufficient amounts of wet woodland, other neutral grassland and mixed scrub habitats are proposed for retention, enhancement or creation, the site will generate a trading error for the loss of these habitat types.</p> <p>No habitats can be created in BNG within any areas proposed to be private residential gardens. This includes any trees, hedgerows, or wildflower meadows which may be proposed within such residential curtilages.</p> <p>Given the proposed vegetation clearance required to facilitate the development, it is unlikely that Biodiversity Net Gain (BNG) will be achieved within the site's red line boundary.</p> <p>It is therefore advised that the proposed plans incorporate as much vegetated space as possible, and that as much of the wet woodland, other neutral grassland and mixed scrub areas are retained or enhanced as part of the development proposals. If retention is no longer possible, additional onsite compensation will be required.</p> <p>Areas of offsite wet woodland within the ownership boundary could be surveyed and potentially enhanced to offset the loss of habitat onsite.</p>

Appendix 1: Baseline Habitat Plan



Appendix 2: Proposed Development Plan



 PHILIP WADDE ARCHITECTURE <small>100% Sustainable Design & Build Architects</small>	Drawn by Philip Wadde 01/24	Checked by Philip Wadde 01/24	Scale 1:1000	 North	 0 5 10m	 Proposed Development Existing Buildings Existing Roads Existing Landscaping Existing Fences Existing Trees Existing Walls Existing Gates Existing Paved Areas Existing Gravel Areas Existing Grass Areas Existing Water Features Existing Other Features	25050/PL/01 PROPOSED SITE PLAN
	Project Name Brunninghams Farm 01/24	Date 01/24	Drawn by Philip Wadde 01/24				

Appendix 3: Headline BNG Results

FINAL RESULTS

Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Area habitat units</i>	-13.66
	<i>Hedgerow units</i>	0.00
	<i>Watercourse units</i>	-2.55

Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Area habitat units</i>	-100.00%	Total net gain achieved is less than target set ▲
	<i>Hedgerow units</i>	0.00%	
	<i>Watercourse units</i>	-100.00%	Total net gain achieved is less than target set ▲

Trading rules satisfied?	No - Check Trading Summaries ▲
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Area created must match area lost for both onsite and offsite ▲				
Unit Type	Target	Baseline Units	Units Required	Unit Deficit
<i>Area habitat units</i>	10.00%	13.66	15.03	15.03
<i>Hedgerow units</i>	10.00%	0.00	0.00	0.00
<i>Watercourse units</i>	10.00%	2.55	2.81	2.81

No additional hedgerow units required to meet target ✓

Input errors/rule breaks present in metric ▲

Appendix 4: Baseline Habitat Condition Assessment Sheets

Neutral Grassland; assessed using 'Grasslands Medium/High/Very High Distinctiveness' habitat type condition sheet:

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes/Justification
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relative to the specific habitat type. Note – this criterion is essential for achieving moderate or good condition for non-acid grassland types only.	N	The habitat parcel was assessed to be in a degraded condition due to a lack of management.
B	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	N	Approximately 90% of the sward was >7cm.
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Y	Areas of localised bare ground were observed within the sward.
D	Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.	Y	No bracken or scrub observed within the habitat parcel.
E	Combined cover of species indicative of sub-optimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.	N	The grassland comprised of 5% suboptimal species.
Additional Criterion - must be assessed for all non-acid grassland types			
F	There are 10 or more vascular plant species per m ² present, including forbs that are characteristic of the habitat type (species referenced in Footnote 2 and 4 cannot contribute towards this count). Note – this criterion is essential for achieving good condition for non-acid grassland types only.	N	
Essential criterion for good condition achieved (for non-acid grassland) (Yes or No)		N	
Number of criteria passed		2	
Condition Assessment Result		Condition Assessment Score	Score Achieved ✓
Non-acid grassland types (result out of 6 criteria)			
Passes 5 or 6 criteria, including essential criterion A and additional criterion F		Good (3)	
Passes 3 - 5 criteria, including essential criterion A		Moderate (2)	
Passes 2 or fewer criteria OR Passes 3 or 4 criteria excluding criterion A and F		Poor (1)	✓

Urban Trees (MODERATE) ; 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	Native species.
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	Canopy is continuous.
C	The tree is mature (or more than 50% within the block are mature).	N	Tree is not 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.	N	None observed.
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			4
Condition Assessment Result	Condition Assessment Score	Score Achieved x/✓	
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)		

Wet woodland assessed using the 'Woodland' habitat type condition assessment sheet:

Indicator	Description	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score	Notes
A	Age distribution of trees	Three age-classes ¹ present.	Two age-classes ¹ present.	One age-class ¹ present.	3	All ages classes present across woodland.
B	Wild, domestic, and feral herbivore damage	No significant browsing damage evident in woodland ² .	Evidence of significant browsing pressure is present in less than 40% of whole woodland ² .	Evidence of significant browsing pressure is present in 40% or more of whole woodland ² .	3	No significant browsing identified.
C	Invasive plant species	No invasive species ³ present in woodland.	<i>Rhododendron ponticum</i> or cherry laurel <i>Prunus laurocerasus</i> not present, and other invasive species ³ <10% cover.	Rhododendron or cherry laurel present, or other invasive species ³ ≥10% cover.	1	Rhododendron at >10% cover across woodland.
D	Number of native tree species	Five or more native tree or shrub species ⁴ found across woodland parcel.	Three to four native tree or shrub species ⁴ found across woodland parcel.	Two or less native tree or shrub species ⁴ across woodland parcel.	3	>5 native tree and shrub species present.
E	Cover of native tree and shrub species	>80% of canopy trees and >80% of understory shrubs are native ⁵ .	50 – 80% of canopy trees and 50 – 80% of understory shrubs are native ⁵ .	<50% of canopy trees and <50% of understory shrubs are native ⁵ .	2	Mostly native species present but with some rhododendron coverage.

F	Open space within woodland	10 – 20% of woodland has areas of temporary open space ⁶ . Unless woodland is <10ha, in which case 0 – 20% temporary open space is permitted ⁷ .	21 – 40% of woodland has areas of temporary open space ⁶ .	<10% or >40% of woodland has areas of temporary open space ⁶ . But if woodland <10ha has <10% temporary open space, please see Good category ⁷ .	2	Some temporary open space across woodland.
G	Woodland regeneration	All three classes present in woodland ⁸ ; trees 4 – 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland ⁸ .	No classes or coppice regrowth present in woodland ⁸ .	3	All regeneration classes present across woodland.
H	Tree health	Tree mortality 10% or less, no pests or diseases and no crown dieback ⁹ .	11% to 25% tree mortality and or crown dieback or low-risk pest or disease present ⁹ .	Greater than 25% tree mortality and or any high-risk pest or disease present ⁹ .	3	<10% of trees show signs of pests, diseases, and dieback.
I	Vegetation and ground flora	Recognisable NVC plant community ¹⁰ at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community ¹⁰ at ground layer present.	No recognisable woodland NVC plant community ¹⁰ at ground layer present.	2	Recognisable ground layer but lacking ancient woodland specialists
J	Woodland vertical structure	Three or more <u>storeys</u> across all survey plots, or a complex woodland ¹¹ .	Two <u>storeys</u> across all survey plots ¹¹ .	One or less storey across all survey plots ¹¹ .	3	Mostly three <u>storeys</u> across woodland.

K	Veteran trees	Two or more veteran trees ¹² per hectare.	One veteran tree ¹² per hectare.	No veteran trees ¹² present in woodland.	1	No veteran trees identified within woodland.
L	Amount of deadwood	50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities ¹³ .	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities ¹³ .	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities ¹³ .	3	High abundance of fallen and standing deadwood across woodland.
M	Woodland disturbance	No nutrient enrichment or damaged ground evident ¹⁴ .	Less than 1 hectare in total of nutrient enrichment across woodland area, and or less than 20% of woodland area has damaged ground ¹⁴ .	1 hectare or more of nutrient enrichment, and or 20% or more of woodland area has damaged ground ¹⁴ .	2	Some signs of nutrient enrichment due to abundance of indicator species.
		Total Score (out of a possible 39)				
		Condition Assessment Result				Condition Assessment Score
		Total score >32 (33 to 39)				Good (3)
		Total score 26 to 32		31	Moderate (2)	
		Total score <26 (13 to 25)				Poor (1)

Ditch assessed using the 'Ditch' habitat type condition assessment sheet:

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	N	Ditch is mostly dry, likely to receive runoff from adjacent road.
B	A range of emergent, submerged, and floating-leaved plants are present. As a guide >10 species of emergent, floating, or submerged plants present in a 20 m ditch length.	N	Limited vegetation present.
C	There is less than 10% cover of filamentous algae and or duckweed <i>Lemna</i> spp. (these are signs of eutrophication).	Y	Absent.
D	A fringe of aquatic marginal vegetation is present along more than 75% of the ditch.	N	<75% ditch length has aquatic marginal vegetation.
E	Physical damage is evident along less than 5% of the ditch, with examples of damage including: excessive poaching, damage from machinery use or storage, or any other damaging management activities.	Y	No physical damage evident.
F	Sufficient water levels are maintained - as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains.	N	Dry along majority of length.
G	Less than 10% of the ditch is heavily shaded.	N	Majority of length is shaded by woodland.
H	There is an absence of non-native plant and animal species ¹ .	N	Common rhododendron is present adjacent to ditches.
Number of criteria passed		2	
Condition Assessment Result (out of 8 criteria)	Condition Assessment Score	Score Achieved x/√	
Passes 8 criteria	Good (3)		
Passes 6 or 7 criteria	Moderate (2)		
Passes 5 or fewer criteria	Poor (1)	✓	