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Biodiversity Net Gain Assessment

Survey site:

1a Boundary Road, Haverhill, CB9 7YH

Client:

John Mayhew

Assessment Date:

23rd September 2025

Project:

This report is prepared to inform a planning application with West Suffolk Council. The proposal is described as the construction of a two storey R&D building.

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.

Version Control			
Status	**Issue**	**Name**	**Date**
Draft	0.1	Emma Platts, BSc (Hons) Consultant Ecologist	25/09/2025
Reviewed	0.2	Mel Reid BSc (Hons) MRes AMRSB, Principal Ecologist	26/09/2025
Final	1.0	Emma Platts, BSc (Hons) Consultant Ecologist	29/09/2025
Updated	2.0	Emma Platts, BSc (Hons) Consultant Ecologist	09/12/2025

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Site Location and Context

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

The site is located at National Grid Reference TL 68683 44451 and has an area of approximately ~0.14ha comprising hard standing, suspected lowland meadow, suspected other calcareous grassland, mixed scrub and bramble scrub. The site is located within a suburban setting, the southeastern edge of Haverhill. It is immediately surrounded by grassland and scrub to the east and south, and commercial infrastructure and the A143 to the west and north respectively. The wider landscape is characterised by suburban infrastructure, particularly to the north and west. Large, arable fields dominate the landscape to the east and south, with a scattering of woodland pockets throughout. Extensive grassland and woodland habitats, associated with Haverhill Golf Club, are located ~100m north from the site, beyond the A143. The site sits on Lewes Nodular Chalk Formation and Seaford Chalk Formation, and is overlain with lime-rich loamy and clayey soils with impeded drainage.

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

- Statutory BNG Metric - 1a Boundary Road, CB9 7YH – v2 - 09122025 (Arbtech Consulting Ltd., 2025)
- Proposed Plan (Jordan & Bateman Architects, 2025)
- Preliminary Ecological Appraisal (PEA) - 1a Boundary Road, CB9 7YH – v2 (Arbtech Consulting Ltd., 2025)
- Phase 2 Botany - 1a Boundary Road, CB9 7YH – v2 (Arbtech Consulting Ltd., 2025)

Executive Summary

- The current landscaping proposal generates a net loss of area-based habitat units (-67.58%) with unmet trading rules.
- In order to achieve a +10% biodiversity net gain for area-based habitats, a minimum area-based unit score of 1.57 will need to be achieved. At present, there is a unit deficit of 1.33 units. Of these units, 0.69 units must be of lowland meadow, 0.59 units must be of lowland calcareous grassland, and 0.05 units must of bramble scrub to satisfy trading rules.
- There is very limited scope within the site to deliver additional biodiversity gains due to the constrained development footprint and the limited soft-landscaped area available. The proposed plans have already been revised, including a reduction in the car park footprint to improve the score compared with the original design. As a result, there is very little remaining capacity for further on-site landscaping enhancements.
- A financial contribution to off-site ecological enhancements (i.e. purchasing biodiversity units) within an approved scheme and/or bespoke compensation confirmed by the LPA, is required to make up the +10% net gain for area-based habitat units.

Introduction

BNG Informative		
Habitat Degradation Statement	Date reflected by BNG calculations	23rd September 2025
	The baseline biodiversity value of the site is derived from the site as observed during the Phase 2 botany survey and PEA field survey (Arbtech Consulting Ltd., 2025). As evident in the screenshots of satellite imagery obtained from GoogleEarth dated July 2018 and September 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.  	
Irreplaceable Habitat Statement	No irreplaceable habitats as listed under the Biodiversity Gain Requirements (Irreplaceable Habitat) Regulations (2024) are currently present nor were present before 30th January 2020.	
Metric Version & Publication Date	Statutory Biodiversity Metric Calculation Tool first published 29th November 2023 with last updates to metric tools and user guides on 23rd July 2024.	

<table>
<tr><td>BNG Target Uplift</td><td colspan="3">+10%</td></tr>
<tr><td>National Character Area (NCA)</td><td colspan="3">86 – South Suffolk and North Essex Clayland</td></tr>
<tr><td rowspan="9">Strategic Significance</td><td colspan="3">Suffolk County Council (SCC), the responsible authority for drafting the Local Nature Recovery Strategy (LNRS) for West Suffolk Council, has yet to adopt a comprehensive LNRS. As such, the following documents were used to determine strategic significance:
❖ Suffolk Biodiversity Information Service
❖ West Suffolk Green Infrastructure Study (April 2022)</td></tr>
<tr><td>Habitat</td><td>Baseline / Post-Development</td><td>Justification</td></tr>
<tr><td>Lowland calcareous grassland</td><td>Baseline</td><td>No evidence to indicate strategic significance. As such, lowland calcareous grassland is assessed to have low strategic significance.</td></tr>
<tr><td>Lowland meadow</td><td>Baseline</td><td>No evidence to indicate strategic significance. As such, lowland meadow is assessed to have low strategic significance.</td></tr>
<tr><td>Bramble scrub</td><td>Baseline</td><td>No evidence to indicate strategic significance. As such, bramble scrub is assessed to have low strategic significance.</td></tr>
<tr><td>Mixed scrub</td><td>Baseline & Post-development</td><td>No evidence to indicate strategic significance. As such, mixed scrub is assessed to have low strategic significance.</td></tr>
<tr><td>Individual tree</td><td>Post-development</td><td>No evidence to indicate strategic significance. As such, individual trees are assessed to have low strategic significance.</td></tr>
<tr><td>Introduced shrub</td><td>Post-development</td><td>No evidence to indicate strategic significance. As such, introduced shrub is assessed to have low strategic significance.</td></tr>
<tr><td colspan="4"></td></tr>
<tr><td colspan="4">Limitations</td></tr>
<tr><td colspan="4">There were no specific limitations to the assessment.</td></tr>
</table>

Baseline

Baseline Biodiversity Value: On-Site				
Area-Based Habitats (A-1)				
Habitat	**Area (ha)**	**Description**	**Condition Assessment**	**Strategic Significance**
Developed land; sealed surface	0.0058	Brick hard standing forms a car park to the west of the site.	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	**Low** Strategic Significance
Lowland calcareous grassland	0.0327	An area of calcareous grassland which has developed over an area of previously developed land. It is dominated by tall herbs of up to a metre in length, in particular chalk knapweed *Centaurea debauxii*. The ratio of grass to herbs/small sedges/bryophytes appeared to be approximately 10:90 A bryophyte layer was present occupying ~30-50% of cover. The substrate offers a plentiful bare ground resource in these areas and comprises largely sand and gravel, with scattered mixing/piles of building rubble, asbestos and stone of an origin not native to the locale. There was no thatch, and the sward was sparse and open providing opportunities for smaller species, poor competitors, and the setting of seed. The grassland contained numerous indicators of calcareous/neutral grassland.	***Moderate***: passes 4 criteria including essential criterion A but fails additional criterion F Assessed using the 'Medium/High Distinctiveness Grasslands' Condition Assessment Sheet.	
Lowland meadow	0.0869	The central and upper sections of site supports a taller, closed sward, between 50-100cm. This area represents a species-poor community and forms a transitional zone from the more diverse sward to the south of the grassland. In addition, natural succession is evident, with scattered scrub becoming established throughout.	***Poor***: passes 3 criteria, fails essential criterion A and additional criterion F. Assessed using the 'Medium/High Distinctiveness Grasslands' Condition Assessment Sheet.	
Mixed scrub	0.0100	A lack of recent management has resulted in the succession of mixed native scrub along the eastern peripheries of the site. Vegetation is dense, measuring up to ~2m in parts, with no glades or openings. The scrub boundaries are not abrupt and transition into the grassland, creating a buffer zone.	***Moderate***: passes 3 of 5 criteria. Assessed using the 'Scrub' habitat type condition sheet.	

Bramble scrub	0.0161	A lack of recent management has resulted in the succession of bramble *Rubus fruticosus* scrub along the northern peripheries of the site. Vegetation is dense, measuring up to ~2m in parts, with no glades or openings. The scrub boundaries are not abrupt and transition into the grassland, creating a buffer zone.	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	

Post-Development

Post-Development Biodiversity Value: On-Site					
Area-Based Habitats					
	Habitat	**Area (ha)**	**Description**	**Condition Assessment**	**Strategic Significance**
Retained (A-1)	Mixed scrub	0.0052	Retention of a small area of mixed scrub near the eastern site periphery.	***Moderate**:* passes 3 of 5 criteria. Assessed using the 'Scrub' Condition Assessment Sheet	**Low** Strategic Significance
Created (A-2)	Developed land; sealed surface (hard standing)	0.0849	Creation of hard standing driveway and parking areas.	Habitat condition pre-determined as '***N/A***' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	
	Developed land; sealed surface (buildings)	0.0179	Creation of a single R&D building.		
	Other green roof	0.0204	Creation of a green roof on the proposed building.		
	Introduced shrubs	0.0093	Creation of shrub pockets throughout site.		
	Mixed scrub	0.0189	Planting of mixed scrub along northern site peripheries.	***Poor:** passes 2 out of 5 criteria* Assessed using the 'Scrub' Condition Assessment Sheet	
	Individual trees	0.1018	Planting of 25x small native trees along site peripheries.	***Moderate**:* passes 4 out of 6 criteria Assessed using the 'Individual trees' Condition Assessment Sheet.	

Change of Biodiversity Value

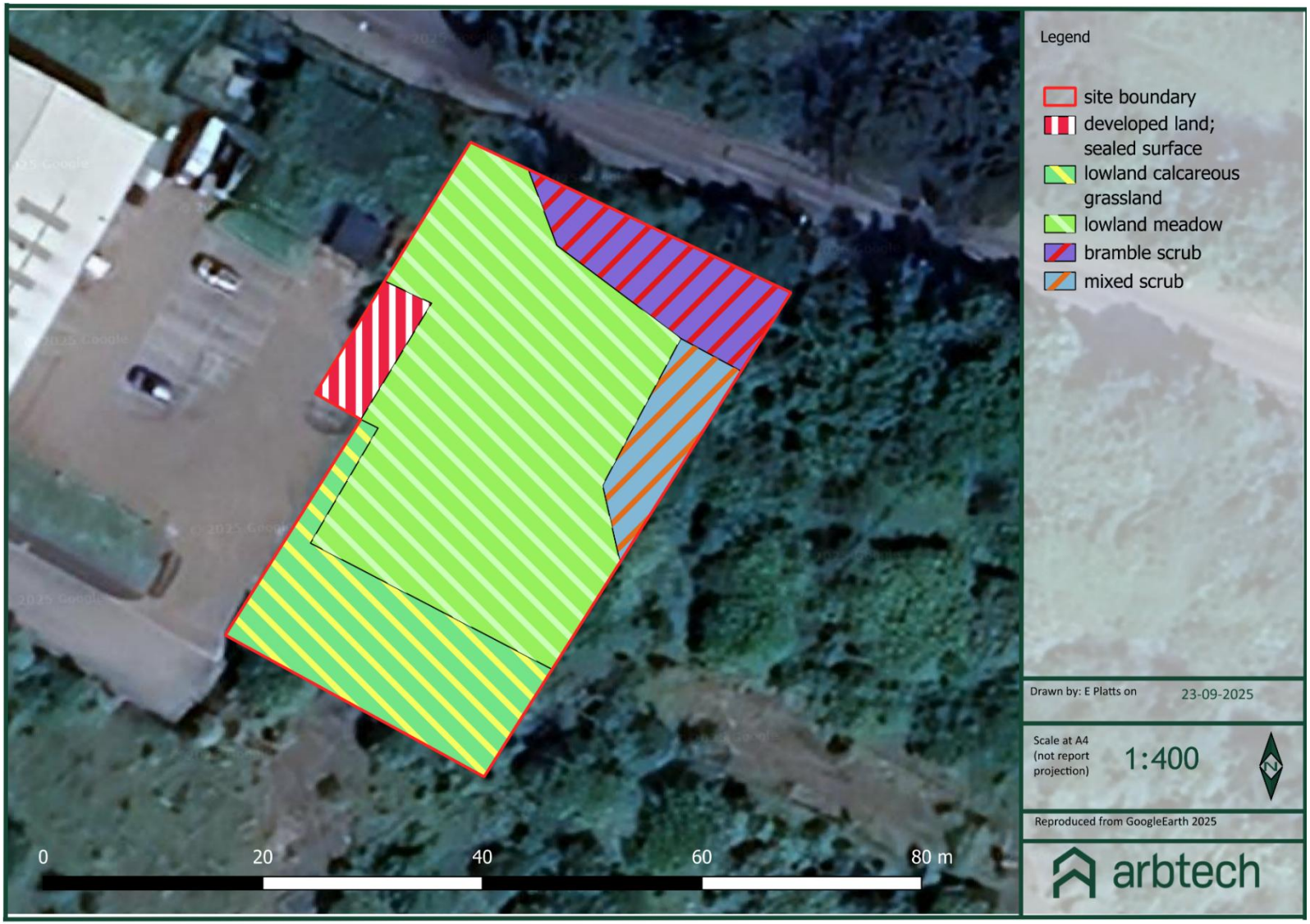
		Biodiversity Units		
		Area-Based	**Linear-Based**	**Watercourse-Based**
On-Site	Baseline	(1.43) ❖ Developed land; sealed surface (0) ❖ Lowland calcareous grassland (0.59) ❖ Lowland meadow (0.69) ❖ Mixed scrub (0.08) ❖ Bramble scrub (0.06)	N/A	N/A
	Post-Development	(0.46) ❖ Developed land; sealed surface (0) ❖ Building (0) ❖ Other green roof (0.04) ❖ Introduced shrub (0.02) ❖ Mixed scrub (0.09) ❖ Individual trees (0.31)		
Overall Net Change		**-0.97 (-67.58%)**		

Results, Discussion, and Next Steps

BNG Informative	
Results	The current landscaping proposal generates a net loss of area-based habitat units (-67.58%) with unmet trading rules. In line with the Statutory Biodiversity Metric User Guide (2024), any loss of a habitat must be replaced on a like-for-like or like-for-better principle. At present, trading conditions are not satisfied for the loss of lowland meadow and lowland calcareous grassland. With unmet trading conditions and a net loss, the proposal fails principal Rules 1 and 2 of BNG and is not compliant with current legislation (Environment Act 2021) and planning policies (National Planning Policy Framework, 2024). In order to achieve a +10% biodiversity net gain for area-based habitats, a minimum area-based unit score of 1.57 will need to be achieved. At present, there is a total unit deficit of **1.33** units. Of these units, 0.69 units must be of lowland meadow, 0.59 units must be of lowland calcareous grassland, and 0.05 units must of bramble scrub to satisfy trading rules.
Recommendations and Next Steps	Landscaping There is very limited scope within the site to deliver additional biodiversity gains due to the constrained development footprint and the limited soft-landscaped area available. The proposed plans have already been revised, including a reduction in the car park footprint to improve the score compared with the original design. As a result, there is very little remaining capacity for further on-site landscaping enhancements. Biodiversity offsetting It is unlikely that net gain will be achieved by ways of habitat creation/enhancement without significant changes to the proposals on site or require unfeasible commitments off-site. As such, a financial contribution to off-site ecological enhancements (i.e. purchasing biodiversity units) within an approved scheme is required to make up the +10% net gain for area-based habitat units. The mechanism for securing this off-setting will need to be proposed to and confirmed by the LPA and would be linked to the application through a planning obligation Section 106 (s106) agreement. The proposed habitat compensation must be of an appropriate distinctiveness to meet the trading rules of BNG. A summary as to what off-site units are currently required under the original plans is detailed in the table below.

		Distinctiveness	**Broad Habitat Group**	**Habitat**	**Units Required**
	Area-Based	Very high	Grassland	Lowland calcareous grassland	0.69
		High	Grassland	Lowland meadow	0.59
		Medium	Heathland and shrub	Bramble scrub	0.05
				Total	**1.33**
Pre-Commencement	A Biodiversity Gain Plan (BGP) and 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. These additional requirements can only be actioned following the finalisation of the BNG assessment – be it on-site or off-site net gains sought.				
BNG Mitigation Hierarchy					
Avoidance	Avoidance of habitat loss is not feasible due to the site layout and development constraints.				
Minimisation	Minimisation of habitat loss is not feasible due to the site layout and development constraints.				
Mitigation	Important species should be translocated in their locale, as outlined in the respective Phase 2 botany report.				
Offset	Habitat losses will be compensated through off-site habitat creation secured via BNG credits or LPA agreement. Bespoke measures may also be required due to priority habitat loss.				

Appendix 1: Baseline Habitat Plan



Appendix 2a: Post-Development Habitat Plan

Appendix 3: Proposed Development Plan

Appendix 4: Headline BNG Results

FINAL RESULTS			
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Area habitat units*	-0.97	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Area habitat units*	-67.58%	Total net gain achieved is less than target set ▲
	Hedgerow units	0.00%	
	Watercourse units	0.00%	
Trading rules satisfied?	No - Check Trading Summaries ▲		

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Area habitat units	10.00%	1.43	1.57	1.11	
Hedgerow units	10.00%	0.00	0.00	0.00	No additional hedgerow units required to meet target ✓
Watercourse units	10.00%	0.00	0.00	0.00	No additional watercourse units required to meet target ✓

Appendix 5a: Baseline Habitat Condition Assessment Sheets

Lowland calcareous grassland

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Y	
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 insects, birds and small mammals to live and breed.	Y	
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	Y	
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Y	
E	Combined cover of species indicative of suboptimal condition[3] 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[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.	N	
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 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	Y	
	Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)	Y	
	Number of criteria passed	5	

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)	

Lowland meadow

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	N	
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 insects, birds and small mammals to live and breed.	N	
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	Y	
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Y	
E	Combined cover of species indicative of suboptimal condition[3] 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[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.	Y	
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 3 and 5 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	3	

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)	✓

Mixed scrub

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range).[1] - At least 80% of scrub is native, - There are at least three native woody species[2], - No single species comprises more than 75% of the cover (except hazel *Corylus avellana*, common juniper *Juniperus communis*, sea buckthorn *Hippophae rhamnoides* or box *Buxus sempervirens*, which can be up to 100% cover).	Y	
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran[3]) shrubs are all present.	N	
C	There is an absence of invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) and species indicative of suboptimal condition[6] make up less than 5% of ground cover.	Y	
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	Y	
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	N	
		Number of criteria passed	3

Condition Assessment Result (out of 5 criteria)	Condition Assessment Score	Score Achieved ×/✓
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	✓
Passes 2 or fewer criteria	Poor (1)	

Appendix 5b: Post-Development Habitat Condition Assessment Sheets

Individual trees

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	The tree is a native species (or at least 70% within the block are native species).	Y	
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	
C	The tree is mature (or more than 50% within the block are mature)[1].	N	
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Y	
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N	
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	
	Number of criteria passed	4	
Condition Assessment Result (out of 6 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**	
Passes 5 or 6 criteria	Good (3)		
Passes 3 or 4 criteria	Moderate (2)	✓	
Passes 2 or fewer criteria	Poor (1)		

Mixed Scrub (created)

Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range).[1] - At least 80% of scrub is native, - There are at least three native woody species[2], - No single species comprises more than 75% of the cover (except hazel *Corylus avellana*, common juniper *Juniperus communis*, sea buckthorn *Hippophae rhamnoides* or box *Buxus sempervirens*, which can be up to 100% cover).	Y	
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran[3]) shrubs are all present.	N	
C	There is an absence of invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) and species indicative of suboptimal condition[6] make up less than 5% of ground cover.	Y	
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	N	
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	N	
		Number of criteria passed	2

Condition Assessment Result (out of 5 criteria)	Condition Assessment Score	Score Achieved ×/✓
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	✓