WHARTON
Natural
Infrastructure
Consultants

Biodiversity Net Gain Assessment

SITE LOCATION
Premier Foods Bakery, Carlton, South Yorkshire

ISSUE DATE
07 September 2023

OUR REFERENCE
230905 1532 BNG V1

PREPARED FOR
Premier Foods Plc

PRINCIPAL AUTHOR
Byron Humphries



Quality Assurance

Issue/revision	Issue
Remarks	Version 1
Date	07 September 2023
Principal Author	Byron Humphries Ecologist
Qualifications	BSc (*Hons*), ACIEEM
Signature	[redacted]
Technical Review	Laura Carter Senior Ecologist
Qualifications	BSc (*Hons*)
Signature	[redacted]
Authorised by	Elva Preston
Signature	[redacted]
Position	Senior Arboricultural Consultant
Project number	1532

Table of Contents

1. Introduction/Background 4
1.1 Author 4
1.2 Purpose and Brief 4
1.3 Description of Site and Local Area 4
1.4 The Proposed Development 4
1.5 Reference Documents 4
2. Relevant Planning Policy 6
3. Methodology 7
3.1 Biodiversity Net Gain Assessment Calculation Tool 7
3.2 Habitat Condition Assessment 7
3.3 Limitation 7
4. Biodiversity Net Gain Assessment 8
4.1 Overview 8
4.2 On-Site Habitat Enhancement 9
4.3 On-Site Habitat Creation 9
4.4 Habitat Trading Requirements 10
4.5 Results 10
5. Conclusion 11
Appendix 1 – Site Location Plan (Google Earth Pro, 2023) 13
Appendix 2 – UK Habitat Classification Map 14
Appendix 3 – Biodiversity Net Gain Assessment Calculation for the Site (Natural England, 2023) 15
Appendix 4 – Local Planning Policy Excerpts (Barnsley Metropolitan Borough Council, 2019) 16
Appendix 5 – Proposed Planting Plan (tor&co, 2023) 17
Appendix 6 – Habitat Condition Assessments for Baseline Habitats 18
Appendix 7 – Habitat Condition Assessments for Created and Enhanced Habitats 20

Summary	
Site	Land at Premier Foods Bakery, Carlton, South Yorkshire National Grid reference SE 37227 09987.
Purpose and brief	Biodiversity Net Gain (BNG) Assessment Commissioned by Premier Foods Plc
Development proposals	The Proposed Development comprises the installation of a solar farm of up to 2MW of generating capacity within land adjacent to Premier Foods' bakery
Methods	Biodiversity Net Gain Assessment using the 'The Biodiversity Metric 4.0' (Natural England, 2023)
Pre-development Baseline Biodiversity Value	20.64 habitat units 0.76 hedgerow units
Post-Development Biodiversity	22.77 habitat units (**10.13% gain in habitat units).** 0.85 hedgerow units (**12.25% gain in hedgerow units**)
Recommendations	**A Habitat Management Plan (HMP) should accompany the final design to ensure the condition assessments of the created habitats is achieved long term.** This can be secured as part of a planning condition to ensure that the target condition of habitats and time to condition are achieved.

1. Introduction/Background

1.1 Author

1.1.1 The Principal Author of this report is Byron Humphries BSc (Hons) ACIEEM (Ecologist). The Principal Author has over five years of experience in ecological consultancy and has worked on projects ranging from large scale national infrastructure developments to residential sites across the country. The Principal Author holds a Class 2 survey licence from Natural England for great crested newt (*Triturus cristatus*) (GCN). He is a Associate member of the Chartered Institute of Ecology and Environmental Management (CIEEM), he is therefore subject to CIEEM's Code of Professional Conduct.

1.1.2 The detail provided within this report is a true and accurate reflection of the professional opinion of the Principal Author based on the information provided.

1.1.3 The Reviewer of this report is Laura Carter BSc (*Hons*), (Senior Ecologist). The Reviewer has over five years of professional experience in ecological consultancy and has worked on projects ranging in scale including commercial and residential sites. The Reviewer currently holds a Class 1 survey licence for Great Crested Newts GCN and (*Triturus cristatus*) a Class 2 survey licence from Natural England for bats (*Chiroptera* spp.) and is a Qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM), she is therefore subject to CIEEM's Code of Professional Conduct.

1.2 Purpose and Brief

1.2.1 Premier Foods Plc (the Client) commissioned Wharton Natural Infrastructure Consultants Ltd (Wharton) to undertake a Biodiversity Net Gain (BNG) Assessment of land known as land adjacent to Premier Foods Bakery, Carlton (see land within the red line boundary in Appendices 1 and 2), known herein as 'the Site'.

1.3 Description of Site and Local Area

1.3.1 The Site is located to the east of Fish Dam Lane in Carlton. It is centered approximately at National Grid reference SE 37227 09987.

1.3.2 A location plan of the Site has been provided in Appendix 1.

1.3.3 The Site under consideration comprises an area of grassland with areas of scrub and hedgerow on the borders.

1.4 The Proposed Development

1.4.1 The Proposed Development comprises the installation of a solar farm of up to 2MW of generating capacity within land adjacent to Premier Foods' bakery.

1.4.2 The proposals detailed above will be referred to throughout this report as the 'Proposed Development'.

1.5 Reference Documents

1.5.1 This document has been prepared with reference to the following documents in Table 1:

Table 1. Reference Documents

Document Name	Document Reference	Prepared By	Date
Preliminary Ecological Appraisal	221013 1532 PEA V1	Wharton	October 2022
Proposed Planting Plan	XX-DR-L-P-001 Premier	tor&co	August 2023

	Foods Planting Plan		

1.5.2 This BNG Assessment has been produced based on the 'Proposed Planting Plan' which details the layout of the Site (tor&co, 2023) as detailed above and located in Appendix 5.

1.5.3 If the Site layout is subject to any future revisions the BNG assessment must be amended to reflect any changes.

2. Relevant Planning Policy

2.1.1 Planning policies which are relevant to the Proposed Development are summarised below in Table 2.

Table 2. Planning Policy Relevant to the Proposed Development

Planning Policy	Relevance to the Proposed Development
National Planning Policy Framework (Department for Communities and Local Government, 2021)	Section 174 of the NPPF states that in order to protect biodiversity, plans should "promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity". Section 180a and 180c (respectively) of the NPPF state: "If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts) adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused".

*Full policy text should be referred to as table text is a summary only.

Local Planning Policy

2.1.2 The Barnsley Local Plan (Barnsley Metropolitan Borough Council, 2019) has been reviewed and an excerpt of the relevant ecological policies is provided in Appendix 4.

3. Methodology

3.1 Biodiversity Net Gain Assessment Calculation Tool

3.1.1 The BNG calculation tool used for this assessment is 'The Biodiversity Metric 4.0' published in April 2023 by Natural England (Natural England, 2023)

3.1.2 This tool objectively calculates biodiversity losses and gains for terrestrial habitats in relation to development.

3.2 Habitat Condition Assessment

3.2.1 The habitats at the Site were originally categorised using the UK Habitat Classification Version 1.1 (Butcher, Carey, Edmonds, Norton, & Treweek, 2020). The Biodiversity Metric 4.0 requires all habitat data to be categorised according to the UK Habitat Classification.

3.2.2 The habitats at the Site have been mapped to reflect this; they are illustrated on the UK Habitat Classification Plan in Appendix 2.

3.2.3 The type and condition of habitats on Site were assessed to establish their biodiversity value. The condition assessment of the habitats has been carried out with reference to the Preliminary Ecological Appraisal (Wharton, 2022).

3.2.4 The condition assessments of the habitats at the Site were made using '*Habitat Condition Assessment Sheet with Instructions*' a technical supplement of The Biodiversity Metric 4.0.

3.2.5 The habitat distinctiveness used is always the default setting with The Biodiversity Metric 4.0,

3.3 Limitation

3.3.1 September is a sub-optimal time of the year for botanical survey to be undertaken. Due to the common and widespread nature of the species present at the time of the survey, it is unlikely that important plant species requiring further detailed botanical survey are present at the Site. This limitation is therefore not considered to be significant.

4. Biodiversity Net Gain Assessment

4.1 Overview

4.1.1 The Site is 2.9 hectares (ha) in size.

4.1.2 The Site comprised largely neutral grassland with small areas of scrub, hedgerow and hard standing.

4.1.3 A plan of the habitats detailed below is provided in Appendix 2.

4.1.4 Condition assessment criteria for existing habitats at the Site is provided in Appendix 6.

Urban – Developed land, sealed surface – u1b

4.1.1 Small areas of hardstanding associated with the Site total area of 0.05ha

4.1.2 This habitat has very low distinctiveness and a condition score of N/A - other (a condition score cannot be assigned to this habitat as it provides negligible ecological benefits).

4.1.3 The developed land surface was not ecologically important and provides no habitat units for the Site.

4.1.4 Much of the hard standing will be retained, with 0.01ha being removed to facilitate the Proposed Development.

Neutral Grassland – g3c

4.1.5 Much of the Site consisted of neutral grassland, with an area totalling 2.33ha.

4.1.6 The habitat has medium distinctiveness and a condition score of moderate based on the criteria outlined in Appendix 6.

4.1.7 The neutral grassland provides 18.64 habitat units for the Site.

4.1.8 The majority of the grassland will be retained under the Proposed Development – with 2.21ha to be retained and 0.13ha to be enhanced.

Mixed scrub – h3h

4.1.9 Areas of mixed scrub were present along the borders of the Site, totalling an area of 0.20ha

4.1.10 The habitat has medium distinctiveness and a condition score of poor based on the criteria outlined in Appendix 6.

4.1.11 The mixed scrub provides 0.80 habitat units for the Site.

4.1.12 The majority of the mixed scrub is to be retained and enhanced, with 0.16ha being enhanced and 0.04ha being lost under the Proposed Development.

Bramble scrub – h3d

4.1.13 Areas of bramble scrub were present along the borders, and in patches within the centre, of the Site, totaling an area of 0.31ha.

4.1.14 The habitat has medium distinctiveness and a condition score of N/A - other (a condition score cannot be assigned to this habitat).

4.1.15 The bramble scrub provides 1.24 habitat units for the Site.

4.1.16 Much of the bramble scrub is to be retained and enhanced, with 0.20ha being enhanced and 0.10ha being lost under the Proposed Development.

Hedgerow – h2a

4.1.17 Hedgerow was present around boundary sections of the Site. The total length of hedgerow on

Site was 190m.

4.1.18 The hedgerow has low distinctiveness and a condition score of moderate based on the criteria outlined in Appendix 6.

4.1.19 The hedgerow is to be retained and enhanced under the Proposed Development.

On-Site Baseline

4.1.20 The existing biodiversity units of the Site based on the information provided above is **20.64 habitat units** and **0.76 hedgerow units.**

4.2 On-Site Habitat Enhancement

4.2.1 A proposed condition assessment for each enhanced habitat has been detailed in Appendix 7. These condition assessments are subject to the production of a detailed habitat management plan, which is to be prepared prior to the solar farm becoming operational, to achieve the stated conditions.

Neutral Grassland – g3c

4.2.2 Wildflower seed mixes such as Emorsgate EM3 and EM10 (Emorsgate Seeds, 2023) will be sown to provide increased species diversity and additional benefits to biodiversity within the grassland of the proposed solar installation, totalling an area of 2.22ha. The area of grassland will however still have a condition score of moderate based on the criteria outlined in Appendix 7, and so no material change within the BNG calculation will be assigned to this area of grassland.

4.2.3 An area of 0.13ha of neutral grassland around the borders of the Site will be similarly enhanced with wildflower and grass seed mixes, but will be managed to allow for a tussocky, structurally diverse grassland habitat to form. This enhanced habitat will have a condition score of good based on the criteria outlined in Appendix 7.

4.2.4 The enhanced grassland will provide 1.35 habitat units for the Site.

Mixed scrub – h3h and bramble scrub - h3d

4.2.5 Areas of scrub throughout the Site will be enhanced through the planting of small tree species such as hawthorn (*Crataegus monogyna*) and birch (*Betula pendula*) throughout to create more structural diversity and maturity. Additionally, areas of tussocky grassland bordering areas of scrub help create a well-developed edge.

4.2.6 The bramble scrub on Site will be defined as mixed scrub following the additional tree planting. The enhanced scrub habitat will have a condition score of moderate based on the criteria outlined in Appendix 7.

4.2.7 The enhanced scrub habitat will provide 2.65 habitat units for the Site.

Hedgerow – h2a

4.2.8 The hedgerow on Site will be enhanced through the infilling of the existing hedge through planting of native tree species including hawthorn, silver birch and wild cherry (*Prunus avium*).

4.2.9 The enhanced hedgerow will have a condition score of good based on the criteria outlined in Appendix 7.

4.2.10 The enhanced hedgerow will provide 0.29 hedgerow units for the Site.

4.3 On-Site Habitat Creation

4.3.1 The Proposed Planting Plan (tor&co, 2023) on which this Biodiversity Net Gain Assessment is based, is provided in Appendix 5.

4.3.2 A proposed condition assessment for each created habitat has been detailed in Appendix 7. These condition assessments are subject to the production of a detailed habitat management plan to achieve the stated conditions.

Neutral grassland – g3c

4.3.3 Small areas of neutral grassland totalling 0.04ha will be created throughout Site, where small areas of scrub and hard standing are to be removed.

4.3.4 The areas of grassland will be planted with wildflower and grass seed mixes, and will be managed to allow for a tussocky, structurally diverse grassland habitat to form.

4.3.5 The habitat has a medium distinctiveness and a condition score of good based on the criteria in Appendix 7.

4.3.6 The grassland habitat will provide 0.34 habitat units for the Site.

Mixed scrub – h3h

4.3.7 Additional areas of mixed scrub will be planted in sections around the borders of the Site, with planted species including hawthorn, silver birch and wild cherry, totaling an area of 0.12ha.

4.3.8 The habitat has a medium distinctiveness and a condition score of moderate based on the criteria in Appendix 7.

4.3.9 The mixed scrub will provide 0.80 habitat units for the Site.

4.4 Habitat Trading Requirements

4.4.1 Trading rules for this assessment are satisfied.

4.5 Results

4.5.1 The Proposed Development will achieve a **10.13% gain in habitat units** and a **12.25% gain in hedgerow units** within the Site.

4.5.2 The Biodiversity Metric, based on the Proposed Planting Plan by tor&co dated August 2023 (see Appendix 5), results in an **overall biodiversity gain of 2.09 habitat units** and **0.09 hedgerow units.**

4.5.3 **The post-development value of the Site will be 22.77 habitat units and 0.85 hedgerow units**.

5. Conclusion

5.1.1 The Site under consideration comprises an area of grassland with areas of scrub and hedgerow on the borders.

5.1.2 The Proposed Development comprises the installation of a solar farm of up to 2MW of generating capacity within land adjacent to Premier Foods' bakery.

5.1.3 **The existing biodiversity value of the Site is 20.64 habitat units** and **0.76 hedgerow units.**

5.1.4 The Proposed Development, based on the Proposed Planting Plan (REF) will result in an **overall biodiversity gain of 2.09 habitat units and a gain of 0.09 hedgerow units**.

5.1.5 The Proposed Development will achieve a **10.13%** net gain in habitat units within the Site and a **12.25%** net gain in hedgerow units.

5.1.6 **The post-development value of the Site will be 22.77 habitat units and 0.85 hedgerow units**.

5.1.7 An appropriate Habitat Management Plan (HMP) must be prepared prior to the solar farm becoming operational to ensure the condition criteria set out within this report for habitat creation is achieved. This can be achieved by an appropriately worded condition.

References

Barnsley Metropolitan Borough Council. (2019). *Barnsley Local Plan.*
Butcher, B., Carey, P., Edmonds, R., Norton, L., & Treweek, J. (2020). Retrieved from The UK Habitat Classification Version 1.1: http://www.ukhab.org/
Department for Communities and Local Government. (2021). *National Planning Policy Framework.* London: Department for Communities and Local Government.
Emorsgate Seeds. (2023). *Emorsgate Seed Mixes*. Retrieved from Emorsgate Seeds: https://wildseed.co.uk/product/mixtures/complete-mixtures/general-purpose-meadow-mixtures/mixed-diverse-meadow-mixture/
Google Earth Pro. (2023). Google.
Natural England. (2023). *The Biodiversity Metric 4.0.* Natural England.
Wharton. (2022). *221013 1532 PEA V1.*

Appendix 1 – Site Location Plan (Google Earth Pro, 2023)



Appendix 2 – UK Habitat Classification Map



Sca e 11000 @ A3

S eB da y

g3c o he e a g assa d

h2a hedge ow (o y ha a)

h3h mxed sc
h3d am e sc

Ta ge No e

Date: 07/ 0/22

Client: eren e OR uke

Project: remier s Bakery Car n

Title: U abi a Cassi a i n an

Map file reference	an No
2 006 532 BV	00

WHARTON
Natural
Infrastructure
Consultants

MINERVA MILL | STATION ROAD | ALCESTER | B49 5ET

E. info@wnic.co.uk
T. +44 (0)1789 459458
www.wnic.co.uk

Appendix 3 – Biodiversity Net Gain Assessment Calculation for the Site (Natural England, 2023)

Premier Foods Bakery, Carton South Yorksh

Return to results menu

Headline Results

Scroll down for final results ⚠

On-site baseline	*Habitat units*	20.68	
	Hedgerow units	0.76	
	Watercourse units	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	22.77	
	Hedgerow units	0.85	
	Watercourse units	0.00	
On-site net change (units & percentage)	*Habitat units*	2.09	10.13%
	Hedgerow units	0.09	12.25%
	Watercourse units	0.00	0.00%
Off-site baseline	*Habitat units*	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site net change (units & percentage)	*Habitat units*	0.00	0.00%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	2.09	
	Hedgerow units	0.09	
	Watercourse units	0.00	

Spatial risk multiplier (SRM) deductions	*Habitat units*	0.00
	Hedgerow units	0.00
	Watercourse units	0.00

FINAL RESULTS

Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	2.09
	Hedgerow units	0.09
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	10.13%
	Hedgerow units	12.25%
	Watercourse units	0.00%
Trading rules satisfied?		Yes ✓

Unit Type	Target	Baseline Units	Units Required	Unit Deficit
Habitat units	10.00%	20.68	22.75	0.00
Hedgerow units	10.00%	0.76	0.84	0.00
Watercourse units	10.00%	0.00	0.00	0.00

Appendix 4 – Local Planning Policy Excerpts (Barnsley Metropolitan Borough Council, 2019)

Policy BIO1 Biodiversity and Geodiversity

Development will be expected to conserve and enhance the biodiversity and geological features of the borough by:

Protecting and improving habitats, species, sites of ecological value and sites of geological value with particular regard to designated wildlife and geological sites of international, national and local significance, ancient woodland and species and habitats of principal importance identified via Section 41 of the Natural Environment & Rural Communities Act 2006 (for list of the species and habitats of principal importance) and in the Barnsley Biodiversity Action Plan.

Maximising biodiversity and geodiversity opportunities in and around new developments.

Conserving and enhancing the form, local character and distinctiveness of the boroughs natural assets such as the river corridors of the Don, the Dearne and Dove as natural floodplains and important strategic wildlife corridors.

Proposals will be expected to have followed the national mitigation hierarchy (avoid, mitigate, compensate) which is used to evaluate the impacts of a development on biodiversity interest.

Protecting ancient and veteran trees where identified.

Encouraging provision of biodiversity enhancements.

Development which may harm a biodiversity or geological feature or habitat, including ancient woodland and aged or veteran trees found outside ancient woodland, will not be permitted unless effective mitigation and/or compensatory measures can be ensured.

Development which adversely effects a European Site will not be permitted unless there is no alternative option and there are imperative reasons of overriding public interest (IROPI).

Appendix 5 – Proposed Planting Plan (tor&co, 2023)



WILDFLOWER AND GRASSLAND MIXES	
TYPE	**SEED MIX**
Wildflower grassland	Emorsgate Seeds EM34 Mixed diverse meadows or equally approved
Tussocky grassland	Emorsgate Seeds EM10 Tussock Mixture or equally approved

SCRUB PLANTING INCLUDING INFILL AREAS

% MIX	SPECIES	COMMON NAME	SIZE	POT SIZE	NOTES
	SCRUB PLANTING AREAS planted on a staggered 1.5m grid				
7.5%	CARP NUS betulus	Hornbeam	40 60cm	Bare root	1u1 seedling undercut
15%	CORYLUS avellana	Hazel	40-60cm	Bare root	1+1 or 1/1 transplant, 2 breaks
27.5%	CRATAEGUS monogyna	Hawthorn	40 60cm	Bare root	1+1 or 1/1 transplant
5%	EUONYMUS europaeus	Spindle	40-60cm	Bareroot	1+1 or 1/1 transplant, min 3 breaks/branches
5%	ILEX aquifolium	Holly	40-60cm	3L container	leaders and laterals even canopy
5%	LIGUSTRUM ovalifolium	Privet	40-60cm	2L container	Branched, 5 breaks
2.5%	LONICERA periclymenum	Honeysuckle	40 60cm	3L container	1+1, min 2 breaks
7.5%	PRUNUS avium	Wild cherry	40 60cm	Bareroot	1+1 or 1/1 transplant
15%	PRUNUS spinosa	Blackthorn	40 60cm	Bare root	1+1 or 1/1 Branched, 2 breaks
2.5%	ROSA canina	Dog Rose	40 60cm	Bare root	1+0 Branched
5%	SAMBUCUS nigra	Elder	40 60cm	Bare root	1+0 or 1/0 transplant 2 breaks
2.5%	ULMUS glabra	Wych elm	40 60cm	Bare root	1+1 or 1/1 transplant

SPECIES	COMMON NAME	SIZE	POT SIZE	NOTES
TREES - planted in locations as shown in plan				
BETULA pendula	Silver birch	10 12cm	Bare root	2x transplanted, 3 3.5m high, min 1.75 2m clear stem, min 4 breaks/branches
CRATAEGUS monogyna	Hawthorn	10 12cm	Bare root	2x transplanted, 3 3.5m high, min 1.75 2m clear stem, min 4 breaks/branches
PRUNUS avium	Wild cherry	10 12cm	Bare root	2x transplanted, 3 3.5m high, min 1.75 2m clear stem, min 4 breaks/branches

Solar Farm

Premier Foods PLC

© Crown copyright and database rights 2023 OS Licence No AC0000849896

Scale to be used for planning purposes only
© tor&co 2023

Figure 14 - Planting Plan

277101 -TOR-SK001

Scale @ A3: 1:1000

08/2023

-

For Planning

N

tor &co

Appendix 6 – Habitat Condition Assessments for Baseline Habitats

Neutral Grassland – g3c

	Condition Assessment Criteria	Pass/Fail
1	The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description – the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. **NB - this criterion is non-negotiable for achieving moderate or good condition.**	Pass
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Fail
4	Combined cover of species indicative of sub-optimal condition and physical damage accounts for less than 5% of total area.	Fail
5	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass
6	Cover of bracken less than 20%.	Pass
7	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type. **Note – this criterion is essential for achieving Good condition for non-acid grassland types**	Fail
Final Condition (based on passing 3 criteria)		**Moderate**

Mixed scrub – h3h

	Condition Assessment Criteria	Pass/Fail
1	The scrub is a good representation of the habitat type it has been identified as, based on its UKHab description. The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type. At least 80% of scrub is native, and there are at least three native woody species with no single species comprising more than 75% of the cover.	Fail
2	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present	Fail
3	There is an absence of invasive non-native plant species and species indicative of sub-optimal condition make up less than 5% of ground cover	Pass
4	The scrub has a well-developed edge with scattered scrub and tall grassland and forbs present between the scrub and adjacent habitat.	Fail
5	There are clearings, glades, or rides present within the scrub, providing sheltered edges.	Pass
Final Condition (based on passing 2 criteria)		**Poor**

Native Hedgerow – h2a

	Condition Assessment Criteria	Pass/Fail
A1	Height >1.5m average along length	Pass
A2	Width >1.5m along length	Pass
B1	Gap – Hedge base <0.5m for 90% of length	Pass
B2	Gap – Hedge canopy continuity. Gaps make up <10% with no canopy gap of >5m.	Fail
C1	Undisturbed ground >1m width of undisturbed for 90% of the length	Fail
C2	Undesirable perennial vegetation – plant species indicative of nutrient enrichment <20% cover	Fail
D1	Invasive and neophyte species - There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species[1] make up less than 5% of ground cover.	Pass
D2	Current Damage - >90% of the hedgerow or undisturbed ground is free of damage by human activities	Pass
Final Condition (based on passing 5 of 8 criteria)		**Moderate**

Appendix 7 – Habitat Condition Assessments for Created and Enhanced Habitats

Neutral Grassland – g3c (created and enhanced tussocky grassland)

	Condition Assessment Criteria	Pass/Fail
1	The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description – the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. **NB - this criterion is non-negotiable for achieving moderate or good condition.**	Pass
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass
4	Combined cover of species indicative of sub-optimal condition and physical damage accounts for less than 5% of total area.	Fail
5	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass
6	Cover of bracken less than 20%.	Pass
7	There are 10 or more vascular plant species per m² present, including forbs that are characteristic of the habitat type. **Note – this criterion is essential for achieving Good condition for non-acid grassland types**	Pass
Final Condition (based on passing 5 criteria)		**Good**

Neutral Grassland – g3c (enhanced grassland of moderate condition)

	Condition Assessment Criteria	Pass/Fail
1	The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description – the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. **NB - this criterion is non-negotiable for achieving moderate or good condition.**	Pass
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Fail
4	Combined cover of species indicative of sub-optimal condition and physical damage accounts for less than 5% of total area.	Fail
5	Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass
6	Cover of bracken less than 20%.	Pass
7	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type. **Note – this criterion is essential for achieving Good condition for non-acid grassland types**	Pass
Final Condition (based on passing 4 criteria)		**Moderate**

Mixed scrub – h3h

	Condition Assessment Criteria	Pass/Fail
1	The scrub is a good representation of the habitat type it has been identified as, based on its UKHab description. The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type. At least 80% of scrub is native, and there are at least three native woody species with no single species comprising more than 75% of the cover.	Pass
2	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present	Fail
3	There is an absence of invasive non-native plant species and species indicative of sub-optimal condition make up less than 5% of ground cover	Pass
4	The scrub has a well-developed edge with scattered scrub and tall grassland and forbs present between the scrub and adjacent habitat.	Pass
4	There are clearings, glades, or rides present within the scrub, providing sheltered edges.	Pass
Final Condition (based on passing 4 criteria)		**Moderate**

Native Hedgerow – h2a

	Condition Assessment Criteria	Pass/Fail
A1	Height >1.5m average along length	Pass
A2	Width >1.5m along length	Pass
B1	Gap – Hedge base <0.5m for 90% of length	Pass
B2	Gap – Hedge canopy continuity. Gaps make up <10% with no canopy gap of >5m.	Pass
C1	Undisturbed ground >1m width of undisturbed for 90% of the length	Pass
C2	Undesirable perennial vegetation – plant species indicative of nutrient enrichment <20% cover	Fail
D1	Invasive and neophyte species - There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species[1] make up less than 5% of ground cover.	Pass
D2	Current Damage - >90% of the hedgerow or undisturbed ground is free of damage by human activities	Pass
Final Condition (based on passing 7 of 8 criteria)		**Good**

WHARTON NATURAL INFRASTRUCTURE CONSULTANTS

Head Office
The Coach House,
Birmingham Rd,
Coughton,
Alcester

T. 01789 459 458

E. hello@wnic.co.uk

WNIC.CO.UK

Land
Trees
Ecology