Report

Biodiversity Net Gain Report

Singleton Birch

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Status / Revisions

Rev.	Date	Reason for issue	Prepared	Reviewed	Approved
C01	12.09.25	Initial	BM	LW	AN
C02	15.09.25	Amendments following client comments	BM	BM	BM
C03	07.11.25	Amendments following LPA comments	BM	ER	AN
C04	10.02.26	Amendment to landscape proposals	BM	ER	AN

This report and its findings should be considered in relation to the terms and conditions proposed and scope of works agreed between Sweco and the client.

Interpretations and recommendations contained in the report represent our professional opinions, which were arrived at in accordance with currently accepted industry practices at the time of reporting and based on current legislation in force at that time.

This report is prepared and written in the context of the proposals stated in the introduction to this report and should not be used in a differing context. Furthermore, alterations to the initial proposals or changes in conditions on site over time may necessitate an alteration to the report in whole or in part after its submission. Therefore, in the event of any change in proposals or lapse of one year or more from the date of the report, the content of the report should not be relied upon unless referred to Sweco for validation and, if necessary, re-appraisal.

This report was prepared only for our client and is not intended to be relied on by any other party. Third parties should not rely on the facts, matters or opinions set out in this report without the express written permission of Sweco.

Please note that Sweco does not purport to provide specialist legal advice.

Unless stated specifically, drawings and plans are indicative only. As such, the position of features marked on the plans or drawings should not be taken as 100% accurate.

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Table of contents

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1 Introduction

1.1 Purpose

This Biodiversity Net Gain (BNG) report has been prepared by Sweco UK Ltd for Centrica Business Solutions Ltd, and relates to a proposed hydrogen development, hereafter the 'proposed development', at Singleton Birch Melton Ross Quarries, hereafter 'the site', for which planning permission will be sought.

Sweco undertook a UK Habitat Classification (UKHab) [1] survey of the site in July and September 2025 and a National Vegetation Classification (NVC) survey [2] in August 2025 to identify, classify, and condition assess the habitats on site. The Statutory Biodiversity Metric [3] was then used to calculate BNG based on the proposed landscape plans.

The scope of this report is to detail the results of the Biodiversity Metric calculations, to demonstrate the baseline biodiversity units on site and delivery of a minimum 10% BNG.

1.2 Site Description

The site occupies an area of approximately 1.74ha and is located around national grid reference TA 08765 11270, to the south-east of Barton-upon-Humber, Lincolnshire.

Habitats on site include modified grassland, other broadleaved woodland, disused quarry and associated tall forb habitats and other neutral grassland. The site is surrounded by woodland to the north, east and south on old quarry embankments and further disused quarry land to the west.

The site includes part of the disused, infilled quarry, a section of rail line and associated embankment and hard standing and existing lime kilns in the operational site to the north of the rail line. Road verge habitats are also present on site on the northern verge of the adjacent A18.

1.3 Proposed Development

This report is in support of an outline planning application, with all matters reserved (except for means of access) for a Hydrogen Production Facility.

The construction phase will include, in addition to construction of the facility and access road, directional drilling beneath National Rail line with no above ground impacts and digging of a trench on existing hard standing within the lime quarry to the north of the rail line from the directional drilling location to the existing lime kilns.

2 Methods

2.1 Biodiversity Net Gain Assessment

The Statutory Biodiversity Metric [3], hereafter 'the metric', was used to calculate whether the proposed development would achieve 10% BNG based on landscaping plans. This was completed following the guidance within the metric user guide [4].

The information entered into the metric comprised:

- Broad habitat;
- Habitat type (used to determine distinctiveness);
- Area (ha) OR length (km);
- Condition (N/A, poor, moderate, good); and
- Strategic significance (whether the location is within the local plan (e.g., within a biodiversity opportunity area) or not).

This data allows a calculation of the biodiversity units for each habitat parcel to be made which when summed gives the total biodiversity units of the site as a whole. The formula is set out below:

Baseline Biodiversity Unit =
(Area x Distinctiveness x Condition) x (Strategic Significance)

The site baseline was taken to be the habitat types, areas and conditions on the site identified during the UKHab and NVC surveys and condition assessment undertaken in July and September 2025.

The metric is divided into three sections: area-based habitats, hedgerow linear habitats, and watercourse linear habitats. The overall BNG score of the proposed development is taken as the lowest-scoring change of these different habitat groups.

The Greater Lincolnshire Local Nature Recovery Strategy (LNRS) has not yet been published at the time of writing this report. Therefore, the North Lincolnshire Local Plan [5] was reviewed regarding the location of the site to assess strategic significance.

The formula used for calculating biodiversity units of newly created habitats is similar to that for baseline biodiversity units, but accounts for any difficulty in habitat creation, time required for the newly created habitat to reach target condition, and spatial risk (whether the new habitat is created on the site or within the local planning authority or in the neighbouring local planning authority).

Biodiversity Unit Delivered

= {(Area x Distinctiveness Condition) x (Difficulty x Time) x (Strategic Significance)} x Spatial risk

Finally, the metric incorporates a set of trading standards with reference to replacing biodiversity units with units of an appropriate habitat type. Under the trading standards, habitats of medium distinctiveness, such as other broadleaved woodland, should be replaced with habitats of the same broad habitat type (i.e., woodland) or habitat of a higher distinctiveness. Whereas habitats of low distinctiveness, such as

modified grassland, can be replaced with any habitat of the same distinctiveness or better habitat. In addition to achieving the desired percentage net gain, the trading standards should also be met.

2.2 Personnel

The UKHab and species scoping survey was undertaken and this report produced by Senior Ecologist Beth Mell MSc ACIEEM, who has over eight years' experience in ecological consultancy and BNG reports. This report was reviewed by Ecologist Libby Ward MSc ACIEEM and approved by Principal Ecologist Andrew Noble MCIEEM who has over 12 years' experience in ecological consultancy.

2.3 Limitations

The rail line and embankments in the central area of the site were not accessible for UKHab survey. The northern embankment within the operational site was covered in chalky dust and as such identification of species was severely limited. The southern embankment was largely not visible due to the topography to the south of the rail land. As such habitats within the proposed drilling location across the Network Rail land have been mapped from a combination of what was visible whilst on site, aerial imagery, Mastermap data and with regards to the woodland, the arboricultural impact assessment [6] [7]. In terms of species scoping this is not considered a constraint. Conditions of habitats in this area, which will not be directly impacted[1] as proposals here include directional drilling only with no above ground impacts, have been assumed to inform BNG calculations. Inaccessible areas are shown on Figure 1.

[1] Please note that whilst the arboricultural impact assessment [7] shows an area of woodland to the north of the quarry on the rail embankment as potentially unstable and being removed, the Client has confirmed no direct impacts would occur to this woodland.

3 Biodiversity Net Gain Baseline

This section provides information regarding the baseline biodiversity units in accordance with the Statutory Biodiversity Metric.

3.1 Strategic Significance

As part of a desk study undertaken to inform an ecological impact assessment (EcIA) [8] data was purchased form the Greater Lincolnshire Nature Partnership [9] which identified that the disused quarry to the south of the rail line is a Local Wildlife Site (LWS). The citation provided for this LWS includes brownfield mosaic as a main habitat of the LWS. As other neutral grassland can form part of a brownfield mosaic this habitat is therefore assigned 'high' strategic significance.

Whilst the site contains other habitats within the LWS boundary these are not considered locally ecologically important as they are not features of the LWS.

3.2 Baseline Biodiversity Metric Results

Table 1 summarises baseline area-based habitats present on the site (see Figure 1) and Table 2 summarises the baseline linear hedgerow habitats on the site, along with the areas/lengths, baseline conditions and biodiversity units. Linear watercourse habitats are absent from the site.

Full details of the metric calculations are provided in the accompanying metric (65216284SWE-XX-XX-T-J-3001-C03 BNG Metric) and habitat condition assessments are provided in Appendix A. The calculator summarises the baseline habitats present on the site, with their assessed conditions and produces a number of biodiversity units for the site baseline.

Habitat descriptions and species lists are providing in full in the EcIA [8].

Table 1: Site Biodiversity Metric Baseline (area-based habitats).

Habitat Type	Habitat Parcel	Area (ha)	Distinctiveness	Condition	Strategic Significance	Baseline Biodiversity units
Other neutral grassland (g3c*)	ONG1	0.024	Medium	Moderate	High	0.22
	ONG2	0.05		Poor	High	0.23
Sparsely vegetated land – tall forbs (u1f 16)	N/A	0.03	Low	Poor	Low	0.06
Sparsely vegetated land – tall forbs (u1 838 16)	N/A	1.06	Low	Moderate	Low	4.24
Modified grassland (g4)	MG1	0.04	Low	Poor	Low	0.08
	MG2	0.03		Moderate	Low	0.12
Sparsely vegetated land – ruderal/ephemeral (u1f 10)	N/A	0.02	Low	Poor	Low	0.04
Other woodland; broadleaved (w1g)	W1	0.16	Medium	Moderate	Low	1.28
	W2	0.018**		Poor	Low	0.07

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Habitat Type	Habitat Parcel	Area (ha)	Distinctiveness	Condition	Strategic Significance	Baseline Biodiversity units
Developed land; sealed surface (u1b6)	N/A	0.25	Very low	N/A	Low	0.00
Developed land; sealed surface – buildings (u1b5)	N/A	0.01	Very low	N/A	Low	0.00
Artificial, unvegetated unsealed surface (u1c) – rail line	N/A	0.05	Very low	N/A	Low	0.00
Rural tree (w 100)	RT1	0.0163	Medium	Moderate	Low	0.13
					Total	**6.47**

*UKHab codes are provided to correspond to the UKHab habitats shown in Figure 1. The habitat types detailed in this table are the corresponding BNG habitat types.

**whilst the metric works with areas to two decimal places (with the exception of individual trees), where habitat areas have changed due to changes in Scheme design these have been taken to three decimal places if required to register the change

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Table 2: Site Biodiversity Metric Baseline (hedgerow linear habitats).

Habitat Type	Habitat Parcel	Length (km)	Distinctiveness	Condition	Strategic Significance	Baseline Biodiversity Units
Other native hedgerow (h2a6)	H1	0.11	Low	Poor	Low	0.22
Other native hedgerow (h2a6)	H2	0.02	Low	Moderate	Low	0.08
Total linear hedgerow linear habitat units						**0.30**

In summary, the baseline biodiversity units on the site total 6.47 in area-based habitats and 0.30 hedgerow linear habitats.

To achieve 10% BNG a total of 7.12 area-based biodiversity units and 0.33 hedgerow linear habitat biodiversity units are required post development.

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4 Post Development

Post-development calculations have been undertaken based on the landscape plans (653216371_SWE_XX_XX_D_L_0001 Revision P02) in Appendix B.

4.1 Baseline Retention

Habitats on the rail line embankment and to the north of the rail line will be retained in full. In this location below ground directional drilling only is proposed and a trench would be excavated, however this would be within hard standing habitat, with no impacts on the biodiversity unit value of the site. There will be no impacts upon the condition of low distinctiveness or higher habitats.

Additionally, a section of W1 adjacent to the A18 will also be retained. A section of the woodland closest to the road will be lost to facilitate the proposed site access, and woodland planning is proposed adjacent to the north of the woodland.

Table 3 details baseline habitat retention for area-based habitats. The entire of the linear hedgerow baseline will be lost.

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Table 3: Site Biodiversity Metric Baseline (area-based habitats) Retention.

Habitat Type	Habitat Parcel	Area (ha) Retained	Distinctiveness	Condition	Strategic Significance	Baseline Biodiversity Units Retained
Sparsely vegetated land – ruderal/ephemeral (u1f 10)	N/A	0.02	Low	Poor	Low	0.04
Other woodland; broadleaved (w1g)	W1	0.09	Medium	Moderate	Low	0.72
	W2	0.0018**		Poor	Low	0.07
Developed land; sealed surface (u1b6)	N/A	0.23	Very low	N/A	Low	0.00
Developed land; sealed surface – buildings (u1b5)	N/A	0.01	Very low	N/A	Low	0.00
Artificial, unvegetated unsealed surface (u1c)	N/A	0.05	Very low	N/A	Low	0.00
					Total	**0.83**

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4.2 Habitat Creation

Habitat creation on site (in addition to developed land; sealed surface) includes:

- Other broadleaved woodland targeting moderate condition
- Open mosaic on previously developed land (priority habitat) targeting good condition.
- Rural trees (eight in total) targeting moderate condition.
- Modified grassland (on the proposed access road verge) capped at poor condition due its proposed location on a road verge and anticipated frequent mowing regime.
- Species-rich native hedgerow (93m in length). The target condition for this hedgerow is set at good, as it is considered that with standard good practice management measures (and not over-managing), and due to the location of the proposed hedgerow, this condition is considered achievable.

Strategic significance has been applied as it was with the baseline habitats, with the other neutral grassland within the LWS boundary set at 'high' strategic significance. The proposed open mosaic on previously developed land has been set at 'high' strategic significance as the LWS citation included 'brownfield mosaic' as a reason for designation.

The construction programme is expected to be eight months', and therefore no delay or advance to habitat creation has been input into the metric.

Tables 4 and 5 detail habitat creation for area-based and linear hedgerow habitats respectively. Appendix A includes suggested targeted condition criteria for the proposed habitats.

Table 4: Site Biodiversity Metric Baseline (area-based habitats) Creation.

Habitat Type	Area (ha) Retained	Distinctiveness	Condition	Strategic Significance	Baseline Biodiversity Units Created
Other broadleaved woodland	0.09	Medium	Moderate	Low	0.42
Open mosaic habitats on previously developed land	0.66	High	Good	High	6.41
Rural trees	0.0326	Medium	Moderate	Low	0.10
Modified grassland (verge)	0.05	Low	Poor	Low	0.10
Developed land; sealed surface (hydrogen facility)	0.26	Very low	N/A	Low	0.00
Developed land; sealed surface (roads)	0.26	Very low	N/A	Low	0.00
				Total	**7.03**

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Table 5: Site Biodiversity Metric Baseline (linear hedgerow habitats) Creation.

Habitat Type	Length (km) Crated	Distinctiveness	Condition	Strategic Significance	Baseline Biodiversity Units Created
Species-rich native hedgerow	0.09	Medium	Good	Low	0.70
				Total	**0.70**

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4.3 Post Construction BNG

In total, the post development on-site biodiversity value would be 7.86 biodiversity units for area-based habitats with a +21.43% increase. Linear hedgerow biodiversity value post-development would be 0.78 with a +161.43% increase. All trading standards for both area-based and linear hedgerow habitats would be met.

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5 Post-Construction BNG Conclusions

In total, the post development on-site biodiversity value would be 7.86 biodiversity units for area-based habitats with a +21.43% increase. Linear hedgerow biodiversity value post-development would be 0.78 with a +161.43% increase. All trading standards for both area-based and linear hedgerow habitats would be met.

A habitat management and monitoring plan (HMMP) will be required to detail how these habitats would be initially created and then managed for a minimum period of 30 years in accordance with The Environment Act 2021, to achieve their targeted conditions.

6 References

[1] UKHab Ltd, “UK Habitat Classification Version 2.0 (at https://www.ukhab.org),” 2023.

[2] JNCC, “National Vegetation Classification User's Handbook,” 2006. [Online]. Available: https://hub.jncc.gov.uk/assets/a407ebfc-2859-49cf-9710-1bde9c8e28c7. [Accessed February 2026].

[3] DEFRA, “Statutory Biodiversity Metric Calculation Tool,” August 2024. [Online]. Available: https://assets.publishing.service.gov.uk/media/65c60e5114b83c000ca715f4/The_Statutory_Biodiversity_Metric_Calculation_Tool_-_Macro_enabled_02.24.xlsm.

[4] Department for Environment, Food and Rural Affairs, “Statutory biodiversity metric: user guide,” Updated February 2024. [Online]. Available: https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides?fbclid=IwAR3t_S8djN97HZzsb8H9ISdfVqDiUZJcSR7pp4Kz5zHRFK5KWoLjPBlmRcw.

[5] North Lincolnshire Council, “Planning policy - The North Lincolnshire Local Plan,” 2025. [Online]. Available: https://www.northlincs.gov.uk/planning-and-environment/planning-policy-the-north-lincolnshire-local-plan/. [Accessed February 2026].

[6] Haydens Arboricultural Consultants, “Tree Survey and Arboricultural Impac Assessment In Accordance with BS 5837:2012. Revision B,” 2026.

[7] Hayden's Arboricultural Consultants, *Drawing Title Prelim AIA. Singleton Birch Quarry, Barnetby, Revision B,* 2026.

[8] Sweco , “Ecological Impact Assessment Singleton Birch,” 2025.

[9] Greater Lincolnshire Nature Partnership, “Lincolnshire Environmental Records Centre,” 2025. [Online]. Available: https://glnp.org.uk/our-services/lincolnshire-environmental-records-centre. [Accessed February 2026].

Drawings

Figure 1 – UKHab Drawing

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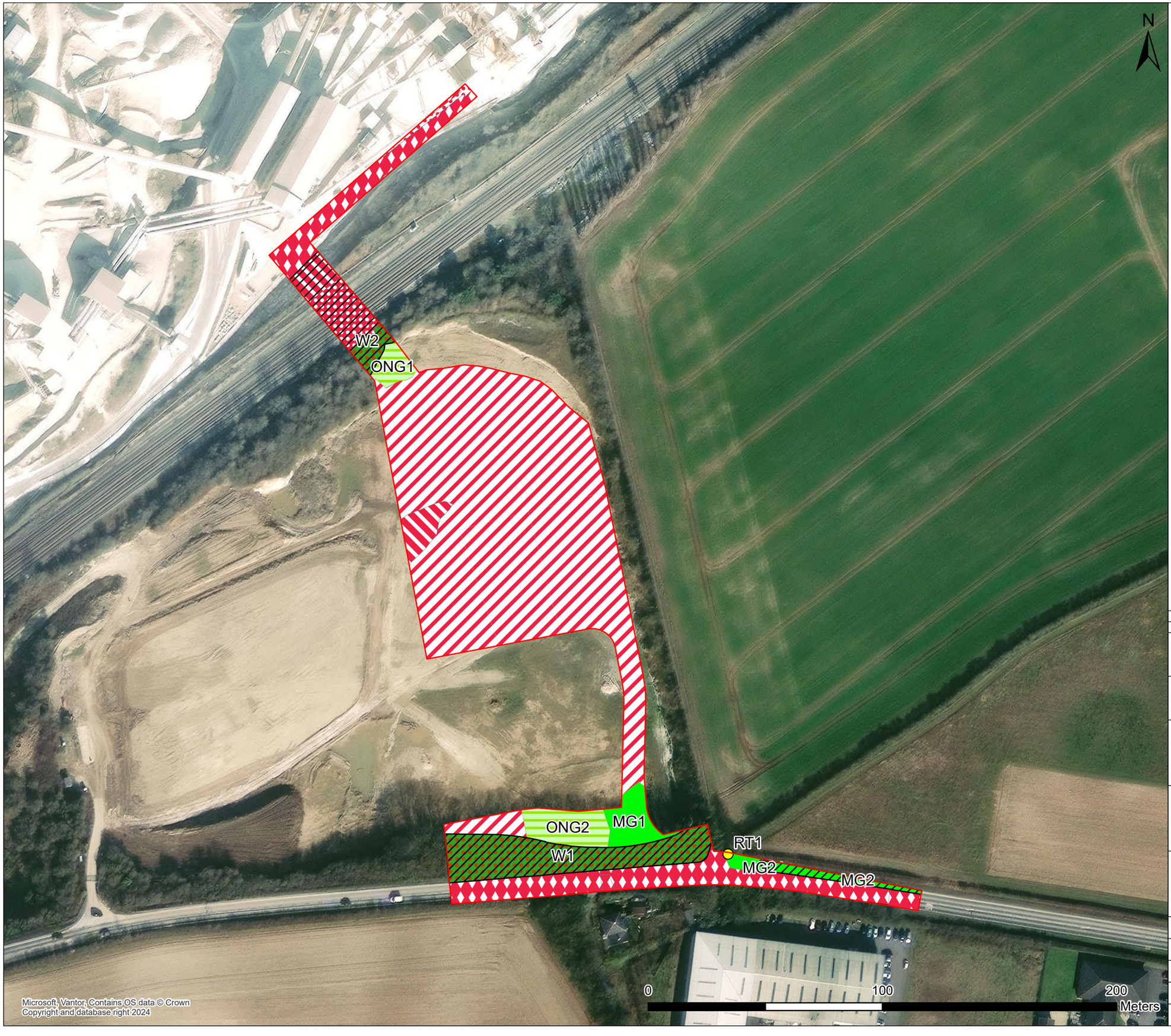
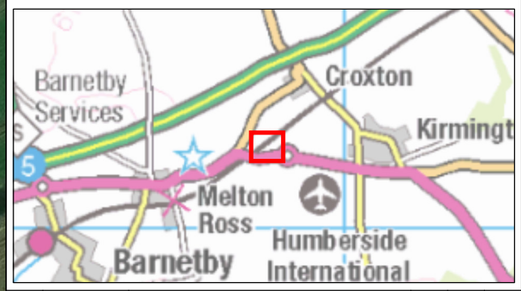


Legend

- Red Line Boundary
- Inaccesible Areas

UK Habitat Classification

- g3c - other neutral grassland
- g4 - modified grassland
- u1 838 16 - disused quarry with tall forbs
- u1f 16 - sparsley vegetated urban land with tall forbs
- u1b5 - buildings
- u1b6 - other developed land
- u1c 802 - artificial unvegetated unsealed surface - railway
- w1g - other woodland, broadleaved
- w 200 - individual tree
- h2a6 - other native hedgerow



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P01	28.01.2026	FIRST ISSUE	BM	LW	AN

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SWECO

Client

centrica energy storage+

Project Title

SINGLETON BIRCH PROPOSED HYDROGEN FACILITY

Drawing Title

FIGURE 1: UK HABITAT CLASSIFICATION SURVEY RESULTS

Project Stage: N/A			
Status: S2	Status Description: FOR INFORMATION		
Drawn: BM	Designed: BM	Checked: LW	Approved: AN
Sheet Size: A3	Scale: 1:1,554	Sweco Ref: 65216285	Revision: P01

Drawing Number: 65216285-SWE-XX-XX-DR-J-0006

Appendix A – Habitat Condition Assessments

Baseline Habitats

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Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)

UK Habitat Classification (UKHab) Habitat Types

Grassland - Lowland calcareous grassland
Grassland - Lowland dry acid grassland
Grassland - Lowland meadows
Grassland - Other lowland acid grassland
Grassland - Other neutral grassland
Grassland - Tall herb communities (H6430) [Not to be confused with the Tall forbs secondary code – see UKHab guidance for details.]
Grassland - Upland acid grassland
Grassland - Upland calcareous grassland
Grassland - Upland hay meadows
Sparsely vegetated land - Calaminarian grassland

Habitat Description

ukhab – UK Habitat Classification												
On-site or off-site, site name and location	Singleton Birch - on-site	**Survey date and Surveyor name**	August - Martin Brammah (ONG1) September - Beth Mell (ONG2)									
		Survey reference (if relating to a wider survey)										
Limitations (if applicable)		**Habitat parcel reference**										
		ONG1	ONG2									
Condition Assessment Criteria		**Grid reference**										
		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.**	Yes	No									ONG2 is species-poor
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.	No	Yes									
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	Yes	Yes									
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Yes	Yes									
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.	Yes	No									
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.**	No	No									

Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		No	No									
Number of criteria passed		4	3									
Condition Assessment Result	**Condition Assessment Score**	**Score Achieved ×/✓**										
Acid grassland types (Result out of 5 criteria)												
Passes 5 criteria	Good (3)											
Passes 3 or 4 criteria	Moderate (2)											
Passes 2 or fewer criteria	Poor (1)											
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)	Moderate										
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)		Poor									

Suggested enhancement interventions to improve condition score

Notes

Footnote 1 - Professional judgement should be used alongside the UKHab description.

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

Footnote 3 - Species indicative of suboptimal condition for this habitat type include: creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* . There may be additional relevant species local to the region and or site.

Footnote 4 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, by applying professional judgement.

Footnote 5 – Wildlife and Countryside Act 1981 (as amended).

Condition Sheet: WOODLAND Habitat Type

UK Habitat Classification (UKHab) Habitat Types

Woodland and forest - Lowland beech and yew woodland
Woodland and forest - Lowland mixed deciduous woodland
Woodland and forest - Native pine woodlands
Woodland and forest - Other coniferous woodland
Woodland and forest - Other Scot's pine woodland
Woodland and forest - Other woodland; broadleaved
Woodland and forest - Other woodland; mixed
Woodland and forest - Upland birchwoods
Woodland and forest - Upland mixed ashwoods
Woodland and forest - Upland oakwood
Woodland and forest - Wet woodland

Habitat Description

ukhab – UK Habitat Classification

This condition sheet is based on the England Woodland Biodiversity Group (EWBG) Woodland Condition Survey Method, available here:

Woodland Wildlife Toolkit (sylva.org.uk)

IMPORTANT: This biodiversity metric woodland condition assessment must be used to assess woodland being input into the biodiversity metric. The outputs of this condition assessment are not equivalent to, nor are they comparable with the scores from the EWBG condition assessment, because the EWBG assessment has been adapted for the biodiversity metric, including the removal of EWBG Indicator 7 (Proportion of favourable land cover around woodland) and Indicator 14 (Size of woodland), and minor changes to other indicators.

On-site or off-site, site name and location	Singleton Birch - on-site	**Survey date and Surveyor name**	July 2025 Beth Mell
Limitations (if applicable)	Limitations on access to survey due to woodland being on a steep embankment adjacent to a busy road.	**Survey reference (if relating to a wider survey)**	
Grid reference		**Habitat parcel reference**	W1

Condition Assessment Criteria

	Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator	Notes (such as justification)
A	**Age distribution of trees**	Three age-classes[1] present.	Two age-classes[1] present.	One age-class[1] present.	2	
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	
C	**Invasive plant species**	No invasive species[3] present in woodland.	Rhododendron *Rhododendron ponticum* or cherry laurel *Prunus laurocerasus* not present, and other invasive species[3] <10% cover.	Rhododendron or cherry laurel present, or other invasive species[3] ≥10% cover.	3	
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.	2	

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].	3	
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].	3	
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].	2	
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	
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.	1	
J	**Woodland vertical structure**	Three or more storeys across all survey plots, or a complex woodland[11].	Two storeys across all survey plots[11].	One or less storey across all survey plots[11].	2	
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	
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].	1	
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].	3	
				Total Score (out of a possible 39)	29	

Condition Assessment Result	Condition Assessment Score	Result Achieved
Total score >32 (33 to 39)	Good (3)	Moderate
Total score 26 to 32	Moderate (2)	
Total score <26 (13 to 25)	Poor (1)	

Suggested enhancement interventions to improve condition score

Condition sheet: HEDGEROW Habitat Types

Habitat Type

Native hedgerow
Native hedgerow - associated with bank or ditch
Native hedgerow with trees
Native hedgerow with trees - associated with bank or ditch
Species-rich native hedgerow
Species-rich native hedgerow - associated with bank or ditch
Species-rich native hedgerow with trees
Species-rich native hedgerow with trees - associated with bank or ditch

Habitat Description

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Singleton Birch - on-site	**Survey date and Surveyor name**	September 2025 - Beth Mell
Limitations (if applicable)	Safe access to H1 was not possible due to it being adjacent to a road with no verge.	**Survey reference (if relating to a wider survey)**	

Condition Assessment Details

A series of ten attributes, representing key physical characteristics are used for this assessment. Each attribute is assigned to one of five functional groups (A – E) and the condition of a hedgerow is assessed according to the number of attributes from these functional groups which pass or fail the 'favourable condition' criteria.

This assessment is based on the Hedgerow Survey Handbook[1] and Favourable Conservation Status document[2]. For further clarification please refer to the Hedgerow Survey Handbook.

Best practice would be to record the species, age, spacing and other key information about all trees present along a hedgerow within the 'Habitat Description' box, as well as other key features of the hedgerow.

Hedgerow favourable condition attributes

Attributes and functional groupings (A, B, C, D and E)		**Criteria - the minimum requirements for 'favourable condition'**	**Criteria description**	**Habitat parcel reference**										
				H1	H2									
				Grid reference										
Core groups - applicable to all hedgerow types				**Criterion passed (Yes or No)**										**Notes (such as justification)**
A1.	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is >1.5 m height).	No	Yes									
A2.	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (such as blackthorn *Prunus spinosa* suckers) are only included in the width estimate when they are >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).	No	Yes									
B1.	Gap - hedge base	Gap between ground and base of canopy <0.5 m for >90% of length	This is the vertical 'gappiness' of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	Yes	Yes									

B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall 'gappiness' but are not subject to the >5 m criterion (as this is the typical size of a gate).	No	Yes									
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow. Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow. This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	No	No									
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles *Urtica* spp., cleavers *Galium aparine* and docks *Rumex* spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	No	No									
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website[4], as well as the BSBI website[5] where the 'Online Atlas of the British and Irish Flora'[6] contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website[7].	Yes	No									Elm species within hedgerow H1 unidentified due to lack of safe access.
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (for example, excessive hedgerow cutting).	Yes	Yes									
Additional group - applicable to hedgerows with trees only														
E1.	Tree class	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient[8]), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	This criterion addresses if there are a range of age-classes or morphologies which allow for replacement of trees and provide opportunities for different species.											
E2.	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.											

The hedgerow condition assessment generates a weighting (score) ranging from 1 - 3, which is used within the Statutory Biodiversity Metric. The scores for each are set out in the tables below.

Condition categories for hedgerows without trees

Category	Category Requirements	Metric Score
Good	No more than 2 failures in total; **AND** No more than 1 failure in any functional group.	3

Moderate	No more than 4 failures in total; **AND** Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and C2 = Moderate condition).	2
Poor	Fails a total of more than 4 attributes; **OR** Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1
	Score achieved:	H1-P, H2-M

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)													
UK Habitat Classification (UKHab) Habitat Type													
Grassland - Modified grassland													
Habitat Description													
ukhab – UK Habitat Classification													
On-site or off-site, site name and location	Singleton Birch - on-site	**Survey date and Surveyor name**	August 2025 - Martin Brammah (MG1) September 2025 - Beth Mell (MG2)										
		Survey reference (if relating to a wider survey)											
Limitations (if applicable)		**Habitat parcel reference**											
		MG1	MG2										
		Grid reference											

	Condition Assessment Criteria	**Criterion passed (Yes or No)**										**Notes (such as justification)**
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.** Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m^2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	No	Yes									
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	No	Yes									
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Yes	No									
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Yes	No									
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	Yes	Yes									
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Yes	Yes									
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Yes	Yes									
	Essential criterion achieved (Yes or No)	No	Yes									
	Number of criteria passed	5	5									

Condition Assessment Result (out of 7 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**									
Passes 6 or 7 criteria including passing essential criterion A	Good (3)										
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)		Moderate								
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)	Poor									

Suggested enhancement interventions to improve condition score

Footnotes

Footnote 1 – Creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* .

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover.

Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

Footnote 4 – Wildlife and Countryside Act 1981 (as amended).

Condition Sheet: URBAN Habitat Type

Habitat Types

Sparsely vegetated land - Ruderal/Ephemeral
Sparsely vegetated land - Tall forbs
Urban - Allotments
Urban - Biodiverse green roof
Urban - Bioswale
Urban - Cemeteries and churchyards
Urban - Facade-bound green wall
Urban - Ground based green wall
Urban - Intensive green roof
Urban - Open mosaic habitats on previously developed land
Urban - Rain garden
Urban - Sustainable drainage system (SuDS)
Urban - Vacant or derelict land
Urban - Bare ground

Habitat Description

See the Statutory Biodiversity Metric User Guide for green roofs, and UK Habitat Classification (UKHab) for other habitats:			ukhab – UK Habitat Classification									
On-site or off-site, site name and location	Singleton Birch - on-site	**Survey date and Surveyor name**	July 2025 Beth Mell (u1f 10, u1f 16) August 2025 Martin Brammah (u1 838 16)									
		Survey reference (if relating to a wider survey)										
Limitations (if applicable)	Limitations on assessment of u1f 10 due to chalky residue on habitat adjacent to operational lime kilns.	**Habitat parcel reference**										
		u1 838 16	u1f 16	u1f 10								
		Grid reference										
Condition Assessment Criteria												
		Criterion passed (Yes or No)										**Notes (such as justification)**
Core Criteria - must be assessed for **all urban habitat types**:												
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	Fail	Fail	Pass								
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Pass	Fail	Fail								
C	Invasive non-native plant species (listed on Schedule 9 of WCA[1]) and others which are to the detriment of native wildlife (using professional judgement)[2] cover less than 5% of the total vegetated area[3]. **Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).**	Pass	Pass	Fail								
Additional Criterion - must be assessed for **Open mosaic habitat on previously developed land** only:												
D	The parcel shows spatial variation and forms a mosaic of bare substrate PLUS: - At least four early successional communities (a) to (i); Communities: (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland; (h) heathland, (i) pools.											
Additional Criteria - must be assessed for **Bioswale and SuDS** habitat types only:												
E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife[4].											
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.											
Additional Criterion - must be assessed for **Intensive green roofs** only:												
F	The roof has a minimum of 50% native and non-native wildflowers. 70% of the roof area is soil and vegetation (including water features).											
Additional Criterion - must be assessed for **Biodiverse green roofs** only:												

G	The roof has a varied depth of 80 – 150 mm; at least 50% is at 150 mm and is planted and seeded with wildflowers and sedums or is pre-prepared with sedums and wildflowers. **Note – to achieve Good condition, some additional habitat, such as sand piles, stones, logs etc. are present.**												
Essential criteria relevant for habitat type achieved (Yes or No)		Yes	Yes	No									
Number of criteria passed		2	1	1									
Condition Assessment Result	**Condition Assessment Score**	**Score Achieved ×/✓**											
Results for habitats requiring assessment of **3 core criteria** only **(all listed urban habitats except Open mosaic habitat on previously developed land, Bioswale, SuDS and Green roofs)**:													
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C.	Good (3)												
• Passes 2 of 3 core criteria; OR • Passes 3 of 3 core criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)	Moderate											
• Passes 0 or 1 of 3 core criteria.	Poor (1)		Poor	Poor									
Results for **Green roofs** and **Open mosaic habitat on previously developed land** (requiring assessment of **4 criteria** only - core criteria plus additional criterion specified for habitat type):													
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C; AND • Passes additional criterion relevant to specific habitat type (D, F or G).	Good (3)												
• Passes 2 or 3 of 4 criteria; OR • Passes 4 of 4 criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)												
• Passes 0 or 1 of 4 criteria.	Poor (1)												
Results for **Bioswale or SuDS** (requiring assessment of **5 criteria** - core criteria plus additional criteria specified for habitat type):													
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C; AND • Passes all additional criteria relevant to specific habitat type (Group E)	Good (3)												
• Passes 3 or 4 of 5 criteria; OR • Passes 5 of 5 criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)												
• Passes 2 or fewer of 5 criteria.	Poor (1)												
Suggested enhancement interventions to improve condition score													
Footnotes													

Condition Sheet: INDIVIDUAL TREES Habitat Type

Habitat Types

Individual trees – Urban trees
Individual trees – Rural trees
Complete a condition sheet for each tree or block of trees.

Please see the separate Line of trees condition sheet for a line of rural trees. You should only use the Line of trees condition assessment and record that habitat type in rural locations.

Habitat Description

Individual trees (description applied to the urban or rural environment):
Young trees over 7.5 cm in diameter at breast height whose canopies are not touching.

Urban Perimeter / Linear Blocks and Groups (description applied to the urban environment only):
Groups or stands of trees (size requirement as defined above) within and around the perimeter of urban land. This includes those along urban streets, highways, railways and canals, and also former field boundary trees incorporated into developments. Canopies should predominantly overlap continuously. Groups of urban trees that don't match the descriptions for woodland may be assessed within this category.

On-site or off-site, site name and location	Singleton Birch - on-site	**Survey date and Surveyor name**	September 2025 - Beth Mell
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference	TA 08887 11124	**Habitat parcel reference**	RT1

	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).	No	Sycamore
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).	Yes	
C	The tree is mature (or more than 50% within the block are mature)[1].	No	
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.	Yes	
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	Yes	
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Yes	
	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)	Moderate
Passes 2 or fewer criteria	Poor (1)	
Note that 'Fairly Good and Fairly Poor' condition categories are not available for this broad habitat type.		

Post-construction Habitats

Reg. Office Address:
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Condition Sheet: WOODLAND Habitat Type

UK Habitat Classification (UKHab) Habitat Types

Woodland and forest - Lowland beech and yew woodland
Woodland and forest - Lowland mixed deciduous woodland
Woodland and forest - Native pine woodlands
Woodland and forest - Other coniferous woodland
Woodland and forest - Other Scot's pine woodland
Woodland and forest - Other woodland; broadleaved
Woodland and forest - Other woodland; mixed
Woodland and forest - Upland birchwoods
Woodland and forest - Upland mixed ashwoods
Woodland and forest - Upland oakwood
Woodland and forest - Wet woodland

Habitat Description

ukhab – UK Habitat Classification

This condition sheet is based on the England Woodland Biodiversity Group (EWBG) Woodland Condition Survey Method, available here:

Woodland Wildlife Toolkit (sylva.org.uk)

IMPORTANT: This biodiversity metric woodland condition assessment must be used to assess woodland being input into the biodiversity metric. The outputs of this condition assessment are not equivalent to, nor are they comparable with the scores from the EWBG condition assessment, because the EWBG assessment has been adapted for the biodiversity metric, including the removal of EWBG Indicator 7 (Proportion of favourable land cover around woodland) and Indicator 14 (Size of woodland), and minor changes to other indicators.

On-site or off-site, site name and location	Singleton Birch - on-site post-construction proposed habitat	**Survey date and Surveyor name**	N/A
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference		**Habitat parcel reference**	

Condition Assessment Criteria

	Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator	Notes (such as justification)
A	**Age distribution of trees**	Three age-classes[1] present.	Two age-classes[1] present.	One age-class[1] present.	1	
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	
C	**Invasive plant species**	No invasive species[3] present in woodland.	Rhododendron *Rhododendron ponticum* or cherry laurel *Prunus laurocerasus* not present, and other invasive species[3] <10% cover.	Rhododendron or cherry laurel present, or other invasive species[3] ≥10% cover.	3	
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	

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].	3	
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].	3	
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].	1	
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	
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.	1	
J	**Woodland vertical structure**	Three or more storeys across all survey plots, or a complex woodland[11].	Two storeys across all survey plots[11].	One or less storey across all survey plots[11].	1	
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	
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].	1	
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].	3	
				Total Score (out of a possible 39)	27	

Condition Assessment Result	Condition Assessment Score	Result Achieved
Total score >32 (33 to 39)	Good (3)	Moderate
Total score 26 to 32	Moderate (2)	
Total score <26 (13 to 25)	Poor (1)	

Suggested enhancement interventions to improve condition score

Condition sheet: HEDGEROW Habitat Types

Habitat Type

Native hedgerow
Native hedgerow - associated with bank or ditch
Native hedgerow with trees
Native hedgerow with trees - associated with bank or ditch
Species-rich native hedgerow
Species-rich native hedgerow - associated with bank or ditch
Species-rich native hedgerow with trees
Species-rich native hedgerow with trees - associated with bank or ditch

Habitat Description

ukhab – UK Habitat Classification

On-site or off-site, site name and location	Singleton Birch - on-site proposed habitats	**Survey date and Surveyor name**	N/A
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference		**Habitat parcel reference**	

Condition Assessment Details

A series of ten attributes, representing key physical characteristics are used for this assessment. Each attribute is assigned to one of five functional groups (A – E) and the condition of a hedgerow is assessed according to the number of attributes from these functional groups which pass or fail the 'favourable condition' criteria.

This assessment is based on the Hedgerow Survey Handbook[1] and Favourable Conservation Status document[2]. For further clarification please refer to the Hedgerow Survey Handbook.

Best practice would be to record the species, age, spacing and other key information about all trees present along a hedgerow within the 'Habitat Description' box, as well as other key features of the hedgerow.

Hedgerow favourable condition attributes

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

C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: · Measured from outer edge of hedgerow; and · Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow. Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow. This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	Yes	
C2.	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles *Urtica* spp., cleavers *Galium aparine* and docks *Rumex* spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	Yes	
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA[3]) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website[4], as well as the BSBI website[5] where the 'Online Atlas of the British and Irish Flora'[6] contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website[7].	Yes	
D2.	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (for example, excessive hedgerow cutting).	Yes	
Additional group - applicable to hedgerows with trees only					
E1.	Tree class	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient[8]), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	This criterion addresses if there are a range of age-classes or morphologies which allow for replacement of trees and provide opportunities for different species.		
E2.	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.		

The hedgerow condition assessment generates a weighting (score) ranging from 1 - 3, which is used within the Statutory Biodiversity Metric. The scores for each are set out in the tables below.

Condition categories for hedgerows without trees		
Category	**Category Requirements**	**Metric Score**
Good	No more than 2 failures in total; **AND** No more than 1 failure in any functional group.	3
Moderate	No more than 4 failures in total; **AND** Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and C2 = Moderate condition).	2
Poor	Fails a total of more than 4 attributes; **OR** Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1
	Score achieved:	Good

Condition categories for hedgerows with trees		
Category	**Category Requirements**	**Metric score**
Good	No more than 2 failures in total; **AND** No more than 1 failure in any functional group.	3
Moderate	No more than 5 failures in total; **AND** Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1, C2 and E1 = Moderate condition).	2
Poor	Fails a total of more than 5 attributes; **OR** Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1
	Score achieved:	

Suggested enhancement interventions to improve condition score

Condition Sheet: INDIVIDUAL TREES Habitat Type

Habitat Types

Individual trees – Urban trees
Individual trees – Rural trees
Complete a condition sheet for each tree or block of trees.

Please see the separate Line of trees condition sheet for a line of rural trees. You should only use the Line of trees condition assessment and record that habitat type in rural locations.

Habitat Description

Individual trees (description applied to the urban or rural environment):
Young trees over 7.5 cm in diameter at breast height whose canopies are not touching.

Urban Perimeter / Linear Blocks and Groups (description applied to the urban environment only):
Groups or stands of trees (size requirement as defined above) within and around the perimeter of urban land. This includes those along urban streets, highways, railways and canals, and also former field boundary trees incorporated into developments. Canopies should predominantly overlap continuously. Groups of urban trees that don't match the descriptions for woodland may be assessed within this category.

On-site or off-site, site name and location	Singleton Birch - on-site proposed habitats	**Survey date and Surveyor name**	N/A
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference		**Habitat parcel reference**	

	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).	Yes	
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).	No	
C	The tree is mature (or more than 50% within the block are mature)[1].	No	
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.	Yes	
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	No	
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Yes	
	Number of criteria passed	3	

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)	Moderate
Passes 2 or fewer criteria	Poor (1)	
Note that 'Fairly Good and Fairly Poor' condition categories are not available for this broad habitat type.		

Suggested enhancement interventions to improve condition score[2]

Condition Sheet: URBAN Habitat Type			
Habitat Types			
Sparsely vegetated land - Ruderal/Ephemeral **Sparsely vegetated land - Tall forbs** **Urban - Allotments** **Urban - Biodiverse green roof** **Urban - Bioswale** **Urban - Cemeteries and churchyards** **Urban - Facade-bound green wall** **Urban - Ground based green wall** **Urban - Intensive green roof** **Urban - Open mosaic habitats on previously developed land** **Urban - Rain garden** **Urban - Sustainable drainage system (SuDS)** **Urban - Vacant or derelict land** **Urban - Bare ground**			
Habitat Description			
See the Statutory Biodiversity Metric User Guide for green roofs and UK Habitat Classification (UKHab) for other habitats:			UKHab – UK Habitat Classification
On-site or off-site, site name and location	Singleton Birch - on-site proposed open mosaic on previously developed land	**Survey date and Surveyor name**	N/A
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference		**Habitat parcel reference**	

	Condition Assessment Criteria	**Criterion passed (Yes or No)**	**Notes (such as justification)**
Core Criteria - must be assessed for **all urban habitat types**:			
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	Yes	
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Yes	
C	Invasive non-native plant species (listed on Schedule 9 of WCA[1]) and others which are to the detriment of native wildlife (using professional judgement)[2] cover less than 5% of the total vegetated area[3]. **Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).**	Yes	
Additional Criterion - must be assessed for **Open mosaic habitat on previously developed land** only:			
D	The parcel shows spatial variation and forms a mosaic of bare substrate PLUS: - At least four early successional communities (a) to (i); Communities: (a) annuals; (b) mosses/liverworts; (c) lichens; (d) ruderals; (e) inundation species; (f) open grassland; (g) flower-rich grassland; (h) heathland, (i) pools.	Yes	
Additional Criteria - must be assessed for **Bioswale and SuDS** habitat types only:			
E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife[4].		
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.		

Additional Criterion - must be assessed for **Intensive green roofs** only:			
F	The roof has a minimum of 50% native and non-native wildflowers. 70% of the roof area is soil and vegetation (including water features).		
Additional Criterion - must be assessed for **Biodiverse green roofs** only:			
G	The roof has a varied depth of 80 – 150 mm; at least 50% is at 150 mm and is planted and seeded with wildflowers and sedums or is pre-prepared with sedums and wildflowers. **Note – to achieve Good condition some additional habitat, such as sand piles, stones, logs etc. are present.**		
		Essential criteria relevant for habitat type achieved (Yes or No)	
		Number of criteria passed	

Condition Assessment Result	**Condition Assessment Score**	**Score Achieved ×/✓**
Results for habitats requiring assessment of **3 core criteria** only **(all listed urban habitats except Open mosaic habitat on previously developed land, Bioswale, SuDS and Green roofs)**:		
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C.	Good (3)	
• Passes 2 of 3 core criteria; OR • Passes 3 of 3 core criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)	
• Passes 0 or 1 of 3 core criteria.	Poor (1)	
Results for **Green roofs** and **Open mosaic habitat on previously developed land** (requiring assessment of **4 criteria** only - core criteria plus additional criterion specified for habitat type):		
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C; AND • Passes additional criterion relevant to specific habitat type (D, F or G).	Good (3)	Yes - good.
• Passes 2 or 3 of 4 criteria; OR • Passes 4 of 4 criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)	
• Passes 0 or 1 of 4 criteria.	Poor (1)	
Results for **Bioswale or SuDS** (requiring assessment of **5 criteria** - core criteria plus additional criteria specified for habitat type):		
• Passes all 3 core criteria; AND • Meets the requirements for Good condition within criterion C; AND • Passes all additional criteria relevant to specific habitat type (Group E)	Good (3)	
• Passes 3 or 4 of 5 criteria; OR • Passes 5 of 5 criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)	
• Passes 2 or fewer of 5 criteria.	Poor (1)	

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)			
UK Habitat Classification (UKHab) Habitat Type			
Grassland - Modified grassland			
On-site or off-site, site name and location	Singleton Birch - on-site proposed habitats	**Survey date and Surveyor name**	N/A
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference		**Habitat parcel reference**	
Habitat Description			
ukhab – UK Habitat Classification			

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.** Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m^2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	No	
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	No	
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Yes	
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	No	
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	Yes	
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Yes	
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Yes	
		Essential criterion achieved (Yes or No)	No
		Number of criteria passed	4

Condition Assessment Result (out of 7 criteria)	Condition Assessment Score	Score Achieved ×/✓	

Passes 6 or 7 criteria including passing essential criterion A	Good (3)		
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)		
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)	Poor	

Appendix B – Landscape Plans

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+44 113 262 0000

Reg. No.: 2888385
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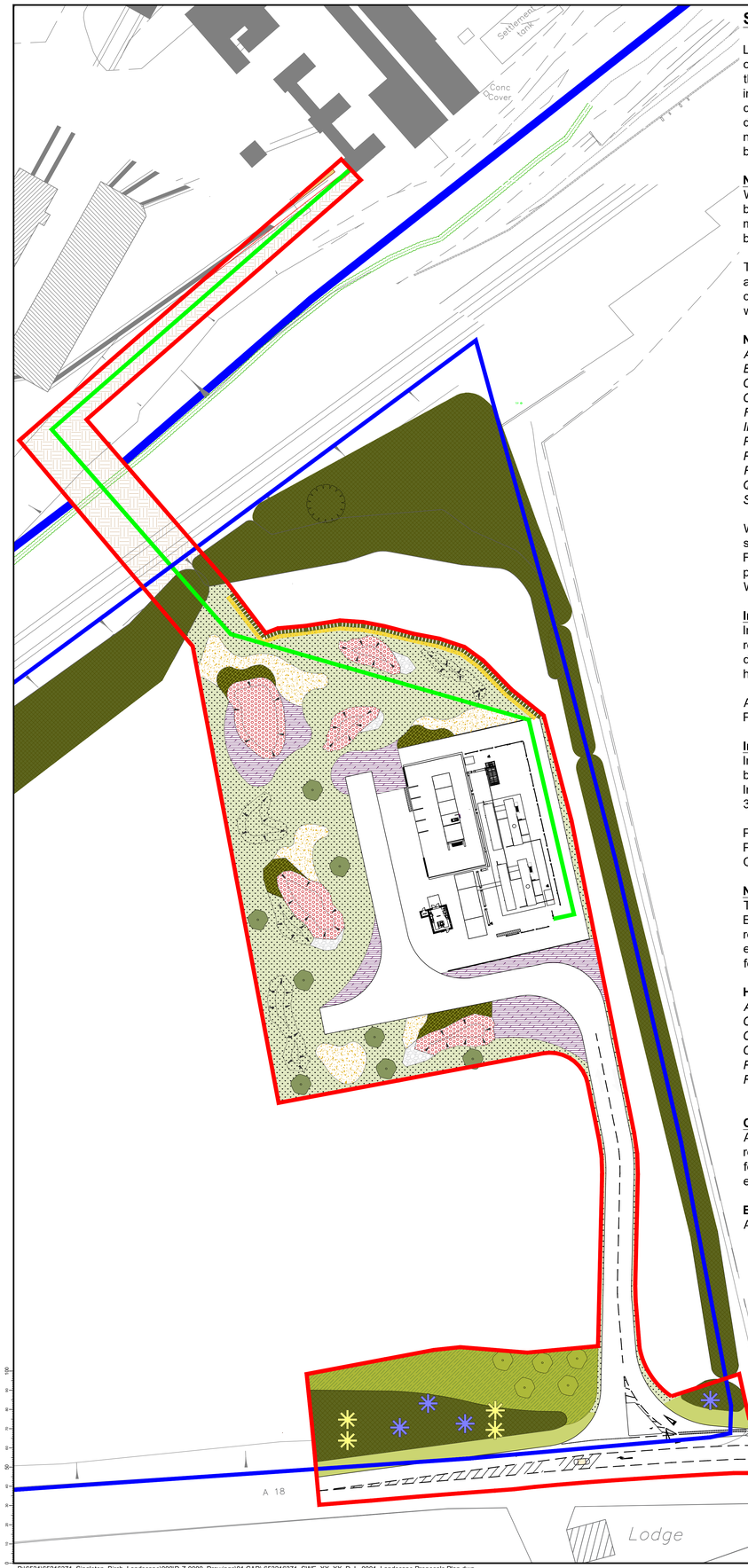

SOFT LANDSCAPE PROPOSALS

Landscaping on site has been designed to create a woodland strip and an open mosaic habitat. Open mosaic habitat has been designed through: the provision of a variety of substrates with differing levels of fertility; the inclusion of varied landforms and areas of depressions with varying compaction of soil; and the provision of surface features such as deadwood and stone. The planting includes native species with abundant nectar sources chosen to extend the flowering season. Bat and bird boxes have been provided.

Native Woodland
Woodland planting is proposed to mitigate vegetation loss along the boundary with the A18, provide screening of the development and to meet Biodiversity Net Gain requirements. The proposed mix includes berry-bearing species to provide a food source for birds.

The woodland mix is to comprise 1+1, bare root transplants. Tree species are to be planted at 2m centres. Shrub species are to be planted at 1m centres around the edge of the woodland block to create a graded woodland edge. The following species are suggested:

Native Woodland Mix :

Acer campestre	Field maple	5%
Betula pendula	Birch	10%
Corylus avellana	Hazel	10%
Crataegus monogyna	Hawthorn	5%
Fagus sylvatica	Beech	10%
Ilex aquifolium	Holly	5%
Pinus sylvestris	Scots Pine	5%
Prunus avium	Wild cherry	10%
Rubus fruticosus	Bramble	5%
Quercus robur	Common oak	30%
Sorbus aucuparia	Rowan	5%

Woodland areas to be seeded with a low maintenance grass seed mix such as Emorsgate: EG1 General Purpose Meadow Grass Mixture. Following the closure of the woodland canopy (nominally 10 years after planting), a woodland wildflower seed mixture such as Emorsgate EW1F Wildflowers for woodland or similar approved is to be sown at 1.5g/m2.

Individual Trees in Grassland
Individual trees are proposed in grassland to meet Biodiversity Net Gain requirements and provide additional screening/filtering of the development. Individual trees are to be 10-12cm girth standard form at a height of 3-3.5m. The following species are suggested:

Acer campestre	Field maple
Prunus avium	Wild cherry

Individual Trees in Woodland
Individual trees are proposed in woodland to supplement the existing tree belt at its narrowest point by providing a degree of instant impact. Individual trees are to be 10-12cm girth standard form at a height of 3-3.5m. The following species are suggested:

Prunus avium	Wild cherry
Pinus sylvestris	Scots Pine
Quercus robur	Common oak

Native Hedgerow Planting
The hedgerow is proposed to mitigate vegetation loss and meet Biodiversity Net Gain requirements.The hedgerow mix is to be 1+1, bare root transplants planted in double staggered rows at 0.3m centres to ensure at least 5 different species are present every 30m in length. The following species are suggested:

Hedgerow Mix :

Acer campestre	Field maple	10%
Cornus sanguinea	Dogwood	5%
Corylus avellana	Hazel	30%
Crataegus monogyna	Hawthorn	35%
Prunus spinosa	Blackthorn	15%
Rosa canina	Dog rose	5%

Open Mosaic Habitat
An area of open mosaic habitat is proposed to meet Biodiversity Net Gain requirements. The open mosaic habitat targets the provision of the following four habitats plus areas of bare ground to be present within every 0.25 Hectares of the site.

Bare Ground
Areas of bare ground are proposed to provide a mosaic.

Annuals
A seed mix containing a mixture of annual, biannual and perennial species suitable for brownfield sites is to be sown into low fertility subsoil. This will be managed to favour the growth of the annual species within the mix. It is also anticipated that annuals from the surrounding area will colonise the site based on the provision of low fertility subsoil and appropriate management techniques. The following seed mix containing species suited to a range of soil types including chalk is proposed :

Phoenix Amenity: BFS 14 – Brownfield Site Wildflower Mix (Open Mosaic Habitat on Previously Developed Land) – 80% Flora or similar approved sown at a rate of 3g/m^2 into low fertility subsoil including the following species:

Flowering plants

Centaurea cyanus - Cornflower, *Centaurium erythraea Common centaury, Centaurea nigra - Black Knapweed, Daucus carota* - Wild carrot, *Echium vulgare* - Viper's bugloss, *Hieracium pilosella* - Mouse-ear hawkweed, *Hypericum perforatum* - Common St John's Wort, *Hypochaeris radicata* - Common cat's-ear, *Leucanthemum vulgare* - Oxeye Daisy, *Linaria vulgaris* - Common toadflax, *Lotus corniculatus* - Common bird's-foot trefoil, *Maticaria recutitia* - Scented mayweed, *Medicago lupulina* - Black medick, *Reseda luteola* - Weld, *Rumex acetosella* - Sheep's sorrel, *Silene alba* - White campion, *Silene vulgaris* - Bladder campion, *Trifolium arvense* - Hare's-foot clover, *Trifolium pratense* - Red clover, *Vicia cracca* - Tufted vetch

Grasses

Festuca ovina – Sheep's fescue, *Festuca rubra ssp. rubra* – Red fescue

Ruderals

A seed mix containing a mixture of annual, biannual and perennial species suitable for brownfield sites is to be sown into mounds of 50% subsoil 50% topsoil mix. This will be managed to favour the growth of the ruderal species within the mix. It is also anticipated that ruderals from the surrounding area will colonise the site based on the provision of appropriate management techniques. The following seed mix containing species suited to a range of soil types including chalk is proposed :

Phoenix Amenity: BFS 14 – Brownfield Site Wildflower Mix (Open Mosaic Habitat on Previously Developed Land) – 80% Flora or similar approved sown at a rate of 3g/m^2 into low fertility subsoil including the following species:

Flowering plants

Centaurea cyanus - Cornflower, *Centaurium erythraea Common centaury, Centaurea nigra - Black Knapweed, Daucus carota* - Wild carrot, *Echium vulgare* - Viper's bugloss, *Hieracium pilosella* - Mouse-ear hawkweed, *Hypericum perforatum* - Common St John's Wort, *Hypochaeris radicata* - Common cat's-ear, *Leucanthemum vulgare* - Oxeye Daisy, *Linaria vulgaris* - Common toadflax, *Lotus corniculatus* - Common bird's-foot trefoil, *Maticaria recutitia* - Scented mayweed, *Medicago lupulina* - Black medick, *Reseda luteola* - Weld, *Rumex acetosella* - Sheep's sorrel, *Silene alba* - White campion, *Silene vulgaris* - Bladder campion, *Trifolium arvense* - Hare's-foot clover, *Trifolium pratense* - Red clover, *Vicia cracca* - Tufted vetch

Grasses

Festuca ovina – Sheep's fescue, *Festuca rubra ssp. rubra* – Red fescue

Mosses, Lichens and Liverworts

Areas within the site are designed to encourage colonisation by moss, lichen and liverwort species. These areas are located in positions where some natural shade would be present. They comprise bare stony ground created by site won material or crushed building rubble/ concrete with site won log piles and larger stones arranged to create shade. Through the provision of suitable conditions and appropriate management techniques it is anticipated that these species will naturally colonise the site.

Flower rich grassland

A low maintenance species rich grass and wildflower seed mix is proposed. The following seed mix suited to a range of soil types including chalk is proposed :

Emorsgate: Bespoke EM3 Special General Purpose Meadow Mix with additional calcareous species or similar approved sown at a rate of 4g/m^2 into low fertility subsoil including the following species:

Flowering plants

Achillea millefolium - Yarrow*; Anthyllis vulneraria* - Kidney Vetch*; Betonica officinalis (Stachys officinalis)* - Betony*; Centaurea nigra*- Common Knapweed*; Centaurea scabiosa* - Greater Knapweed**;** *Daucus carota* - Wild Carrot*; Echium vulgare* - Viper's Bugloss*; Filipendula ulmaria* - Meadowsweet*; Galium album* - Hedge Bedstraw*; Galium verum* - Lady's Bedstraw*; Geranium pratense* - Meadow Crane's-bill*; Leucanthemum vulgare - Oxeye Daisy; Linum catharticum* - Fairy Flax**;** *Malva moschata* - Musk Mallow*; Medicago lupulina* - Black Medick*; Pastinaca sativa* - Wild Parsnip*; Plantago lanceolata* - Ribwort Plantain*; Plantago media - Hoary Plantain; Poterium sanguisorba (Sanguisorba minor)* - Salad Burnet*; Primula veris* - Cowslip*; Prunella vulgaris* - Selfheal*; Ranunculus acris* - Meadow Buttercup*; Ranunculus bulbosus* - Bulbous Buttercup*; Rhinanthus minor* - Yellow Rattle*; Rumex acetosa* - Common Sorrel*; Scabiosa columbaria* - Small Scabious*; Silene dioica* - Red Campion*; Silene vulgaris* - Bladder Campion*; Taraxacum officinale* - Dandelion*; Vicia cracca* - Tufted Vetch

Grasses

Agrostis capillaris - Common Bent, *Cynosurus cristatus*- Crested Dogstail, *Festuca rubra* - Slender-creeping Red Fescue, *Phleum bertolonii* - Smaller Cat's-tail, *Poa pratensis* - Smooth-stalked Meadow-grass, *Briza media*- Quaking Grass

Roadside Grassland Verge

A low maintenance grass seed mix tolerant of shade is proposed for areas of roadside verge. The following shade tolerant seed mix is proposed :

Cotswold Grass Seeds Low Maintenance Without Ryegrass or similar approved sown at 70gm/2 into topsoil, in line with manufacturer recommendations including the following species:

Festuca ovina - Sheeps Fescue, *Festuca rubra subsp. commutata* -Red Fescue/Chewings Fescue, *Agrostis capillaris* - Bentgrass

SOFT LANDSCAPE MAINTENANCE

Management and maintenance activities to ensure the successful establishment of the planting and open mosaic habitats shall take place for a period of thirty years following the completion of the scheme, and in line with BNG requirements. The following sample operations provide a broad indication of typical maintenance tasks to be carried out per year within the first five years. The following operations are subject to further detail within the Habitat Maintenance and Management Plan to be produced post-planning .

SAMPLE OPERATION PER YEAR:

Woodland and Hedgerow

- Four visits per annum to remove debris or other material from planted areas or grassed areas
- Four visits per annum between April and September to maintain weed free areas to the bases of all trees and shrubs. Weed free areas should extend to 1m around the base of trees. Mowing and strimming activities within the site must avoid these 1m weed free areas.
- One visits per annum, in September to undertake grassland cuts within woodland. Leave the arisings to dry for 1-7 days then remove from site.
- Two visits per annum to refirm trees, shrubs and shelter tubes , particularly after winter gales.
- One visit per annum to inspect stakes, ties, rabbit guards, shelters,refirm, replace and remove as planting becomes established.
- One visit per annum to remove diseased branches. Arisings chipped and spread over planting areas. Diseased wood to be removed from site.
- One visit (nominally year 4 only) to thin woodland planting. Arisings retained on site as deadwood piles.
- One visit per annum to prune hedgerow (nominally year 5 onwards). Hedgerow is to be managed to achieve a minimum height and spread of 1.5m. Arisings retained on site as deadwood piles. A 1m strip of undisturbed grassland is to be retained alongside the hedgerow.

Open Mosaic Habitat

During the first growing season, monthly monitoring visits shall be carried out. This will reduce to annual monitoring visits in the following years. Management activities shall be responsive to monitoring. Below is a broad indication of management activities for each habitat within the open mosaic.

Bareground

- Nominally three visits per annum between March and November to maintain areas of bare ground through cutting back self set vegetation and removal of invasive species if present.

Annuals

- Nominally three visits per annum between March and November to undertake removal of invasive species if present.
- One visit per annum in September to cut back vegetation after flowers have finished and seeds have dropped. Arisings to be removed from site and soil to be scarified to create areas of bare ground to promote re-establishment from self-sown seeds.
- One visit in early spring to cultivate soil in order to trigger germination.

Ruderals

- Nominally three visits per annum between March and November to undertake removal of invasive species if present with minimal soil disturbance.
- Following the establishment of ruderals (time based on monitoring nominally year 5), one visit per annum in September to cut back areas of ruderals on rotation to provide a varied structure and prevent succession into scrub.

Mosses, Lichens and Liverworts

- Nominally three visits per annum between March and November to maintain areas of ground suitable for natural colonisation through cutting back self set vegetation and removal of invasive species if present. Log piles and rock structures to be monitored to ensure the provision of areas of shade.

Flower Rich Grassland

- Nominally three visits per annum between March and November to undertake removal of invasive species if present.
- Cut sward in September following flowering and remove arisings from site. Stagger cuts and leave 10% of area unmown each year to provide winter refuge for insects and wildlife.

Note Mowing activity and hedgerow cutting must avoid the bird nesting season between March and August inclusive.

NOTES

1. DO NOT SCALE FROM THIS DRAWING MANUALLY OR ELECTRONICALLY.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT PROJECT INFORMATION.
3. ALL DATUM LEVELS ARE IN METRES AND DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
4. UNDER NO CIRCUMSTANCES SHALL THIS DRAWING BE USED FOR CONSTRUCTION PURPOSES.
5. WORKS THAT AFFECT TREES SHOULD REFER TO GUIDANCE WITHIN BS 5837:2012 TREES IN RELATION TO DESIGN, DEMOLITION AND CONSTRUCTION -RECOMMENDATIONS.
6. TREES RETAINED TAKEN FROM HAYDEN'S ARBORICULTURAL CONSULTANTS DRAWING CONSTRAINTS PLAN 11438-D-CP.

LEGEND

- PLANNING APPLICATION AREA
- LAND OWNERSHIP BOUNDARY
- PROPOSED CABLE ROUTE

EXISTING AND RETAINED SOFT LANDSCAPE

- WOODLAND
- TREES
- AREA RETAINED AS EXISTING

PROPOSED SOFT LANDSCAPE

- WOODLAND
- INDIVIDUAL TREE IN WOODLAND
- INDIVIDUAL TREE IN GRASSLAND
- HEDGEROW
- 1M STRIP OF UNMANAGED GRASSLAND
- ROADSIDE GRASSLAND VERGE
- FLOWER RICH GRASSLAND SOWN INTO LOW FERTILITY SUBSOIL
- AREA SOWN WITH BROWNFIELD SITE WILDFLOWER MIX INTO 50/50 TOPSOIL SUBSOIL MIX TO BE MANAGED AS RUDERALS
- AREA SOWN WITH BROWNFIELD SITE WILDFLOWER MIX INTO LOW FERTILITY SUBSOIL TO BE MANAGED AS ANNUALS
- ROCKY GROUND COMPRISING SITE WON MATERIAL OR CRUSHED BUILDING RUBBLE WITH SITE WON DEAD WOOD PILES AND LARGER STONES MANAGED TO SUPPORT NATURAL COLONISATION OF MOSS/ LIVERWORT AND LICHEN SPECIES
- ROCKY MOUND COMPRISING EITHER SITE WON MATERIAL OR CRUSHED CONCRETE / BUILDING RUBBLE TO PROVIDE A VARIETY OF SUBSTRATE AND TO BE MANAGED TO SUPPORT NATURAL COLONISATION
- AREA TO BE MANAGED AS BARE GROUND
- INDICATIVE AREA OF SHALLOW SCRAPED BACK HOLLOW TO BE NO GREATER THAN 0.5M DEEP TO PROVIDE VARIED MICROCLIMATES
- INDICATIVE AREA OF MOUNDING TO BE NO GREATER THAN 1M HIGH TO PROVIDE VARIED MICROCLIMATES

PROPOSED HABITAT FEATURES

- BIRD BOX
- BAT BOX

Rev	Date	Amendment Details	Dr'n	Chk'	App'
P02	27.01.2026	HABITAT REVISED. ISSUE FOR PLANNING	ED	BM	AR
P01	12.09.2025	ISSUE FOR PLANNING	ED	JR	CS

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SWECO

Client
CENTRICA ENERGY STORAGE +

Project Title
SINGLETON BIRCH

Drawing Title
LANDSCAPE AND ECOLOGICAL PROPOSALS PLAN

Purpose Of Issue: FINAL

Status	Status Description			
A0	AUTHORIZED AS STAGE 0 COMPLETE			
Drawn	Designed	Checked	Approved	
ED	ED	JR	CS	
Sheet Size	Scale	Sweco Ref	Revision	
A0	1:500	65216371	P02	

Drawing Number
65216371-SWE-XX-XX-D-L-0001

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