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Ecological Consultants
Environmental and Rural Chartered Surveyors

Biodiversity Net Gain

Standen Central Site, Clitheroe, Lancashire

Residential Care Home

Green at Heart BEN GOLD

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ACCURACY OF REPORT

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, all of the protected species this survey covers are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and/or in their interaction with protected species. If protected species are found during a work programme, and continuing the work programme could result in their disturbance, injury or death, either directly or indirectly an offence may be committed.

If in doubt, stop work and seek further professional advice.

Quality and Environmental Assurance

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INTRODUCTION

Purpose of this Report

Envirotech were requested to carry out a biodiversity assessment of Land South-east of Clitheroe. The aim was for an ecologist with botanical expertise to carry out a site visit to map the habitat types present at the site in order to establish the biodiversity baseline.

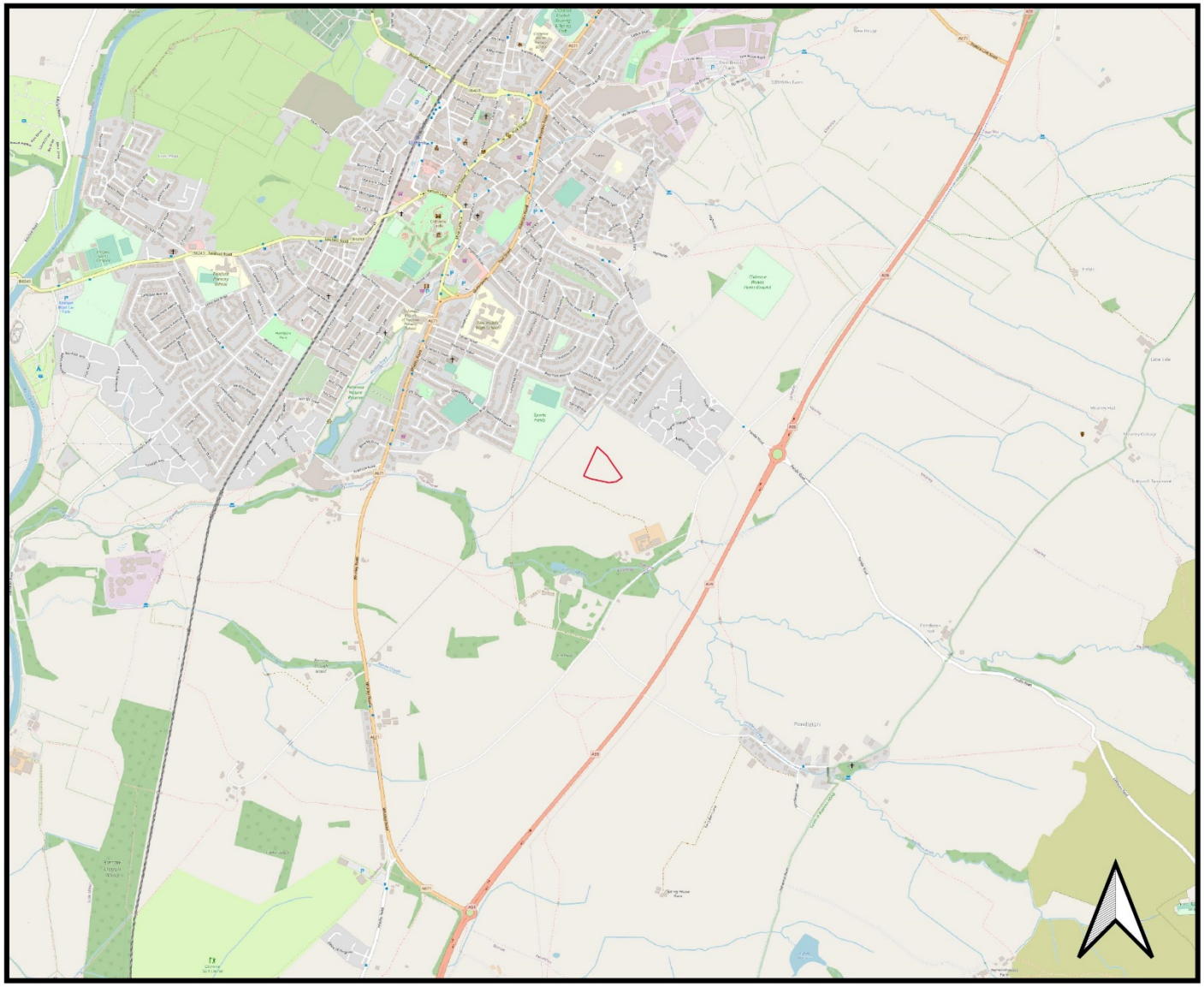
Each habitat type was mapped using the standard habitat mapping convention using Phase 1 habitat survey (JNCC, 2010) which was subsequently converted into the UK Habitat Classification (Butcher et al., 2020) for the purposes of using the Defra metric.

Using the findings of the baseline surveys, pre-construction ecology was measured against proposed habitat changes arising from future ecological enhancements based on an Illustrative Landscape Plan (post-construction) provided by the client.

This report presents the results of this desk-based study to assess net change in biodiversity 'units' in connection with the removal of habitats for the proposed development at the site.

Ecological Context

The site is 0.96ha and *Figure 1* shows the site location.



Boundary

Figure 1

Site Location

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Policy context

The primary aims of Biodiversity Net Gain are to secure a measurable improvement in habitat for biodiversity, to minimise biodiversity losses and to help to restore ecological networks whilst streamlining development processes.

The National Planning Policy Framework (NPPF) makes provisions for the delivery of biodiversity net gain. Additionally, there is a proposed 10% net gain requirement in the Environment Bill. There is currently no statutory requirement to deliver mandatory 10% biodiversity net gain as the secondary legislation to do so has not yet been brought in.

METHODS

Introduction

The biodiversity metric 3.1 is designed to quantify biodiversity to inform and improve planning, design, land management and decision-making (Panks et al., 2022).

This study has been carried out as a desk-based exercise, using the results of field surveys carried out at the site by Envirotech and an Illustrative Landscape Plan provided by the client.

Biodiversity Assessment Methods

To calculate biodiversity units for the site and assess any changes arising from the proposed development this study uses methods set out the latest Biodiversity Metric 3.1 user guide (Panks et al., 2022).

The biodiversity metric uses three core measurements:

- Habitat area
- Length of linear terrestrial habitats
- Length of linear aquatic habitats.

Consequently, a site can have three biodiversity unit values, which are assessed using the same metric, but cannot be summed together.

Habitat area is multiplied by several factors that indicate its quality: distinctiveness, condition, strategic location and connectivity, and this gives its biodiversity unit value. This can be used for existing and future created habitats. In addition, when habitats are to be enhanced or newly-created, the risk of failure is accounted for by applying multipliers for risk factors (difficulty, time to target condition, and off-site risk).

Habitat Distinctiveness

Habitats are classified using the phase 1 habitat survey methodology (JNCC 2010) or the UK habitat classification system (Butcher et al., 2020).

The metric pre-assigns each habitat type to a distinctiveness band according to its distinguishing features, i.e. species richness, rarity (at local, regional, national and international scales), and the degree to which it supports species rarely found in other habitats. On rare occasions, the habitat distinctiveness of a habitat can be altered up or down from the preassigned value. Any alterations must then be fully explained using evidence relevant to the site, e.g. an increase in distinctiveness because of rare flora or fauna or a decrease in distinctiveness because of significant damage to the habitat.

Habitat Condition

Habitat condition measures the varying quality of similar habitats against what is perceived to be their optimal state. The biodiversity metric 3.1 technical supplement (Panks et al., 2022) contains condition sheets for all habitats to which the metric can apply. The condition sheets contain a habitat description, contextual information to aid the assessment, and the assessment criteria. The criteria describe what components need to be present for a habitat to be in good, moderate or poor condition.

Strategic Location

Strategic location - sometimes called 'strategic significance' – works at a landscape scale, allowing additional value to be added to habitats in 'priority' or 'biodiversity target areas'. They include statutory and non-statutory sites and other areas with biodiversity value or potential, and they are mainly identified from local plans and objectives. If a habitat is within such a target area, a multiplier is applied to increase its value.

Difficulty of Creation and Restoration

The risks associated with creating new or enhancing existing habitats, are known as difficulty factors; for example, where habitats fail to establish owing to natural changes in local conditions, incorrect management or for unknown reasons. The biodiversity metric 3.1 contains default values for each habitat based on the average difficulty of creating or enhancing a habitat. Occasionally, under exceptional circumstances, these can be modified, but any deviation from the default value must be fully justified.

Time to Target Condition

There is often a lag between a habitat being removed and the new compensation habitats achieving their target condition. This gives reduced biodiversity value for a time. The biodiversity metric 3.1 preassigns the time to target condition based on good practice and typical conditions, and assigns a multiplier based on the number of years required to achieve it.

Using bespoke techniques under unique conditions, or creating compensation habitats prior to impacts taking place, the time to target condition can be adjusted. Any changes must again be fully justified.

Off-site Risk

Sometimes it is not possible to compensate adequately for loss of biodiversity within the site boundary, so off-site compensation is required. If the off-site compensation is a significant distance from the development site, then there will be a local loss of biodiversity and a multiplier is applied to any off-site compensation.

BIODIVERSITY ASSESSMENT

Biodiversity Baseline

The phase 1 habitat survey map (Figure 2) has been used to identify three habitat areas, one of which is in and out of the Lancashire Ecological Grassland Network.

These habitats have been input into the Defra Biodiversity Metric 3.1 calculator and indicate a total of 2 area units. The results of the calculations are presented in Appendix A. It should be noted that these represent screenshots from the calculator; the full biodiversity assessment calculation can be found in the Excel document 'BNG Care Home Facility Clitheroe'.

An area of tall ruderal vegetation comprises bare ground with Broad-leaved Dock with Creeping Buttercup. This is closer to "bare ground" than it is a "grassland" habitat in respect of BNG.

The condition assessments for each of the linear and area habitats are presented in Appendix C. No deviations have been made from the default methods for baseline habitats assessment.

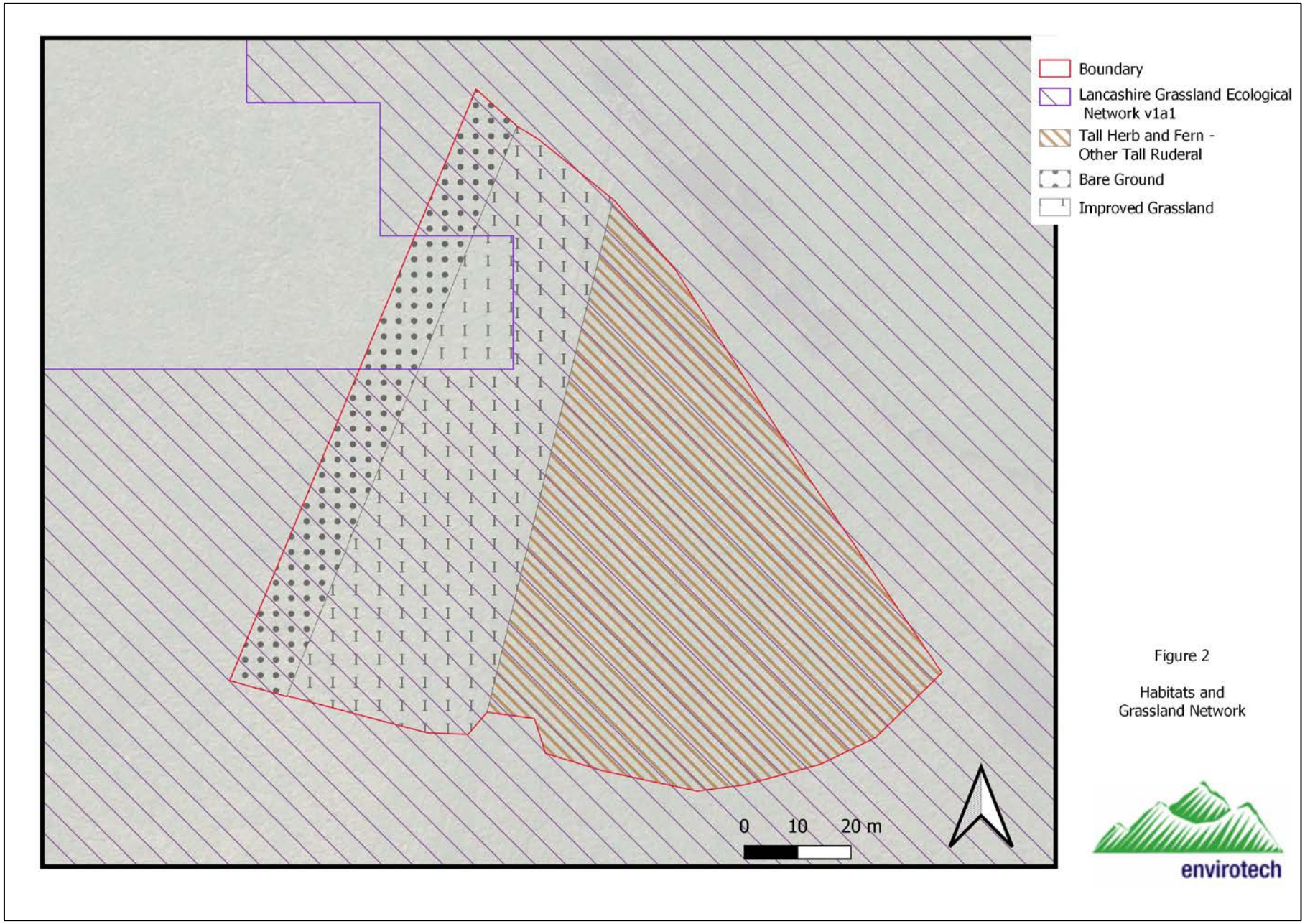

Figure 2

Habitats and Grassland Network

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Post-development Habitat Creation and Enhancement

The Illustrative Landscape Plan has been used to identify that there will be no retained habitat, no enhanced habitats and six new habitats some of which are inside and some outside the Lancashire Ecological Grassland Network.

These figures have been put in to the Biodiversity Metric 3.1 and would comprise a total of 2.83 biodiversity area units.

There are no changes to default values for post development habitats.

As there are no linear habitats pre-development, new hedges have been classed as "Introduced shrub" and as an area habitat. Linear habitat otherwise has an infinite net gain.

Details of the assumptions made to achieve the proposed conditions are found in Appendix D

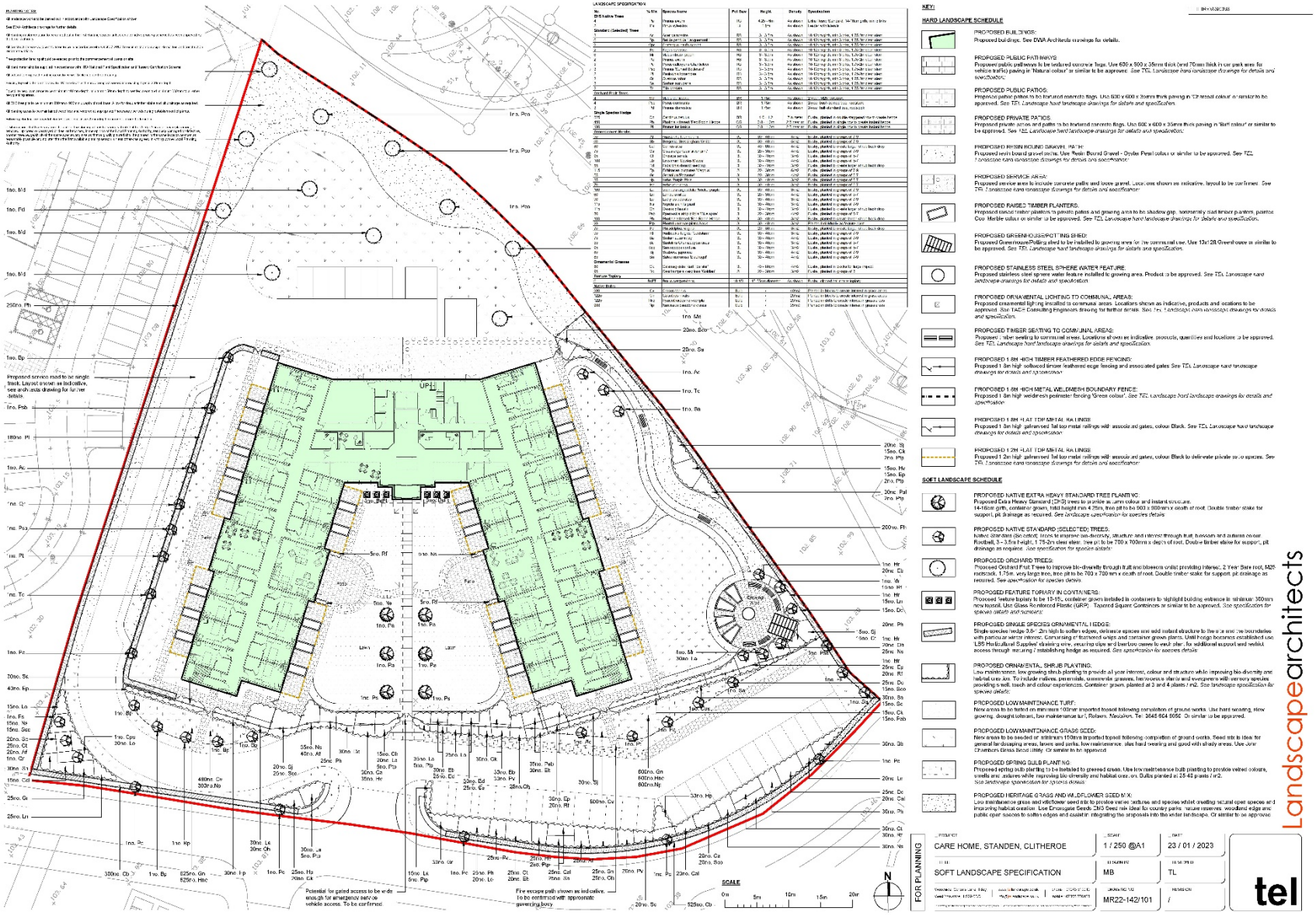

Figure 3- *Illustrative landscape plan*

Change in Biodiversity Value

Under the current proposals set out in the Illustrative Landscape Plan (MR22-142/101) there will be a GAIN of 0.84 biodiversity area units (+41.82). This is shown in Table 1.

Table 1. *Change in Biodiversity Units Calculation*

On-site baseline	*Habitat units*	**2.00**
	Hedgerow units	**0.00**
	River units	**0.00**
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	**2.83**
	Hedgerow units	**0.00**
	River units	**0.00**
On-site net % change (Including habitat retention, creation & enhancement)	*Habitat units*	**41.82%**
	Hedgerow units	**0.00%**
	River units	**0.00%**
Off-site baseline	*Habitat units*	**0.00**
	Hedgerow units	**0.00**
	River units	**0.00**
Off-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	**0.00**
	Hedgerow units	**0.00**
	River units	**0.00**
Total net unit change (including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	**0.84**
	Hedgerow units	**0.00**
	River units	**0.00**
Total on-site net % change plus off-site surplus (including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	**41.82%**
	Hedgerow units	**0.00%**
	River units	**0.00%**
Trading rules Satisfied?	**Yes ✓**	

REFERENCES

Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020), UK Habitat Classification – Habitat Definitions V1.1 at http://ukhab.org

Stephen Panks A, Nick White A, Amanda Newsome A, Mungo Nash A, Jack Potter A, Matt Heydon A, Edward Mayhew A, Maria Alvarez A, Trudy Russell A, Clare Cashon A, Finn Goddard A, Sarah J. Scott B, Max Heaver C, Sarah H. Scott C, Jo Treweek D, Bill Butcher E And Dave Stone A 2022. Biodiversity metric 3.1: Auditing and accounting for biodiversity – User Guide. Natural England.

JNCC. (2010), Handbook for Phase 1 Habitat Survey (revised). JNCC, Peterborough.

APPENDIX A- METRICS TABLES – BASELINE

	Habitats and areas			Distinctiveness		Condition		Strategic significance			Suggested action to address habitat losses	Ecological baseline
Ref	Broad Habitat	Habitat Type	Area (hectares)	Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic Significance multiplier		Total habitat units
1	Urban	Vacant/derelict land/ bareground	0.122	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.24
2	Urban	Vacant/derelict land/ bareground	0.511	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	1.02
3	Grassland	Modified grassland	0.29	Low	2	Poor	1	Formally identified in local strategy	High strategic significance	1.15	Same distinctiveness or better habitat required ≥	0.67
4	Grassland	Modified grassland	0.032	Low	2	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	Same distinctiveness or better habitat required ≥	0.06
5												
6												
7												
8												
		Total habitat area	0.96									2.00

Retention category biodiversity value						Bespoke compensation agreed for unacceptable losses	Comments	
Area retained	Area enhanced	Baseline units retained	Baseline units enhanced	Area habitat lost	Units lost		Assessor comments	Reviewer comments
		0.00	0.00	0.12	0.24		Bare ground no vegetation	
		0.00	0.00	0.51	1.02		Tall ruderals on bare ground. No grassland habitat present so classed as Vacant/derelict land/ bareground	
		0.00	0.00	0.29	0.67		Grassland in ecology network	
		0.00	0.00	0.03	0.06		Grassland not in ecology network	
0.00	0.00	0.00	0.00	0.96	2.00			

Total area lost (excluding area of Urban trees and Green walls)	0.96

APPENDIX B- METRICS TABLES – POST DEVELOPMENT

Post development/ post intervention habitats																							
Broad Habitat	Proposed habitat	Area (hectares)	Distinctiveness		Condition		Strategic significance			Temporal multiplier					Difficulty multipliers				Habitat units delivered	Comments	
			Distinctiveness	Score	Condition	Score	Strategic significance	Strategic significance	Strategic position multiplier	Standard time to target condition/years	Habitat created in advance/years	Delay in starting habitat creation/years	Standard or adjusted time to target condition	Final time to target condition/years	Final time to target multiplier	Standard difficulty of creation	Applied difficulty multiplier	Final difficulty of creation	Difficulty multiplier applied		Assessor comments	Reviewer comments
Grassland	**Modified grassland**	0.104	Low	2	Poor	1	Formally identified in local strategy	High strategic significance	1.15	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.23		
Grassland	**Other neutral grassland**	0.034	Medium	4	Poor	1	Formally identified in local strategy	High strategic significance	1.15	2	0	0	Standard time to target condition applied	2	0.931	Low	Standard difficulty applied	Low	1	0.15		
Grassland	**Other neutral grassland**	0.012	Medium	4	Poor	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	2	0	0	Standard time to target condition applied	2	0.931	Low	Standard difficulty applied	Low	1	0.04		
Urban	**Introduced shrub**	0.069	Low	2	Condition Assessment N/A	1	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	1	0	0	Standard time to target condition applied	1	0.965	Low	Standard difficulty applied	Low	1	0.13		
Urban	Developed land; sealed surface	0.567	V.Low	0	N/A - Other	0	Area/compensation not in local strategy/ no local	Low Strategic	1	0	0	0	Standard time to target condition applied	0	1.000	Low	Standard difficulty applied	Medium	0.67	0.00		
Urban	Urban Tree	0.3744	Medium	4	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	27	0	0	Standard time to target condition applied	27	0.382	Low	Standard difficulty applied	Low	1	1.14		
												0										
Grassland	Traditional orchards	0.157	High	6	Moderate	2	Formally identified in local strategy	High strategic significance	1.15	20	0	0	Standard time to target condition applied	20	0.490	Low	Standard difficulty applied	Low	1	1.06		
Grassland	Traditional orchards	0.012	High	6	Moderate	2	Area/compensation not in local strategy/ no local strategy	Low Strategic Significance	1	20	0	0	Standard time to target condition applied	20	0.490	Low	Standard difficulty applied	Low	1	0.07		
	Total habitat area	1.33																	Total Units	2.83		
	Site Area (Excluding area of Urban trees and Green walls)	0.96																				

APPENDIX C – BASELINE DETAILED CONDITION ASSESSMENTS

This appendix presents the assessment of the post-development habitats against the condition sheets in the biodiversity metric 3.1 technical supplement published by Panks et al., 2022 Any deviations from the published guidance is explained and justified.

UK Hab Equivalent	Condition Sheet	Other Habitat Criteria Score									Total Score	Condition Assessment	Notes
		C1	C2	C3	C4	C5	C6	C7	C8	C9			
Modified Grassland	GRASSLAND: Low distinctiveness	F	F	P	P	P	P	P			5	Poor	Fails Criteria 1 so can only be poor
Vacant/derelict land/bareground	URBAN	F	F	F							0	Poor	Bare ground
Vacant/derelict land/bareground	URBAN	F	F	P							1	Poor	Bare ground with tall ruderals

Key:
P – Criteria passed
F – Criteria failed

Appendix Table C1: Condition Assessment for Area Habitats

APPENDIX D – POST DEVELOPMENT DETAILED CONDITION ASSESSMENTS

This appendix presents the assessment of the post-development habitats against the condition sheets in the biodiversity metric 3.1 technical supplement published by Panks et al., 2022 Any deviations from the published guidance is explained and justified.

UK Hab Equivalent	Condition Sheet	Other Habitat Criteria Score									Total Score	Condition Assessment	Notes
		C1	C2	C3	C4	C5	C6	C7	C8	C9			
Modified Grassland	GRASSLAND: Low distinctiveness	F	F	P	P	F	P	P			4	Poor	Fails criteria 1 can only be poor
Other neutral grassland	GRASSLAND: Medium-Very High distinctiveness	F	P	F	P	P	P				4	Poor	Fails criteria 1 can only be poor
Orchard	Orchard	F	P	P	F	P	P	F	P		5	Moderate	
Developed Land; Sealed Surface	Not assessed										-	-	
Introduced Shrub	Introduced Shrub										-	-	

Key:
P – Criteria passed
F – Criteria failed

Appendix Table D2: Condition Assessment for Area Habitats