



Elite Ecology

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Land Adjacent to Forest Hill Golf Club, Botcheston



Biodiversity Net Gain Report

December 2024



01782 308418



Part of Harmil Environmental Ltd.
Company Reg Number: 11310919
Company VAT Number: 320559225

admin@eliteecology.co.uk
www.eliteecology.co.uk



The New Barn, Suites 2/3, Shellow Lane,
Gawsworth, Cheshire, CW12 2FQ



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Organisation	Elite Ecology		
Prepared For	Mr. John Nixon (Forest Hill Golf Club)		
Author	Mr. Connor Wild		
Approved (1 st Checker)	Mr. Marek Fraczek		
Approved (2 nd Checker)	Mr. Richard Millington		
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0. Executive Summary

This report has been prepared at the request of Mr. John Nixon (Forest Hill Golf Club). It relates to the proposed development located at Land Adjacent to Forest Hill Golf Club, Markfield Lane, Botcheston, Leicestershire, LE9 9FH (Central OS Grid Reference: SK 48041 06217). For this report, a biodiversity impact assessment calculation has been made. This document should be read in conjunction with the completed Excel spreadsheet.

The current proposals for the site are to construct a hotel and car park. This will result in both the permanent and temporary loss and/or alteration of some of the habitats located on the proposed re-development site.

The site has recently been cleared. Due to this the habitats within the baseline of this report are based on previous data collected by Elite Ecology in 2022, Satellite imagery and precautionary measure set out by the Statutory Biodiversity Metric User Guide. The Baseline Habitat Plan, habitat codes and target notes for the site are located within **Appendix C**. The following habitats were recorded on site and in the surrounding area (in primary habitat code alphabetical order):

Habitat Mitigation Score

Biodiversity Unit Type	Baseline Units		Post-Development Units Without Recommendations			Post-Development Units With Recommendations			
	On-Site	Off-Site	On-Site	Off-Site	% Net Gain	On-site	Off-site	Statutory Biodiversity Credits	% Net Gain
Area Habitats	8.88	18.72	1.60	0.00	-292.77	1.88	13.21	N/A	-140.96
Linear Habitats	1.60	3.84	0.29	1.19	-243.75	1.61	1.19	N/A	-163.02
Linear Habitat – Rivers and Streams	0.31	0.56	0.31	0.56	-0.00	0.31	0.56	N/A	-0.00

The score, with enhancements, resulted in a **-12.52** unit loss (**-140.96%**) in habitat mitigation and a **-2.23** unit loss (**-136.10%**) in linear habitat mitigation. To reach the required 10% net gain in biodiversity, a total of **9.77** area units, **1.80** linear units and **0.34** water course units will be need on site post development. As the project has not met the DEFRA 10% increase in net gain for biodiversity, the client will be required to either find additional land for offsetting, make changes to the layout or purchase or purchase Statutory biodiversity credits through Natural England. Alternatively, the client may wish to consult a private third party habitat unit brokers for prices for biodiversity units sold in the off-site private market.

Habitat Creation and Management

Habitat Creation and management details for the habitats recommended can be found within **Section 6**. Following the management plan will ensure that habitats meet their target conditions. Habitats that will be implemented are as follows:

- Woodland creation
- Scattered Trees
- Wildflower Planting.
- Mixed Scrub

Timetables for post-monitoring can be found in **Section 7**.

Species Specific Enhancements

A number of species-specific enhancements can be found in **Section 6**.

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1. Introduction

1.1 Report Rationale

This report has been prepared at the request of Mr. John Nixon (Forest Hill Golf Club). It relates to the proposed development located at Land Adjacent to Forest Hill Golf Club, Markfield Lane, Botcheston, Leicestershire, LE9 9FH (Central OS Grid Reference: SK 48041 06217). For this report, a biodiversity impact assessment calculation has been made. This document should be read in conjunction with the completed Excel spreadsheet.

1.2 Site Description

The site is situated in a rural setting of Botcheston, Leicestershire. It is approximately 1.22 hectares in size.

The site has recently been cleared. Due to this the habitats within the baseline of this report are based on previous data collected by Elite Ecology in 2022, Satellite imagery and precautionary measure set out by the Statutory Biodiversity Metric User Guide.

Within the wider landscape, further habitats are present. These come in the form of agricultural land, a clay pit, Forest Hill Golf Club, hedgerows, ponds, residential structures (and their associated land/gardens), running water, the Thornton Reservoir, and woodland. The habitats that surround the site also have the potential to be utilized by a variety of protected species.

Figure 1: An aerial map showing the approximate boundary of the site at Land Adjacent to Forest Hill Golf Club, Botcheston (as shown by the red outline).



Figure 2: An aerial map showing the site at Land Adjacent to Forest Hill Golf Club, Botcheston (as shown by the yellow star) in relation to some of the local landscape.



Figure 3: An OS map obtained from Bing showing the site at Land Adjacent to Forest Hill Golf Club, Botcheston (as shown by the yellow star).



1.3 Proposals

The current proposals for the site are to construct a hotel and car park. This will result in both the permanent and temporary loss and/or alteration of some of the habitats located on the proposed re-development site.

1.4 Scope of Report

This report aims to:

- Establish the total number of baseline and lost habitat, hedgerow, and river units at the site of the proposed scheme.
- Establish the total number habitat, hedgerow, and river units that are to be created, retained and/or enhanced under landscape and ecological mitigation proposals at the proposed works site.
- Determine whether the proposed scheme will result in a net loss, no net loss, or a net gain for biodiversity.
- Make further recommendations to gain the required 10% minimum net gain for biodiversity.

1.5 Biodiversity Net Gain Relevant Policies

The appraisal has been compiled with reference to the following relevant nature conservation legislation, planning policy and the UK Biodiversity Framework from which the protection of sites, habitats and species is derived in England. These are:

- UK Biodiversity Action Plan (UKBAP).
- The Natural Environment and Rural Communities (NERC) Act 2006.
- The UK Post-2010 Biodiversity Framework (2011-2020).
- Biodiversity 2020: A strategy for England's wildlife and ecosystem services.
- The National Planning Policy Framework (NPPF) 2021.
- Environmental Act 2021.
- Local policy.

A full explanation of these policies can be found within **Appendix E**.

2. Methodology

Personnel

Field surveys have been undertaken by licensed ecologist/s, members of the Chartered Institute of Ecology & Environmental Management (CIEEM) and members of Elite Ecology staff. A walkover of the site was undertaken on the 7th of October 2024 by **Mr. Connor Wild**: MSc Senior Ecologist.

The Biodiversity Net Gain Assessment has been carried out by **Mr. Connor Wild**: MSc Senior Ecologist, in line with CIEEM Guidelines on Good practice principles for development (2016), CIEEM A Practical Guide (2019) and BS 8683:2021 - Process for designing and implementing biodiversity net gain. This net gain report and assessment has been reviewed by **Mr. Richard Millington**: BSc (Hons), ACIEEM, CERPIT, MRSB, MArborA, Principal Ecologist.

Survey of Baseline Habitats and Condition

Habitat typing and condition assessments are undertaken during a Preliminary Ecological Appraisals (PEA) or similar studies. The baseline also considers historic records for the site and local area via a desktop study (satellite imagery, previous ecological reports), as well as additional surveys to assess the presence/absence of species in certain situations. Conditions of habitats and hedgerows are assessed using the scoring systems provided in the Statutory Biodiversity Metric Condition Assessment Sheet.

River assessments are carried out through a MoRPH5 Pro survey and River type survey. At least one MoRPH5 is undertaken per reach on site that will be directly or indirectly impacted with a further MorPH5 undertaken upstream to record a more “natural setting” if required. This data is then processed via Cartographer to give the condition of the rivers on site.

Calculations of Baseline Habitats

Using Geographic Information Software (GIS), baseline habitats are measured in hectares (ha) using vector layer polygons. These measurements are then input into the DEFRA Statutory Biodiversity Metric Calculation Tool. Habitat condition and connectivity are then input into the calculator. The area of habitat retained is then entered into the calculation to give a final sum of baseline units and lost unit.

Each habitat has a base score of 1, this is then multiplied by the size of the habitat (ha). The habitat is then multiplied by its distinctiveness:

- Very low – 0
- Low – 2
- Medium – 4
- High – 6

The next multiplier is based on the condition of the habitat:

- N/A-other/agricultural – 0
- Poor – 1
- Fairly poor – 1.5
- Moderate – 2
- Fairly good – 2.5
- Good – 3

Calculations of Post-development Habitats

The calculation is informed by planning design, landscape plans, and proposed ecological mitigation. Plans are georeferenced into GIS and are similarly measured in hectares (ha) using vector layer polygons. These measurements are then converted into input into the DEFRA Statutory Biodiversity Metric Calculation Tool. A target condition will be assigned to each new habitat following the same scores as above. The calculator will generate a proposed time to hit this target condition and difficulty score.

3. Baseline Conditions

3.1 Habitats

The site has recently been cleared. Due to this the habitats within the baseline of this report are based on previous data collected by Elite Ecology in 2022, Satellite imagery and precautionary measure set out by the Statutory Biodiversity Metric User Guide. The baseline habitat map, habitat codes and target notes for the site are located within **Appendix C**.

On Site:

Area Habitats	Condition	Justification
Modified grassland	Poor	Retained habitat from site clearance. Fails criterion 1 which is required to meet moderate or higher condition.
Other neutral grassland	Good	Habitat and condition chosen due to site clearance
Artificial unvegetated, unsealed surface	N/A – Other	Condition automatically chosen by the metric.
Tall forbs	Good	Habitat and condition chosen due to site clearance
Mixed scrub	Good	Habitat and condition chosen due to site clearance.
Rural tree	Good	Habitat and condition chosen due to site clearance
Linear Habitats	Condition	Justification
Line of trees	Poor	Passes 3 criterion within the condition assessment
Native hedgerow with trees	Good	Habitat and condition chosen due to site clearance which had degraded this habitat.
Line of trees	Good	Habitat and condition chosen due to site clearance which had degraded this habitat.
Native hedgerow with trees	Good	Habitat and condition chosen due to site clearance which had degraded this habitat.
Water Course Habitats	Condition	Justification
Ditch	Poor	Passes 4 criterion within the condition assessment

Off Site:

Area Habitats	Condition	Justification
Artificial unvegetated, unsealed surface	N/A – Other	Condition automatically chosen by the metric.
Tall forbs	Good	Habitat and condition chosen due to site clearance
Mixed scrub	Good	Habitat and condition chosen due to site clearance.
Rural tree	Good	Habitat and condition chosen due to site clearance
Other neutral grassland	Good	Habitat and condition chosen due to site clearance
Linear Habitats	Condition	Justification
Line of trees	Good	Habitat and condition chosen due to site clearance which had degraded this habitat.
Native hedgerow with trees	Good	Habitat and condition chosen due to site clearance which had degraded this habitat.
Water Course Habitats	Condition	Justification
Ditch	Poor	Passes 4 criterion within the condition assessment

3.2 **Strategic Significance**

Strategic Significance is based on information gathered from the local plan, local policies map and MAGIC.

Habitats	Strategic Significance	Justification
All Habitats	Area/compensation not in local strategy/ no local strategy.	Area not identified in the local plan/strategy for biodiversity, nor is it deemed to be in a particularly ecologically valuable area.

4. Baseline Calculation and Proposal Impact

4.1 Existing Habitats

The table below outlines the existing site status based on the most recent field survey.

On-site Area Habitats

Habitat Description	Habitat Area (ha)	Distinctiveness	Score	Condition	Score	Baseline Habitat Units	Habitats Retention (ha)			Habitat Units Lost
							Retained	Enhanced	Lost	
Modified grassland	0.45	Low	2	Poor	1	0.90	0.00	0.00	0.45	0.90
Other neutral grassland	0.44	Medium	4	Good	3	5.28	0.00	0.00	0.44	5.28
Artificial unvegetated, unsealed surface	0.08	V. Low	0	N/A - Other	0	0.00	0.00	0.00	0.08	0.00
Tall forbs	0.09	Low	2	Good	3	0.54	0.00	0.00	0.09	0.54
Mixed scrub	0.16	Medium	4	Good	3	1.92	0.00	0.00	0.16	1.92
Rural tree	0.02	Medium	4	Good	3	0.24	0.00	0.00	0.02	0.24
TOTALS*	1.22					8.88	0.00	0.00	1.22	8.88

*Areas excluding individual trees.

Based on the above information, the on-site habitat biodiversity value is calculated at **8.88** habitat units, with **8.88** units lost during the development. Therefore, **0.00** habitat units will remain.

On-site Linear Habitats

Habitat Description	Habitat Area (ha)	Distinctiveness	Score	Condition	Score	Baseline Habitat Units	Habitats Retention (ha)			Habitat Units Lost
							Retained	Enhanced	Lost	
Line of trees	0.05	Low	2	Moderate	2	0.20	0.00	0.00	0.05	0.20
Native hedgerow with trees	0.04	Medium	4	Good	3	0.48	0.00	0.00	0.04	0.48
Line of trees	0.08	Low	2	Good	3	0.48	0.00	0.00	0.08	0.48
Native hedgerow with trees	0.04	Medium	4	Good	3	0.48	0.00	0.00	0.04	0.48
TOTALS*	0.21					1.64	0.00	0.00	0.21	1.64

To show degradation the linear habitats are shown as lost and will be recorded in their new condition within the proposed habitat section. Based on the above information, the on-site habitat biodiversity value is calculated at **1.64** linear habitat units, with **1.64** units lost during the development. Therefore, **0.00** linear habitat units will remain.

On-site Watercourse Habitats

River Type	River Length (km)	Distinctiveness	Score	Condition	Score	Baseline River Units	Encroachment (Watercourse & riparian)	River Retention (Km)		River Units Lost
								Retained	Lost	
Ditch	0.09	Medium	4	Moderate	2	0.31	No Encroachment Major/No Encroachment	0.63	0	0.00
TOTALS:	0.09					0.31		0.63	0	0.00

Based on the above information, the river biodiversity value is calculated at **0.31** watercourse units, with **0.00** units lost during the development. Therefore, **0.31** watercourse units will remain.

Off-site Area Habitats

Habitat Description	Habitat Area (ha)	Distinctiveness	Score	Condition	Score	Baseline Habitat Units	Habitats Retention (ha)			Habitat Units Lost
							Retained	Enhanced	Lost	
Other neutral grassland	1.12	Medium	4	Good	3	13.44	0.00	0.00	1.12	13.44
Mixed scrub	0.39	Medium	4	Good	3	4.68	0.00	0.00	0.39	4.68
Tall forbs	0.06	Low	2	Good	3	0.36	0.00	0.00	0.06	0.36
Rural tree	0.02	Medium	4	Good	3	0.24	0.00	0.00	0.02	0.24
Artificial unvegetated, unsealed surface	0.11	V. Low	0	N/A - Other	0	0.00	0.00	0.00	0.11	0.00
TOTALS*	1.68					18.72	0.00	0.00	1.68	18.72
*Areas excluding individual trees.										

Based on the above information, the off-site habitat biodiversity value is calculated at **18.72** habitat units, with **18.72** units lost during the development. Therefore, **0.00** habitat units will remain.

Off-site Linear Habitats

Habitat Description	Habitat Area (ha)	Distinctiveness	Score	Condition	Score	Baseline Habitat Units	Habitats Retention (ha)			Habitat Units Lost
							Retained	Enhanced	Lost	
Native hedgerow with trees	0.24	Medium	4	Good	3	2.88	0.00	0.00	0.24	2.88
Line of trees	0.16	Low	2	Good	3	0.96	0.00	0.00	0.16	0.69
TOTALS*	0.40					3.84	0.00	0.00	0.40	3.84

To show degradation, the linear habitats are shown as lost and will be recorded in their new condition within the proposed habitat section. Based on the above information, the on-site habitat biodiversity value is calculated at **3.84** linear habitat units, with **3.84** units lost during the development. Therefore, **0.00** linear habitat units will remain.

Off-site Watercourse Habitats

River Type	River Length (km)	Distinctiveness	Score	Condition	Score	Baseline River Units	Encroachment (Watercourse & riparian)	River Retention (Km)		River Units Lost
								Retained	Lost	
Ditch	0.16	Medium	4	Moderate	2	0.56	No Encroachment Major/No Encroachment	1.11	0	0.00
TOTALS:	0.16					0.56		1.11	0	0.00

Based on the above information, the river biodiversity value is calculated at **0.56** watercourse units, with **0.00** units lost during the development. Therefore, **0.56** watercourse units will remain.

4.2 Proposed Habitats

On-site Area Habitats

Habitat Description	Habitat Area (ha)	Target Distinctiveness	Score	Target Condition	Score	Time To Target Condition		Difficulty of Creation		Habitat Biodiversity Value
						Time (years)	Score	Difficulty	Score	
Developed land; sealed surface	0.39	V. Low	0	N/A - Other	0	0	1.000	Low	1	0.00
Modified grassland	0.83	Low	2	Poor	1	1	0.965	Low	1	1.60
TOTALS	1.22*									1.60
*Areas excluding individual trees.										

The above habitats, valued at **1.60** habitat units, combined with the remaining valued at **0.00** units, a habitat biodiversity value score of **1.60** habitat units is given by the metric calculation.

On-site Linear Habitats

Linear Habitat Description	Habitat Length (Km)	Target Distinctiveness	Score	Target Condition	Score	Time To Target Condition		Difficulty of Creation		Habitat Biodiversity Value
						Time (years)	Score	Difficulty	Score	
Line of trees	0.08	Low	2	Poor	1	5	0.837	Low	1	0.13
Native hedgerow with trees	0.04	Medium	4	Poor	1	1	0.965	Low	1	0.15
TOTALS	0.07									0.29

The above habitats, valued at **0.29** habitat units. combined with the remaining valued at **0.00** units. A habitat biodiversity value score of **0.29** habitat units is given by the metric calculation.

On-site Watercourse Habitats

No new watercourses have been proposed.

Off-site Area Habitats

Habitat Description	Habitat Area (ha)	Target Distinctiveness	Score	Target Condition	Score	Time To Target Condition		Difficulty of Creation		Habitat Biodiversity Value
						Time (years)	Score	Difficulty	Score	
Developed land; sealed surface	0.39	V. Low	0	N/A - Other	0	0	1.000	Low	1	0.00
TOTALS	1.22*									1.60
*Areas excluding individual trees.										

The above habitats, valued at **1.60** habitat units, combined with the remaining valued at **0.00** units, a habitat biodiversity value score of **1.60** habitat units is given by the metric calculation.

Off-site Linear Habitats

Linear Habitat Description	Habitat Length (Km)	Target Distinctiveness	Score	Target Condition	Score	Time To Target Condition		Difficulty of Creation		Habitat Biodiversity Value
						Time (years)	Score	Difficulty	Score	
Native hedgerow with trees	0.24	Medium	4	Poor	1	1	0.965	Low	1	0.93
Line of trees	0.16	Low	2	Poor	1	5	0.837	Low	1	0.27
TOTALS	0.40									1.19

The above habitats, valued at **1.19** habitat units. combined with the remaining valued at **0.00** units. A habitat biodiversity value score of **1.19** habitat units is given by the metric calculation.

Off-site Watercourse Habitats

No new watercourses have been proposed.

4.3 Total Net Unit Change

On-site:

The net unit change for the area habitats on site is calculated at **-7.28** units, which correlates to a loss of **81.92%** in biodiversity units.

The net unit change for the linear habitats on site is calculated at **-1.35** units, which correlates to a loss of **82.42%** in biodiversity units.

The net unit change for the watercourse habitats on site is calculated at **-0.00** units, which correlates to a loss of **0.00%** in biodiversity units.

Off-site:

The net unit change for the area habitats off site is calculated at **-18.72** units, which correlates to a loss of **100%** in biodiversity units.

The net unit change for the linear habitats off site is calculated at **-2.65** units, which correlates to a loss of **68.90%** in biodiversity units.

The net unit change for the watercourse habitats off site is calculated at **-0.00** units, which correlates to a loss of **0.00%** in biodiversity units.

Total:

The total net unit change for the area habitats is calculated at **-26.00**, which correlates to a loss of **-292.77%** in biodiversity units.

The total net unit change for the linear habitats is calculated at **4.00** units, which correlates to a loss of **243.75%** in biodiversity units.

The total net unit change for the watercourse habitats is calculated at **-0.00** units, which correlates to a loss of **0.00%** in biodiversity units.

4.4 Trading Rules

With the above proposed habitats, the trading rules are **not** satisfied. The table below breaks down the factors for passing or failing the trading rules:

Area Trading Summary			
Distinctiveness Group	Trading Rule	Trading Satisfied	Reason
Very High	Same habitat required – bespoke compensation option	Yes	No habitats of this distinctiveness were identified on site.
High	Same habitat required	Yes	No habitats of this distinctiveness were identified on site.
Medium	Same broad habitat or a higher distinctiveness habitat required ($\geq$)	No	25.80 units are required form Medium Distinctiveness habitats or better.
Low	Same distinctiveness or better habitat required ($\geq$)	No	0.20 units of low distinctiveness habitats or better are required.
Linear Trading Summary			
Distinctiveness Group	Trading Rule	Trading Satisfied	Reason
Very High	Same habitat required – bespoke compensation option	Yes	No habitats of this distinctiveness were identified on site.
High	Same habitat required	Yes	No habitats of this distinctiveness were identified on site.
Medium	Same broad habitat or a higher distinctiveness habitat required ($\geq$)	No	2.76 units are required form Medium Distinctiveness habitats or better.
Low	Same distinctiveness or better habitat required ($\geq$)	No	1.24 units of low distinctiveness habitats or better are required.
Very Low	Same distinctiveness or better habitat required ($\geq$)	Yes	No habitats of this distinctiveness were identified on site.

5. Recommendations

5.1 Habitats

The total net unit change for the area habitats is calculated at **-26.00**, which correlates to a loss of **-292.77%** in biodiversity units. The total net unit change for the linear habitats is calculated at **4.00** units, which correlates to a loss of **243.75%** in biodiversity units. The total net unit change for the watercourse habitats is calculated at **-0.00** units, which correlates to a loss of **0.00%** in biodiversity units.

The development therefore does not meet the DEFRA recommended 10% minimum net gain in biodiversity units. Additional habitats are required to offset losses and provided a gain.

Recommended On-site Area Habitats

Habitat Description	Habitat Area (ha)	Target Distinctiveness	Score	Target Condition	Score	Time To Target Condition		Difficulty of Creation		Habitat Biodiversity Value
						Time (years)	Score	Difficulty	Score	
Developed land; sealed surface	0.39	V. Low	0	N/A - Other	0	0	1.000	Low	1	0.00
Modified grassland	0.83	Low	2	Poor	1	1	0.965	Low	1	1.60
Urban tree	0.09	Medium	4	Moderate	2	27	0.382	Low	1	0.28
TOTALS	1.22*									1.88

*Areas excluding individual trees.

The above habitats, valued at **1.88** habitat units, combined with the remaining valued at **0.00** units, a habitat biodiversity value score of **1.88** habitat units is given by the metric calculation.

Recommended On-site Linear Habitats

Linear Habitat Description	Habitat Length (Km)	Target Distinctiveness	Score	Target Condition	Score	Time To Target Condition		Difficulty of Creation		Habitat Biodiversity Value
						Time (years)	Score	Difficulty	Score	
Line of trees	0.08	Low	2	Poor	1	5	0.837	Low	1	0.13
Native hedgerow with trees	0.04	Medium	4	Poor	1	1	0.965	Low	1	0.15
Species-rich native hedgerow with trees - associated with bank or ditch	0.15	V. High	8	Good	3	27	0.382	Low	1	1.77
TOTALS	0.27									2.05

The above habitats, valued at **2.05** habitat units. combined with the remaining valued at **0.00** units. A habitat biodiversity value score of **2.05** habitat units is given by the metric calculation.

Recommended On-site Watercourse Habitats

No new watercourses have been Recommended.

Recommended Off-site Area Habitats

Habitat Description	Habitat Area (ha)	Target Distinctiveness	Score	Target Condition	Score	Time To Target Condition		Difficulty of Creation		Habitat Biodiversity Value
						Time (years)	Score	Difficulty	Score	
Other woodland; broadleaved	0.37	Medium	4	Moderate	2	15	0.586	Low	1	1.73
Mixed scrub	0.4	Medium	4	Good	3	10	0.700	Low	1	3.36
Other neutral grassland	0.87	Medium	4	Good	3	10	0.700	Low	1	7.31
Ponds (non-priority habitat)	0.04	Medium	4	Good	3	5	0.837	Low	1	0.40
Rural tree	0.13	Medium	4	Moderate	2	27	0.382	Low	1	0.40
TOTALS	1.22*									13.21
*Areas excluding individual trees.										

The above habitats, valued at **13.21** habitat units, combined with the remaining valued at **0.00** units, a habitat biodiversity value score of **13.21** habitat units is given by the metric calculation.

Recommended Off-site Linear Habitats

Linear Habitat Description	Habitat Length (Km)	Target Distinctiveness	Score	Target Condition	Score	Time To Target Condition		Difficulty of Creation		Habitat Biodiversity Value
						Time (years)	Score	Difficulty	Score	
Native hedgerow with trees	0.24	Medium	4	Poor	1	1	0.965	Low	1	0.93
Line of trees	0.16	Low	2	Poor	1	5	0.837	Low	1	0.27
TOTALS	0.40									1.19

The above habitats, valued at **1.19** habitat units. combined with the remaining valued at **0.00** units. A habitat biodiversity value score of **1.19** habitat units is given by the metric calculation.

Recommended Off-site Watercourse Habitats

No new watercourses have been Recommended.

5.2 **Habitat Mitigation Score**

On-site:

The net unit change for the area habitats on site is calculated at **-7.00** units, which correlates to a loss of **78.86%** in biodiversity units.

The net unit change for the linear habitats on site is calculated at **0.41** units, which correlates to a gain of **25.23%** in biodiversity units.

The net unit change for the watercourse habitats on site is calculated at **-0.00** units, which correlates to a loss of **0.00%** in biodiversity units.

Off-site:

The net unit change for the area habitats off site is calculated at **-5.51** units, which correlates to a loss of **29.45%** in biodiversity units.

The net unit change for the linear habitats off site is calculated at **-2.65** units, which correlates to a loss of **68.90%** in biodiversity units.

The net unit change for the watercourse habitats off site is calculated at **-0.00** units, which correlates to a loss of **0.00%** in biodiversity units.

Total:

The total net unit change for the area habitats is calculated at **-12.52**, which correlates to a loss of **-140.96%** in biodiversity units.

The total net unit change for the linear habitats is calculated at **-2.23** units, which correlates to a loss of **136.10%** in biodiversity units.

The total net unit change for the watercourse habitats is calculated at **-0.00** units, which correlates to a loss of **0.00%** in biodiversity units.

5.3 Trading Rules

With the above proposed habitats, the trading rules are **not** satisfied. The table below breaks down the factors for passing or failing the trading rules:

Area Trading Summary			
Distinctiveness Group	Trading Rule	Trading Satisfied	Reason
Very High	Same habitat required – bespoke compensation option	Yes	No habitats of this distinctiveness were identified on site.
High	Same habitat required	Yes	No habitats of this distinctiveness were identified on site.
Medium	Same broad habitat or a higher distinctiveness habitat required ($\geq$)	No	12.32 units are required form Medium Distinctiveness habitats or better.
Low	Same distinctiveness or better habitat required ($\geq$)	No	0.20 units of low distinctiveness habitats or better are required.
Linear Trading Summary			
Distinctiveness Group	Trading Rule	Trading Satisfied	Reason
Very High	Same habitat required – bespoke compensation option	Yes	1.77 units provided in surplus to offset lower distinctiveness habitats.
High	Same habitat required	Yes	No habitats of this distinctiveness were identified on site.
Medium	Same broad habitat or a higher distinctiveness habitat required ($\geq$)	No	0.99 units are required form Medium Distinctiveness habitats or better.
Low	Same distinctiveness or better habitat required ($\geq$)	No	1.24 units of low distinctiveness habitats or better are required.
Very Low	Same distinctiveness or better habitat required ($\geq$)	Yes	No habitats of this distinctiveness were identified on site.

5.4 Habitats

In order to achieve the DEFRA recommended minimum 10% net gain in biodiversity units, the development has the following options:

Option 1: Modify the landscape plans to provide additional land for offsetting.

Option 2: Consult the private market to purchase off-site biodiversity units. This should ideally be within the same LPA area or National Character Area to maximise the points gained. A combination of option 1 and option 2 can be used.

Option 3: Acquire additional land off-site to use for biodiversity offsetting and habitat creation. This should ideally be within the same LPA area or National Character Area to maximise the points gained. These sites may be required to be registered as a biodiversity gain site, and habitat creation/enhancements and management must be secured for at least 30 years via a suitable legal agreement such as a planning obligation (section 106) with an LPA or a conservation covenant agreement with a responsible body.

Option 4: As a last resort, the client may wish to purchase Statutory Biodiversity Credits from the government. Please note that the prices of these Statutory Credits are kept intentionally uncompetitive. The client will need to provide evidence that the other above options have been explored in order to purchase these credits

5.2 Summary

The score, with enhancements, resulted in a **-12.52** unit loss (**-140.96%**) in habitat mitigation and a **-2.23** unit loss (**-136.10%**) in linear habitat mitigation. To reach the required 10% net gain in biodiversity, a total of **9.77** area units, **1.80** linear units and **0.34** water course units will be need on site post development.

A breakdown of the units required can be found below:

Unit Type	Target	Baseline Units	Total Units Required on Site Post Development	Units Deficit
Area Habitats	10.00%	8.88	9.77	12.52
Hedgerow	10.00%	1.68	1.80	2.23
Rivers	10.00%	0.31	0.34	0.03

As the project has not met the DEFRA 10% increase in net gain for biodiversity, the client will be required to either find additional land for offsetting, make changes to the layout or purchase or purchase Statutory biodiversity credits through Natural England. Alternatively, the client may wish to consult a private third party habitat unit brokers for prices for biodiversity units sold in the off-site private market.

Once an off-setting method has been agreed this document **MUST** be updated to provide evidence of a gain in biodiversity.

6. Habitat Creation and Management

6.1 Soil Preparation

SOILS: Subgrade/subsoil to be prepared in accordance with BS 8601:2013 and BS 4428:1989 and scarified or ripped to 300mm depth (excluding root protection areas of retained trees refer to Tree Protection Plan) prior to spreading topsoil to alleviate compaction and promote drainage. Imported and as saved topsoil to be in accordance with BS 3882: 2015 'Multipurpose Grade' with minimum soil organic matter contents 1% greater than the minimal value (or as approved). Imported topsoil (and 'as saved' if requested) is to be laboratory tested to BS 3882:2015 and ameliorated as required to meet the required characteristics as detailed within Table 1 of BS 3882:2015 specification.

Wildflower and private lawn areas to be unimproved topsoil or low fertility topsoil to BS 3882:2015. Grass areas to be a minimum depth of 150mm, shrub beds 450mm depth, and forestry/transplants 300mm depth. Any weed/grass growth to be sprayed out with appropriate herbicide at least ten days prior to cultivation. All areas to be cultivated to a minimum depth of 150mm removing weeds and rubbish/stones greater than 20mm in size. Incorporate proprietary non peat compost to BSI PAS 100 to 50mm depth evenly worked into soil during cultivation.

6.2 Turfing of Private Gardens

Private gardens to be turfed with [Medallion Turf](#) or similar approved cultivated turf to BS 3969 'Recommendations for Turf for general purposes' laid in accordance with BS 4428:1989. Prior to cultivation topsoil is to be free from perennial weeds, reasonably dry and workable and graded to remove all minor hollows or ridges and levelled as required with any debris or stones greater than 50mm diameter removed. Topsoil to be cultivated to full depth with top 25mm reduced to a fine tilth. Pre-turfing fertiliser to be applied in accordance with manufacturer's instructions. Turf to be laid during appropriate weather conditions from planks with broken joints well butted up, pegged to slopes where required. Lightly consolidate and firm turf as laying proceeds. Fill joints with fine topsoil and thoroughly water after laying to avoid shrinkage.

6.3 **Habitats Creation**

6.3.1 **Wildflower Planting**

Wildflower areas is to be incorporated to maximise biodiversity and create a wildlife corridor on the western site boundary. A variety of wildflower mixes can be found on the [Meadowmania](#) or [Wildflower Turf](#) webpages. It is recommended that [EM2 standard general purpose meadow mixture](#) and [Hedgerow Mixture EH1](#) around along the Ecological Corridor, or similar is used. Seeding is to be sown at a rate of 4g/m². A list of recommended species will be provided in **Section 7**. This must be connected to other habitat features to ensure beneficial invertebrates, such as bees and butterflies, can find and utilise this habitat. This is due to some species not crossing open areas, meaning connectivity with linear habitat features is critical.

These areas will be mown once a year:

- **Autumn cut** - Cut back to height of 7.5cm between the end of August and late November.

Management of the habitats will avoid mowing of the entire space, to allow patches of taller/rough grassland patches and flowering to take place.

6.3.2 **Mixed Scrub Creation**

To improve floral diversity on site, mixed scrub is to be incorporated to create a wildlife corridor on the eastern and southern site boundary. This scrub will provide nesting areas for birds, more foraging for bats and birds, and shelter for small mammals that are located on site. Mixed scrub is to include a mix of the following:

Scientific Name	Common name	Native to the UK	Number to be planted	Density per m ²	Height with management*
<i>Rhamnus catharticus</i>	buckthorn	Yes	1000	1	1.8 - 3.6m
<i>Prunus spinosa</i>	Blackthorn	Yes	1000	1	2.7 - 5.4m
<i>Cornus sanguinea</i>	Dogwood	Yes	1000	1	2.7 - 5.4m
<i>Prunus avium</i>	Wild cherry	Yes	1000	1	5.4 – 8.1m
*Height based on minimum and maximum annual growth rates over a 9 year period between coppice					

Mixed scrub is to be planted in accordance with BS 3936 and handled in accordance with NPS 'Handling & Establishment' guidelines and planted in accordance with BS 4428:1989.

Specimens are to be planted at two plants per m². Scrub is to be planted at random to avoid the creation of wind tunnels. Gaps within the scrub will be colonised as the scrub matures. Mixed scrub is to be under-seeded with [Woodland Mixture EW1](#), or similar, sown at a rate of 4g/m². New scrub should be left for a fifteen-year period to allow the habitat to reach maturity. Once this fifteen-year period has passed management is to be implemented.

Management for scrub is to be rotational, with one third (1/3) of the scrub coppiced every three years. For example, coppice 1/3, then three years hence coppice another 1/3, and finally coppice the remaining 1/3 after another three years. This process should then be repeated. This low-level management will allow for variation in the structure and maturity of the scrub whilst ensuring the habitat is still available for use by wildlife. Removal of scrub should be undertaken between November and January

6.3.3 Scattered Trees

Fifty-six trees (23 onsite 33 offsite) are to be incorporated on site within the wildlife corridors and open spaces. These are to consist of: Downy birch (*Betula pubescens*), holly (*Ilex aquifolium*), hornbeam (*Carpinus betulus*), rowan (*Sorbus aucuparia*), silver birch (*Betula pendula*), wild cherry (*Prunus avium*), and wild service tree (*Sorbus torminalis*).

These trees are to be planted accordance with BS 3936, BS8545 and The National Plant Specification – 'Rootballed Trees'.

6.3.4 Woodland

Native broadleaf tree species, such as silver birch (*Betula pendula*), elder (*Sambucus nigra*), field maple (*Acer campestre*), hazel (*Corylus avellana*), oak (*Quercus robur*), are to be planted to create the new woodland areas. Shrubs which enjoy shade, such as hazel (*Corylus avellana*) and holly (*Ilex aquifolium*), are to be planted beneath the trees. A mix of blackthorn (*Prunus spinosa*), buckthorn (*Rhamnus catharticus*), dogwood (*Cornus sanguinea*) and wild cherry (*Prunus avium*) should be planted in the areas that receive the most light.

Woodland rides are to be implemented along woodland edges once trees have matured to provide a large range of benefits to the site. These rides should contain 3 zones of vegetation of grass cut yearly at the end of summer with and longer grass areas to be cut on a two- or three-year cycle, taller scrub vegetation cut on rotation every 4 years to provide year-round low, dense shelter, and finally a layer of shrubs and young trees that transition into the mature trees.

In years 2, 3 and 4 of the project, mowing will take place once every spring to allow the trees that have been planted to grow successfully without being outcompeted by aggressive weeds. From years 5 to 10 years, non-intervention will be undertaken upon the ground flora vegetation within the woodland.

Trees and scrub understory is to be left to mature. Once the scrub understory is mature management should be rotational, with one third (1/3) of the scrub coppiced every three years. For example, coppice 1/3, then three years hence coppice another 1/3, and finally coppice the remaining 1/3 after another three years. This process should then be repeated. This low-level management will allow for variation in the structure and maturity of the scrub whilst ensuring the habitat is still available for use by wildlife. Removal of scrub should be undertaken between November and January to avoid the breeding bird season.

6.3.5 Species-rich Hedgerow with trees and associated ditch

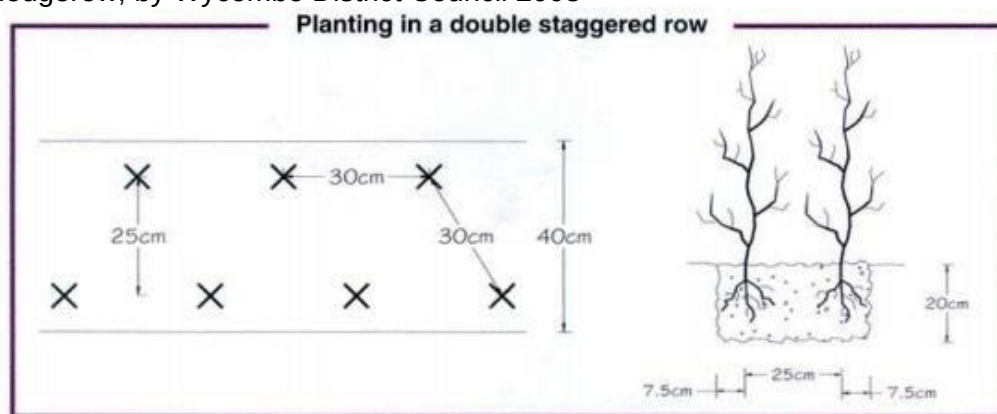
A New species-rich hedgerow is to be incorporated along the south of boundary of the development site.

A typical mix of shrubs to create a traditional hedgerow is: 50% hawthorn (*Crataegus monogyna*), 25% hazel (*Corylus avellana*), 15% field maple (*Acer campestre*), 2% holly (*Ilex aquifolium*), 2% wild privet (*Ligustrum vulgare*), 2% guelder rose (*Viburnum opulus*), 2% dog rose (*Rosa canina*) and 2% buckthorn (*Rhamnus catharticus*) for every 30m of the hedge. One tree is to be incorporated into the hedge every 20m. It is recommended that field maple (*Acer campestre*) and oak (*Quercus robur*) are used.

This hedgerow is to be at five plants per metre in a staggered double row, with 33cm between each plant along the row and 40cm between the rows.

A ditch is to be incorporated alongside this hedgerow on the development side that drains into the existing ditch on the east boundary

Figure 4: Planting a double Staggered hedge, taken from Planting a Native Hedgerow, by Wycombe District Council 2008



Further recommendations on the hedge include the way it should be managed:

1st year

- Weed around the base of the shrub to prevent competition.
- In late summer, any shrubs that have died should be replaced in the autumn.
- In the shrub's first spring cut the hedge down to 45-60cm off the ground to promote a thicker hedge.

Long-term

Leaving a wild, undisturbed margin adjacent to the hedgerow, ideally 2m, will encourage growth around the base of the hedge, providing cover for small mammals and nesting sites for birds.

Hedgerow tops should be cut by chainsaw and **never** flailed as this can severely damage and impede the growth of a hedge after repeated cuts. The hedge must not be cut must not be cut under 2m in height.

Hedgerows should be cut in 1/3 sections offset by a year, and then re-cut every five years. This will ensure that the health of the hedgerow is maintained.

6.3.6 Pond

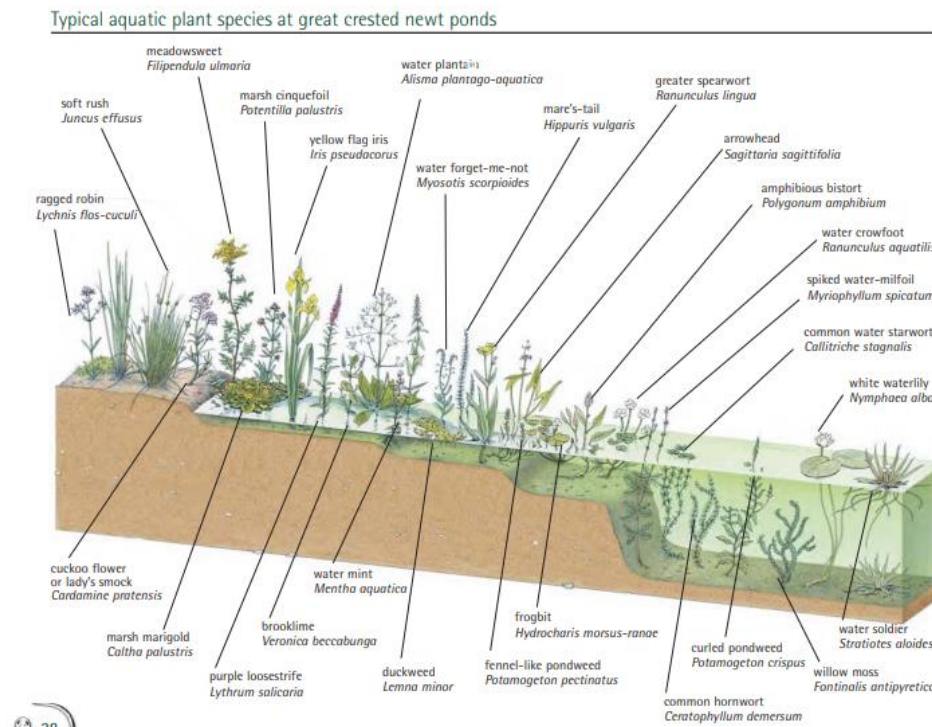
A collection of ponds are to be incorporated offsite. These ponds should not be circular and have the following features:

- Varying depths (deep ponds should be a maximum of 4m)
- The ponds should have the capacity to contain water for a minimum of one summer in every three years.
- Substantial cover of submerged and marginal vegetation (figure 3)
- Good populations of aquatic invertebrates and amphibians.
- Cluster ponds together rather than have them as isolated features within the landscape.
- Ensure the southern shore of the ponds remains vegetation free
- The ponds should not be stocked with any fish species.
- A low density or absence of waterfowl.
- Open areas.

A sloping profile is recommended for any ponds produced on the site due to the potential presence of children within the residential dwellings. It is recommended that scrubland, hedgerows, woodland and/or rough grassland is included around near the ponds to encourage use by a number of species.

Marginal	Emergent
Brooklime – (<i>Veronica beccabunga</i>)	Amphibious Bistort – (<i>Persicaria amphibium</i>)
Bungle – (<i>Ajuga reptans</i>)	Arrowhead – (<i>Sagittaria aquatilis</i>)
Common Spike-rush- (<i>Eleocharis palustris</i>)	Branched Bur-reed – (<i>Sparganium erectum</i>)
Creeping Bent – (<i>Agrostis stolonifera</i>)	Flowering Rush – (<i>Butomus umbellatus</i>)
Creeping Jenny – (<i>Lysimachia nummularia</i>)	Greater Pond-sedge – (<i>Carex Riparia</i>)
Fleabane – (<i>Pulicaria dysenterica</i>)	Marsh Cinquefoil – (<i>Potentilla palustris</i>)
Flowering Rush – (<i>Butomus umbellatus</i>)	Stinking Iris – (<i>Iris foetidissima</i>)
Fool's Watercress – (<i>Apium nodiflorum</i>)	Water Crowfoot – (<i>Ranunculus aquatilis</i>)
Gipsywort – (<i>Lycopus europaeus</i>)	Water Forget-me-not – (<i>Myosotis Scorpiodes</i>)
Great Willowherb – (<i>Epilobium hirsutum</i>)	Water Mint – (<i>Mentha aquatica</i>)
Hemp Agrimony – (<i>Eupatorium cannabinum</i>)	Water Plantain – (<i>Alisma plantago-quuatica</i>)
Lady's Smock – (<i>Cardamine pratensis</i>)	Submerged but with floating leaves
Marsh Foxtail – (<i>Alopecurus geniculatus</i>)	Bladderwort – (<i>Urticularia spp</i>)
Marsh Marigold – (<i>Caltha palustris</i>)	Broad-leaved Pondweed – (<i>Potamogeton natans</i>)
Marsh Woundwort – (<i>Stachys palustris</i>)	Curled Pondweed – (<i>Potamogeton crispus</i>)
Meadowsweet – (<i>Filipendula ulmaria</i>)	Frogbit – (<i>Hydrocharis morsus-ranae</i>)
Purple Loosestrife – (<i>Lythrum salicaria</i>)	Water Crowfoot/Buttercup – (<i>Ranunculus aquatilis</i>)
Ragged-Robin – (<i>Lychnis flos-cuculi</i>)	Totally submerged
Silverweed – (<i>Potentilla anserina</i>)	Fennel Pondweed – (<i>Potamogeton pectinatus</i>)
Soft Rush – (<i>Juncus effusus</i>)	Horned Pondweed – (<i>Zannichellia palustris</i>)
Water Avens – (<i>Geum rivale</i>)	Hornwort – (<i>Ceratophyllum demersum</i>)
Water Dock – (<i>Rumex hydrolapathum</i>)	Shining Pondweed – (<i>Potamogeton lucens</i>)
Water Forget-me-not – (<i>Myosotis scorpioides</i>)	Spiked Water-milfoil – (<i>Myriophyllum spicatum</i>)
Water Pepper – (<i>Persicaria hydropiper</i>)	Water Starwort – (<i>Callitriche stagnalis</i>)

Figure 5: A diagram illustrating the recommended submerged and marginal vegetation for the ponds (GCN Conservation Handbook).



6.3.7 Control of Aggressive Weeds

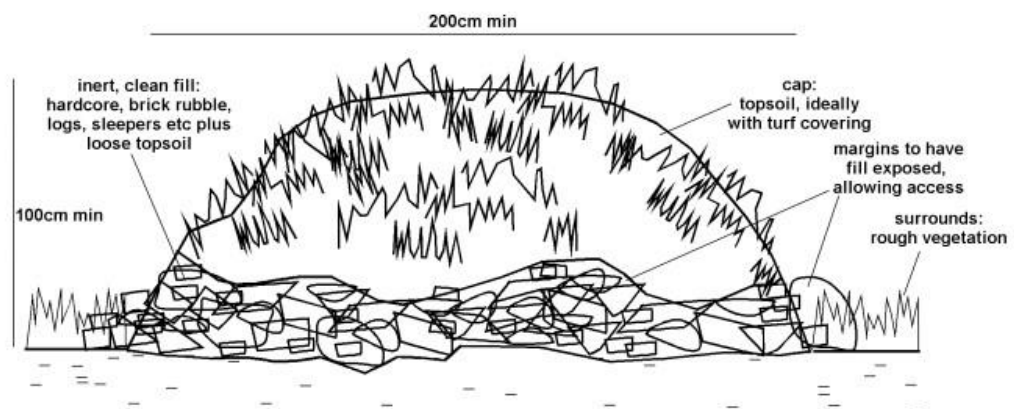
Any weeds which grow on site and are thought to be aggressive and pose a threat to the success of the planted trees should be eradicated as soon as possible. These will be identified within a plant identification survey undertaken twice yearly; one in March and one in July. It will be necessary to remove all weeds found on site by hand during the first three years of the project, until the new trees are mature enough to survive. Any invasive species that appear on site will require eradication as soon as possible. The identification of any invasive species will take place within a plant identification survey undertaken twice yearly; one in March and one in July.

6.4 Species Specific Enhancements

6.4.1 **Amphibians**

Two amphibian hibernacula are to be included into the design scheme around the ponds within the biodiversity area. These are usually comprised of rubble, rock, log piles and earth banks. An example design for the hibernacula can be seen within **Figure 6**.

Figure 6: A diagram illustrating the recommended hibernacula (GCN Mitigation Guidelines).



6.4.2 **Bats**

It is recommended that the development site should incorporate a minimum of the following:

- four Integrated Eco Bat Boxes.

Including these boxes will providing further roosting opportunities. These should avoid any artificial lighting, whilst being sighted facing east, south-east, south, south-west, and/or west. The wooden poles are recommended to be at least partially shaded by some of the new trees. Boxes can be purchased by emailing admin@eliteecology.co.uk.

Artificial lighting **must avoid** linear features. If it is necessary to include artificial lighting in areas overlooking both hedgerows and trees, then this must include sensors to be triggered by larger bodies only. An artificial lighting plan should be drawn up to illustrate the spill of light. This is to include the proposed security lighting on the residential dwellings as well as all street lighting. This document should then be approved by a licenced bat ecologist. More information on bats and artificial lighting can be found within **Appendix G**.

6.4.2 Birds

The development site should be enhanced for birds by installing a variety of bird boxes on site. The development should incorporate a minimum of the following:

- Two Apex Bird Boxes.
- Two Apex Robin Boxes.
- Two Large Bird Nest Boxes.
- Two Sparrow Terraces.

Boxes can be purchased by emailing admin@eliteecology.co.uk.

The boxes should be positioned two to four metres high on a wall. They must be placed between northern and eastern elevations, thus avoiding strong sunlight and the wettest winds.

The entrance of the box must be kept clear of obstructions, such as branches and vegetation. All bird enhancements must be situated in a way that prevents access to predators, such as cats.

6.4.3 Hedgehogs (*Erinaceus europaeus*)

The site is to be enhanced for the local hedgehog population by four Eco Hedgehog Nest Boxes being installed at the site. This will create more opportunities for hedgehogs within the local landscape. This can be purchased by emailing admin@eliteecology.co.uk.

It is also recommended that small gaps are left within any boundary fencing (if used) to enable the specimens to continue to commute through the area (an example can be found within **Figure 7**). This will ensure that the local hedgehog populations do not become fragmented within the local landscape.

Figure 7: An image of an example hedgehog tunnel (obtained from RSPB).



6.4.4 Invertebrates

At present, the site is not considered to be of any importance to local invertebrate populations. In conjunction with the wildflower planting, the site is to incorporate least four Bumblebee Box into the scheme, along with four Bug Hotel. These can be purchased by emailing admin@eliteecology.co.uk. This will enhance the site for the local invertebrate populations, which will thus attract species further up in the trophic level.

Bumblebee boxes should be made from a wooden frame with nesting tubes within. Plastic should not be used. The frame should be at least height 15cm x width 15cm x length 15cm (slight variation on dimensions is allowed) and must have a solid back. The nesting tubes should be a minimum of 15cm long and should have an average diameter of 2-10mm. The bug hotel should follow similar dimensions and materials used; however additional elements can be included such as drilled pieces of timber where the holes are at least 10cm deep. Bug hotels including items such as pinecones, glued snail shells, wood shavings or clear plastic tubes should be strictly avoided (**Figure 8**).

Smaller, more frequent bumblebee boxes/insect hotels are preferred to larger insect boxes as the larger varieties are susceptible to spreading diseases and parasites and can actually cause more harm than good.

When situating the box, it should be fixed securely to a sturdy surface at least 1m off of the ground, ideally on an easter-southern elevation so that the box is in full sunlight. No vegetation should be in front the box as it would obscure the entrances to the tunnels. The box would benefit from being placed close to plants rich in a pollen source throughout the year.

Figure 8: Image showing the difference between a good (right) and a bad (left) insect hotel, taken from the Entomologist Lounge website.



7 **Timing, Phasing, and Duration of Conservation Measures**

7.1 **Construction Phase**

Creation	Timing	Species
Woodland	Plant between October and April.	Canopy: silver birch (<i>Betula pendula</i>), elder (<i>Sambucus nigra</i>), field maple (<i>Acer campestre</i>), hazel (<i>Corylus avellana</i>), oak (<i>Quercus robur</i>), Understory: hazel (<i>Corylus avellana</i>), holly (<i>Ilex aquifolium</i>), silver birch (<i>Betula pendula</i>), blackthorn (<i>Prunus spinosa</i>), buckthorn (<i>Rhamnus catharticus</i>), dogwood (<i>Cornus sanguinea</i>), wild cherry (<i>Prunus avium</i>)
Tree Planting	Plant between October and April.	Downy birch (<i>Betula pubescens</i>), holly (<i>Ilex aquifolium</i>), hornbeam (<i>Carpinus betulus</i>), rowan (<i>Sorbus aucuparia</i>), silver birch (<i>Betula pendula</i>), wild cherry (<i>Prunus avium</i>), and wild service tree (<i>Sorbus torminalis</i>). Apple (<i>Malus x domestica</i>), cherry plum (<i>Prunus cerasifera</i>), pear (<i>Pyrus communis</i>), plum (<i>Prunus domestica</i>), and walnut (<i>Juglans regia</i>).
New Scrub Planting	Plant between October and April.	Buckthorn (<i>Rhamnus catharticus</i>), Blackthorn (<i>Prunus spinosa</i>), Dogwood (<i>Cornus sanguinea</i>), and Wild Cherry (<i>Prunus avium</i>).
Wildflower Mix	May to September	General Purpose Mix Wildflowers total 20% Borage (<i>Borago officinalis</i>) 1.4%, corn poppy (<i>Papaver Rhoeas</i>) 2.0%, cornflower (<i>Cenaturea Cyanus</i>) 1.6%, lesser knapweed (<i>Centaurea nigra</i>) 0.6%, musk mallow (<i>Malva moschata</i>) 0.4%, ox eye daisy (<i>Leucanthemum Vulgare</i>) 0.6%, red campion (<i>Silene Dioica</i>) 3.0%, ribwort plantain (<i>Plantago lanceolata</i>) 2.4%, salad burnet (<i>Sanguisorba Minor</i>) 3.0%, selfheal (<i>Prunella Vulgaris</i>) 1.0%, white campion (<i>Silene Alba</i>) 2.4%, wild red clover (<i>Trifolium pratense</i>)1.0%, and yarrow, (<i>Achillea millefolium</i>) 0.6%. Grasses (Total 80%) Chewings Fescue (<i>Festuca rubra subsp. commutata</i>) 24%, common bent (<i>Agrostis capillaris</i>) 4.4%, crested dogs tail (<i>Cynosurus cristatus</i>) 1.6%, slender creeping red fescue (<i>Festuca rubra subsp. litoralis</i>) 20%, strong creeping red fescue (<i>Festuca rubra</i>) 28%, sweet vernal grass (<i>Anthoxanthum odoratum</i>) 1%, and yellow oat grass (<i>Trisetum flavescens</i>) 1%. Shade Tolerant Mix Wildflowers Common Knapweed (<i>Centaurea nigra</i>) 2.00%, Cow Parsley (<i>Anthriscus sylvestris</i>) 0.50%, Crosswort (<i>Cruciata laevipes</i>) 2.00%, Field Scabious (<i>Knautia arvensis</i>) 0.20%, Garlic Mustard (<i>Alliaria petiolata</i>) 1.00%, Grey Sedge (<i>Carex divulsa</i>) 1.50%, Hedge Bedstraw (<i>Galium album</i>) 0.50%, Hedge Crane's-bill (<i>Geranium pyreniacum</i>) 1.00%, Meadow Crane's bill (<i>Geranium pratense</i>) 0.10%, Moon Daisy (<i>Leucanthemum vulgare</i>) 1.00%, Musk Mallow (<i>Malva moschata</i>) 1.00%, Ragged Robin (<i>Silene flos-cuculi</i>) 0.50%, Red Champion (<i>Silene dioica</i>) 3.00%, Ribwort Plantain (<i>Plantago lanceolata</i>) 2.00%, Rough Chervil (<i>Chaerophyllum temulum</i>) 3.00%, Upright Hedge-parsley (<i>Torilis japonica</i>) 0.10%, Wild Teasel (<i>Dipsacus fullonum</i>) 0.20%, Wood Avens (<i>Geum urbanum</i>) 0.30% and Yarrow (<i>Achillea millefolium</i>) 0.10% Grasses Common bent (<i>Agrostis capillaris</i>) 1.00%, crested dogstail (<i>Cynosurus cristatus</i>) 50.00%, false brome (<i>Brachypodium sylvaticum</i>) 1.00%, red fescue (<i>Festuca rubra</i>) 20.00%, sweet vernal-grass (<i>Anthoxanthum odoratum</i>) 2.00%, tufted hairgrass (<i>Deschampsia cespitosa</i>) 2.00%, and wood meadow-grass (<i>Poa nemoralis</i>) 4.00%. Woodland Mix Flowers total 100%: bluebell seed (Hyancith non Scripta) 2.5%, common agrimony (Agrimonia Eupotar) 5.0%, hedge bedstraw (Galium Mollugo) 15.0%, hedge garlic (Alliaria Petiolata) 10.0%, hedge woundwort (Stachys Sylvatica) 2.5%, herb bennet (Geum Urbanum) 5.0%, nettle leaved bell flower (Campanula Trachnium) 1.0%, ragged robin (Lychnis Flos Cuculi) 1.0%, red campion (Silene Dioica) 17.0%, self heal (Prunella Vulgaris) 17.0%, square st john's wort (Hypericum tetrapterum) 0.5%, sweet cicely (Myrrhis Odorta) 6.0%, upright hedge parsley (Torilis Japonica) 6.0%. Welsh Poppy (Meconopsis Cambria) 0.25%, wild angelica (Angelica Sylvestri) 2.0%, wild foxglove (Digitalis Purpurea) 7.5%, and wood sage (Teucrium Scorodonia) 1.5%.
Hedgerow	Plant between October and April.	50% hawthorn (<i>Crataegus monogyna</i>), 25% hazel (<i>Corylus avellana</i>), 15% field maple (<i>Acer campestre</i>), 2% holly (<i>Ilex aquifolium</i>), 2% wild privet (<i>Ligustrum vulgare</i>), 2% guelder rose (<i>Viburnum opulus</i>), 2% dog rose (<i>Rosa canina</i>) and 2% buckthorn (<i>Rhamnus catharticus</i>)
Pond	Any time	See species listed in section 6.3.6

7.2 Operational Phase

Management	Reason for and Frequency of schedule	Yearly Management									
Woodland	Allow for variation in the structure and maturity of the scrub whilst ensuring the habitat is still available for use by wildlife Implementation of woodland rides to create a large amount of diverse habitat for insects and Foraging bats	Year 1- Plant Recommended Tree and scrub Species Leave to mature	Year 2- No action	Year 3- No action	Year 4- No action	Year 5- No action	Year 6- No action	Year 7- No action	Year 8- No action	Year 9- No action	Year 10- No action
		Year 11- No action	Year 12- No action	Year 13- No action	Year 14- No action	Select one third of the new mixed scrub for coppice in Year 15. Re-coppice section every 9 years Plant scrub along the juvenile trees (November) Leave a 2-metre buffer of rough grass September to form woodland ride	Year 16- No action	Year 17- No action	Select second third of the new mixed scrub for coppice in Year 18. Re-coppice section every 9 years	Year 19- No action	Year 20- No action
		Select final third of the new mixed scrub for coppice in Year 21. Re-coppice section every 9 years	Year 22- No action	Year 23- No action	Select one third of the new mixed scrub for coppice in Year 24. Re-coppice section every 9 years Select one third of the woodland ride for coppice	Year 25- No action	Year 26- No action	Select the second third of the new mixed scrub for coppice in Year 27. Re-coppice section every 9 years Plant Juvenile trees of native species along the woodland edge (October) Select second third of the woodland ride for coppice	Year 28- No action	Year 29- No action	Select final of the new mixed scrub for coppice in Year 30. Re-coppice section every 9 years Select final third of the woodland ride for coppice
Wildflowers	To maximise biodiversity. Beneficial to invertebrates.	Year 1- Sow May to September.	Year 2 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 3 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 4 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 5 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 6 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 7 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 8 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 9 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 10 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.
		Year 11 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 12 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 13 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 14 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 15 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 16 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 17 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 18 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 19 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 20 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.
		Year 21 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 22 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 23 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 24 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 25 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 26 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 27 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 28 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 29 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.	Year 30 Autumn cut - Cut back to height of 7.5cm only and cut between the end of August and late November.

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Mixed Scrub	Allow for variation in the structure and maturity of the scrub whilst ensuring the habitat is still available for use by wildlife.	Year 1 Remove introduced scrub. Remove one third of existing scrub. Plant recommended species. Leave to mature.	Year 2 No action.	Year 3 No action.	Year 4 Remove one third of existing scrub. Plant recommended species. Leave to mature.	Year 5 No action.	Year 6 No action.	Year 7 Remove one third of existing scrub. Plant recommended species. Leave to mature.	Year 8 No action.	Year 9 No action.	Year 10 No action.
		Select one third of the new mixed scrub for coppice in Year 11 . Re-coppice section every nine years.	Year 12 No action.	Year 13 No action.	Select Second third of the new mixed scrub for coppice in Year 14 . Re-coppice section every nine years.	Year 15 No action.	Year 17 No action.	Select last third of the new mixed scrub for coppice in Year 17 . Re-coppice section every nine years.	Year 18 No action.	Year 19 No action.	Re-coppice 1 st section in Year 20 . Re-coppice section every nine years.
		Year 21 No action.	Year 22 No action.	Re-coppice 2 nd section in Year 23 . Coppice one third of the new scrub that replaced the existing. Re-coppice section every nine years.	Year 24 No action.	Year 25 No action.	Re-coppice 3 rd section in Year 26 . Coppice 2 nd third of the new scrub that replaced the existing. Re-coppice section every nine years.	Year 27 No action.	Year 28 No action.	Re-coppice 1st section in Year 29 . Coppice Last third of the new scrub that replaced the existing. Re-coppice section every nine years.	Year 30 No action.
Hedgerow	Year 1 Plant hedgerow be made up of at least 5 different native species. These hedgerows will be planted at 30cm intervals Year 11 Cut the 1 st 1/3 of the hedge Leave deadwood where it has been felled or move into a shaded area Re-Cut section every 5 years Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge Year 20 Cut the 1 st 1/3 of the hedge Leave deadwood where it has been felled or move into a shaded area Re-Cut section every 5 years	Year 2 Weed around the base of the shrub to prevent competition. In late summer, any shrubs that have died will be replaced in the Autumn In the shrub's first spring cut the hedge down to 45-60cm off the ground to promote a thicker hedge Leave a wild undisturbed margin adjacent to the hedge	Year 3 Weed around the base of the shrub to prevent competition. In late summer, any shrubs that have died will be replaced in the Autumn Allow the hedge to reach an average height of 2m with a width of 1.5m Leave a wild undisturbed margin adjacent to the hedge	Year 4 Weed around the base of the shrub to prevent competition. In late summer, any shrubs that have died will be replaced in the Autumn Allow the hedge to reach an average height of 2m with a width of 1.5m Leave a wild undisturbed margin adjacent to the hedge	Year 5 Weed around the base of the shrub to prevent competition. In late summer, any shrubs that have died will be replaced in the Autumn Allow the hedge to reach an average height of 2m with a width of 1.5m Leave a wild undisturbed margin adjacent to the hedge	Year 6 Cut the 1 st 1/3 of the hedge Leave deadwood where it has been felled or move into a shaded area Re-Cut section every 5 years Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 7 Cut the 2 nd 1/3 of the hedge Leave deadwood where it has been felled or move into a shaded area Re-Cut section every 5 years Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 8 Cut the 3 rd 1/3 of the hedge Leave deadwood where it has been felled or move into a shaded area Re-Cut section every 5 years Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 9 Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 10 Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 1 Plant hedgerow be made up of at least 5 different native species. These hedgerows will be planted at 30cm intervals
		Year 12 Cut the 2 nd 1/3 of the hedge Leave deadwood where it has been felled or move into a shaded area Re-Cut section every 5 years Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 13 Cut the 3 rd 1/3 of the hedge Leave deadwood where it has been felled or move into a shaded area Re-Cut section every 5 years Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 14 Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 15 Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 16 Cut the 1 st 1/3 of the hedge Leave deadwood where it has been felled or move into a shaded area Re-Cut section every 5 years Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 17 Cut the 2 nd 1/3 of the hedge Leave deadwood where it has been felled or move into a shaded area Re-Cut section every 5 years Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 18 Cut the 3 rd 1/3 of the hedge Leave deadwood where it has been felled or move into a shaded area Re-Cut section every 5 years Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 19 Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 20 Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 11 Cut the 1 st 1/3 of the hedge Leave deadwood where it has been felled or move into a shaded area Re-Cut section every 5 years Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge

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	Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge										
		Year 21 Cut the 2 nd 1/3 of the hedge Leave deadwood where it has been felled or move into a shaded area Re-Cut section every 5 years Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 22 Cut the 3 rd 1/3 of the hedge Leave deadwood where it has been felled or move into a shaded area Re-Cut section every 5 years Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 23 Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 24 Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 25 Cut the 1 st 1/3 of the hedge Leave deadwood where it has been felled or move into a shaded area Re-Cut section every 5 years Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 27 Cut the 2 nd 1/3 of the hedge Leave deadwood where it has been felled or move into a shaded area Re-Cut section every 5 years Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 28 Cut the 3 rd 1/3 of the hedge Leave deadwood where it has been felled or move into a shaded area Re-Cut section every 5 years Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 29 Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 30 Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge	Year 20 Cut the 1 st 1/3 of the hedge Leave deadwood where it has been felled or move into a shaded area Re-Cut section every 5 years Weed around the base of the shrub to prevent competition. Leave a wild undisturbed margin adjacent to the hedge
Control of Aggressive Weeds	Any weeds which grow on site and are thought to be aggressive and pose a threat to the success of the planted trees should be eradicated. Plant ID survey undertaken twice yearly.	Year 1 plant ID survey: March	Year 2 plant ID survey: March	Year 3 plant ID survey: March	Year 4 plant ID survey: March	Year 5 plant ID survey: March	Year 6 plant ID survey: March	Year 7 plant ID survey: March	Year 8 plant ID survey: March	Year 9 plant ID survey: March	Year 10 plant ID survey: March
		plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July
		Year 11 plant ID survey: March	Year 12 plant ID survey: March	Year 13 plant ID survey: March	Year 14 plant ID survey: March	Year 15 plant ID survey: March	Year 16 plant ID survey: March	Year 17 plant ID survey: March	Year 18 plant ID survey: March	Year 19 plant ID survey: March	Year 20 plant ID survey: March
		plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July
		Year 21 plant ID survey: March	Year 22 plant ID survey: March	Year 23 plant ID survey: March	Year 24 plant ID survey: March	Year 25 plant ID survey: March	Year 26 plant ID survey: March	Year 27 plant ID survey: March	Year 28 plant ID survey: March	Year 29 plant ID survey: March	Year 30 plant ID survey: March
		plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July	plant ID survey: July

7.3 Post-works - Habitat Condition Monitoring Timetable

Post-Monitoring Type	Colour
Progression Check	
Assessing if habitat has met target condition	
Monitoring if Target condition is retained	

Habitat	Year														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Woodland															
Mixed Scrub															
Wildflowers															
New trees															
Pond															
Habitat	Year														
	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Woodland															
Mixed Scrub															
Wildflowers															
New trees															
Pond															

8. Good Practice Principles for Development

8.1 Principle 1: Mitigation Hierarchy

Elite Ecology was instructed to undertake a Preliminary Ecological Appraisal of the site. However, the site has now been cleared. Due to this principle has not been met.

8.2 Principle 2: Irreplaceable Habitats

Elite Ecology was instructed to undertake a Preliminary Ecological Appraisal of the site. However, the site has now been cleared. Due to this principle has not been met.

8.3 Principle 3: Inclusivity

Feedback from the stakeholders is welcome and this document is to be updated to fit requirements. This Biodiversity Net Gain Report has included recommendations to benefit the site while allowing it to be used for its intended purpose.

8.4 Principle 4: Risks

Post monitoring and a management scheme has been recommended to ensure habitats meet conditions. This principle has been met.

8.5 Principle 5: Measurable Net Gain Contribution

On-site:

The net unit change for the area habitats on site is calculated at **-7.00** units, which correlates to a loss of **78.86%** in biodiversity units.

The net unit change for the linear habitats on site is calculated at **0.41** units, which correlates to a gain of **25.23%** in biodiversity units.

The net unit change for the watercourse habitats on site is calculated at **-0.00** units, which correlates to a loss of **0.00%** in biodiversity units.

Off-site:

The net unit change for the area habitats off site is calculated at **-5.51** units, which correlates to a loss of **29.45%** in biodiversity units.

The net unit change for the linear habitats off site is calculated at **-2.65** units, which correlates to a loss of **68.90%** in biodiversity units.

The net unit change for the watercourse habitats off site is calculated at **-0.00** units, which correlates to a loss of **0.00%** in biodiversity units.

Total:

The total net unit change for the area habitats is calculated at **-26.00**, which correlates to a loss of **-292.77%** in biodiversity units.

The total net unit change for the linear habitats is calculated at **4.00** units, which correlates to a loss of **243.75%** in biodiversity units.

The total net unit change for the watercourse habitats is calculated at **-0.00** units, which correlates to a loss of **0.00%** in biodiversity units.

8.6 Principle 6: Best Outcomes for Biodiversity

Elite Ecology was instructed to undertake a Preliminary Ecological Appraisal of the site. However, the site has now been cleared. Due to this principle has not been met.

8.7 Principle 7: Be Additional

Elite Ecology was instructed to undertake a Preliminary Ecological Appraisal of the site. However, the site has now been cleared. Due to this principle has not been met.

8.8 Principle 8: Net Gain Legacy

The site has not achieved a measurable net gain. This principle has not been met

8.9 Principle 9: Sustainability

No green infrastructure has been recommended for this project due to the scope of the proposed development. This principle has been met.

8.10 Principle 10: Transparency

Feedback from the stakeholders is welcome and this document is to be updated to fit requirements. This Biodiversity Net Gain Report has included recommendations to benefit the site while allowing it to be used for its intended purpose.

9. References

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10. Appendices

Appendix A: Site Plans

Appendix B: Habitat Condition Assessment Sheets

Appendix C: Baseline Habitat Map

Appendix D: New Habitat Maps

Appendix E: Site Photographs

Appendix F: Biodiversity Net Gain Relevant Policies

Appendix G: Bat and Artificial Light

Forest Hills Golf Club Ltd
Markfield Lane Botcheston
Leicester LE9 9

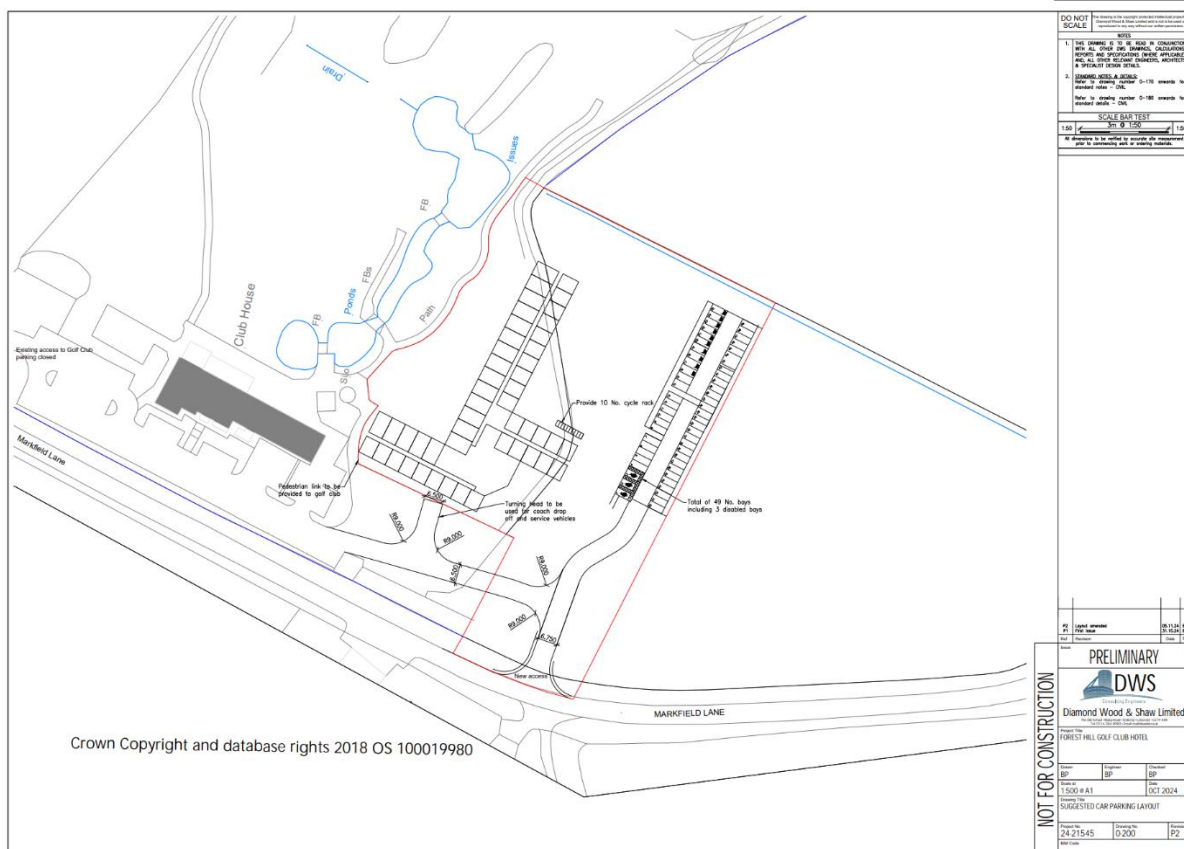
Fosse Survey Revised Topo (2)

F116(90)01

Scale 1:2500 @ A2 Date August '24 Drawn by mac. tmc.

MAC
design consultants

5 Geddington Close
Wigston
Leicester LE18 3QU
tel: 01773 662319
collins.knighton@btinternet.co.uk



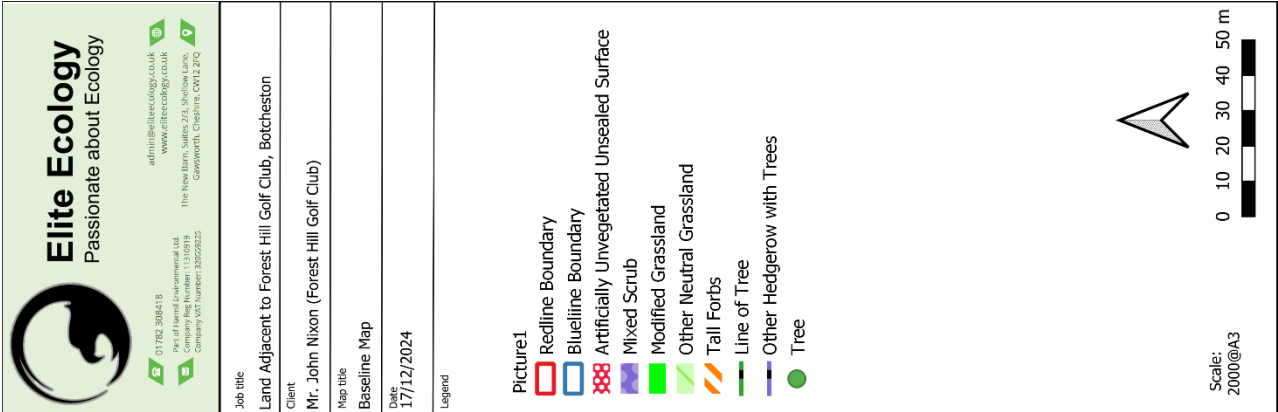
Appendix B: Habitat Condition Assessment Sheets

Condition Assessment Criteria: Modified Grassland		Criterion Passed
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 <i>Rubus fruticosus</i> 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).	No
F	Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.	Yes
G	There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA).	Yes
Score		3
Condition		Poor

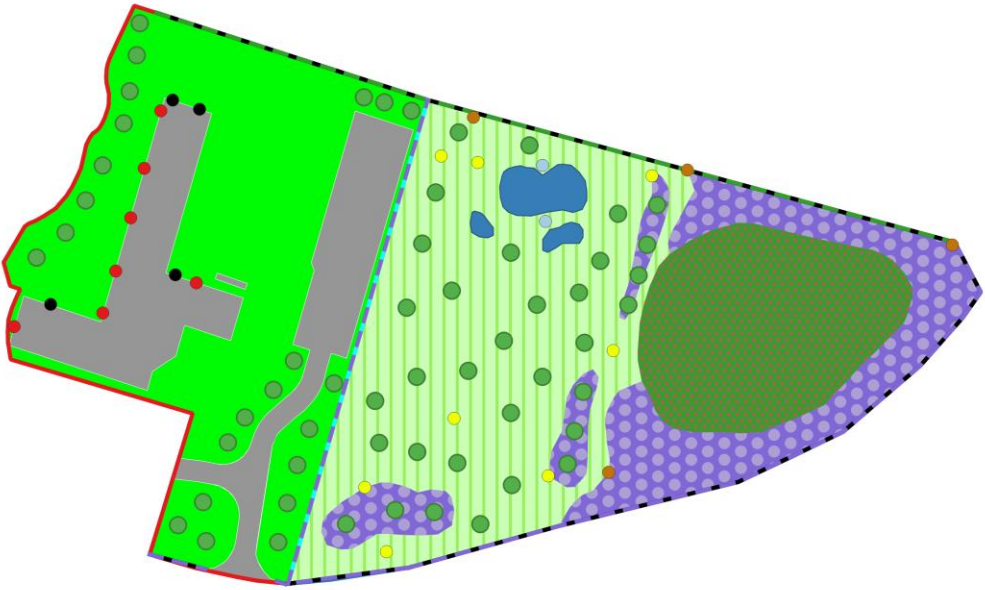
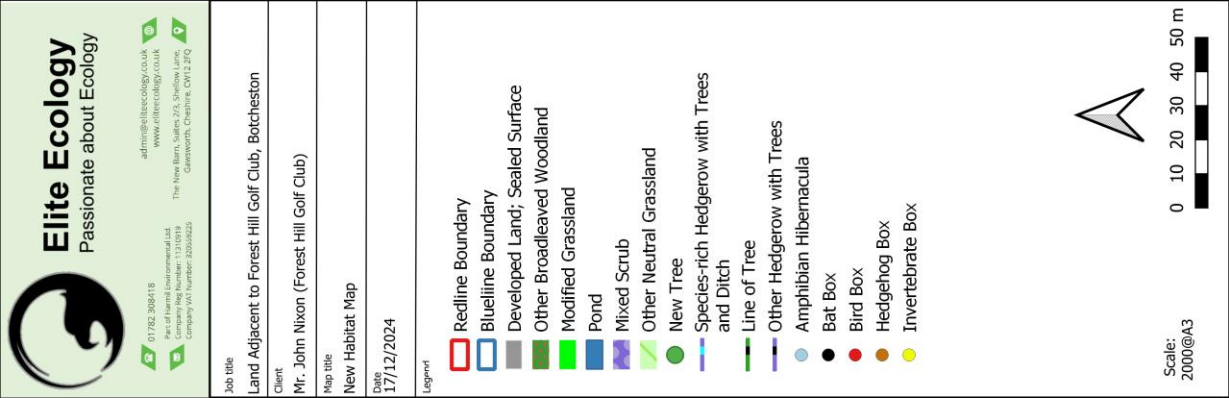
Condition Assessment Criteria: Line of Trees		Criterion Passed
A	At least 70% of trees are native species.	No
B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Yes
C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	Yes
D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice.	No
E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). 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.	No
Score		1
Condition		Poor

Condition Assessment Criteria: Ditch		<u>Criterion Passed</u>
A	The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.	No
B	A range of emergent, submerged and floating-leaved plants are present. As a guide >10 species of emergent, floating or submerged plants present in a 20 m ditch length.	No
C	There is less than 10% cover of filamentous algae and or duckweed Lemna spp. (these are signs of eutrophication).	Yes
D	A fringe of aquatic marginal vegetation is present along more than 75% of the ditch.	Yes
E	Physical damage is evident along less than 5% of the ditch, with examples of damage including: excessive poaching, damage from machinery use or storage, or any other damaging management activities.	Yes
F	Sufficient water levels are maintained - as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains.	No
G	Less than 10% of the ditch is heavily shaded.	Yes
H	There is an absence of non-native plant and animal species.	
Score		4
Condition		Poor

Appendix C: Baseline Habitat Map



Appendix D: New Habitat Map



Appendix E: Site Photographs

Plate and Description	Image
Plate 1: Image showing the site clearance.	
Plate 2: Image showing the site clearance and retained hedgerow with trees	

Plate 3: Image showing the site clearance and retained line of trees



Plate 4: Image showing the site clearance.



Plate 5: Image showing the modified grassland.



Plate 6: Image showing the site clearance and line of trees



Appendix F: Biodiversity Net Gain Relevant Policies

Environmental Act 2021

Part 6 on nature and biodiversity covers all areas of biodiversity net gain across two core sections. This Act mandates that all planning meets a minimum of a 10% gain in biodiversity calculated using the appropriate Metric and that the newly created habitats are secured for at least 30 years.

National Planning Policy Framework (NPPF)

While currently not a legal obligation, biodiversity and environmental net gains are mentioned in the revised National Planning Policy Framework (NPPF) within the following paragraphs (please refer to the NPPF for the full quotations):

Achieving sustainable development

Paragraph 8 Section C. *“an environmental objective – **to protect and enhance our natural, built and historic environment**; including making effective use of land, **improving biodiversity**, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.”*

Preparing and reviewing plans

Paragraph 32. *“Local plans and spatial development strategies should be informed throughout their preparation by a sustainability appraisal that meets the relevant legal requirements. This **should demonstrate how the plan** has addressed relevant economic, social and **environmental objectives** (including **opportunities for net gains**). Significant **adverse impacts on these objectives should be avoided** and, wherever possible, alternative options which reduce or eliminate such impacts should be pursued. Where significant adverse impacts are unavoidable, suitable mitigation measures should be proposed (or, where this is not possible, compensatory measures should be considered).”*

Identifying land for homes

Paragraph 73 section C. *“consider the opportunities presented by existing or planned investment in infrastructure, the area’s economic potential and the scope for **net environmental gains**”*

Transport infrastructure:

Paragraph 104. *“Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:
d) the environmental impacts of traffic and transport infrastructure can be identified assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for **net environmental gains**.*

Planning decisions:

Paragraph 119 *“Planning decisions and planning policy should a) encourage multiple benefits from both urban and rural land ... and taking opportunities to **achieve net environmental gains** - such as developments that would enable new habitat creation.”*

Conserving and enhancing the natural environment

Paragraph 174 Section D. “**minimising impacts on and providing net gains for biodiversity**, including by establishing coherent ecological networks that are more resilient to current and future pressures”

Habitats and biodiversity

Paragraph 179. “To protect and enhance biodiversity and geodiversity, plans should:

a) Identify, map and **safeguard components of local wildlife-rich habitats** and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, **enhancement, restoration or creation**;

and b) promote **the conservation, restoration and enhancement of priority habitats**, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing **measurable net gains for biodiversity**.”

Paragraph 180. “When determining planning applications, local planning authorities should apply the following principles:

a) if **significant harm to biodiversity** resulting from a development **cannot be avoided** (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then **planning permission should be refused**;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the **loss or deterioration of irreplaceable habitats** (such as ancient woodland and ancient or veteran trees) **should be refused**, unless there are wholly exceptional reasons and a suitable compensation strategy exists;

and d) development **whose primary objective is to conserve or enhance biodiversity should be supported**; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can **secure measurable net gains for biodiversity** or enhance public access to nature where this is appropriate.”

Local Plan

Biodiversity Net Gain is not mentioned with the Hinckley & Bosworth Borough Council Local Development Framework Core Strategy

Appendix G: Bats and Artificial Light

Artificial lighting is known to affect bat's roosting and foraging behaviour, with lighting resulting in a range of impacts that includes roost desertion (BCT, 2009), delayed emergence of roosting bats (Downs et al., 2003), increased activity of some bat species and decreased activity by others (Stone et al., 2012).

An experimental approach using LED units, demonstrated that relatively fast-flying bat species, including the common pipistrelle, showed no significant impacts as a result of new artificial lighting, even when lighting was set at relatively high levels close to 50 lux.

In contrast, slow flying bats such as the myotis bats (*Myotis* spp.) showed sharp reductions in presence, even at low light levels of 3.6 lux (Stone et al., 2012).

Current recommendations for all bat species specifies that no bat roost should be directly illuminated.

Due to the impacts of lighting, mitigation and sensitive lighting design schemes are required for projects where bats are present. These should include bat friendly lighting plans that should aim to avoid lighting wherever possible. If this is not possible, then the minimisation of any lighting impacts is required by adopting the following measures:

➤ **To introduce lighting curfews or use of PIR sensors.**

Lighting curfews can be an effective way of avoiding impacts on bats. These curfews may involve either turning off lighting or dimming light units at specific times of the night, dimming units at key times of the year, providing the luminaire allows for this option via a control unit. Lighting to be triggered by PIR sensors can be expected to be illuminated only when required and for a low proportion of time.

➤ **To consider no lighting solutions where possible.**

Options such as white lining, good signage and LED cat's eyes should be considered as preferable. Reflective fittings may help make use of headlights to provide any necessary illumination in some areas.

➤ **To use only high pressure sodium or warm white LED lamps where possible.**

High pressure sodium and warm white LED lamps emit lower proportions of insect attracting UV light than mercury, metal halide lamps and white LED lighting. Generally, lamps should have a lower proportion of white or blue wavelengths, with a colour temperature <4200 kelvin recommended (BCT, 2014).

➤ **To minimise the spread of light.**

The light spread should be kept at or near horizontal to ensure that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Baffles, hoods, louvres and shields should be used where necessary to reduce light spill.

➤ **To consider the height of the lighting column.**

While downward facing bollard lighting is often preferable, it should be noted that a lower mounting height does not automatically reduce impacts to bats as bollard lighting can often be designed to provide up-lighting. Where bollard lighting is considered to be the most appropriate system, bollard spacing or unit density should be kept to a minimum and units should be fitted with the appropriate hoods/deflectors to reduce any up-lighting.

➤ **To avoid reflective surfaces below lights.**

The polarisation of light by shiny surfaces attracts insects increasing bat activity (BCT, 2012). Consequently, surface materials around lighting require consideration.

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