



MKA
ECOLOGY

Design Stage Biodiversity Net Gain Plan

Land East of Walnut Tree Road, Pirton

Site	Land East of Walnut Tree Road, Pirton
Project number	163024
Client name / Address	Blakeney Estates Ltd, Unit 4, Water End Barns, Eversholt, Bedfordshire, MK17 9EA

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Declaration of compliance

The information which we have provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.



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CONTENTS

1.	EXECUTIVE SUMMARY	3
2.	INTRODUCTION	5
2.1.	Purpose.....	5
3.	HABITATS.....	7
3.1.	Present – baseline condition survey	7
3.2.	Future – proposed landscape and enhancements	7
4.	METHODOLOGIES.....	10
4.1.	Biodiversity Net Gain assessor.....	10
4.2.	Assignment of habitats	10
4.3.	Trading Summary	11
4.4.	Mapping habitats	11
4.5.	Hedgerows.....	11
4.6.	Rivers and streams.....	12
4.7.	Habitat degradation	12
4.8.	Sharing data	12
4.9.	Assumptions and constraints.....	12
5.	RESULTS AND RECOMMENDATIONS	18
5.1.	Results	18
5.2.	Recommendations	19
6.	CONCLUSIONS	21
7.	REFERENCES	22
8.	APPENDICES	23
8.1.	Appendix 1: Assignment of biodiversity metric multipliers.....	23
8.2.	Appendix 2: Biodiversity net gain calculator	37

1. EXECUTIVE SUMMARY

In June 2025 MKA Ecology Limited was commissioned to undertake a Biodiversity Net Gain assessment for Land East of Walnut Tree Road, Pirton. This Biodiversity Net Gain Plan has been prepared to detail how the biodiversity enhancements in the proposed scheme will lead to an overall benefit to biodiversity.

The Site currently comprises modified grassland, bramble scrub, hardstanding, buildings, rural trees, a line of trees and species-rich native hedgerows with trees, and covers a total of 3.05 hectares. The proposed development involves the construction of 50 residential dwellings with associated access, parking facilities, gardens and landscaping. The newly proposed habitats include buildings, hardstanding access and parking facilities, vegetated garden, modified grassland, other neutral grassland, mixed scrub, a pond, native tree planting, retention of four species-rich native hedgerows with trees and the line of trees, enhancement of a retained section of species-rich native hedgerow with trees, and creation of new species-rich native hedgerows and species-rich native hedgerows with trees. As this is an outline application the areas of habitat are estimated and may be subject to change.

To provide an objective assessment of the potential value of the proposed biodiversity enhancements, the Defra Statutory Biodiversity Metric (Defra, 2024) is applied. The measures, a proxy for biodiversity that use habitat types and their areas, are compared before (the existing condition) and after the completion of the proposed development.

It is concluded that the proposed development will lead to a net loss of 2.15 habitat units and a gain of 2.73 hedgerow units. This constitutes a net loss of -19.32% in habitat units and a net gain of 23.41% in hedgerow units. The net loss in habitat units is due to the loss of a large area of modified grassland and the creation of large areas of low and very low distinctiveness habitats including buildings, hardstanding and private gardens.

The Environment Act (2021) includes a mandatory requirement for development sites to deliver at least a 10% net gain in biodiversity. There is currently a predicted net loss of 2.15 habitat units onsite. In order to offset this loss and achieve the necessary 10% net gain in biodiversity and meet the metric trading rules 3.26 habitat units of any habitat (which can be low distinctiveness habitat or a higher distinctiveness habitat), will need to be procured from a habitat bank to replace the lost modified grassland. This should be required as a result of a planning approval. The Biodiversity Net Gain targets for hedgerow units are currently met under the proposed scheme, so no hedgerow units will be required offsite.

The predicted net-gain in biodiversity is reliant on the successful restoration and/or creation of habitats and their maintenance for the foreseeable future. It will be critical to ensure that appropriate

management activities are put in place in order to achieve the desired condition of the proposed habitats. It is recommended that measures to ensure the successful creation and long-term management of proposed habitats are outlined in a Habitat Management and Monitoring Plan (HMMP) for the Site and the procured offsite units.

2. INTRODUCTION

2.1. Purpose

This Biodiversity Net Gain Plan is submitted for the approval of North Hertfordshire District Council to support an outline planning application by demonstrating how a minimum 10% net gain in biodiversity will be achieved onsite to fulfil the requirements of the Environment Plan.

The purpose of this assessment is to review the existing biodiversity value of the Site, comparing this to the proposed landscape masterplan and calculate an overall biodiversity net change for the Site. The primary method of calculating this change will follow the Defra Statutory Biodiversity Metric (Defra, 2024). The aim of using this method is to demonstrate whether the proposed development and landscape masterplan will deliver a net gain in biodiversity.

The process of achieving and assessing Biodiversity Net Gain should follow the below principles and rules, as set out within *Biodiversity Net Gain, Good Practice Principles for Development* (Baker *et al.*, 2019) (Table 1) and *The Statutory Biodiversity Metric – User Guide (draft)* (Defra, 2024) (Table 2).

This Biodiversity Net Gain Plan is in line with British Standard BS8683.

Table 1: The UK's good practice principles for biodiversity net gain (Baker *et al.*, 2019)

Principle	In practice
1. Apply the mitigation hierarchy	Do everything possible to first avoid and then minimise impacts on biodiversity. Only as a last resort, and in agreement with external decision makers where possible, compensate for losses that cannot be avoided. If compensating for losses within the development footprint is not possible or does not generate the most benefits for nature conservation, then offset biodiversity losses by gains elsewhere.
2. Avoid losing biodiversity that cannot be offset elsewhere	Avoid impacts on irreplaceable biodiversity – these impacts cannot be offset to achieve NNL/net gain.
3. Be inclusive and equitable	Engage stakeholders early, and involve them in designing, implementing, monitoring and evaluating the approach to net gain. Achieve net gain in partnership with stakeholders where possible.
4. Address risk	Mitigate difficulty, uncertainty and other risks to achieving net gain. Apply well-accepted ways to add contingency when calculating biodiversity losses and gains in order to account for any remaining risks, as well as to compensate for the time between losses occurring and gains being fully realised.
5. Make a measurable net gain contribution	Achieve a measurable, overall gain for biodiversity and the services ecosystems provide while directly contributing towards nature conservation priorities.

Principle	In practice
6. Achieve the best outcomes for biodiversity	Achieve the best outcomes for biodiversity by using robust, credible evidence and local knowledge to make clearly-justified choices when: • Delivering compensation that is ecologically equivalent in type, amount and condition, and that accounts for the location and timing of biodiversity losses • Compensating for losses of one type of biodiversity by providing a different type that delivers greater benefits for nature conservation • Achieving Net Gain locally to the development while also contributing towards nature conservation priorities at local, regional and national levels • Enhancing existing or creating new habitat • Enhancing ecological connectivity by creating more, bigger, better and joined areas for biodiversity
7. Be additional	Achieve nature conservation outcomes that demonstrably exceed existing obligations (i.e. do not deliver something that would occur anyway).
8. Create a Net Gain legacy	Ensure Net Gain generates long-term benefits by: • Engaging stakeholders and jointly agreeing practical solutions that secure Net Gain in perpetuity • Planning for adaptive management and securing dedicated funding for long-term management • Designing Net Gain for biodiversity to be resilient to external factors, especially climate change • Mitigating risks from other land uses • Avoiding displacing harmful activities from one location to another and • Supporting local-level management
9. Optimise sustainability	Prioritise Biodiversity Net Gain and, where possible, optimise the wider environmental benefits for a sustainable society and economy.
10. Be transparent	Communicate all Net Gain activities in a transparent and timely manner, sharing the learning with all stakeholders.

Table 2: Biodiversity net gain rules (Defra, 2024)

Rule	In practice
1	The trading rules of this biodiversity metric must be followed.
2	Biodiversity unit outputs, for each type of unit, must not be summed, traded, or converted between types. The requirement to deliver at least a 10% net gain applies to each type of unit.
3	To accurately apply the biodiversity metric formula, you must use the biodiversity metric calculation tool or small sites biodiversity metric tool (SSM) for small sites. The tools remove the need for a user to manually calculate the change in biodiversity value. The tool will summarise the results of the calculation and inform a user whether the biodiversity net gain objective has been met.
4	In exceptional ecological circumstances, deviation from this biodiversity metric methodology may be permitted by the relevant planning authority.

3. HABITATS

3.1. Present – baseline condition survey

A Preliminary Ecological Appraisal was conducted by MKA Ecology Ltd on 17 September 2024 (MKA Ecology Ltd, 2025a) to inform the baseline habitats present. The Site was found to cover a total of 3.1 hectares and comprises modified grassland, bramble scrub, buildings, hardstanding, individual rural trees, a line of trees and species-rich native hedgerows with trees. The habitats at the Site were mapped during the Preliminary Ecological Appraisal and are presented in Figure 1. The areas occupied by each habitat type are detailed in Table 4 in the next section.

A condition assessment of the baseline habitats was conducted on 17 September 2024. More information on how habitat conditions were assigned is provided in Appendix 1.

Survey constraints of the Preliminary Ecological Appraisal are described in Section 4.9.

There are no irreplaceable habitats present within the red line boundary. Please note that any impacts on designated sites and protected species that may result from the development have been addressed in the Preliminary Ecological Appraisal, which also outlines plans for mitigation and enhancement where required (MKA Ecology Ltd, 2025).

3.2. Future – proposed landscape and enhancements

The proposed development involves the construction of 50 residential dwellings with associated access roads and landscaping. The initial Site plan for Land East of Walnut Tree Road, Pirton is presented in Figure 2. Proposed habitats include retaining the species-rich native hedgerows with trees at the northern, eastern and southern boundaries, retaining the line of trees at the southwestern boundary, enhancing a section of the existing species-rich native hedgerow with trees that is to be retained at the centre of the Site, the creation of other neutral grassland, modified grassland, mixed scrub, species-rich native hedgerows, species-rich native hedgerows with trees, buildings, hardstanding, vegetated gardens, a pond and native tree planting.

It is these proposed habitats that will form the basis of the calculation of 'net-change' in biodiversity using the Defra metric (see Section 1).

Figure 1: Habitats at Land East of Walnut Tree Road, Pirton



Figure 2. Initial Site Plan for Land East of Walnut Tree Road, Pirton



4. METHODOLOGIES

4.1. Biodiversity Net Gain assessor

This Biodiversity Net Gain assessment was conducted by Eleanor Richards, Ecologist at MKA Ecology Ltd. Eleanor has over two years' experience conducting Biodiversity Net Gain assessments and is considered a competent assessor under the Statutory Biodiversity Metric requirements (Defra, 2024). The Biodiversity Net Gain Plan was reviewed by Liam Price MCIEEM, Senior Ecologist at MKA Ecology Ltd, and approved by Andy Symes ACIEEM, Senior Ecologist at MKA Ecology Ltd. Both Liam and Andy have over seven years of experience in ecological consultancy.

4.2. Assignment of habitats

To establish whether the proposed development will contribute positively to biodiversity we use the Defra Statutory Biodiversity Metric (Defra, 2024). This method uses habitat as a proxy for biodiversity and its primary application is to provide planners and developers with a method of establishing how much and what type of habitats should be created or enhanced in order to ensure that the proposed development results in a net gain for biodiversity. Habitats are assigned the following scores:

- Distinctiveness: A measure of the type and importance of a habitat.
- Condition: A measure of the present or predicted condition of a habitat type.
- Strategic significance: How a habitat is regarded within Local Planning Policy.

Habitat distinctiveness is automatically assigned in the Statutory Biodiversity Metric. Please see Appendix 1 for further information on how habitat condition and strategic significance was assigned in this assessment.

For proposed habitats, where there is an attempt to predict the habitat type following establishment additional handicaps or risk scores are imposed representing the following factors:

- Difficulty: More difficult habitats incur a greater risk.
- Time to condition: In general, it takes longer for habitats to reach a better condition, plus certain habitats by their very nature take longer to create or restore.
- If the creation or enhancement of habitats is delayed, an additional risk score is applied. This will not apply in the present case.
- If habitats are created off-site, an additional risk score is applied. This will apply in the present case.

The multipliers used in habitat assignment in the Biodiversity Net Gain Metric are detailed further in Table 3 below.

Table 3: Multipliers used in the calculation of Biodiversity Net Gain

Multiplier	When applied	Description
Distinctiveness	Before and after	A measure of the type of habitat, automatically assigned within the Metric. Habitats with greater value are assigned a higher score.
Condition	Before and after	The condition of the habitat. Uses the Technical Supplement (<i>Panks et al. 2021a</i>); Higher levels of condition give rise to greater values. In some cases, no condition assessment is required and these habitats are automatically allocated a score.
Strategic significance	Before and after	Whether a habitat is important within its local context.
Time to target condition	After	Used to account for the fact that habitat creation as part of a development is rarely instant. A 'handicap' is applied, with habitats that take longer to establish resulting in a greater reduction.
Difficulty of creation/restoration	After	Habitats that are more difficult to create/restore cause a reduction in the biodiversity unit as they are associated with a greater risk of failure.
Spatial risk	After	Habitat that is created at a greater distance away from the development site carries a greater risk of removing other natural habitats.
Advanced and delayed habitat creation	After	Used to account for situations where there is a mismatch between a negative impact on biodiversity and work to create or enhance the 'post-intervention habitats'. This can either be in the form of habitat creation occurring in advance or being delayed beyond the point of baseline losses.

4.3. Trading Summary

The Defra Statutory Biodiversity Metric includes a Trading Summary which must be satisfied to achieve a positive outcome in the Net Gain assessment (see Rule 1, Table 2). The trading rules ensures that habitat losses are compensated for on a “like for like” or “like for better” basis. Newly created or enhanced habitats should achieve a higher distinctiveness and/or condition than those lost.

Further details on how the metric is calculated is provided in the aforementioned publications, with more site-specific detail provided in Appendix 1 and Appendix 2.

4.4. Mapping habitats

Current habitats were mapped and areas calculated using QGIS during the Preliminary Ecological Appraisal (see Section 3.1 for details of habitat types). The proposed habitats were calculated in QGIS using a digitised and geo-referenced version of the Initial Site Plan provided in Figure 2 (see Section 3.2 for details of habitat types).

4.5. Hedgerows

Hedgerows, given their unique linear characteristic and their position as ‘edge habitats’ are treated as linear features in the Statutory Biodiversity Metric calculator and are calculated as ‘hedgerow units’.

The metrics calculated for hedgerows have therefore been calculated and presented separately. Current and proposed hedgerows were mapped, and their lengths calculated, using QGIS.

4.6. Rivers and streams

Rivers and streams, given their linear form and important role in habitat connectivity, are treated as linear features in the Statutory Biodiversity Metric calculator and are calculated as 'watercourse units'. The metrics calculated for rivers and streams are therefore calculated and presented separately. No rivers are present on site and therefore this category is omitted in this assessment.

4.7. Habitat degradation

It is confirmed that the baseline habitats have not been significantly altered or modified since 30 January 2020 and, as such, it is appropriate to assess the baseline habitats in their current condition.

4.8. Sharing data

Relevant ecological data collected during baseline habitat and protected species surveys at the Site will be shared with Hertfordshire Environmental Records Centre following acceptance of this Biodiversity Net Gain Plan.

4.9. Assumptions and constraints

Several assumptions are made to enable this Biodiversity Net Gain assessment. The primary assumptions are listed below:

- As this is an outline application, some habitat areas have been estimated; for example the proportion of garden to built habitats. Therefore, the biodiversity unit output for these habitats is also an estimate.
- The net gains in biodiversity that are estimated are reliant on the successful restoration and/or creation of habitats and their maintenance for the foreseeable future; this is particularly true of the other neutral grassland, pond and native tree planting.
- It is assumed that there will be no time delay in establishing the habitats.

No significant constraints were experienced during the Preliminary Ecological Appraisal that were considered to have influenced the baseline assessment of habitats present.

Table 4: Attribution of multiplier levels to each habitat type at present and for the proposed development

Habitat type and area	Multiplier (and score)					
	Distinctiveness (automatically assigned)	Condition	Strategic significance	Time to target condition	Difficulty of creation/ enhancement	Spatial risk
<i>Current habitats</i>						
Modified grassland (1.19 ha)	Low (2)	Good (3)	Low (1.0)	-	-	-
Modified grassland (1.83 ha)	Low (2)	Poor (1)	Low (1.0)	-	-	-
Bramble scrub (0.012)	Medium (4)	Condition Assessment N/A (1)	Low (1.00)	-	-	-
Developed land; sealed surface (0.021 ha)	Very Low (0)	N/A – Other (0)	Low (1.00)	-	-	-
Rural tree (0.0326 ha)	Medium (4)	Moderate (2)	Low (1.00)	-	-	-
<i>Proposed habitats</i>						
Urban tree (0.1751 ha)	Medium (4)	Moderate (2)	High (1.15)	27 years (0.382)	Low (1)	Within site
Developed land; sealed surface (buildings) (0.431 ha)	Very Low (0)	N/A – Other (0)	Low (1.00)	0 years (1)	Low (1)	Within site
Developed land; sealed surface (hardstanding) (0.775 ha)	Very Low (0)	N/A – Other (0)	Low (1.00)	0 years (1)	Low (1)	Within site
Mixed scrub (0.023 ha)	Medium (4)	Poor (1)	High (1.15)	1 year (0.965)	Low (1)	Within site
Vegetated garden (0.639 ha)	Low (2)	Condition Assessment N/A (1)	Low (1.00)	1 year (0.965)	Low (1)	Within site

Habitat type and area	Multiplier (and score)					
	Distinctiveness (automatically assigned)	Condition	Strategic significance	Time to target condition	Difficulty of creation/ enhancement	Spatial risk
Ponds (non-priority) (0.083)	Medium (4)	Moderate (2)	High (1.15)	3 years (0.899)	Low (1)	Within site
Other neutral grassland (0.5581 ha)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837 ha)	Low (1)	Within site
Modified grassland (0.5449 ha)	Low (2)	Poor (1)	Low (1.00)	1 year (0.965)	Low (1)	Within site
Urban tree (0.2036 ha)	Medium (4)	Moderate (2)	High (1.15)	27 years (0.382)	Low (1)	Within site
<i>Current hedgerows</i>						
Species-rich native hedgerow with trees (0.243 km)	High (6)	Poor (1)	High (1.15)	-	-	-
Species-rich native hedgerow with trees (0.121 km)	High (6)	Good (3)	High (1.15)	-	-	-
Species-rich native hedgerow with trees (0.229 km)	High (6)	Good (3)	High (1.15)	-	-	-
Species-rich native hedgerow with trees (0.188 km)	High (6)	Moderate (2)	High (1.15)	-	-	-
Line of trees (0.06 km)	Low (2)	Poor (1)	High (1.15)	-	-	-
<i>Proposed hedgerows</i>						
Species-rich native hedgerow with trees (0.0453 km)	High (6)	Moderate (2)	High (1.15)	10 years (0.700)	Low (1)	Within site
Species rich native hedgerow with trees (0.071 km)	High (6)	Moderate (2)	High (1.15)	10 years (0.700)	Low (1)	Within site

Habitat type and area	Multiplier (and score)					
	Distinctiveness (automatically assigned)	Condition	Strategic significance	Time to target condition	Difficulty of creation/ enhancement	Spatial risk
Species-rich native hedgerow (0.0122 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site
Species-rich native hedgerow (0.0272 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site
Species-rich native hedgerow with trees (0.043 km)	High (6)	Moderate (2)	High (1.15)	10 years (0.700)	Low (1)	Within site
Species-rich native hedgerow (0.0132 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site
Species-rich native hedgerow (0.0075 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site
Species-rich native hedgerow (0.0268 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site
Species-rich native hedgerow (0.0225 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site
Species-rich native hedgerow (0.0203 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site
Species-rich native hedgerow (0.0179 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site
Species-rich native hedgerow (0.0283 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site
Species-rich native hedgerow (0.008 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site
Species-rich native hedgerow (0.0134 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site
Species-rich native hedgerow (0.0067 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site

Habitat type and area	Multiplier (and score)					
	Distinctiveness (automatically assigned)	Condition	Strategic significance	Time to target condition	Difficulty of creation/ enhancement	Spatial risk
Species-rich native hedgerow (0.021 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site
Species-rich native hedgerow with trees (0.0239 km)	High (6)	Moderate (2)	High (1.15)	10 years (0.700)	Low (1)	Within site
Species-rich native hedgerow (0.0228 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site
Species-rich native hedgerow (0.0061 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site
Species-rich native hedgerow (0.0222 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site
Species-rich native hedgerow (0.0127 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site
Species-rich native hedgerow (0.037 km)	Medium (4)	Moderate (2)	High (1.15)	5 years (0.837)	Low (1)	Within site
<i>Hedgerows to be retained and enhanced</i>						
Species-rich native hedgerow with trees (0.038 km)	High (6)	Good (3)	High (1.15)	10 years (0.700)	Low (1)	Within site
<i>Hedgerows to be retained</i>						
Species-rich native hedgerow with trees (0.011 km)	High (6)	Poor (1)	High (1.15)	-	-	-
Species-rich native hedgerow with trees (0.121 km)	High (6)	Good (3)	High (1.15)	-	-	-
Species-rich native hedgerow with trees (0.229 km)	High (6)	Good (3)	High (1.15)	-	-	-

Habitat type and area	Multiplier (and score)					
	Distinctiveness (automatically assigned)	Condition	Strategic significance	Time to target condition	Difficulty of creation/ enhancement	Spatial risk
Species-rich native hedgerow with trees (0.146 km)	High (6)	Moderate (2)	High (1.15)	-	-	-
Line of trees (0.06 km)	Low (2)	Poor (1)	High (1.15)	-	-	-

5. RESULTS AND RECOMMENDATIONS

5.1. Results

The overall comparison of biodiversity units is presented in Table 5 below. The calculator used to derive these figures is provided as a separate appendix (Appendix 2) to this report. With the current layout, there will be a net loss of biodiversity of -19.32% with a negative net change of -2.15 habitat units. The proposed species-rich native hedgerows and species-rich native hedgerows with trees which are set to achieve moderate condition will deliver 2.73 hedgerow units, which result in a 23.41% net gain in hedgerow units. Due to the outline nature of the application, it should be noted that the areas of the proposed habitats are estimated.

Table 5: Results of biodiversity metric calculations

Habitat	Biodiversity units (current)*	Biodiversity units (proposed)*	Biodiversity net-change*	Net percentage change
Habitats	11.11	8.96	-2.15	-19.32%
Hedgerows	11.65	14.38	2.73	23.41%

* Habitat and hedgerow units, as appropriate

The baseline habitat units at the Site are largely generated by the 3.02 hectares of modified grassland in good and poor condition (10.80 units). A large area of the current grassland will be replaced with other neutral grassland in moderate condition post-development to provide 4.30 habitat units, this is the largest number of units that will be generated by the proposed habitats. The second largest number of habitat units onsite will be generated through planting 93 small native trees onsite (1.33 units) set to achieve moderate condition. Due to the proposed loss of the majority of the modified grassland, and the large proportion of low and very-low distinctiveness proposed habitats; including hardstanding, buildings and private gardens, there is currently a net loss at the Site caused by a deficit of 2.156 habitat units.

In order to produce the required 10% net gain in biodiversity onsite 3.26 habitat units will need to be procured, either by creating or enhancing habitats offsite or by purchasing units through a habitat bank. As modified grassland is a low distinctiveness habitat, any habitat of the same or higher distinctiveness can be created or enhanced to generate the required 3.26 habitat units; ideally these units will be generated by grassland habitat.

Bird and bat boxes will also be installed in the new buildings as part of the proposed landscaping plans. The Statutory Biodiversity Metric has no means to formally account for these enhancements in the net

gain assessment. However, they will provide additional value for biodiversity post-development and therefore should be noted.

5.2. Recommendations

The Environment Act (2021) includes a mandatory requirement for development sites to deliver at least a 10% biodiversity net gain. There is currently a net loss of 2.15 habitat units predicted in this assessment. The statutory metric relies on a number of trading rules that need to be satisfied based on the distinctiveness of the habitat. For low distinctiveness habitats this requires that any habitats that are lost must be replaced with a habitat of the same distinctiveness or a higher distinctiveness habitat. The trading rules are not currently satisfied for low distinctiveness habitats due to the predicted loss of a large area of modified grassland. In order to mitigate for the predicted loss in biodiversity, achieve the required 10% net gain in biodiversity, and satisfy the metric trading rules 3.26 habitat units of a low distinctiveness or a higher distinctiveness habitat, will be required in order to offset this loss.

It is recommended that 3.26 habitat units are procured from a habitat bank in order to achieve a 10% net gain in biodiversity through off-setting. The procurement of these units should be required as a condition of planning approval for development.

Recommendation 1

Procure 3.26 habitat units of any habitat, low distinctiveness or a higher distinctiveness, from an offsite provider in order to offset the loss of biodiversity. This should be delivered as a condition of planning approval.

The overall net gain in biodiversity units predicted in this assessment is reliant on the successful restoration and/or creation of habitats and their maintenance for the foreseeable future. It is critical that habitats and hedgerows on site reach the target condition estimated in this assessment and this will require careful consideration during both the planning and construction phase. It is particularly important that the species-rich native hedgerows with trees and other neutral grassland achieve moderate condition.

Offsite units are required to offset the loss of biodiversity onsite and ensure that a net gain in biodiversity and it will be critical that these units meet the targeted condition that will be estimated following their procurement.

It is recommended that a Habitat Management and Monitoring Plan (HMMP) is produced for the Site and the required offsite units. This will outline measures for the successful creation and management of habitats for a minimum of 30 years to ensure the target conditions for each habitat type is reached as outlined in this assessment.

Recommendation 2

Produce a Habitat Management and Monitoring Plan (HMMP) for the Site and the required offsite units covering a minimum of 30 years post-development.

6. CONCLUSIONS

The proposed development at Land East of Walnut Tree Road, Pirton involves the construction of 50 residential dwellings with associated access, gardens and landscaping. The landscaping plans include residential dwellings, with hardstanding access and parking facilities, with vegetated private gardens, modified grassland, other neutral grassland, mixed scrub, a pond, native tree planting, retention of a line of trees and three species-rich native hedgerows with trees, the enhancement of a retained section of species-native hedgerow with trees, and the creation of new species-rich native hedgerows and species-rich native hedgerows with trees. However, due to the outline nature of the application, it should be noted that the areas of the proposed habitats are estimated.

The use of the Defra Statutory Biodiversity Metric to calculate measures of biodiversity for the existing and proposed habitats confirm that the proposed development is likely to lead to a net loss of 2.15 habitat units and a gain of 2.73 hedgerow units. This constitutes a net loss of -19.32% in habitat units and a net gain of 23.41% in hedgerow units.

The Environment Act (2021) includes a mandatory requirement for development sites to deliver at least a 10% net gain in biodiversity. There is currently a predicted net loss of 2.15 habitat units onsite. In order to offset this loss and achieve the necessary 10% net gain in biodiversity and meet the metric trading rules 3.26 habitat units of any low distinctiveness or a higher distinctiveness habitat type, will need to be procured from a habitat bank. This should be required as a result of a planning approval.

The predicted net-gain in biodiversity is reliant on the successful restoration and/or creation of habitats and their maintenance for the foreseeable future. It will be critical to ensure that appropriate management activities are put in place in order to achieve the desired condition of the proposed habitats. It is recommended that measures to ensure the successful creation and long-term management of proposed habitats are outlined in a Habitat Management and Monitoring Plan (HMMP) for the Site and the procured offsite units.

7. REFERENCES

Baker, J., Hoskin, R. & Butterworth., T. (2019) *Biodiversity net gain: Good practice principles for development. Part A. A practical guide*. CIRIA, UK

Department for Environment, Food & Rural Affairs (Defra) (2024) *The Statutory Biodiversity Metric – User Guide – February 2024*. Available at: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>

MKA Ecology Ltd (2025) *Land East of Walnut Tree Road, Pirton - Preliminary Ecological Appraisal*. MKA Ecology Ltd: Cambridge.

8. APPENDICES

8.1. Appendix 1: Assignment of biodiversity metric multipliers

Strategic significance

Strategic significance was set to low for all baseline area habitats as the area has no known existing priority habitats or is within a designated area. The strategic significance was set to high for all baseline hedgerows and lines of trees and for all created and enhanced hedgerow habitats as hedgerows and lines of trees are notable habitats within the North Hertfordshire District Council Local Plan (North Hertfordshire District Council, 2022). Strategic significance was set to high for the created other neutral grassland, pond, mixed scrub and trees as the Site is partially located within an area which has been designated as a high priority for habitat creation within the Hertfordshire Ecological Networks Map (Hertfordshire County Council, 2013).

Condition

The below tables detail the rationale for the condition assessments made for each habitat type.

Current habitats

Habitat	Condition score	Rationale for condition assessment
Heathland and shrub – bramble scrub	N/A	No condition assessment required – allocated a score of 1
Urban – developed land; sealed surface	N/A – other	No condition assessment required – allocated a score of 0

Modified grassland (G1)

Condition Assessment Criteria		Rationale for Meeting Condition Assessment Criteria	
A	There are 6-8 vascular plant species per m ² present, including at least 2 forbs Note - this criterion is essential for achieving Moderate or Good condition.	Six species per m ² recorded on average across the sward with at least two forb species recorded including black medick <i>Medicago lupulina</i> , and creeping cinquefoil <i>Potentilla reptans</i> .	✓
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.	Grassland is currently evenly mown.	x
C	Some scattered scrub (including bramble <i>Rubus fruticosus</i> agg.) may be present, but scrub accounts for less than 20% of total grassland area.	Bramble scrub is present within the grassland; however, this was present over less than 20% of the grassland.	✓
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage	No significant physical damage evident.	✓

Condition Assessment Criteria		Rationale for Meeting Condition Assessment Criteria	
	<i>include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.</i>		
E	<i>Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).</i>	Areas of bare ground were present within threshold levels.	✓
F	<i>Cover of bracken Pteridium aquilinum is less than 20%.</i>	No bracken present.	✓
G	<i>There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA).</i>	No INNS recorded.	✓
Condition: Good Meets six of the seven criteria, including criterion A			

Modified grassland (G2)

Condition Assessment Criteria		Rationale for Meeting Condition Assessment Criteria	
A	<i>There are 6-8 vascular plant species per m2 present, including at least 2 forbs</i> Note - this criterion is essential for achieving Moderate or Good condition.	Five species per m ² were recorded on average within the grassland.	x
B	<i>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.</i>	Grassland is currently evenly mown.	x
C	<i>Some scattered scrub (including bramble Rubus fruticosus agg.) may be present, but scrub accounts for less than 20% of total grassland area.</i>	No scrub present within grassland.	✓
D	<i>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.</i>	No significant physical damage evident.	✓
E	<i>Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).</i>	No bare ground was present within the grassland.	x
F	<i>Cover of bracken Pteridium aquilinum is less than 20%.</i>	No bracken present.	✓
G	<i>There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA).</i>	No INNS recorded.	✓
Condition: Poor Meets four of the seven criteria, but fails essential criterion A.			

Rural trees

Condition Assessment criteria		Rationale for Meeting Condition Assessment Criteria	
A	More than 70% of trees are native species.	The majority of the trees onsite are native or naturalised species, oak <i>Quercus robur</i> , ash <i>Fraxinus excelsior</i> , horse chestnut <i>Aesculus hippocastanum</i> and elm <i>Ulmus sp.</i>	✓
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.	Individual trees automatically pass this criterion. The group of trees at the north eastern boundary had continuous canopy cover.	✓
C	More than 50% of trees are mature or veteran.	None of the trees are mature.	x
D	There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime so the trees retain >75% of expected canopy for their age range and height.	Trees are healthy with no sign of a regular pruning regime.	✓
E	Management regime has encouraged micro habitat sites for birds, mammals and insects e.g. presence of deadwood, cavities or loose bark etc.	None of the trees had veteran features or significant ecological niches that would support other wildlife.	x
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	All of the trees are within the grassland and so at least 20% of the canopy oversails vegetation.	✓
*	Condition: Moderate Four criteria out of six met.		

Current hedgerows

Species-rich native hedgerows with trees (H1)

Condition Assessment criteria		Rationale for Meeting Condition Assessment Criteria	
A1	Height: Greater than 1.5m average along length	The hedgerow is over 1.5m in height	✓
A2	Width: Greater than 1.5m average along length	The hedgerow is over 1.5m in width.	✓
B1	Gap - hedge base: Gap between ground and base of canopy less than 0.5m for more than 90% of length	Gaps at least 0.5m are present at the base of the canopy over more than 10% of the hedgerow.	x
B2	Gap - hedge canopy continuity: Gaps make up less than 10% of total length and no canopy gaps greater than 5m	Gaps in the canopy are present across more than 10% of the hedgerow.	x
C1	Undisturbed ground and perennial vegetation: Greater than 1m width of undisturbed ground with perennial herbaceous vegetation for more than 90% of length (measured from outer edge of hedgerow), is present on at least one side of the hedge	Short mown modified grassland surrounds majority of the hedgerow, except where patches of tall nettles dominated on one side of the hedgerow. On the other side of the hedgerow a longer sward was present but pieces of farm equipment, piles of pallets and logs were stored adjacent to the hedgerow.	x
C2	Undesirable perennial vegetation: Plant species indicative of nutrient enrichment of soils dominate less than 20% cover of the area of undisturbed ground	Common nettle is present within the grassland at the base of the hedgerow across more than 20% of the length.	x
D1	Invasive and neophyte species: More than 90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species	No invasive or neophyte species were identified within the hedgerow or surrounding vegetation.	✓

D2	<i>Current damage: More than 90% of the hedgerow or undisturbed ground is free of damage caused by human activities</i>	The hedgerow is free of damage.	✓
E1	<i>Tree class: There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and/or ancient) and there is on average at least one mature, ancient or veteran tree present per 20-50m of hedgerow.</i>	More than one tree class is present within the hedgerow with mature trees and young trees present.	✓
E2	<i>Tree health: At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.</i>	All of the trees within the hedgerow are healthy and are not damaged.	✓
*	Condition: Poor Fails four attributes, and fails both attributes in more than one functional group.		

Species-rich native hedgerows with trees (H2)

Condition Assessment criteria		Rationale for Meeting Condition Assessment Criteria	
A1	<i>Height: Greater than 1.5m average along length</i>	Hedgerow is taller than 1.5m on average across length.	✓
A2	<i>Width: Greater than 1.5m average along length</i>	Hedgerow is wider than 1.5m on average across length.	✓
B1	<i>Gap - hedge base: Gap between ground and base of canopy less than 0.5m for more than 90% of length</i>	The hedgerow has a continuous canopy at the base of the hedgerow.	✓
B2	<i>Gap - hedge canopy continuity: Gaps make up less than 10% of total length and no canopy gaps greater than 5m</i>	The hedgerow has a continuous canopy.	✓
C1	<i>Undisturbed ground and perennial vegetation: Greater than 1m width of undisturbed ground with perennial herbaceous vegetation for more than 90% of length (measured from outer edge of hedgerow), is present on at least one side of the hedge</i>	The grassland at the base of the hedgerow is mown to a short sward.	x
C2	<i>Undesirable perennial vegetation: Plant species indicative of nutrient enrichment of soils dominate less than 20% cover of the area of undisturbed ground</i>	No undesirable plant species are present within the 1m strip of grassland bordering the hedgerow.	✓
D1	<i>Invasive and neophyte species: More than 90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species</i>	No invasive non-native species or neophyte species were recorded within the hedgerow or grassland.	✓
D2	<i>Current damage: More than 90% of the hedgerow or undisturbed ground is free of damage caused by human activities</i>	The hedgerow and adjacent grassland is free from damage caused by human activities.	✓
E1	<i>Tree class: There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and/or ancient) and there is on average at least one mature, ancient or veteran tree present per 20-50m of hedgerow.</i>	Only one tree class, mature, is present within the hedgerow.	x
E2	<i>Tree health: At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree</i>	All of the trees are in a healthy condition.	✓

	health by damage from livestock or wild animals, pests or diseases, or human activity.	
*	Condition: Good Fails two attributes, but these are not in the same functional group.	

Species-rich native hedgerow with trees (H3)

Condition Assessment criteria		Rationale for Meeting Condition Assessment Criteria	
A1	Height: Greater than 1.5m average along length	Hedgerow is taller than 1.5m on average across length.	✓
A2	Width: Greater than 1.5m average along length	Hedgerow is wider than 1.5m on average across length.	✓
B1	Gap - hedge base: Gap between ground and base of canopy less than 0.5m for more than 90% of length	The hedgerow has a continuous canopy at the base of the hedgerow.	✓
B2	Gap - hedge canopy continuity: Gaps make up less than 10% of total length and no canopy gaps greater than 5m	The hedgerow has a continuous canopy.	✓
C1	Undisturbed ground and perennial vegetation: Greater than 1m width of undisturbed ground with perennial herbaceous vegetation for more than 90% of length (measured from outer edge of hedgerow), is present on at least one side of the hedge	The grassland at the base of the hedgerow is mown to a short sward.	x
C2	Undesirable perennial vegetation: Plant species indicative of nutrient enrichment of soils dominate less than 20% cover of the area of undisturbed ground	No undesirable plant species are present within the 1m strip of grassland bordering the hedgerow.	✓
D1	Invasive and neophyte species: More than 90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species	No invasive non-native species or neophyte species were recorded within the hedgerow or grassland.	✓
D2	Current damage: More than 90% of the hedgerow or undisturbed ground is free of damage caused by human activities	The hedgerow and adjacent grassland is free from damage caused by human activities.	✓
E1	Tree class: There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and/or ancient) and there is on average at least one mature, ancient or veteran tree present per 20-50m of hedgerow.	More than one tree class is present within the hedgerow, mature and young trees.	✓
E2	Tree health: At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	All of the trees are in a healthy condition.	✓
*	Condition: Good Fails one attribute.		

Species-rich native hedgerow (H4)

Condition Assessment criteria		Rationale for Meeting Condition Assessment Criteria	
A1	Height: Greater than 1.5m average along length	Hedgerow is taller than 1.5m on average across length.	✓

A2	Width: Greater than 1.5m average along length	Hedgerow is wider than 1.5m on average across length.	✓
B1	Gap - hedge base: Gap between ground and base of canopy less than 0.5m for more than 90% of length	Gaps of 0.5m or more are present across more than 10% of the hedgerow.	x
B2	Gap - hedge canopy continuity: Gaps make up less than 10% of total length and no canopy gaps greater than 5m	Gaps within the canopy are present across more than 10% of the hedgerow.	x
C1	Undisturbed ground and perennial vegetation: Greater than 1m width of undisturbed ground with perennial herbaceous vegetation for more than 90% of length (measured from outer edge of hedgerow), is present on at least one side of the hedge	The grassland at the edge of the hedgerow is used as a storage area for farm equipment and pallets.	x
C2	Undesirable perennial vegetation: Plant species indicative of nutrient enrichment of soils dominate less than 20% cover of the area of undisturbed ground	No undesirable vegetation or species indicative of nutrient enrichment were present within the grass within 1m of the hedgerow.	✓
D1	Invasive and neophyte species: More than 90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species	No invasive non-native species or neophyte species are present in the hedgerow or grassland.	✓
D2	Current damage: More than 90% of the hedgerow or undisturbed ground is free of damage caused by human activities	The hedgerow is free from damage.	✓
E1	Tree class: There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and/or ancient) and there is on average at least one mature, ancient or veteran tree present per 20-50m of hedgerow.	More than one age class of trees is present within the hedgerow, mature and young.	✓
E2	Tree health: At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	All of the trees within the hedgerow are healthy with the exception of the standing deadwood.	✓
*	Condition: Moderate Fails three attributes, and fails both attributes in functional group B.		

Line of trees

Condition Assessment Criteria		Rationale for Meeting Condition Assessment Criteria	
1	At least 70% of trees are native species.	All of the trees are native or naturalised species, horse chestnut <i>Aesculus hippocastanum</i> , sycamore <i>Acer pseudoplatanus</i> and elm <i>Ulmus</i> sp.	✓
2	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5m wide.	The canopy is not continuous with lots of gaps between the trees.	x
3	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.	None of the trees have veteran features or natural ecological niches.	x
4	There is an undisturbed naturally-vegetated strip of at least 6m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are	The line of trees is bordered by short mown grass on one side and a road on the other.	x

Condition Assessment Criteria		Rationale for Meeting Condition Assessment Criteria	
	present, root protection areas should follow standing advice.		
5	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.	All of the trees are in a healthy condition with no signs of disease, damage from pests or due to anthropogenic measures.	✓
Condition: Poor Meets two out of five criteria			

Proposed habitats

Habitat	Condition score	Rationale for condition assessment
Urban – vegetated garden	Poor	No specific condition assessment for vegetated garden – conservative approach used when estimating condition for this habitat
Urban – developed land; sealed surface	NA – other	No condition assessment required – allocated a score of 0

Other neutral grassland (moderate condition)

Condition Assessment Criteria		Rationale for Meeting Condition Assessment Criteria	
1	The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description – the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present. Note: this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	The other neutral grassland is to be planted at the boundaries of the hedgerows, trees and pond within the biodiversity retention zones and buffer zones for the existing hedgerows and trees. The other neutral grassland will be adjacent to footpaths, the play area and will likely experience some trampling and use by residents. With appropriate management including restriction of access and reseedling as necessary and sowing with appropriate seed mixes, the grassland should be a good representation of the habitat type.	✓
2	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% of the sward is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Grassland will be managed so that areas of long grass are retained within the sward such as around trees and within 1m of existing hedgerows to produce a varied sward height with at least 20% of the sward taller than 7cm with the rest of the sward maintained as a short sward.	✓
3	Cover of bare ground is between 1% and 5%, including localised areas, for example rabbit warrens.	Grassland will be managed so that cover of bare ground is within threshold levels. This will include restricting access during very wet weather to prevent erosion and re-seeding where necessary.	✓

Condition Assessment Criteria		Rationale for Meeting Condition Assessment Criteria	
4	Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%	Grassland will be managed to ensure that bracken and bramble remain absent from the grassland, through the removal of bracken and bramble once discovered.	✓
5	Combined cover of species indicative of sub-optimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of the Wildlife and Countryside Act) are present, this criterion is automatically failed.	Grassland will likely be used by residents to make unofficial footpaths, open space and play areas causing damage above threshold levels. Management will be implemented to reduce the levels of damage and restrict access where necessary, but evidence of damage will still likely be above threshold levels.	x
6	There are 10 or more vascular plant species per m ² present, including forbs that are characteristic of the habitat type (species indicative of sub-optimal conditions and non-native invasive species cannot contribute towards this count)	Due to the area that is to be planted and the usage that it is likely to experience by residents even with management measures it is unlikely that the grassland will contain 10 or more vascular plants per m ² .	x
Target Condition: Moderate Should achieve four out of six criteria, including criterion 1			

Modified grassland

Condition Assessment Criteria		Rationale for Meeting Condition Assessment Criteria	
A	There are 6-8 vascular plant species per m ² present, including at least 2 forbs Note - this criterion is essential for achieving Moderate or Good condition.	Due to the location of the grassland within residential areas, and the use of areas of the grassland as a play area, open space and footpath it is likely that this will be planted either with a grass only mix and maintained as a turf lawn, or it will be managed in a way that fewer than six species will be present per m ² .	x
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.	Grassland is expected to be mown to a uniform sward.	x
C	Some scattered scrub (including bramble <i>Rubus fruticosus</i> agg.) may be present, but scrub accounts for less than 20% of total grassland area.	The grassland will be managed to ensure that no scrub is present, and any scrub that colonises will be removed.	✓
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.	As the modified grassland is to be planted within a residential area, and subsequent use as a footpath and play area it is anticipated that this will experience high levels of access and so have evidence of physical damage above threshold levels.	x
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	As the modified grassland is to be planted within a residential area, and subsequent use as a footpath and play area it is anticipated that this	x

Condition Assessment Criteria		Rationale for Meeting Condition Assessment Criteria	
		will experience high levels of access and so have cover of bare ground above threshold levels.	
F	Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.	The grassland will be managed to ensure that no bracken is present, and any bracken that colonises will be removed.	✓
G	There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA).	The grassland will be managed to ensure that no invasive non-native species are present and any invasive non-native species that colonise will be removed immediately upon discovery.	✓
Condition: Poor Should meet three of the seven criteria, but will likely fail essential criterion A.			

Mixed scrub

Condition Assessment Criteria		Rationale for Meeting Condition Assessment Criteria	
A	The scrub is a good representation of the habitat type it has been identified as, based on its UKHab description (where in its natural range). The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type. At least 80% of scrub is native, and there are at least three native woody species, with no single species comprising more than 75% of the cover (excluding exceptions).	Scrub will be planted with a mixture of at least three shrub species, none of which will be dominant and will be managed to ensure no single species dominates the scrub. The scrub should be encouraged to grow into a dense thicket with more than 75% continuous cover in the planting area, with tall grassland adjacent to the scrub edge. However, due to the proximity to residential properties this is likely to be used by residents and children which may restrict the continuity of the scrub.	x
B	Seedlings, saplings, young shrubs and mature (or ancient/veteran) shrubs are all present.	Unlikely to be achieved effectively with the small area of scrub to be planted.	x
C	There is an absence of invasive non-native plant species (listed on Schedule 9 of WCA) and species indicative of sub-optimal condition make up less than 5% of ground cover.	Any invasive non-native species will be removed as soon as they are discovered during monitoring and scrub and grassland around the scrub will be managed to ensure that species indicative of suboptimal condition do not colonise.	✓
D	The scrub has a well-developed edge with scattered scrub and tall grassland and/or forbs present between the scrub and adjacent habitat.	It is unlikely that the scrub will have a well-developed edge due to the small area proposed, the grassland adjacent to the scrub will be maintained at a longer sward around the edge of the scrub but it is unlikely that scattered scrub will develop.	x
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Unlikely to be achieved effectively with the small area of scrub to be planted.	x
*	Target Condition: Poor Should pass one out of five condition criteria.		

Rural trees

Condition Assessment criteria		Rationale for Meeting Condition Assessment Criteria	
A	More than 70% of trees are native species.	All of the trees to be planted will be native species.	✓
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.	Individual trees automatically pass this criterion. Where trees are planted in close proximity, the canopies are likely to form continuous cover once they mature.	✓
C	More than 50% of trees are mature or veteran.	It is not anticipated that the trees will achieve maturity within the 27-year establishment period.	x
D	There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime so the trees retain >75% of expected canopy for their age range and height.	The majority of the trees are unlikely to have a regular pruning regime but the trees to be planted close to buildings will likely have some regular intervention resulting in a reduced canopy. Some evidence of anthropogenic impacts such as vandalism may be present due to the open and public nature of the greenspaces onsite.	x
E	Management regime has encouraged micro habitat sites for birds, mammals and insects e.g. presence of deadwood, cavities or loose bark etc.	Trees are not expected to develop ecological niches such as deadwood and cavities within the within the 27 year period to reach target condition.	x
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Met for proposed planting locations of all new trees.	✓
*	Condition: Moderate Should achieve three out of six criteria.		

Pond

Condition Assessment Criteria		Rationale for Meeting Condition Assessment Criteria	
1	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	The pond is to form part of the drainage strategy for the attenuation of runoff it is not anticipated that the pond will have good water quality.	x
2	There is semi-natural habitat (moderate distinctiveness or above) completely surrounding the pond, for at least 10m from the pond edge for its entire perimeter.	The ground around the pond is to be seeded with wildflower grassland to create other neutral grassland.	✓
3	Less than 10% of the water surface is covered with duckweed <i>Lemna spp.</i> or filamentous algae	Should be achievable with appropriate management and regular removal of duckweed and other filamentous algae.	✓
4	The pond is not artificially connected to other waterbodies, e.g. agricultural ditches or artificial pipework.	As the pond will be part of the drainage strategy for the Site, it is likely that artificial pipework into the pond will be present.	x
5	Pond water levels can fluctuate naturally throughout the year. No obvious artificial dams, pumps or pipework.	As the pond will be part of the drainage strategy for the Site it is likely that artificial pipework into the pond will be present and water levels will not be able to fluctuate.	x
6	There is an absence of listed non-native plant and animal species.	Should be achievable with appropriate management. Any I non-native plant or animal species listed on Schedule 9 found will be removed immediately.	✓

Condition Assessment Criteria		Rationale for Meeting Condition Assessment Criteria	
7	<i>The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.</i>	The pond will not be artificially stocked with fish.	✓
8	<i>Emergent, submerged or floating plants (excluding duckweed) cover at least 50% of the pond area which is less than 3m deep.</i>	The pond will be planted with a mix of native emergent, submerged and floating plants across the pond. The pond will be managed to ensure that this native vegetation covers at least 50% of the pond area and that any duckweed is removed regularly.	✓
9	<i>The pond surface is no more than 50% shaded by adjacent trees and scrub.</i>	The nearby hedgerow and trees will be managed to ensure that no more than 50% of the surface of the pond is shaded.	✓
Condition: Moderate The pond should meet six of the nine possible criteria			

Proposed hedgerows

Species-rich native hedgerow with trees

Condition Assessment criteria		Rationale for Meeting Condition Assessment Criteria	
A1	<i>Height: Greater than 1.5m average along length</i>	The hedgerows should be at least 1.5m tall on average across the length.	✓
A2	<i>Width: Greater than 1.5m average along length</i>	The hedgerows should be at least 1.5m in width on average across the length.	✓
B1	<i>Gap - hedge base: Gap between ground and base of canopy less than 0.5m for more than 90% of length</i>	Should be achievable with appropriate management regime and sensitive trimming to ensure no gaps appear at the base of the canopy.	✓
B2	<i>Gap - hedge canopy continuity: Gaps make up less than 10% of total length and no canopy gaps greater than 5m</i>	Should be achievable with appropriate management regime and sensitive trimming to ensure no gaps appear in the canopy.	✓
C1	<i>Undisturbed ground and perennial vegetation: Greater than 1m width of undisturbed ground with perennial herbaceous vegetation for more than 90% of length (measured from outer edge of hedgerow), is present on at least one side of the hedge</i>	Modified grassland that is likely to be maintained to a short uniform sward is to border the hedgerow.	x
C2	<i>Undesirable perennial vegetation: Plant species indicative of nutrient enrichment of soils dominate less than 20% cover of the area of undisturbed ground</i>	Should be achievable with appropriate management.	✓
D1	<i>Invasive and neophyte species: More than 90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species</i>	Where the hedgerow is adjacent to private gardens it is likely that ornamental neophyte species will be present that may colonise the hedgerow.	x
D2	<i>Current damage: More than 90% of the hedgerow or undisturbed ground is free of damage caused by human activities</i>	The hedgerow and undisturbed ground will be managed to ensure that these remain free of damage.	✓

E1	<i>Tree class: There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and/or ancient) and there is on average at least one mature, ancient or veteran tree present per 20-50m of hedgerow.</i>	Only one age class of tree will be present.	x
E2	<i>Tree health: At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.</i>	Any cutting regimes will avoid excessive damage to trees, and no regular pruning schedule should be implemented to maintain the majority of the predicted tree canopy.	✓
*	Condition: Moderate Likely to fail three criteria with none of these in the same functional group.		

Species- rich native hedgerows

Condition Assessment criteria		Rationale for Meeting Condition Assessment Criteria	
A1	<i>Height: Greater than 1.5m average along length</i>	The hedgerows should be at least 1.5m tall on average across the length.	✓
A2	<i>Width: Greater than 1.5m average along length</i>	The hedgerows should be at least 1.5m in width on average across the length.	✓
B1	<i>Gap - hedge base: Gap between ground and base of canopy less than 0.5m for more than 90% of length</i>	Should be achievable with appropriate management regime and sensitive trimming to ensure no gaps appear at the base of the canopy.	✓
B2	<i>Gap - hedge canopy continuity: Gaps make up less than 10% of total length and no canopy gaps greater than 5m</i>	Should be achievable with appropriate management regime and sensitive trimming to ensure no gaps appear in the canopy.	✓
C1	<i>Undisturbed ground and perennial vegetation: Greater than 1m width of undisturbed ground with perennial herbaceous vegetation for more than 90% of length (measured from outer edge of hedgerow), is present on at least one side of the hedge</i>	Gardens and regularly managed modified grassland to surround the hedgerow.	x
C2	<i>Undesirable perennial vegetation: Plant species indicative of nutrient enrichment of soils dominate less than 20% cover of the area of undisturbed ground</i>	Should be achievable with appropriate management.	✓
D1	<i>Invasive and neophyte species: More than 90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species</i>	Where the hedgerow is adjacent to private gardens it is likely that ornamental neophyte species will be present that may colonise the hedgerow.	x
D2	<i>Current damage: More than 90% of the hedgerow or undisturbed ground is free of damage caused by human activities</i>	Gardens and regularly managed modified grassland to surround the hedgerow.	x
*	Condition: Moderate Likely to fail three attributes, and fail both attributes in one functional group.		

Retained and enhanced hedgerows

Species-rich native hedgerow with trees (H1)

Condition Assessment criteria		Current condition	Proposed condition	Rationale for Meeting Condition Assessment Criteria
A1	Height: Greater than 1.5m average along length	✓	✓	The hedgerow is over 1.5m in height
A2	Width: Greater than 1.5m average along length	✓	✓	The hedgerow is over 1.5m in width.
B1	Gap - hedge base: Gap between ground and base of canopy less than 0.5m for more than 90% of length	x	✓	Gaps at the base of the hedgerow will be filled in with additional planting and a sensitive management strategy will be implemented involving rotational trimming to prioritise outward growth and ensure that the canopy remains continuous at the base.
B2	Gap - hedge canopy continuity: Gaps make up less than 10% of total length and no canopy gaps greater than 5m	x	✓	Gaps in the canopy will be infilled with additional planting and a sensitive management strategy will be implemented involving rotational trimming to ensure that the canopy remains continuous.
C1	Undisturbed ground and perennial vegetation: Greater than 1m width of undisturbed ground with perennial herbaceous vegetation for more than 90% of length (measured from outer edge of hedgerow), is present on at least one side of the hedge	x	✓	Other neutral grassland will be present around the hedgerow, this should be left as a longer sward within at least 1m of the hedgerow to allow for an undisturbed edge to the hedgerow to develop, and allow for variation in the sward.
C2	Undesirable perennial vegetation: Plant species indicative of nutrient enrichment of soils dominate less than 20% cover of the area of undisturbed ground	x	✓	The grassland will be managed to ensure that species indicative of nutrient enrichment do not colonise, and all of the nettles currently surrounding the hedgerow are to be removed. All arisings from the grassland are to be immediately removed to reduce the nutrient load.
D1	Invasive and neophyte species: More than 90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species	✓	✓	The hedgerow and grassland will be regularly monitored and any invasive non-native or neophyte species identified within the grassland or hedgerow will be removed immediately upon discovery.
D2	Current damage: More than 90% of the hedgerow or undisturbed ground is free of damage caused by human activities	✓	✓	The hedgerow is free of damage and will be maintained to remain free of damage.
E1	Tree class: There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and/or ancient) and there is on average at least one mature, ancient or	✓	✓	More than one tree class is present within the hedgerow with mature trees and young trees present.

	veteran tree present per 20-50m of hedgerow.			
E2	Tree health: At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	✓	✓	All of the trees within the hedgerow are healthy and are not damaged, and will be maintained to ensure that they are not damaged.
*	Condition: Good Should fail no attributes.			

8.2. Appendix 2: Biodiversity net gain calculator

As attachment.



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