Avant Homes West Midlands

Land west of Westfield Avenue, Earl Shilton

Biodiversity Net Gain Report

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1.0 INTRODUCTION

1.1 This Biodiversity Net Gain report has been prepared by FPCR Environment and Design Ltd behalf of Avant Homes West Midlands for the development of land west of Westfield Avenue, Earl Shilton, herein referred to as the 'the Site'.

Site location and Context

1.2 The Site is Located North of Heath Lane, Earl Shilton, Leicestershire (Central Grid Ref: SP 46004 97838) Surrounding land-use is dominated by residential development bordered by hedgerows and scattered trees.

1.3 The study area, approximately 0.58 ha in size is comprises of bare ground with areas of poor semi-improved grassland, tall ruderal, and scrub.

Site proposals

1.4 The Site is being proposed for residential development entailing the erection of 18 dwellings, new vehicular and pedestrian access off Westfield Avenue and associated green infrastructure.

Aims and Objectives

1.5 This Biodiversity Net Gain Report is broadly based on the Chartered Institute of Ecology and Environmental Management (CIEEM) guidance[1]. The scope and objectives of this report are to:

- Summarise the results of the baseline UKHab Survey undertaken on the Site and to present the results of habitat condition assessment surveys following Defra Biodiversity Metric 4.0 Technical Guidance.
- Provide an overview of the proposed habitats following completion of the scheme
- Present the results of the Defra Biodiversity Metric 4.0 assessment completed for the proposals
- Assess the feasibility of the proposals to achieve a net gain in biodiversity through the Defra Biodiversity Metric 4.0
- Recommendations for the proposals to maximise their biodiversity potential.

1.6 This Report has been prepared to support an Ecological Appraisal prepared for the site, which provides a detailed description of the habitats present. This report only provides a summary description of the habitat baseline and should be read in conjunction with the Ecological Appraisal (FPCR, 2024[2]).

Legislative and Policy Context

1.7 The UK Government, as a signatory to the Rio Convention on Biological Diversity, is committed to conserving and enhancing biodiversity. This commitment is further enforced in the Natural Environmental and Rural Communities Act (NERC) 2006 and the Natural Environment White Paper (June 2011).

1 CIEEM (2021) Biodiversity Net Gain Report and Audit Templates Chartered institute of Ecology and Environmental Management, Winchester, UK.

2 FPCR 2024, Land at Heath Lane, Earl Shilton Ecological Appraisal

1.8 DEFRAs 25 Year Environment Plan (2018) seeks to embed a 'net environmental gain' principle for development to deliver environmental improvements locally and nationally. Current policy is that the planning system should provide biodiversity net gains; as this is a mandatory requirement.

1.9 The National Planning Policy Framework NPPF (2023) in particular seeks to ensure that the planning system contributes to and enhances the natural and local environment, protect and enhance biodiversity and geodiversity by:

'174. 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;

179. 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.'

The Environment Act

1.10 The Environment Act 2021 came into force on 9th November 2021. Of particular relevance is the requirement for all developments subject to the Town and Country Planning Act to provide an at least 10% biodiversity net gain (BNG), as calculated using a Biodiversity Metric and a Biodiversity Gain Plan, with habitat used for net gain to be secured for a minimum of 30 years. Delivery of BNG may be on site, off-site or undertaken using statutory biodiversity credits. The requirement for BNG does not over-ride the need to apply the mitigation hierarchy (avoidance, mitigation and compensation) when considering biodiversity assets and their loss and does not change existing environmental and wildlife legal protection.

1.11 From 12th February 2024, BNG is mandatory under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021).

1.12 Part 6 of the Environment Act 2021 is entitled 'Nature and Biodiversity'. Within this part is section 98, entitled 'Biodiversity gain as condition of planning permission'. It says that 'Schedule 14 makes provision for biodiversity gain to be a condition of planning permission in England'. Part 1 of Schedule 14 contains the requirement for biodiversity net gain, including the requirement for 10%.

2.0 METHODOLOGY

Baseline Habiat Assessment

2.1 This report accompanies an Ecological Appraisal for the Site which has been undertaken to inform the development proposals and to provide recommendations for mitigation and enhancement (of which measurable biodiversity net gain will form a part). The following elements from the Ecological Appraisal have also used to inform this assessment:

- Extended Phase 1 Habitat Survey (Converted to UKHab habitat types in order to complete the Defra metric 4.0 using guidance provided by Natural England)

- A desktop study was undertaken by consulting Leicestershire and Rutland environmental Records Centre (LRERC) and the Multi Agency Geographic Information for the Countryside (MAGIC) website[3]
- Full details of the survey methodologies employed during the above surveys are provided in the accompanying Ecological Appraisal (FPCR 2023).

Natural England's The Biodiversity Metric 4.0

2.2 Natural England's published biodiversity net gain metric is an MS Excel spreadsheet that is used to quantify the predicted net-change in biodiversity value ("biodiversity units") of a proposed development site before and after development. It treats the flat "habitats" and linear features "hedgerows" and "watercourses" separately, and is based on pre-determined values, along with published written guidance, set by a Natural England-led team of experts.

2.3 To facilitate this, the Site has been mapped and digitised using QGIS, with the baseline habitats plotted and measured. In accordance with the 4.0 Metric User Guide, habitats have been defined under UK Habitat Classification. The detailed landscaping proposals for the Site were then uploaded into the QGIS, and the proposed habitats mapped and digitised to generate areas for each of the habitats proposed for creation.

2.4 These pre- and post-development habitat areas were then inputted into the 4.0 Metric Calculation tool. Pre-development habitats were grouped into their habitat type and condition based on the results of the UKHab and condition assessment surveys, while post-developments were classified into their UKHab type as identified through the classification of proposed habitats within landscaping plans into appropriate UKHab types and their target condition scores. The metric then provides a habitat distinctiveness score for each of the baseline and proposed habitats which are pre-assigned scores based on the habitat type.

2.5 The strategic significance of the habitats was also assessed for both the pre- and post-development habitats based on the location of the site, its proximity to existing areas of biodiversity interest and its setting within wider habitat corridors.

2.6 The metric then assigns a range of pre-assigned factors to each of the proposed habitats. These have been advised by subject knowledge experts and are universal multipliers generated by the metric itself for the following variables relevant to habitat creation, enhancement or restoration proposals:

- Difficulty of creating or restoring/enhancing a habitat: This pre-assigned score is based on how difficult a particular habitat type is to create or restore/enhance
- Temporal risk: This is the 'time to target condition' for any particular habitat and determines how long a particular habitat type is likely to take to reach the condition score that the desired condition score assigned to it.
- Spatial Risk: This score is based on the distance between the site of habitat loss and any habitats creation or enhancement proposals at any offsite offsetting solutions

[3] [Online]. http://magic.defra.gov.uk/

2.7 Full details of the calculation methodology used is provided in the Biodiversity Metric 4.0 – User Guide[4]

Limitations

2.8 The UKHab habitat map has been reproduced from detailed field notes and informed by aerial imagery, OS mapping and site maps provided by the client. The accuracy of this figure is therefore ultimately guided by the accuracy of these sources and can only be relied upon to a certain degree of resolution.

2.9 Natural ecological communities are susceptible to change; at times this change can be rapid as a result of internal and external environmental factors. The biodiversity offsetting calculations are based on ecological assessments of habitats carried out during 2023; as a result, changes which may affect the conclusions of this report may occur if a prolonged period of time elapses prior to the commencement of the project.

2.10 The aim of biodiversity offsetting is to compensate for significant adverse impacts on biodiversity identified after appropriate avoidance, minimisation and on-site rehabilitation measures have been undertaken, according to the mitigation hierarchy as required by the NPPF.

2.11 No other limitations specific to this report influenced this assessment.

3.0 BASELINE CONDITIONS

Desktop study

Designated sites

3.1 Details of designated sites within the desktop study area are provided in the accompanying Ecological Appraisal, however a summary has been provided in *Table 1: Designated Sites of Nature Conservation Importance within the Desktop Study Search Area* below.

Table 1: Designated Sites of Nature Conservation Importance within the Desktop Study Area

Site Name	Designation	Distance from Site	Description
Non-Statutory Designated Sites			
Earl Shilton, Wentworth Avenue Oak	Local Wildlife Site	970m South	Tree
Thursalton Brook	Local Wildlife Site	300m North	Hedgerow

Strategic Significance

Natural England, The biodiversity metric 4.0 (2023) Available at: http://publications.naturalengland.org.uk/publication/5850908674228224

3.2 The Site is on the edge of existing residential environments and does not sit within any nature/green corridors and the habitats currently found on site are not considered to provide any additional value in terms of supporting local designations of policies and thus are considered of **low strategic significance**.

Biodiversity Units

Habitats

3.3 The application site was dominated by bare ground with sections of scrub around the boundary edges with poor semi-improved grassland and tall ruderal throughout.

3.4 The baseline habitats and their conditions for the Application Site are detailed in Table 2 below and illustrated in Figure 1 & 2.

Table 2: Biodiversity Units: Baseline On-site Habitats within the Application Site

Habitat	Description	Area (ha)	Condition	Biodiversity Units
Modified grassland	**Small grassland compartment with a short sward height of a few centimetres formed of Yorksire fog *Holcus lanatus* with species including creeping buttercup *Ranunculus repens*.**	**0.0217**	**Poor**	**0.04**
Other neutral grassland	**A small area of species-poor semi-improved grassland bordered an area of bare ground. The grassland was not subject to any management and was dominated by Yorkshire fog with perennial rye-grass *Lolium perenne* and common bent *Agrostis capillaris* also present. Herb diversity was limited with species including common nettle *Urtica dioica*, broadleaved dock *Rumex obtusifolius* and rosebay willowherb *Chamerion angustifolium* recorded amongst the sward.**	**0.0973**	**Poor**	**0.39**
Mixed Scrub	**Localised patches of dense/continuous bramble *Rubus fruticosus agg* scrub were present in association with semi-improved grassland around the boundary of the Site**	**0.0832**	**Moderate**	**0.67**
Ruderal/ephemeral	**An area of tall ruderal vegetation was present throughout the north-eastern corner of the Site which primarily consisted of common nettle, creeping thistle *Cirsium arvense* and broad-leaved dock**	**0.112**	**Poor**	**0.22**

Habitat	Description	Area (ha)	Condition	Biodiversity Units
Bare ground	**A large area of bare ground was present along the central section of the Site. Scattered vegetation included dandelion *Taraxacum officinale agg*, spear thistle *Cirsium vulgare*, creeping thistle and prickly sow thistle *Sonchus asper***	**0.246**	**Poor**	**0.49**
Introduced shrub	**A small area of ornamental planting was recorded among rural trees planted in a garden setting.**	**0.0236**	**N/A**	**0.05**
Rural Trees	**Three mature trees (T1-T3) were present on-Site, Tree T1 comprised an ash tree *Fraxinus excelsior* whilst trees T2 and T3 comprised English oak trees *Quercus robur***	**0.2294**	**Moderate**	**1.84**
Total		**0.81**		**3.70**

Please note there may be minor discrepancies (rounding errors) between the columns and the totals, however, the numbers duplicate those presented within the matrix calculator

4.0 PROPOSED DESIGN

Habitats

Retained

4.1 Habitat retention is illustrated in Figure 3.All habitats are to be lost with the exception of the retention of three rural trees to the east and southeast of site.

Habitat Creation

4.2 Habitat creation is shown in Figure 4

4.3 Green infrastructure proposals include the creation of modified grassland and vegetated gardens, with individual trees and hedgerow plantation.

4.4 Habitat creation within the development plots will likely include ornamental planting and amenity grassland. Planting a diverse range of plants will provide some interest for wildlife, particularly pollinators that can take advantage of flowering species. Grassland should be seeded with a diverse flowering lawn mix and, while management would prioritise their amenity character, it would ensure these areas provide some botanical interest, particularly during spring/summer months.

4.5 Hedgerow planting around the boundary of the application site will provide connectivity and buffering to offsite habitats.

4.6 Individual trees which should be planted as native trees are induced throughout the development, serving to enhance connectivity and provide valuable foraging and nesting resources.

4.7 The biodiversity units for each habitat for the application site have been calculated and are presented in Table 3, along with a description of the management recommendations which should be employed to achieve the target conditions for each habitat type.

Table 3: Summary of proposed Habitat Creation

Broad Habiat (Landscaping plan reference)	Broad Proposed Habiat	Targets for Creation/Management	Area	Target condition	Distinctiveness	Strategic significance	Biodiversity Units Delivered
Amenity grassland	Modified grassland	The amenity grassland areas will be managed for its amenity value and are to be sown with a flowering lawn mix such as Emorsgate EL1 (or similar) and should include addition management prescriptions to improve its biodiversity value through the following measures: • Regular management to prevent scrub/bracken encroachment • Reseeding any areas of failed establishment	0.1025	Moderate	Low	Area/compensation not in local strategy/ no local strategy	0.36
Meadow grassland	Other neutral grassland	The focus of management for these grasslands will be on maximising their biodiversity to create a diverse sward by employing the following management measures: • Using a native species-rich grassland mix to achieve a diverse sward. • Management will be reduced to create a varied sward height, following the supplier's specifications with one cut per year following establishment. • Reseeding any areas of failed establishment.	0.0914	Moderate	Medium	Area/compensation not in local strategy/ no local strategy	0.61
Urban (plots 1-18)	Vegetated garden	These areas will be managed by residents primarily for their amenity/ornamental value and so will be in poor condition	0.1197	NA	Low	Area/compensation not in local strategy/ no local strategy	0.23
Individual trees	Urban tree	Tree planting will take place across the site which will be designed and managed to achieve moderate condition through the following measures: • All trees should be native species;	0.0285	Moderate	Low	Area/compensation not in local strategy/ no local strategy	0.09

		• If planted in groups, the distance between centres should be set such that the expected canopies should be less than 5m apart; • Relaxed management removing only branches that pose a risk to site users such that trees retain more than 75% of the expected canopy size for the corresponding age; and • Planted within areas of green infrastructure such that at least 20% of the ground beneath each tree is vegetated					
Ornamental Planting	Introduced shrub	These areas will be managed primarily for their amenity/ ornamental value.	0.0015	N/A	Low	Area/compensation not in local strategy/ no local strategy	0.00

Additional Enhancements

4.8 Additional mitigation measures will be implemented to contribute to a biodiversity net gain across the Site. This will focus on the provision of faunal enhancements that are not captured within the Natural England Biodiversity Metric 4.0 calculations. To achieve this, the site will support habitat features for bats, bird and invertebrates:

- A range of feature bat roosting features which will be provided on pole mounts and mature trees where possible.
- A range of bird nest boxes which will include those designed for urban species. Small and medium hole nest boxes should be provided on mature trees around the Site.

5.0 BNG METRIC

5.1 The habitat retention, enhancement and creation proposals highlighted within this report have all been inputted into the Biodiversity metric 4.0. Table 4 provides a summary of the headline results of the biodiversity metric 4.0 assessment completed for the proposals. The full metric has been provided in Appendix A.

Table 4 :Biodiversity Metric 4.0 Headline Results

Baseline	**Habitat Units**	**3.70**
	Hedgerow Units	0.00
Post-Intervention	Habitat Units	3.12
	Hedgerow Units	0.67
Total Net Unit Change	Habiat Units	-0.57
	Hedgerow Units	0.67
Total Net percentage	Habitat Units	-15.50%
	Hedgerow Units	N/A

5.2 As shown in Table 4, assessment has demonstrated proposals will lead to a loss of -0.57 habitats units, representing a 15.50% loss.

5.3 No hedgerows were recorded within the baseline, although one proposed individual hedgerow was shown on the current landscaping plan.

Habitat Trading

Trading Summary

5.4 The majority of habitats to be lost include bare ground and ruderal/ephemeral which are low distinctiveness habitats whilst small areas of scrub and modified grassland are to be lost which are a medium distinctiveness habitat. The proposals do not provide sufficient amounts of habitat creation to offset impacts to low and medium distinctiveness habitat through habitat enhancement/creation measures alone. Table 5 summarises the habitat trading summaries across the site.

Table 5: Habitat Trading Summary

Trading Summary		
Distinctiveness Group	**Trading Rule**	**Trading Satisfied?**
Very High	**Bespoke Compensation likely to be required**	**N/A**
High	**Same habitat required**	**N/A**
Medium	**Same broad habitat or higher distinctiveness habitat required**	**No**
Low	**Same distinctiveness or better habitat required**	**No**

6.0 CONCLUSION

6.1 The approach to habitat creation has aimed to maximise biodiversity value within the space made available within the proposals for green infrastructure. Biodiversity Net Gain has then been used to inform the habitat creation proposals for the scheme and to guide decisions around additional habitat provision.

6.2 The results of the assessment demonstrate that the scheme currently will lead to an overall loss of biodiversity units associated with the baseline habitats when compared with the proposed habitats.

6.3 To ensure that proposals can still lead to an overall net gain in biodiversity in line with the NPPF, the proposals will seek to deliver units through offsite compensation. The requirement for this will be secured through the provision of an appropriately worded condition or s106 commitment. This could be achieved via the utilisation of a biodiversity bank within the local area or using off-site land within the client's ownership. Successful implementation of this will lead to a net gain in biodiversity value post-development.