CSA environmental

Land South of Henfield Road,
Albourne, West Sussex

# Biodiversity Net Gain Assessment

Prepared by
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Croudace Homes Ltd

Report No: CSA/4426/04/A

July 2022

urban design | ecology | landscape | heritage

This report may contain sensitive ecological information. It is the responsibility of the Local Authority to determine if this should be made publicly available.

| Report Reference | Date | Revision | Prepared by | Approved by | Comments |
|---|---|---|---|---|---|
| CSA/4426/04 | 13/07/2022 | - | NI | CC | Draft for comment |
| | 25/07/2022 | A | NI | CC | |
| | | | | | |

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Landscape Institute Registered Practice
CIEEM REGISTERED PRACTICE 2020-2021

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Appendix A – Habitats Plan (CSA/4426/100/C)

Appendix B – Site Sketch Layout (3117-C-1006-SK-L)

# 1.0 INTRODUCTION

1.1 This report has been prepared by CSA Environmental on behalf of Croudace Homes Ltd. It sets out the findings of a Biodiversity Net Gain Assessment (BNG; using Biodiversity Metric 3.0) of proposed development at Land south of Henfield Road, Albourne, West Sussex (hereafter 'the Site'). Residential development for up to 120 units is proposed at the Site, for which outline planning permission is sought.

1.2 The Site occupies an area of c. 11.54ha and is located around central grid reference TQ 26183 16663, to the south-west of Burgess Hill. It consists of two large arable fields with improved rough grassland field margins, a smaller field consisting of improved grassland and a small triangular field with a traditional orchard (S41 habitat). Native hedgerows (S41 habitat) of varying densities, structure and species richness, associated mature trees, a small non-priority pond and a small parcel of broadleaved woodland (S41 habitat) form the Site boundaries. Other habitats present include patches of scrub, tall ruderal and an area of bracken located along the southern boundary.

1.3 This assessment has been informed by a desk study, extended Phase 1 Habitat survey, originally undertaken in June 2019, and updated in July 2021 and in addition to a habitat condition assessment undertaken in July 2021.

1.4 In addition, a range of protected species surveys have been undertaken for dormice *Muscardinius avellanarius*, great crested newts *Triturus cristatus*, breeding and wintering birds, bat and reptile species, the results of which have been considered when determining the functional value of the existing habitats and the design of the proposed development. Full results of these surveys are presented within associated technical appendices.

1.5 Calculation of biodiversity units has been undertaken using the Natural England Biodiversity Metric 3.0 (July 2021), and follows guidance set out within the Biodiversity Net Gain: Good practice principles for development (Baker *et al.*, 2019).

1.6 This BNG Assessment aims to:

- Provide baseline data to classify the type, distinctiveness, condition, connectivity and strategic significance of habitats present prior to and post- development.

- Ensure that baseline habitat conditions are classified in a robust and consistent manner, and that classification is based on the best data available data at the time of assessment.

- Clearly identify data collection methods and any limitations.
- Calculate baseline pre- and post-development habitat units and hedgerows units for the Site based on current development proposals.
- Propose a Biodiversity Net Gain design with the aim of maximising biodiversity net gain through habitat creation, enhancement and succession.
- Aim to achieve BNG on-Site wherever possible; with off-site measures being considered as an alternative option if required.

# 2.0 PLANNING POLICY AND LEGISLATION

2.1 The National Planning Policy Framework (NPPF3) (Ministry of Housing, Communities and Local Government, 2019) sets out requirements for the delivery of biodiversity net gain, and this is supported within Planning Policy Guidance (PPG) (updated July 2021). The Natural Environment PPG addresses principles across a broad spectrum of topics targeting biodiversity conservation, from individual site and species protection through to the supporting of ecosystem services, and the use of local ecological networks to support the national Nature Recovery Network. In particular the PPG promotes the delivery of **measurable Biodiversity Net Gain through the creation and enhancement of habitats alongside development.**

2.2 The Government confirmed its intention to mandate Biodiversity Net Gain at a minimum of 10%, with this requirement being set out within the Environment Act 2021. Whilst the Act was adopted as UK law in November 2021, secondary legislation will be necessary to require biodiversity net gain to be a condition of planning permission, with a two-year implementation period being anticipated from that point. However, in light of this forthcoming legislation, many Local Planning Authorities have started to include biodiversity net gain requirements in Local Plan policy.

2.3 The following policy from the Mid Sussex District Plan (2014-2031) makes reference to biodiversity and the protection and enhancement of priority habitats and species:

Policy DP38 Biodiversity

"Biodiversity will be protected and enhanced by ensuring development:

- Contributes and takes opportunities to improve, enhance, manage and restore biodiversity and green infrastructure, so that there is a net gain in biodiversity, including through creating new designated sites and locally relevant habitats, and incorporating biodiversity features within developments; and

- Protects existing biodiversity, so that there is no net loss of biodiversity. Appropriate measures should be taken to avoid and reduce disturbance to sensitive habitats and species. Unavoidable damage to biodiversity must be offset through ecological enhancements and mitigation measures (or compensation measures in exceptional circumstances); and

- Minimises habitat and species fragmentation and maximises opportunities to enhance and restore ecological corridors to

connect natural habitats and increase coherence and resilience; and

- Promotes the restoration, management and expansion of priority habitats in the District; and

- Avoids damage to, protects and enhances the special characteristics of internationally designated Special Protection Areas, Special Areas of Conservation; nationally designated Sites of Special Scientific Interest, Areas of Outstanding Natural Beauty; and locally designated Sites of Nature Conservation Importance, Local Nature Reserves and Ancient Woodland or to other areas identified as being of nature conservation or geological interest, including wildlife corridors, aged or veteran trees, Biodiversity Opportunity Areas, and Nature Improvement Areas.

# 3.0 BIODIVERSITY NET GAIN: GOOD PRACTICE PRINCIPLES

## Biodiversity Net Gain

3.1 Biodiversity net gain has been defined as 'development that leaves biodiversity in a better state than before, and an approach where developers work with local governments, wildlife groups, landowners and other stakeholders in order to support their priorities for nature conservation' (Baker, 2016).

## Good Practice Principles

3.2 Good practice principles for biodiversity net gain are set out within Table 1.1 of Biodiversity Net Gain: Good practice principles for development (Baker *et al.*, 2019). Key principles include:

- Apply the 'Mitigation Hierarchy' (in line with CIEEM Guidelines for Ecological Impact Assessment (EcIA) (CIEEM, 2018) and be 'additional' by achieving outcomes that exceed existing obligations.
- Avoid losing biodiversity which cannot be off-set elsewhere (e.g. irreplaceable habitats).
- Address risk (e.g. difficulty of achieving habitat creation/enhancement for net gain).
- Make a 'measurable' net gain contribution (e.g. calculated using an appropriate metric) and ensure that calculations consistent and transparent (i.e. limitations and assumptions are clearly identified).
- Ensure that net gain design achieves the best outcome for biodiversity (this may require both quantitative and qualitative assessment) and create a net gain legacy for long-term benefits.

# 4.0 METHODS

## Desk Study

4.1 In order to inform an assessment of the habitat types, condition and strategic significance a desk study was undertaken. This comprised a review of the following:

- The Mid-Sussex District Plan (June 2022) - to identify Biodiversity Opportunity Areas (BOAs).
- Multi-Agency Geographic Information for the Countryside (MAGIC) online database (May 2022) - to identify statutory nature conservation designations and Network Enhancement Zones.
- Data search response from Kent Biodiversity Records Centre (May 2022) - to identify non-statutory nature conservation designations.

4.2 Relevant desk study data are presented in the Ecological Impact Assessment CSA/4426/03).

## Habitat Survey

4.3 An extended Phase 1 Habitat Survey of the Site was originally undertaken on 21 June 2019 by Aaron White ACIEEM. The Phase 1 Habitat Survey was undertaken in fine and dry weather conditions, during a time of year suitable for botanical survey, it encompassed the Site and immediately adjacent habitats that could be viewed. Habitat type and condition were recorded and mapped in line with the Phase 1 Habitats Survey methodology (JNCC, 1990).

4.4 An update Phase 1 Habitat Survey was undertaken on 14 July 2021 by Clare Caudwell CEcol MCIEEM Aaron White ACIEEM. The Biodiversity Metric 3.0 does not use the Phase 1 survey habitat types, but instead is more closely aligned to the UK Habitats Classification (UK Hab) methodology (UKHAB Working Group, 2018). As such, the Phase 1 habitat survey was updated, and where necessary habitat types were reclassified in line with the 'UKHabs' methodology. A high-level assessment of 'habitat condition' was also undertaken. The habitat classification was undertaken by Jessica Raynor ACIEEM and Aaron White ACIEEM.

## Condition Assessment

4.5 Habitat condition was assigned following guidance from the 'Technical Supplement' document (Natural England, 2021) which accompanies the Biodiversity Metric 3.0. Assessment criteria were followed for each broad habitat type, to determine the condition of each habitat present.

## Calculation of Biodiversity Units

4.6 The Biodiversity Metric 3.0 (July 2021) was used to calculate the change in biodiversity units (including habitat units and hedgerow units) and the overall percentage of gain/loss achieved. Metric calculations have been reviewed by Clare Caudwell CEcol MCIEEM, who has completed numerous net gain assessments using both Metric 2.0 and Metric 3.0.

4.7 Pre-development baseline and proposed habitat areas were measured as distinct habitat parcels. Habitat parcels were measured using habitat mapping and aerial imagery overlain in QGIS.

4.8 The pre-development habitat areas baseline was calculated using measurements taken from the Habitats Plan (CSA/4426/100/C) and aerial photography where appropriate. Hedgerows and tree lines were included as linear habitats only (as per the Metric requirements).

4.9 Post-development habitats were calculated by measuring the Site Sketch Layout (3117-C-1006-SK-L) prepared by Omega Architects on behalf of Croudace Homes Ltd, allowing areas of retained, created and enhanced habitat to be identified. This plan demonstrates what level of habitat creation and enhancement could be achieved alongside the proposed development. Details shall be confirmed at the Reserved Matters planning stage.

4.10 Habitat condition for both retained and created habitats was assigned taking a precautionary approach and with consideration of biotic and operational phase conditions (i.e. those which may limit the extent to which 'good' condition is likely to be reached).

4.11 A full copy of the Biodiversity Metric 3.0 calculator should be read in conjunction with this report and is available upon request.

## Strategic Significance

4.12 This criteria within the Biodiversity Metric 3.0 were assessed by determining if habitat areas within the Site occur within any strategic locations for biodiversity, form part of a designated site for nature conservation or are identified within local plans such as Biodiversity Opportunity Areas and Ecological Networks (MAGIC) and/ or Natura conservation designations. The Site does not fall within any strategic locations for biodiversity.

## Trading Summary

4.13 'Trading Up' is a concept which requires 'conserving through offset components of biodiversity that are of a higher conservation priority (for example because they are more irreplaceable and vulnerable) than those affected by the development project for which the offset is envisaged' (BBOP, 2018). For example, should non-irreplaceable

habitats be lost / impacted as a result of proposed development, offsets should be achieved through the creation / enhancement of habitat of the same or higher distinctiveness, where environmental conditions are appropriate and where it generates the greatest benefits for biodiversity. Trading has been considered during the design stage.

**Assumptions and Limitations**

4.14 It should be noted that the accuracy of habitat area measurement is limited by the form of baseline data collection and resolution of development proposal plans. In this instance baseline habitat areas have been calculated by cross referencing illustrative Habitats Plans with aerial imagery. Post-development habitat areas have been measured from the Site Sketch Layout (3117-C-1006-SK-L) prepared by Omega Architects on behalf of Croudace Homes Ltd. In the absence of detailed planting plans, reasonable assumptions have been made with regards to the type and condition of habitats that could be created.

4.15 The assessment assumes that habitats created or enhanced as part of the Proposed Development will be subject to ongoing appropriate management to ensure that they reach the allocated target condition within the required timeframe. It is assumed that all habitats (retained, enhanced or created) post-development will be maintained for a period of 30 years, in line with requirements of the Environment Act 2021. Management will either be undertaken or funded by the Applicant (or their appointed contractor), details of which will be provided at the Reserved Matters stage.

4.16 It is assumed that there will be a 70/30 split between hardstanding (including houses, driveways and other built surfaces) and gardens, with 'Urban – Developed land; sealed surface' used as the habitat classification for hardstanding, and 'Urban – vegetated garden' in 'poor' condition for gardens.

4.17 It is assumed that the native scrub planting proposed in the north west of the Site and within the southern field will be 'mixed scrub' in 'moderate' condition, as it is considered this will be achievable through appropriate management due to the size and location of these areas.

4.18 Woodland creation within the southern field will be classed 'other; broadleaved woodland' in 'moderate' condition. This is considered to be achievable due to the size and location of these areas and their proposed use as part of a forest school.

4.19 Proposed tree planting is assigned as 'urban tree' (UK Hab), and assumed to be in the ratio of 60% small trees, 20% medium and 20% large. Therefore, it is assumed 90 small trees, 90 medium trees and 45 large trees will be planted as part of the proposal. These trees are

assessed to be in 'moderate' condition within areas of POS and 'poor' condition when bordering residential areas and roads.

4.20 The SuDS basin located within the central residential area as part of a central green has been assigned the category 'modified grassland' in 'moderate' condition. SuDS basins within the southern field and to the north of the Site have been assigned the category 'other neutral grassland' in 'moderate' condition, as it is considered that it is achievable through appropriate management.

4.21 The majority of the Public Open Space (POS) lies within the southern field. A species-rich meadow is proposed and has been assigned the category 'other neutral grassland' in 'good' condition. Pedestrian routes throughout the species-rich meadow have been assigned 'other neutral grassland' in 'moderate' condition as they are likely to have shorter and less diverse grass swards. Remaining areas of POS surrounding roads, pedestrian routes and LEAP areas have been assigned 'modified grassland' in 'moderate' condition, these areas are assumed to be informal areas of managed grassland.

4.22 Full justification for the habitat types selected (baseline and proposed) are detailed herein, but broadly follow the suggest translations between Phase 1 and UK Hab habitat recording methods.

# 5.0 RESULTS

## Existing Habitats

5.1 As set out within Section 4.0, Phase 1 Habitat Survey data from June 2019 was updated in July 2022 and translated to UK Hab habitat survey types; this was informed by information gathered during subsequent site visits. UK Hab habitat types broadly equate to the habitat types identified within the Biodiversity Metric 3.0. Results of the habitat classification are summarised as follows, with Biodiversity Metric 3.0 habitat types highlighted in bold.

Arable

5.2 The majority of fields F3 and F4 are currently cultivated for arable crops, these areas have been classified as **'cropland - cereal crops'**. The habitat condition assessment is not applicable for agricultural crops.

Improved grassland

5.3 Grassland margins, the public footpath thar runs through the centre of the Site, and the entirety of F2 have been classified as **'modified; grassland'** in **'moderate'** condition using the criteria for medium distinctiveness grassland from Biodiversity Metric 3.0.

Orchard

5.4 F1 is an orchard which is comprised of *Prunus* sp., apple *Malus* sp and walnut *Juglans regia*. This meets the criteria **'traditional orchard; grassland**'. It was classified as being in **'moderate'** condition during the habitat condition assessment. Orchards are a S41 habitat of principal importance, as well as a Sussex BAP habitat.

Bracken

5.5 A small patch of bracken dominates the south-western boundary in F4. In line with the Biodiversity Metric 3.0 this habitat has been classified as '**bracken'** which has a set condition of '**poor**'. Bracken is a habitat type of low distinctiveness.

Tall ruderal vegetation and scattered scrub

5.6 Patches of scattered scrub are present along some of the Site's margins, such as within the western margin of F1 and the north-eastern edge of F3. This habitat is comprised of primarily bramble *Rubus fruticosus*, as well as blackthorn *Prunus spinosa* and common nettle *Urtica dioica*.

5.7 Tall ruderal species are located along the edges of a number of hedgerows on-Site. Species which form the tall ruderal habitat include common nettle, dock *Rumex* sp., and common hogweed *Heracleum sphondylium*.

5.8 In line with the biodiversity metric both areas of tall ruderal vegetation and scattered scrub have been classified as **'modified; grassland'** in **'moderate'** condition using the criteria for medium and higher distinctiveness grassland from Biodiversity Metric 3.0.

Woodland

5.9 A small parcel of broadleaved woodland is located south-west of F1 and between H1 and H3. This woodland is mainly comprised of holly *Ilex aquifolium*, hazel *Corylus avellana*, pendunculate oak *Quercus robur*, blackthorn, hawthorn *Crataegus monogyna*, yew *Taxus baccata* and sycamore *Acer pseudoplatanus*. The woodland understory has a ground flora including field rose *Rosa arvensis*, dog rose *Rosa canina*, bramble, ivy *Hedera helix*, honeysuckle *Lonicera periclymenum*, herb-Robert *Geranium robertianum*, red campion *Silene dioica*, wood avens *Geum urbanum*, dock *Rumex* sp., ground ivy *Glechoma hederacea*, bluebell *Hyacinthoides* sp., cleavers *Galium aparine* and hedge bindweed *Calystegia sepium*. Grass species included wood false-brome *Brachypodium sylvaticum*¸ false oat-grass *Arrhenatherum elatius*, cock's-foot *Dactylis glomerata* , Yorkshire fog *Holcus lanatus* and smooth meadow-grass *Poa pratensis*.

5.10 Semi-natural broadleaved woodland is a S41 habitat of importance, the small patch of woodland habitat within the Site is not considered to meet the criteria for Lowland Mixed Semi-Natural Woodland priority habitat. As such, in line with the Biodiversity Metric 3.0 the woodland resource is considered to equate to '**other broadleaved woodland**' in **'good'** condition.

Pond

5.11 A small pond lies immediately north of the parcel of woodland, along the western boundary of F1. This pond had an absence of riparian vegetation and was dry throughout spring/summer. It is not considered to be a priority habitat and therefore meets the criteria for **'ponds – non-priority habitat**' in **'poor'** condition.

Hedgerows and Tree Lines

5.12 There are a total of thirteen hedgerows and lines of trees that border the fields on-Site.

5.13 Hedgerows H1 and H2 have been classified as **'native species rich hedgerow with trees**' in **'good'** condition. Species recorded within H1 include ash *Fraxinus excelsior*, blackthorn, dog rose and elder *Sambucus nigra*, whilst H2 had slightly more species diversity with pedunculate oak,

hawthorn, field maple and willow *Salix cinerea* in addition to blackthorn and dog rose being recorded.

5.14 Hedgerows H3 and H4 are **'native species rich hedgerows with trees – associated with bank or ditch'**, they have been assessed to be in **'good'** condition. Species recorded within H3 include hawthorn, blackthorn, Hazel *Corylus avellana,* dog rose, field maple, ivy *Hedera helix*, elder, silver birch *Betula pendula* and goat willow *Salix caprea*. H4 includes the above species, except for silver birch and goat willow, and additionally includes pedunculate oak, ash, dogwood *Cornus sanguinea* and crack willow *Salix fragilis*. Hedgerows H3 and H4 run adjacent to D1, therefore their condition has been included within the hedgerow assessment as per the Biodiversity Metric 3.0 guidelines.

5.15 Hedgerow H6 is a **'line of trees'** in **'moderate'** condition. This treeline consists of pedunculate oak, hawthorn, cherry *Prunus avium*, dog rose, hazel, ivy, elder and crack willow.

5.16 Hedgerows H7, H8, H9, H10, H11 have all been assessed to be **'native species rich hedgerows'**. They have been assessed to be in **'good'** condition with the exception of H7 and H9 which are in **'moderate'** condition. Both H7 and H9 are recently established hedgerows. Species present within these hedgerows include holly *Ilex aquifolium*, hawthorn, blackthorn, cherry, dog rose, spindle *Euonymus europaeus*, hazel, birch, yew *Taxus baccata*, guelder rose *Viburnum opulus,* and willow *Salix sp*.

5.17 Hedgerows H12 and H13 are **'native hedgerows'** in **'good'** condition. Species present here include oak, blackthorn, dog rose, sycamore *Acer pseudoplatanus*, sweet chestnut *Castanea sativa*, beech *Fagus sylvatica* and scots pine *Pinus sylvestris*.

Ditches

5.18 A seasonally wet ditch (D1) runs along the southern edge of H3 and H4. The ditch has low water levels with little flow, species present along the bank include common nettle, bramble, soft rush *Juncus effusus*, hawthorn, male-fern *Dryopteris filix-mas*, shield fern *Polystichum setiferum* and remote sedge *Carex remota*. In-line with the Biodiversity Metric 3.0 guidelines D1 had been included within the assessment for H3 and H4, and therefore is not assigned a category within the Biodiversity Metric.

## Post-Intervention Habitat Creation and Enhancement

5.19 A summary of the proposed habitat types and target condition is provided in Table 1 below.

5.20 With regards to new grassland creation, whilst no seed mixes have been specified at this stage, it has been assumed that where grassland seeding would be expected to comprise less than nine native species /

$m^2$ sown (based on typical species mix and distribution rates) it has been classified as 'modified grassland'. Where a typical seed mix may be expected to have more than nine native species / $m^2$ sown this has been classified as 'other neutral grassland'. Target condition has been assigned taking into consideration the location, usage and proposed management of the habitat area.

5.21 Within the 'development parcels' where residential development is proposed, habitat types have been attributed at a 70:30 ratio of 'developed land, sealed surface' to 'vegetated gardens'.

**Table 1.** Summary of post-intervention habitat types and target condition

| Post-Intervention Habitat | Biodiversity Metric 3.0 Habitat Type | Target Condition | Time to Target Condition (yrs) |
|---|---|---|---|
| Wildflower Grassland (species-rich meadow). | Other neutral grassland | Good | 10 |
| Native grassland (within SUDS and areas of POS) | Other neutral grassland | Moderate | 5 |
| Amenity grassland | Modified grassland | Moderate | 4 |
| Native trees | Urban Trees | Poor - Moderate | 10 - 27 |
| Vegetated Gardens | Vegetated Gardens | Poor | 1 |
| Built Development | Developed Land -Sealed Surface | N/A | 0 |
| Gravel pathways and swale | Artificial, unvegetated, unsealed surface | N/A | 0 |
| Native Scrub Planting | Mixed Scrub | Moderate | 5 |
| Community orchard | Traditional orchard | Moderate | 20 |

## Biodiversity Unit Calculations

5.22 Biodiversity Metric calculations have been based on the above assumptions in terms of habitat creation and enhancement.

5.23 Based on the Biodiversity Metric 3.0 calculations, the proposed development would result in an overall a net gain of 1.01 hedgerow units (2.48% net gain), in addition to an overall net gain of **19.65 habitat units (54.57% net gain)**. The lowest result must be taken from all relevant categories. A summary of the Biodiversity Metric calculations is provided in Table 2.

**Table 2.** Quantitative Assessment of Biodiversity Impact

| Factor | Habitats (ha) | Hedgerows (km) |
|---|---|---|
| Total on-site area / length (baseline) | 11.54 | 3.42 |
| Total site units (baseline) | 36.00 | 40.59 |
| | | |
| Area / length retained | 2.12 | 2.81 |
| Units retained | 15.36 | 35.03 |
| | | |
| Area / length enhanced | 0.00 | 0.56 |
| Baseline units enhanced | 0.00 | 4.48 |
| | | |
| Area / length lost | 9.41 | 0.05 |
| Units lost | 20.64 | 1.08 |
| | | |
| Post-intervention* units **on-site** | 55.65 | 41.60 |
| | | |
| **Net project biodiversity units change** | **19.65 units** | **1.01 units** |
| **Total project biodiversity % change** | **+54.57 %** | **2.48%** |

**Post-intervention – including habitat retention, creation and enhancement*

5.24 The scheme will result in the loss of c. 0.01ha of 'high' distinctiveness traditional orchard. The remaining c. 0.76ha of traditional orchard will be retained and an area of c. 0.04ha of traditional orchard with a target condition of 'moderate' will be created to the south of the existing orchard.

5.25 All 'high' distinctiveness broadleaved woodland will be retained. A total of c. 0.68ha of broadleaved woodland will be created in 'moderate' condition.

5.26 There will be no loss of 'medium' distinctiveness habitats. Medium distinctiveness habitat creation will involve the creation of c. 3.05ha of other neutral grassland in 'good' condition through species-rich meadow creation, c. 0.53ha of other neutral grassland in 'moderate' condition will also be created within areas of POS, in addition to c. 0.38ha of mixed scrub in 'moderate' condition. A total of c. 0.90ha of urban trees will also be created, c. 0.45ha of which will be classed as 'moderate' condition when within areas of POS, and c. 0.45ha will be 'poor' condition' when surrounding development parcels and roads.

5.27 The scheme will result in the loss of c. 0.86ha of modified grassland. However, a total of c. 0.91ha of modified grassland will be created as a result of the development within areas of POS. A further c. 0.84ha of 'low' distinctiveness habitat will be created through vegetated gardens within development parcels. It is anticipated that c.0.03ha of 'low' distinctiveness bracken along the southern boundary will be retained.

5.28 The proposed development will also result in the creation of c. 1.97ha of 'developed land – sealed surface' within development parcels and c. 0.95ha as a result of roads, pavement and carpark creation. Pedestrian access routes across areas of POS will consist of gravel, this is classified as an 'artificial, unvegetated, unsealed surface'. This will account for a total of c. 0.14ha. Both 'developed land – sealed surface' and 'artificial, unvegetated, unsealed surface' are very low distinctiveness habitats.

## Ecological Functionality

5.29 A qualitative assessment of Biodiversity Net Gain should also be assessed to ensure that the scheme design delivers the best and most appropriate habitat measures which maintain and enhance ecological functionality of a site and deliver benefits for local biodiversity.

5.30 The proposed scheme was designed in liaison with the design team to retain and protect key corridors where possible and create new areas of open space, whilst maintaining viability. The scheme design has been informed by a full suite of habitat and protected species surveys.

5.31 A qualitative assessment of the biodiversity impact of the scheme is provided in Table 3.

**Table 3.** Qualitative Assessment of Biodiversity Impact of Baseline Habitats

| Baseline Habitat | Ecological Function | Impact | Post-Development |
|---|---|---|---|
| Cereal crop | Provides limited habitat opportunities for local wildlife including bats, reptiles, birds (skylarks) and invertebrates | Total loss of resource | There will be a total loss of this habitat, however, creation of areas of modified grassland, and 'medium' distinctiveness habitats including other neutral grassland will help to increase floral diversity, resulting in an increased invertebrate diversity and provide new opportunities for bats, birds, reptiles and mammal species. |
| Grassland-modified | Provides some limited habitat for local wildlife including bats, reptiles, birds and invertebrates | Loss of habitat with 64.42% retained | Habitat loss will be offset by creations of areas of new higher distinctiveness habitats such as 'medium' distinctiveness other neutral grassland and mixed scrub planting. |
| Hedgerows / Tree Lines | Provide connectivity, foraging and nesting resources for local wildlife (e.g. birds and bats), and commuting corridors for small mammals and reptiles | Small loss of c. 0.05km to create access breaks | The majority of hedgerows on-site will be retained. The enhancement of existing hedgerows (H7 and H9) in addition to urban tree, orchard infill planting and woodland creation will increase on-site opportunities and habitat connectivity for a range of species including nesting bats, birds, invertebrates and other commuting fauna. |
| Mixed scrub | None currently present | Creation of c. 0.38ha of native scrub planting | The creation of new areas of thicket planting will create new opportunities for a variety of wildlife including bats, birds, reptiles, amphibians and invertebrates. |
| Ponds | A small pond in 'poor' condition lies within the northwest of the Site. | Pond retention | The existing pond will be retained with no enhancement or loss of this habitat to maintain opportunities for species currently utilising this habitat. |
| Orchard | c. 0.77ha of traditional orchard present on-site within F1 | Proposed orchard infill planting and management of existing habitat.<br>Minor loss of c. 0.01ha of orchard to provide access break | Proposals include restorative planting within the orchard of c. 11 trees.. The management of grassland swards, existing and newly planted trees will maintain diversity. Leaving deadwood in-situ will enhance this habitat and increase foraging and sheltering opportunities for a range of wildlife. No trees will be lost as a result of development proposals. Further mitigation for loss of orchard habitat will be achieved through the planting c. 0.04ha of traditional orchard with a target 'moderate' condition. This will occur immediately south of the existing orchard, adjacent to H3. |

| Baseline Habitat | Ecological Function | Impact | Post-Development |
|---|---|---|---|
| Woodland | Currently c. 0.09ha of woodland on-site to the north of F2. This habitat provides opportunities for a range of wildlife including nesting birds and small mammals. | Existing woodland retained and new woodland created | In addition to all existing woodland being retained, c. 0.68ha of new woodland planting will be created within areas of POS in the southern field. This will increase connectivity to off-site woodland and provide a range of opportunities for species such as birds, bats, invertebrates, small mammals, reptiles and amphibians. |
| Trees | Currently none present on-site outside of woodland, orchard trees, hedgerows and treelines | Tree planting proposed within areas of POS and development parcels | All trees within woodland and the orchard will be retained. A small section of H2 and H3 (c. 0.05km) will be lost for vehicle and pedestrian access.<br>A total of 0.90ha of tree planting is proposed within areas of POS and development parcels, these will be in 'poor' to 'moderate' condition depending on location. C. 0.68ha of woodland in 'moderate' condition is also proposed within the scheme. This will increase the opportunities for a variety of wildlife including nesting birds, bats and invertebrates. |

5.32 Ecological functionality will be maintained at the Site through the retention of the vast majority of existing hedgerows, with only minor removal required to facilitate the new access roads. A significant amount of mixed scrub and woodland planting will also be provided within areas of POS which will improve ecological functionality and connectivity. Creation of other neutral grassland in the form of wildflower meadows and the enhancement of hedgerows will also provide opportunities for a range of species. These measures will offer new resources for species groups, including bats, birds, reptiles, mammals and amphibians.

## Trading Summary

5.33 In this instance, the 'Trading Summary' indicates that there are no losses unaccounted for and all habitat types being compensated for with the same distinctiveness habitat or better (as required within the parameters of the metric).

# 6.0 DISCUSSION

6.1 Biodiversity Net Gain calculations, using the Biodiversity Metric 3.0 (July 2021) have been undertaken for the proposed development at Land South of Henfield Road, Albourne. Baseline habitat calculations have been informed by a UK Hab habitat survey, habitat condition assessments, and a desktop study. Post-development calculations have been made based on the Site Sketch Layout (3117-C-1006-SK-L). Assumptions and limitations to the assessment have been highlighted where relevant and identified in the Metric calculator which should be reviewed in conjunction with this report.

6.2 A unit gain of 19.65 habitat units (54.57% net gain) was identified following the completion of baseline and post-development calculations, in addition to a gain of 1.01 hedgerow units (2.48% net gain).

6.3 Specific management techniques will need to be employed to ensure habitat creation and enhancements are successful.

6.4 In order to create areas of native scrub in 'moderate' condition at least three woody species will need to comprise this habitat, with no species forming more than 75% of the total habitat. An absence of non-native species must also be ensured in addition to the maintenance of long and diverse grass swards surrounding these scrub patches.

6.5 Moderate condition woodland may be achieved under correct management techniques, however the target time to meet this condition exceeds 30 years. An absence of non-native species in addition to the presence of a diverse number of native species is desirable. Tree health is also important to ensure an absence of disease and woodland regeneration. The proposed woodland creation may be used as part of a forest school initiative, this will create management opportunities for coppices which will also improve woodland health. However, it is important that no more than 20% of ground flora is disturbed and that a diverse range of ground flora is allowed to flourish. Any deadwood should be left in-situ where it is safe to do so.

6.6 Species-rich meadow creation should incorporate a diverse range of native plant species, in addition to ensuring the absence of non-native species and preventing the encroachment of bracken and bramble. A diverse sward length is desirable in addition to ensuring that there are no large patches of bare ground.

6.7 Hedgerows H7 and H9 are currently in 'moderate' condition but if allowed to reach heights and widths of >1.5m they will be enhanced to 'good' condition. These are recently planted hedgerows, therefore

through appropriate management their condition is likely to improve. It is not considered likely possible to improve H6 to 'good' condition due to its being adjacent to a public footpath and needing an undisturbed naturally vegetated strip of at least 6 m on both sides to meet the enhancement criteria.

6.8 To meet the standards of the trading summary a minimum of c.0.03ha of traditional orchard in 'moderate' condition will need to be created. Appropriate management techniques will need to be employed in order to achieve the target condition. These include the prevention of invasive species and scrub encroachment, in addition to grassland management to maintain a varied sward height and species richness to ensure that grassland meets the criteria for a 'medium, 'high' or 'very high' distinctiveness habitat. Restorative pruning will need be practiced maintain the longevity of the trees, standing/fallen dead wood will need to be retained where possible.

6.9 It should be noted that as a condition of biodiversity net gain, the management of all enhanced / created habitats must be secured for 30 years, to ensure proposals are achieved.

*Conclusion*

6.10 The current scheme as shown on the DFP is anticipated to result in a significant biodiversity net gain of 54.57%, far exceeding specifications within Policy DP38 Biodiversity of Mid Sussex District Plan (2014 – 2031). Current proposals will help to increase biodiversity within the Site and provide new opportunities for a range of species.

6.11 The current scheme will also result in a 2.48% hedgerow net gain. Current gain comes from the enhancement of 'moderate' condition hedgerows on-site to 'good' condition. To help increase this gain to 10%, new hedgerow planting would need to be created. This is considered achievable within the southern areas of through appropriate habitat creation and management.

# 7.0 REFERENCES


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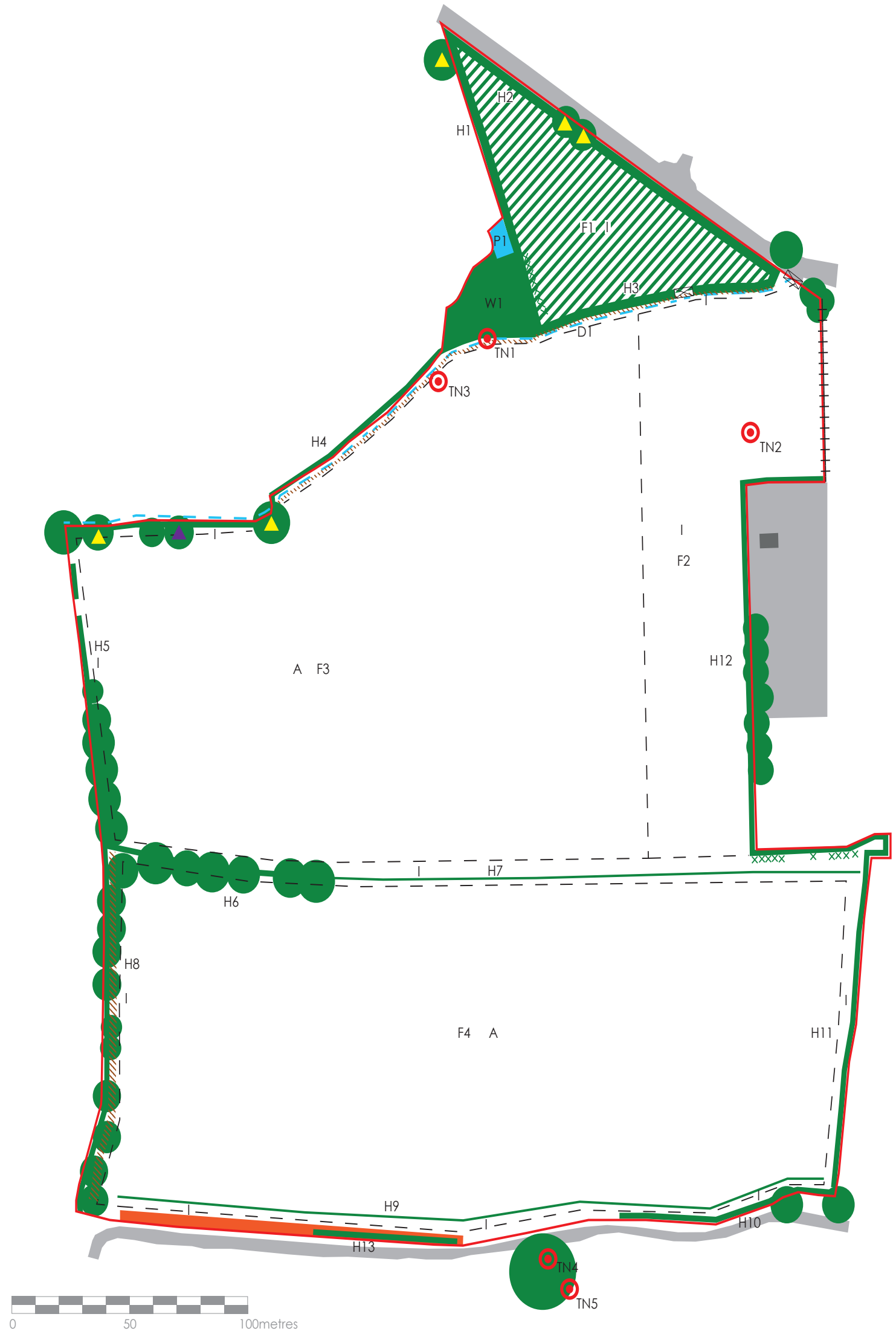
## Appendix A

Habitats Plan (CSA/4426/100/C)




Survey area

Pn — Pond and ID number

Continuous bracken

Tree with High bat roost potential

A — Arable

Hn — Hedgerow and ID number

Hardstanding

TN1 — Badger print

Improved grassland

Traditional orchard

Building

TN2 — Old hay bales in overgrown tall ruderal

Broadleaved woodland

Broadleaved tree

Fence

TN3 — Fox scat

Fn — Field ID number

Tall ruderal

Gate

TN4 — Large veteran oak tree

Dn — Seasonally wet ditch and ID number

Scattered scrub

Tree with Low bat roost potential

TN5 — Barn owl box

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| | | | | | |
|---|---|---|---|---|---|
| Project | Land south of Henfield Road, Albourne, West Sussex | Date | June 2022 | Drawing No. | CSA/4426/100 |
| Drawing Title | Habitats Plan | Scale | Refer to scale | Rev | C |
| Client | Croudace Homes Ltd | Drawn | NI | Checked | AW |

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## Appendix B

Site Sketch Layout (3117-C-1006-SK-L)

N

0m 10m 20m 30m 40m 50m 100m

Scale

**Croudace**
HOMES.CO.UK

| | | | | | | |
|---|---|---|---|---|---|---|
| Client: CROUDACE HOMES | Drawing Title: SITE SKETCH LAYOUT - FULL SITE | | | | | |
| Project: HENFIELD ROAD, ALBOURNE | Scale: 1:1000 @ A1 | Revision: A | Drawn: OT | Check: JH | Date: 10/06/22 | |

Omega Architects
The Front Barn, 124 Manor Road North,
Thames Ditton Surrey, KT7 0BH
T: 01372 470 313 W: www.omega-architects.co.uk

| Project No¹ | Class | Dwg No¹ | Status | Rev |
|---|---|---|---|---|
| 3117 | C | 1006 | SK | L |

CLASS: C - COLOURED, A - BLACK & WHITE
STATUS: SK - SKETCH, PR - PRELIMINARY, PL - PLANNING, WD - WORKING DRAWING

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## Appendix C

Habitat Condition Assessment Sheet

**Table 4.1**. Habitat Condition Assessment: Grassland

| **GRASSLAND (LOW DISTINCTIVENESS) Condition Assessment Criteria** | | F1: Orchard. Modified grassland | F2: N margin: Modified grassland | F3: N margin: Modified grassland | Margin separating F2/F3 from F4: Modified grassland | F4: S margin Modified grassland | F4: E margin: Modified grassland |
|---|---|---|---|---|---|---|---|
| 1 | There must be 6-8 species per m2. Note - if a grassland has 9 or more species per m2 it should be classified as a moderate distinctiveness grassland habitat type. **NB - this criterion is non-negotiable for achieving good condition.** | Fail: 5 | Fail: 6 | Fail: 4 | Fail: 3 | Fail: 5 | Fail: |
| 2 | Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed. | **Pass** | Fall: all >70cm | Fail: all tall | **Pass** | Fail: all tall | **Pass** |
| 3 | Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type. | **Pass** | **Pass** | **Pass** | **Pass** | **Pass** | **Pass** |
| 4 | Physical damage evident in less than 5% of total grassland area, suchas excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities. | **Pass** | **Pass** | **Pass** | Fail: track | Fail | Fail: track |
| 5 | Cover of bare ground between 1% and 5%, including localised areas, for example, rabbit warrens. | **Pass** | **Pass** | **Pass** | **Pass** | **Pass** | **Pass** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 6 | Cover of bracken less than 20%. | **Pass** | **Pass** | **Pass** | **Pass** | **Pass** | **Pass** |
| 7 | There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species1 make up less than 5% of ground cover. | **Pass** | **Pass: <5%** | Fail: >5% nettle | **Pass** | **Pass** | **Pass** |
| **Condition Assessment Result** | **Condition Assessment Score** | | | | | | |
| Passes 5 of 5 criteria | Good (3) | | | | | | |
| Passes 3 or 4 of 5 criteria | Moderate (2) | X | X | X | X | X | X |
| Passes 0, 1 or 2 of 5 criteria | Poor (1) | | | | | | |

**Table 4.2.** Habitat Condition Assessment: Orchard

| **ORCHARDS Condition Assessment Criteria** | | |
|---|---|---|
| 1 | Presence of ancient1 and / or veteran2 trees. **NB - this criterion is non-negotiable for achieving good condition.** | Fail: None present |
| 2 | Less than 5% of fruit trees are smothered by scrub. Small patches of dense scrub and/or scattered scrub growing between trees can be beneficial to biodiversity, however these should occupy less than 10% of ground cover. | Pass |
| 3 | There is evidence of formative and/or restorative pruning to maintain longevity of trees. | Pass |
| 4 | Presence of standing and/or fallen dead wood: all mature trees have standing or fallen branches, stems and stumps greater than 10 cm diameter associated with them. | Fail – None present indicating regular clearance |
| 5 | At least 95% of the trees are free from damage caused by humans or animals e.g.browsing, bark stripping or rubbing on non-adjusted ties. | Pass |
| 6 | Sward height is varied (between 5 cm and 30 cm) and small patches of bare ground are present creating structural diversity. Up to 10% cover of patches of tall herb vegetation may be present. | Pass |
| 7 | Species richness of the grassland is equivalent to a medium, high, or very high distinctiveness grassland. | Fail – Modified grassland |

| | | |
|---|---|---|
| 8 | There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and undesirable species3 make up less than 10% of ground cover. | |
| Condition Assessment Result | Condition Assessment Score | |
| Passes 6, 7 or 8 of 8 criteria, including non-negotiable criterion 1 | Good (3) | |
| Passes 4 or 5 of 8 criteria; OR Passes 6 or 7 of 8 criteria, excluding non-negotiable criterion 1 | Moderate (2) | Moderate |
| Passes 0, 1, 2 or 3 of 8 criteria | Poor (1) | |

**Footnote 1** - Ancient trees are exceptionally valuable. Attributes can include: its great age in comparison with other trees of the same species; size, especially very wide trunk; condition; biodiversity value as a result of significant wood decay and the habitat created from the ageing process; and cultural and heritage value. Veryfew trees of any species become ancient. Ancient trees can be classified using the following girth guide at 1.5 m from the ground:

- >2.5m for field maple, rowan, yew, birch, holly and other smaller tree species;
- >4m for oaks, ash, Scot's pine, alder;
- >4.5m for sycamore, lime, horse chestnut, sweet chestnut, elm species, poplar species, beech, willows, other pines and exotics.

**Footnote 2** - All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value. Veteran trees can be classified if they have four out of the five following features:

1. Rot sites associated with wounds which are decaying >400 cm2;
2. Holes and water pockets in the trunk and mature crown >5 cm diameter;
3. Dead branches or stems >15 cm diameter;
4. Any hollowing in the trunk or major limbs;
5. Fruit bodies of fungi known to cause wood decay.

**Footnote 3** - Species considered undesirable for this habitat type include: creeping thistle *Cirsium arvense*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, broad-leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica.*

**Table 4.3.** Habitat Condition Sheet: Hedgerow

| **Condition Assessment Criteria** | | | |
|---|---|---|---|
| A series of ten attributes, representing key physical characteristics, are used for this assessment. The attributes, and the minimum criteria for achieving a favourable condition in each, are defined. The attributes use similar favourable condition criteria to the Hedgerow Survey Handbook and the handbook is the recommended source of reference for assessing individual hedgerow attributes. | | | |
| **Hedgerow favourable condition attributes** | | | |
| **Attributes and functional groupings (A, B, C, D & E)** | | **Criteria (the minimum requirements for 'favourable condition'** | **Description** |
| **Core groups - applicable to all hedgerow types** | | | |
| A1. | Height | >1.5 m average along length | The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees. Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice). A newly planted hedgerow does not pass this criterion (unless it is > 1.5 m height). |
| A2. | Width | >1.5 m average along length | The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees. Outgrowths (e.g. blackthorn suckers) are only included in the width estimate when they >0.5 m in height. Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice4). |
| B1. | Gap - hedge base | Gap between ground and base of canopy <0.5 m for >90% of length (unless 'line of trees') | This is the vertical gappiness of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook). |
| B2. | Gap - hedge canopy continuity | ·Gaps make up <10% of total length and ·No canopy gaps >5 m | This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall gappiness, but are not subject to the >5 m criterion (as this is the typical size of a gate). |
| C1. | Undisturbed ground and perennial vegetation | >1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length: ·measured from outer edge of hedgerow, and ·is present | This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall gappiness, but are not subject to the >5 m criterion (as this is the typical size of a gate). |

| | | | |
|---|---|---|---|
| | | on one side of the hedge (at least) | |
| C2. | Undesirable perennial vegetation | Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground | The indicator species used are nettles (Urtica spp.), cleavers (Galium aparine) and docks (Rumex spp.). Their presence, either singly or together, should not exceed the 20% cover threshold. |
| D1. | Invasive and neophyte species | >90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species | Neophytes are plants that have naturalised in the UK since AD 1500. For information on neophytes see the JNCC website and for information on invasive non-native species see the GB Non-Native Secretariat website. |
| D2. | Current damage | >90% of the hedgerow or undisturbed ground is free of damage caused by human activities | This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g. excessive hedge cutting). |
| **Additional group - applicable to hedgerows with trees only** | | | |
| E1. | Tree age | At least one mature tree per 30m stretch of hedgerow. A mature tree is one that is at least 2/3 expected fully mature height for the species. | This criterion addresses if there are sufficient mature trees (within the scope of planning timescales) which are of higher value to biodiversity. |
| E2. | Tree health | At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity. | This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens. |

Each attribute is assigned to one of five functional groups (A – E), as indicated in Table TS1-2 and the condition of a hedgerow is assessed according to the number of attributes from these functional groups which pass or fail the 'favourable condition' criteria according to the approach set out in Table TS1-3.

The hedgerow condition assessment generates a score ranging from 1-3, which is used within the biodiversity metric 3.0. The scores for each are set out in tables TS1-3 and TS1-4 below.

**Table 4.4.** Habitat Condition Sheet: Hedgerows

| **Condition categories for hedgerows without trees** | | |
|---|---|---|
| **Category** | **Maximum number of attributes that can fail to meet 'favourable condition' criteria in Table TS1-2** | **Metric Score** |
| Good | No more than 2 failures in total;<br>AND No more than 1 in any functional group. | 3 |
| Moderate | No more than 4 failures in total;<br>AND Does not fail both attributes in more than one functional group (e.g. fails attributes A1, A2, B1 & C2 = Moderate condition). | 2 |
| Poor | Fails a total of more than 4 attributes;<br>OR Fails both attributes in more than one functional group (e.g. fails attributes A1, A2, B1 & B2 = Poor condition). | 1 |
| **Condition categories for hedgerows with trees** | | |
| **Category** | **Maximum number of attributes that can fail to meet 'favourable condition' criteria in Table TS1-2** | **Metric score** |
| Good | No more than 2 failures in total;<br>AND No more than 1 failure in any functional group. | 3 |
| Moderate | No more than 5 failures in total;<br>AND Does not fail both attributes in more than one functional group (e.g. fails attributes A1, A2, B1, C2 & E1 = Moderate condition). | 2 |
| Poor | Fails a total of more than 5 attributes;<br>OR Fails both attributes in more than one functional group (e.g. fails attributes A1, A2, B1 & B2 = Poor condition). | 1 |

**Table 4.5**. Habitat Condition Assessment: Hedgerows

| Criteria | H1 | H2 | H3 | H4 | H5 | H7 | H8 | H9 | H10 | H11 | H12 | H13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Species rich hedgerow with trees | Native sp. rich with trees | Native sp. rich hedgerow with trees, associated with bank or ditch | Native sp. rich hedgerow with trees, associated with bank or ditch | Native sp. rich hedgerow with trees | Native species rich hedgerow | Native species rich hedgerow | Native species rich hedgerow | Native species rich hedgerow | Native species rich hedgerow | Native hedgerow with trees | Native hedgerow |
| A1 | Pass | Pass | Pass | Pass | Pass | Fail | Pass | Fail | Pass | Pass | Pass | Pass |
| A2 | Pass | Pass | Pass | Pass | Pass | Fail | Pass | Fail | Pass | Pass | Pass | Pass |
| B1 | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass |
| B2 | Pass | Pass | Pass | Pass | Pass | Fail | Pass | Pass | Pass | Fail | Pass | Pass |
| C1 | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass |
| C2 | Pass | Pass | Pass | Pass | Fail | Pass | Fail | Pass | Fail | Fail | Fail | Fail |
| D1 | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass |
| D2 | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass | Pass |
| E1 | Pass | Fail | Fail | Pass | Pass | Pass | N/A | N/A | N/A | Pass | Pass | Pass |
| E2 | Pass | Pass | Pass | Pass | Pass | Pass | N/A | N/A | N/A | Pass | Pass | Pass |
| **Condition** | **Good** | **Good** | **Good** | **Good** | **Good** | **Moderate** | **Good** | **Moderate** | **Good** | **Good** | **Good** | **Good** |

**Table 4.6**. Habitat Condition Assessment: Treelines

| **LINE OF TREES Condition Assessment Criteria** | | H6: Line of trees |
|---|---|---|
| 1 | More than 70% of trees are native species. | **Pass** |
| 2 | Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide. | **Pass** |
| 3 | Includes one or more mature1 or veteran2 tree. | **Pass** |
| 4 | There is an undisturbed naturally vegetated strip of at least 6 m on both sides toprotect the line of trees from farming and other anthropogenic operations. | Fail |
| 5 | At least 95% of the 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. | **Pass** |
| **Condition Assessment Result** | **Condition Assessment Score** | |
| Passes 5 of 5 criteria | Good (3) | |
| Passes 3 or 4 of 5 criteria | Moderate (2) | X |
| Passes 0, 1 or 2 of 5 criteria | Poor (1) | |

**Table 4.7.** Habitat Condition Criteria: Woodland

| Condition Assessment Criteria | | | | | |
|---|---|---|---|---|---|
| **Indicator** | | **Good (3 points)** | **Moderate (2 points)** | **Poor (1 point)** | **Assessment** |
| 1 | Age distribution of trees[1] | Three age classes present | Two age classes present | One age class present | 3 |
| 2 | Wild, domestic and feral herbivore damage | No significant browsing damage evident in woodland[2] | Evidence of significant browsing pressure is present in 40% or less of whole woodland | Evidence of significant browsing pressure is present in 40% or more of whole woodland | 3 |
| 3 | Invasive plant species[3] | No invasive species present in woodland | Rhododendron or laurel not present, other invasive species < 10% cover | Rhododendron or laurel present, or other invasive species > 10% cover | 3 |
| 4 | Number of native tree species | Five or more native tree or shrub species found across woodland parcel | Three to four native tree or shrub species found across woodland parcel | None to two native tree or shrub species across woodland parcel | 3 |
| 5 | Cover of native tree and shrub species | > 80% of canopy trees and >80% of understory shrubs are native | 50-80% of canopy trees and 50-80% of understory shrubs are native | < 50% of canopy trees and <50% of understory shrubs are native | 3 |
| 6 | Open space within woodland[4] | 10 – 20% of woodland has areas of temporary open space, unless woodland is <10ha in which case lower threshold of 10% does not apply | 21- 40% of woodland has areas of temporary open space | More than 40% of woodland has areas of temporary open space | 2 |
| 7 | Woodland regeneration[5] | All three classes present in woodland; trees 4-7cm dbh, saplings and seedlings or advanced coppice regrowth | One or two classes only present in woodland | No classes or coppice regrowth present in woodland | 3 |
| 8 | Tree health | Tree mortality less than 10%, no pests or diseases and no crown dieback | 11% to 25% mortality and/or crown dieback or low risk pest or disease present | Greater than 25% tree mortality and or any high risk pest or disease present | 3 |
| 9 | Vegetation and ground flora | Ancient woodland flora indicators present | Recognisable NVC plant community present | No recognisable NVC community | 3 |
| 10 | Woodland vertical structure[6] | Three or more storeys across all survey plots or a complex woodland | Two storeys across all survey plots | One or less storey across all survey plots | 2 |

| | | | | | |
|---|---|---|---|---|---|
| 11 | Veteran trees[7] | Two or more veteran trees per hectare | One veteran tree per hectare | No veteran trees present in woodland | 3 |
| 12 | Amount of deadwood | 50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps | Between 25% and 50% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps | Less than 25% of all survey plots within the woodland parcel have standing deadwood, large dead branches/ stems and stumps | 3 |
| 13 | Woodland disturbance[8] | No nutrient enrichment or damaged ground evident | Less than 1 hectare in total of nutrient enrichment across woodland area and/or less than 20% of woodland area has damaged ground | More than 1 hectare of nutrient enrichment and/or more than 20% of woodland area has damaged ground | 3 |
| **TOTAL SCORE** | | | | | **37 Good** |

**Table 4.9** Habitat Condition Assessment Criteria: Woodland

| **Total score (out of a possible 39)** | |
|---|---|
| **Condition Assessment Result** | **Condition Assessment Score** |
| Total score >32 (33 to 39) | Good (3) |
| Total score 26 to 32 | Moderate (2) |
| Total score <26 (13 to 25) | Poor (1) |
| **Notes** | |
| **Footnote 1** - See EWBG method INDICATOR 1 for more information. If tree species is not a birch, cherry or Sorbus: 0 – 20 years (Young); 21 - 150 years (Intermediate); and >150 years (Old). A recognisable age class should be a consistent recognisable layer across the woodland or stand being assessed. Presence of a few saplings would not indicate that the woodland has an 'age class' of young trees. **Footnote 2** - See EWBG method INDICATOR 2 for more information. Browsing pressure is considered to be significant where >20% of vegetation visible within each survey plot shows damage from any type of browsing pressure listed. **Footnote 3** - See EWBG method INDICATOR 3 for more information. Check for presence of the following invasive non-native species: American skunk cabbage *Lysichiton americanus;* Himalayan balsam *Impatiens glandulifera;* Japanese knotweed *Fallopia japonica;* Cherry Laurel *Prunus laurocerasus;* Shallon *Gaultheria shallon;* Snowberry *Symphoricarpos albus;* Variegated yellow archangel *Lamiastrum galeobdolon subsp. argentatum;* and Rhododendron *Rhododendron ponticum.* **Footnote 4** - See EWBG method INDICATOR 6 for more information. Open space within woodland in this context is temporary open space in which trees can be expected to regenerate (e.g. glades, rides, footpaths, areas of clear-fell). This differs from permanent open space where tree regeneration is not possible or desirable (e.g. tarmac, buildings, rivers). Area is at least 10m wide with less than 20% covered by shrubs or trees. **Footnote 5** - See EWBG method INDICATOR 8 for more information. This indicator measures regeneration potential of the woodland by considering three classes: seedlings; saplings; and young trees of 4-7 cm DBH. All three classes would fall in the 'young' category of the 'age distribution of trees' indicator, the regeneration indicator is gathers additional information by considering regeneration potential i.e. if seedlings, saplings and young trees are all present that means natural regeneration processes are happening. **Footnote 6** - This indicator is looking at structural diversity and is useful to understand in conjunction with the age of trees in a woodland. Vertical structure is defined as the number of canopy storeys present. Possible storey values are: 1) Upper; 2) Complex: recorded when the stand is composed of multiple tree heights that cannot easily be stratified into broad height bands (such as upper, middle or lower); 3) Middle; 4) Lower; and 5) Shrub layer. **Footnote 7**- See EWBG method INDICATOR 12 for more information. All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value. Veteran trees can be classified if they have four out of the five following features: 1. Rot sites associated with wounds which are decaying >400 cm2; 2. Holes and water pockets in the trunk and mature crown >5 cm diameter; 3. Dead branches or stems >15 cm diameter; 4. Any hollowing in the trunk or major limbs; 5. Fruit bodies of fungi known to cause wood decay. **Footnote 8 -** See EWBG method INDICATOR 15 for more information. Examples of disturbance are: significant nutrient enrichment; soil compaction from trampling, machinery or animal poaching; litter. | |

**Table 4.9** Habitat Condition Assessment Criteria: Pond

| **PONDS Condition Assessment Criteria** | | |
|---|---|---|
| **CORE 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. | Fail |
| 2 | There is semi-natural habitat (i.e. moderate distinctiveness or above) forat least 10 m from the pond edge. | Pass |
| 3 | Less than 10% of the pond is covered with duckweed or filamentous algae. | Fail |
| 4 | The pond is not artificially connected to other waterbodies, either via streams, ditches or artificial pipework. | Fail |
| 5 | Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps or pipework. | Pass |
| 6 | There is an absence of non-native plant and animal species2. | Pass |
| 7 | The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities. | Pass |
| **Condition Assessment Result** | **Condition Assessment Score** | Poor |
| If 8 criteria assessed (woodland ponds): | | |
| Passes 7 of 7 criteria | Good (3) | |
| Passes 5 or 6 of 7 criteria | Moderate (2) | |
| Passes 0, 1, 2, 3 or 4 of 7 criteria | Poor (1) | |
| **Notes** | | |
| Footnote 1 - A woodland pond will be surrounded on all sides by woodland habitat.<br>Footnote 2 - Any species included on the Water Framework Directive UKTAG GB High Impact Species List should be absent.<br>Frequently occurring non-native plant species include water fern Azolla spp., Australian swamp stonecrop Crassula helmsii, parrot's feather Myriophyllum aquaticum, floating pennywort Hydrocotyle ranunculoides andJapanese knotweed Fallopia japonica, giant hogweed Heracleum mantegazzianum (on the bank).<br>Frequently occurring non-native animals include signal crayfish Pacifastacus leniusculus, zebra mussels Dreissena polymorpha, killer shrimp Dikerogammarus villosus, demon shrimp Dikerogammarus haemobaphes,carp Cyprinus carpio.<br>Footnote 3 - If the pond is seasonal (i.e. dries out in most summers) then emergent species alone are likely to be found. | | |

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