

# Barkham Square

## Biodiversity Net Gain Assessment

Barkham Square  
BNG  
Assessment  
November 2025

## Document status

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## Approval for issue

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Prepared for:

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# 1 INTRODUCTION

## 1.1 Purpose and Scope of this Report

- 1.1.1 RPS has been commissioned by Crest Nicholson Operations Ltd (Chiltern Division) to undertake a Biodiversity Net Gain (BNG) assessment of an area of land at Barkham Square, Langley Common Road, Wokingham (the 'site'). The project is an outline application for the development of up to 660 residential dwellings and associated infrastructure and open space.
- 1.1.2 The site is located at Barkham Square, Arborfield south-east of Reading, Berkshire (the Site). It comprises approximately 44.89 ha of mainly grassland grazed by sheep. There are blocks of ancient woodland found on Site. There is a pond located to the south, adjacent to the Barkham Brook. The Barkham Brook runs through the centre of the Site in a north-south orientation.
- 1.1.3 The wider landscape is generally rural in nature with parcels of woodland, including ancient woodland. Arable fields are found to the east and north of the Site. Waterman's Lake is located approximately 30m south of the Site boundary which is currently grazed fields.
- 1.1.4 The assessment is based on habitat data collected during the Preliminary Ecological Appraisal (PEA) for the site ES Appendix 8.1 and the River MoRPH surveys in ES Appendix 8.11. The post development calculations are based on those provided by BMD (drawing ref BMD.23.0016.SK.022.D).
- 1.1.5 This report:
- Calculates and assess the baseline ecological status and condition of current habitats identified on site;
  - Calculates the biodiversity value of the site post-development; and
  - Provides a summary of the habitat enhancements and creation proposals designed to ensure net gain is achieved.
- 1.1.6 Given the project is being submitted in outline, the final BNG to be delivered by the project will be developed during detailed design prior to the submission of reserved matters, should the development gain consent.
- 1.1.7 This report pertains to these results only; recommendations included within this report are the professional opinion of an experienced ecologist and therefore the view of RPS.

## 1.2 Legislation and Planning Policy

### The Environment Act (2021)

- 1.2.1 Under this Act, developers are required to demonstrate a minimum 10% net gain in biodiversity for all developments (with exemptions).

### National Planning Policy Framework

- 1.2.2 The National Planning Policy Framework (NPPF) (2024) guides Local Planning Authorities (LPAs) when developing their planning policies and considering planning applications affecting protected habitats, sites and species.
- 1.2.3 Paragraph 187(d) states that:

*“Planning policies and decisions should contribute to and enhance the natural and local environment by:*

*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 and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs.”*

1.2.4 Paragraph 192(b) states:

*“To protect and enhance biodiversity and geodiversity, plans should:*

*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”.*

1.2.5 Paragraph 193(d) states:

*“When determining planning applications, local planning authorities should apply the following principles:*

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

### **1.3 Biodiversity Net Gain and Methods**

1.3.1 Biodiversity Net Gain is defined in Baker *et al* (2019) as:

*“Development that leaves biodiversity in a better state than before.”*

1.3.2 The currently accepted method of assessing BNG is through the use of biodiversity calculators to assess the biodiversity value of habitats pre- and post- development based on habitat type, distinctiveness and condition. A biodiversity index is derived for the baseline and for the proposed development. CIEEM (2019) describe a projects ecological baseline as:

*“Conditions existing in the absence of proposed activities.”*

1.3.3 BNG is achieved where an increase in value is delivered (on or offsite), and where habitats of a higher value are not replaced exclusively with habitats of a lower value.

#### **Biodiversity Metric Calculator Tool**

1.3.4 The methods of calculating BNG for this project followed the guidance produced as part of DEFRA's Statutory Biodiversity Metric (DEFRA, 2024).

1.3.5 In order to calculate the change in biodiversity at the site, the baseline habitats, their conditions, strategic significance and post development habitats are inputted into the metric to provide the overall change in units. The metric takes into account habitat units, hedgerow units and river units.

1.3.6 The strategic significance of the site's habitats is dependent on the spatial location of a habitat in relation to preferred locations for biodiversity. Within the metric the following three categories are present:

- Within area formally identified in local strategy – the site or habitat type is within the local planning documents or frameworks;
- Location ecologically desirable however not in local strategy; and
- Area / compensation not in local strategy / no local strategy.

- 1.3.7 Habitats and linear features are assigned a predefined distinctiveness within the metric calculator which relates to the rarity and value of individual habitats.

## 2 PRE-DEVELOPMENT HABITATS

### 2.1 UK Habitat Survey

- 2.1.1 The UK Habitat Survey of the site was undertaken by CSA in January 2023 with further data gathered during the other surveys completed during 2023.
- 2.1.2 The habitats are described in turn, with descriptions taken from ES Appendix 8.1 PEA. Specific reference to guidance on habitat conditions is made, where relevant. Habitats are mapped in **Figure 2.1** from ES Appendix 8.1.

### 2.2 Habitat Survey – Overview

- 2.2.1 The habitats at the time of the UKHab survey are described below in turn, with specific reference to guidance on habitat conditions, and are mapped in Figure 2.1.
- 2.2.2 Biodiversity unit values are also provided in this section and are copied from those generated by the Defra metric. Note that the spreadsheet rounds figures of units to two decimal places which occasionally generates apparent minor discrepancies due to rounding errors.
- 2.2.3 A summary of the baseline habitat area, habitat units, area retained, and habitat units lost is provided in the BNG metric submitted with this report.
- 2.2.4 Note that several of the boundaries within Appendix 8.1 are noted as being dense scrub with trees. For the purposes of BNG, these are treated as native hedgerows as they are <5m wide.

### Habitats

#### Modified Grassland – g4

- 2.2.5 The grass areas of the site were modified grassland. These comprised seven sheep-grazed fields with broadly similar characteristics. Coarse grasses including cock's-foot *Dactylus glomerata*, Yorkshire fog *Holcus lanatus*, perennial rye grass *Lolium perenne*, and bent grass *Agrostis* sp. are present in all fields. While the dominating species varies between fields, the species composition remains consistent throughout. Herbs are infrequently present and include creeping buttercup *Ranunculus repens*, ragwort *Senecio jacobaea*, meadow buttercup *Ranunculus acris*, chickweed *Stellaria media*, creeping thistle *Cirsium arvense*, cow parsley *Anthriscus sylvestris*, cleavers *Galium aparine*, ribwort plantain *Plantago lanceolata* and vetch *Vicia* sp..
- 2.2.6 For the purposes of the assessment, those fields that are contiguous and divided by fences are included as a single line in the metric (e.g. fields F1, F2, F3 and F7).
- 2.2.7 This would be classified as being of a poor condition, as it meets the following criteria:
- Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present);
  - 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;
  - Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens;

- Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble) is less than 5%; and
- There is an absence of invasive non-native plant species (as listed on Schedule 9 of Wildlife and Countryside Act 1981 (as amended) (WCA)).

### **Native Hedgerow – h2a**

- 2.2.8 A total of six hedgerows occurred on site.
- 2.2.9 B6 is a relatively recently planted hawthorn *Crataegus monogyna* hedgerow with a ditch beneath. It is circa 2m in height without gaps other than three existing farm gates.
- 2.2.10 The condition, based on the Natural England's Statutory Biodiversity Metric Condition Assessments, would result in the native hedgerow classified as being of good condition, as it met the following criteria:
- Height: >1.5 m along length;
  - Width: >1.5 m average along length;
  - Gap between ground and base of canopy <0.5 m for >90% of length;
  - Gaps make up <10% of total length, no canopy gaps >5 m;
  - Invasive species not present;
  - Vegetation indicative of nutrient enrichment <20% cover; and
  - >90% free from damage by human activity.
- 2.2.11 B8 is dominated by hawthorn and is located alongside the Barkham Brook. It is similarly in good condition, meeting the same criteria as B6.
- 2.2.12 B12 is also dominated by hawthorn but fails the criterion relating to vegetation indicative of enrichment as the base is dominated by nettle. However, it is still in good condition, only failing two condition criteria.
- 2.2.13 B4 and B5 are dominated by hawthorn and meet the same criteria as B6. They are therefore in good condition.

### **Native Hedgerow with Trees – h2a**

- 2.2.14 B13 is dominated by hawthorn with oak *Quercus* spp. standards. It has a ditch running along its length at the base. It met the following criteria:
- Height: >1.5 m along length;
  - Width: >1.5 m average along length;
  - Gaps make up <10% of total length, no canopy gaps >5 m;
  - Invasive species not present;
  - Vegetation indicative of nutrient enrichment <20% cover;
  - >90% free from damage by human activity;
  - Range of tree ages present; and
  - >95% of trees in healthy condition.
- 2.2.15 It therefore fails two criteria only and is also in good condition.
- 2.2.16 B1 is similar to B13 and also in good condition, meeting the same criteria.

- 2.2.17 B2 is similar to B13 but does not include a ditch. It is also in good condition, meeting the same criteria.
- 2.2.18 B3 comprises a hawthorn hedgerow with bramble and mature willow *Salix* sp. It meets the following criteria:
- Height: >1.5 m along length;
  - Width: >1.5 m average along length;
  - Gaps make up <10% of total length, no canopy gaps >5 m;
  - Invasive species not present;
  - Vegetation indicative of nutrient enrichment <20% cover;
  - >90% free from damage by human activity; and
  - >95% of trees in healthy condition.
- 2.2.19 All of the trees are circa similar age ranges and, as such, it does not pass that criterion. However, it is still in good condition.

### **Species-Rich Native Hedgerow with Trees – h2a5**

- 2.2.20 B9 is dominated by hawthorn with oak *Quercus* spp. standards. It met the following criteria:
- Height: >1.5 m along length;
  - Width: >1.5 m average along length;
  - Gaps make up <10% of total length, no canopy gaps >5 m;
  - Invasive species not present;
  - Vegetation indicative of nutrient enrichment <20% cover;
  - >90% free from damage by human activity;
  - Range of tree ages present; and
  - >95% of trees in healthy condition.
- 2.2.21 It therefore fails two criteria only and is also in good condition.
- 2.2.22 B10 is functionally the same as B9 and is also in good condition.

### **Ecologically Valuable Line of Trees – 34**

- 2.2.23 A range of tree lines occurred across the site (B7, B11, B14, B15 and B16). All considered to be ecologically valuable as corridors of movement around the perimeter of the site and are dominated by oak. All pass all five condition criteria:
- >70% native species;
  - Tree canopy >95% continuous with no individual gaps >5m;
  - One or more trees with natural ecological niches;
  - Undisturbed ground of >6m width at base;
  - >95% trees in healthy condition.
- 2.2.24 As such, all five are in good condition.

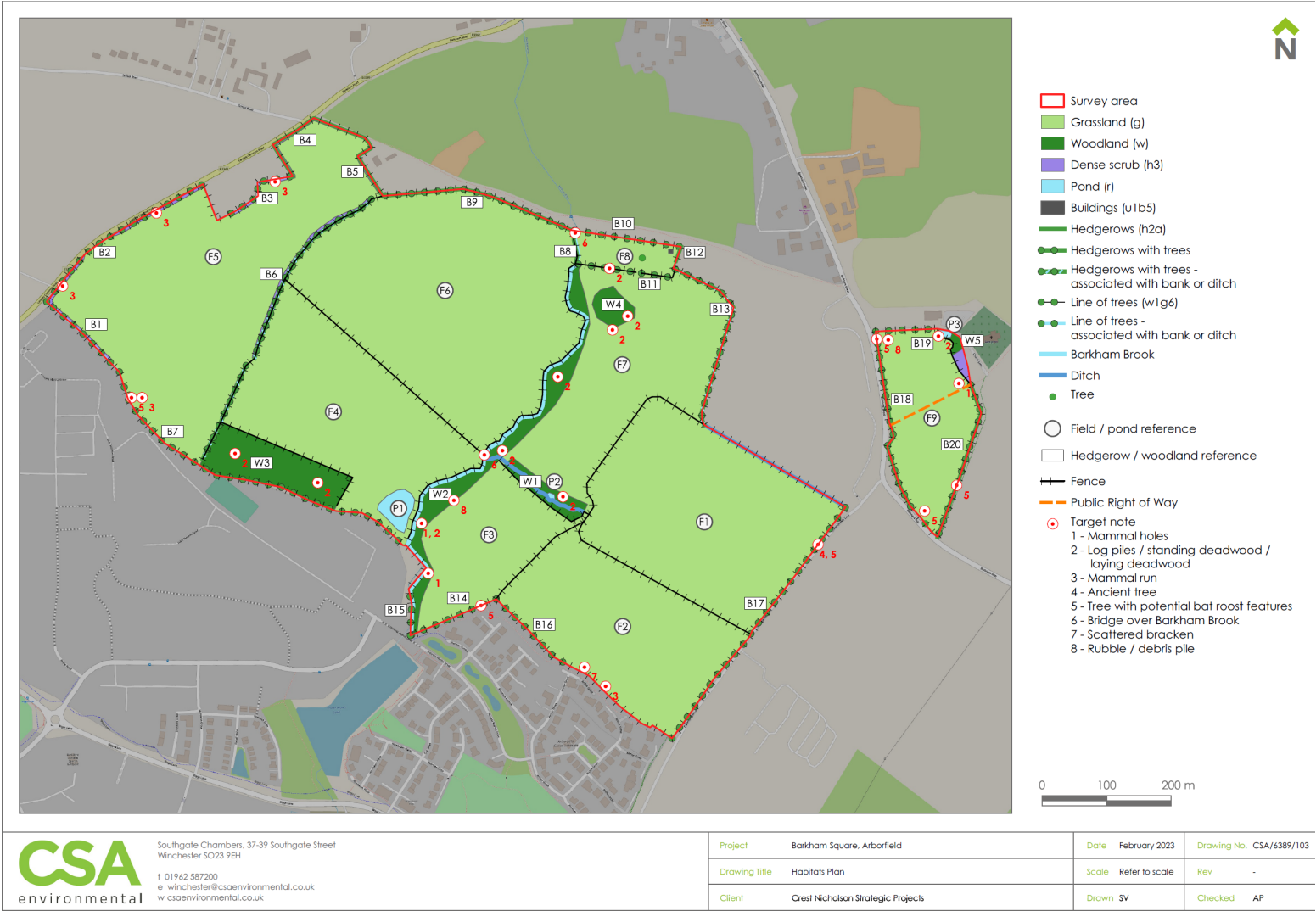
## Other broadleaved woodland – w1g

- 2.2.25 Two areas of ancient woodland were present on site, one adjacent to the Barkham Brook (W2), the other along the southern site boundary (W3).
- 2.2.26 Woodland W2 is a belt of woodland which runs adjacent to the Barkham Brook along its length. It contains blackthorn *Prunus spinosa*, hazel *Corylus avellana*, alder, silver birch and willow species of various age classes, including several mature specimens. A footbridge passing over the watercourse through the woodland is present between Fields F4 and F3.
- 2.2.27 Woodland W3 is a parcel of woodland containing several mature oak trees as well as hazel, poplar, hawthorn and holly *Ilex aquifolium*. Large areas of open space are present within the woodland, as well as frequent log and brash piles.
- 2.2.28 The condition, based on the Natural England's Statutory Biodiversity Metric Condition Assessments for both woodlands, would result in the woodland classified as being of *poor* condition, both scoring 23 points. Primarily, this score is due to lack of vertical structure, ground flora, age structure (the woodlands are both single age stands) and significant disturbance.

## Rivers and Streams – R2

- 2.2.29 The Barkham Brook flows through woodland W2 towards the eastern side of the site.
- 2.2.30 A RiverMorph assessment was undertaken on the 11<sup>th</sup> August 2023 by an ecologist experienced with such surveys, RPS Ecologist Lucinda Clark (ES Appendix 8.11).
- 2.2.31 Sub-reach 1 has a final condition score of Moderate. Sub-reach 2 has a final condition score of Fairly Good. Sub-reach 3 has a final condition score of Fairly Good.
- 2.2.32 The final condition score is derived from the sum of the positive and negative indicators. Sub-reach 3 had a higher average for positive indicators (1.42) compared with the other sub-reaches (1.26 for SR2, 1.05 for SR1). Sub-reach 1 had a lower average for negative indicators (-0.38 compared with -0.23 for SR2, and -0.15 for SR3).
- 2.2.33 The lowest scoring indicators for all sub-reaches came from the managed ground cover on the bank top. For sub-reaches 1 and 2, the siltation also resulted in a lower score.

Figure 2.1: Pre-Development Habitat Plan



## 3 Post-Development Habitats

### 3.1 Introduction

- 3.1.1 Habitats on the proposed development site are taken from the current Masterplan Proposals (BMD.23.0016.SK.022.D). Given these have not been subject to detailed design, some assumptions with respect to target condition is made; where such assumptions occur, they are described accordingly.

### 3.2 Habitats Enhanced

#### Other Woodland; Broadleaved w1g

- 3.2.1 The total **4.09 ha** of the poor condition ancient woodland will be enhanced as part of the proposed development plans to a moderate condition. This will be achieved through the implementation of appropriate coppice management to ensure a varied age structure (criterion A) and areas of woodland regeneration (criterion G). This will provide an additional 4 condition points, bringing the total to 27.

### 3.3 Habitats Created

#### Developed land; Sealed Surface u1b

- 3.3.1 In total **19.89 ha** of 'Developed land; sealed surface' has been included in the proposed development site to cover the residential development, elderly care and approximate road area. No condition is associated with this habitat.

#### Artificial Unvegetated, Unsealed Surface u1c

- 3.3.2 A total of **0.41 ha** of unvegetated, unsealed surface has been included in the metric to cover the areas of organised play. In reality, these are likely to have some form of vegetation within them, but at this outline stage, a worst case has been assumed. No condition is associated with this habitat.

#### Vegetated Garden 828

- 3.3.3 A total of 1.82 ha of vegetated garden has been included to represent the parks and gardens within the development. Again, no condition is associated with this habitat.
- 3.3.4 A further 0.65 ha is associated with the productive landscape. These areas could be allotments or orchards but are included as vegetated garden on a precautionary basis.

#### Other Woodland; Broadleaved w1g

- 3.3.5 In total, **10.5 ha** of the moderate condition woodland will be created within the Suitable Alternative Natural Greenspace (SANG) to recreate part of the Kidgham Woods that stood on the site in the past and link W2 and W3 together.
- 3.3.6 Moderate condition is targeted to allow for some recreational pressure within the SANG. This will be achieved through the implementation of appropriate coppice management to ensure a varied age structure (criterion A) and areas of woodland regeneration (criterion G).

## Modified Grassland g4

3.3.7 As part of the post-development plans **1.62 ha** of amenity grassland will be created as recreational open space within the development.

The modified grassland will be likely of poor condition under the Natural England condition assessment of 'Grassland – Modified Grassland' (Condition Sheet 5). Criteria to meet this condition is outlined below in Table 3.1.

**Table 3.1: Grassland – Modified Grassland**

| Condition Assessment Criteria                                                      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Criterion passed |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| A                                                                                  | There are 6-8 vascular plant species per m2 present, including at least 2 forbs (Note - this criterion is essential for achieving Moderate or Good condition).<br><br>Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m2, please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. | No               |
| B                                                                                  | Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.                                                                                                                                                                                                                                                                                       | No               |
| C                                                                                  | Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble <i>Rubus fruticosus</i> agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.                                                                                                                                                                                                                  | Yes              |
| D                                                                                  | Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.                                                                                                                                                                                                                                               | No               |
| E                                                                                  | Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).                                                                                                                                                                                                                                                                                                                                                                               | Yes              |
| F                                                                                  | Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.                                                                                                                                                                                                                                                                                                                                                                                                                                         | Yes              |
| G                                                                                  | There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA4).                                                                                                                                                                                                                                                                                                                                                                                                           | Yes              |
| Passes 6 or 7 criteria including passing essential criterion A                     | Good (3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                  |
| Passes 4 or 5 criteria including passing essential criterion A                     | Moderate (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |
| Passes 3 or fewer criteria;<br>OR<br>Passes 4 - 6 criteria (excluding criterion A) | Poor (1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | X                |

## Other neutral grassland g3c

- 3.3.8 Included within the landscape proposals are areas of other neutral grassland (circa 5.74 ha). This is located within the SANG and will be within woodland glades and more open areas.
- 3.3.9 The condition of the grassland will likely be moderate condition following the Natural England condition assessment of 'Grassland – Medium to Very High Distinctiveness' (Condition Sheet 6), primarily to account for recreational pressure of its use as a SANG. Criteria to meet this condition is outlined below in Table 3.2.

**Table 3.2: Grassland – Other Neutral Grassland**

| Condition Assessment Criteria                                                                | Description                                                                                                                                                                                                                                                                                                                                                                                                    | Criterion passed |
|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| A                                                                                            | The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type.<br><br>Note – this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.                                                                                                         | <b>Yes</b>       |
| 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.                                                                                                                                                                                                | <b>Yes</b>       |
| C                                                                                            | Cover of bare ground is between 1% and 5%, including localised areas (for example, a concentration of rabbit warrens).                                                                                                                                                                                                                                                                                         | <b>Yes</b>       |
| D                                                                                            | Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble) is less than 5%.                                                                                                                                                                                                                                                                                           | <b>Yes</b>       |
| E                                                                                            | 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 the total area.<br><br>If any invasive non-native plant species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed. | <b>Yes</b>       |
| F                                                                                            | There are 10 or more vascular plant species per m2 present, including forbs that are characteristic of the habitat type.<br><br>Note this criterion is essential for achieving good condition for non-acid grassland types only.                                                                                                                                                                               | <b>No</b>        |
| Passes 5 or 6 criteria including passing essential criterion A and additional criterion F    | Good (3)                                                                                                                                                                                                                                                                                                                                                                                                       |                  |
| Passes 3 - 5 criteria including passing essential criterion A                                | Moderate (2)                                                                                                                                                                                                                                                                                                                                                                                                   | <b>X</b>         |
| Passes 2 or fewer criteria;<br><br>OR<br>Passes 3 - 4 criteria (excluding criterion A and F) | Poor (1)                                                                                                                                                                                                                                                                                                                                                                                                       |                  |

## Native Hedge Planting – Species-rich Native Hedgerow h2a5

- 3.3.10 As part of the proposals, species-rich native hedgerows will be planted adjacent to the SANG, one on the eastern boundary and one on the western boundary.
- 3.3.11 It has been assumed that the condition of the hedgerow is likely to be good, following the criteria set out in the Natural England condition assessment for ‘Species-rich Native Hedgerow’ (Condition Sheet 8). The criteria are outlined in Table 3.3.

**Table 3.3: Species-rich Native Hedgerow (Native Hedge Planting)**

| Condition Assessment Criteria | Attributes       | Criteria                                                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Criterion passed |
|-------------------------------|------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| A1                            | Height           | >1.5 m average along length                                     | <p>The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees.</p> <p>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).</p> <p>A newly planted hedgerow does not pass this criterion (unless it is &gt;1.5 m height).</p>                      | No               |
| A2                            | Width            | >1.5 m average along length                                     | <p>The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees.</p> <p>Outgrowths (such as blackthorn <i>Prunus spinosa</i> suckers) are only included in the width estimate when they are &gt;0.5 m in height.</p> <p>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 practice).</p> | Yes              |
| B2                            | Gap – hedge base | Gap between ground and base of canopy <0.5 m for >90% of length | <p>This is the vertical ‘gappiness’ of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth.</p> <p>Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).</p>                                                                                                                                                                                                                  | Yes              |
| B2                            | Gap – hedge      | Gaps make up <10% of total length; and                          | <p>This is the horizontal ‘gappiness’ of the woody component of the hedgerow. Gaps</p>                                                                                                                                                                                                                                                                                                                                                                                  | Yes              |

|                                                                                            |                                             |                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |
|--------------------------------------------------------------------------------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
|                                                                                            | canopy continuity                           | No canopy gaps >5 m"                                                                                                                                                                                     | 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:<br><br>· Measured from outer edge of hedgerow; and<br><br>· Is present on one side of the hedgerow (at least). | This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow.<br><br>Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow.<br><br>This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches. | <b>Yes</b> |
| C2                                                                                         | Nutrient-enriched 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 <i>Urtica</i> spp., cleavers <i>Galium aparine</i> and docks <i>Rumex</i> spp. Their presence, either singly or together, does not exceed the 20% cover threshold.                                                                                                                                                                                                                                                                                                       | <b>Yes</b> |
| D1                                                                                         | Invasive and neophyte species               | >90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA3) and recently introduced species.                                 | Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes). Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website, as well as the BSBI website where the 'Online Atlas of the British and Irish Flora' contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website.                                                                 | <b>Yes</b> |
| 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.<br><br>This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (for example, excessive hedgerow cutting).                                                                                                                                                                                                                                    | <b>Yes</b> |
| No more than 2 failures in total;<br>AND<br>No more than 1 failure in any functional group |                                             |                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |

No more than 4 failures in total;

Moderate (2)

AND

Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and C2 = Moderate condition).

---

Fails a total of more than 4 attributes;

Poor (1)

OR

Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).

---

### Enhancement of Barkham Brook

- 3.3.12 The entire length of the Brook that is present within the site boundary will be retained and enhanced to improve its overall condition.
- 3.3.13 The Brook will be enhanced through the removal of grazing along its length to improve the riparian encroachment from minor to no. The ground cover on the bank top will be allowed to become more natural to improve that element of the condition score.

## 4 SUMMARY

- 4.1.1 The assessment above indicates that the development proposals will deliver a net gain of **25.66%** for habitats, **15.95%** for hedgerows and **18.40% for watercourses**.
- 4.1.2 The total habitat units post-development delivered by the proposals is **126.06** units which is **25.74** units more than the baseline of **100.32** units.
- 4.1.3 The total hedgerow units post-development delivered by the proposals is **39.88** units which is **5.49** units more than the baseline of **34.39** units.
- 4.1.4 The total watercourse units post-development delivered by the proposals is **11.14** units which is **1.73 units** more than the baseline of **9.41** units.
- 4.1.5 A summary screenshot from the calculator tool is provided in Figure 4.1 below. The Statutory Metric Worksheet and Condition Assessment sheets for this project are provided as Appendices.

**Figure 4.1: Statutory Metric Calculation Tool Headline Results**

| Headline Results                                                                                         |                   | Return to results menu |        |
|----------------------------------------------------------------------------------------------------------|-------------------|------------------------|--------|
| Scroll down for final results ⚙                                                                          |                   |                        |        |
| On-site baseline                                                                                         | Habitat units     | 100.32                 |        |
|                                                                                                          | Hedgerow units    | 34.39                  |        |
|                                                                                                          | Watercourse units | 9.41                   |        |
| On-site post-intervention<br>(Including habitat retention, creation & enhancement)                       | Habitat units     | 126.06                 |        |
|                                                                                                          | Hedgerow units    | 39.88                  |        |
|                                                                                                          | Watercourse units | 11.14                  |        |
| On-site net change<br>(units & percentage)                                                               | Habitat units     | 25.74                  | 25.66% |
|                                                                                                          | Hedgerow units    | 5.49                   | 15.95% |
|                                                                                                          | Watercourse units | 1.73                   | 18.40% |
| Off-site baseline                                                                                        | Habitat units     | 0.00                   |        |
|                                                                                                          | Hedgerow units    | 0.00                   |        |
|                                                                                                          | Watercourse units | 0.00                   |        |
| Off-site post-intervention<br>(Including habitat retention, creation & enhancement)                      | Habitat units     | 0.00                   |        |
|                                                                                                          | Hedgerow units    | 0.00                   |        |
|                                                                                                          | Watercourse units | 0.00                   |        |
| Off-site net change<br>(units & percentage)                                                              | Habitat units     | 0.00                   | 0.00%  |
|                                                                                                          | Hedgerow units    | 0.00                   | 0.00%  |
|                                                                                                          | Watercourse units | 0.00                   | 0.00%  |
| Combined net unit change<br>(Including all on-site & off-site habitat retention, creation & enhancement) | Habitat units     | 25.74                  |        |
|                                                                                                          | Hedgerow units    | 5.49                   |        |
|                                                                                                          | Watercourse units | 1.73                   |        |
| Spatial risk multiplier (SRM) deductions                                                                 | Habitat units     | 0.00                   |        |
|                                                                                                          | Hedgerow units    | 0.00                   |        |
|                                                                                                          | Watercourse units | 0.00                   |        |
| FINAL RESULTS                                                                                            |                   |                        |        |
| Total net unit change<br>(Including all on-site & off-site habitat retention, creation & enhancement)    | Habitat units     | 25.74                  |        |
|                                                                                                          | Hedgerow units    | 5.49                   |        |
|                                                                                                          | Watercourse units | 1.73                   |        |
| Total net % change<br>(Including all on-site & off-site habitat retention, creation & enhancement)       | Habitat units     | 25.66%                 |        |
|                                                                                                          | Hedgerow units    | 15.95%                 |        |
|                                                                                                          | Watercourse units | 18.40%                 |        |
| Trading rules satisfied?                                                                                 | Yes ✓             |                        |        |

## References

Baker, J., Hoskins, R. and Butterworth, T. (2019). Biodiversity Net Gain – good practice principles for development. Ciria, London

Town and Country Planning Act (1990), c.8, <https://www.legislation.gov.uk/ukpga/1990/8/schedule/7A>

Environment Act (2021), c.30, <https://www.legislation.gov.uk/ukpga/2021/30/schedule/14/enacted>

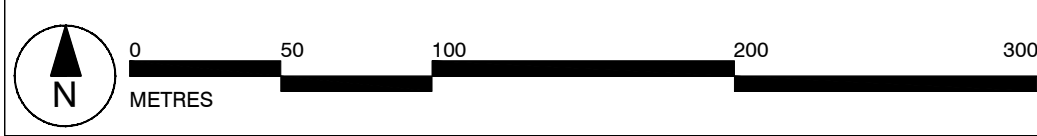
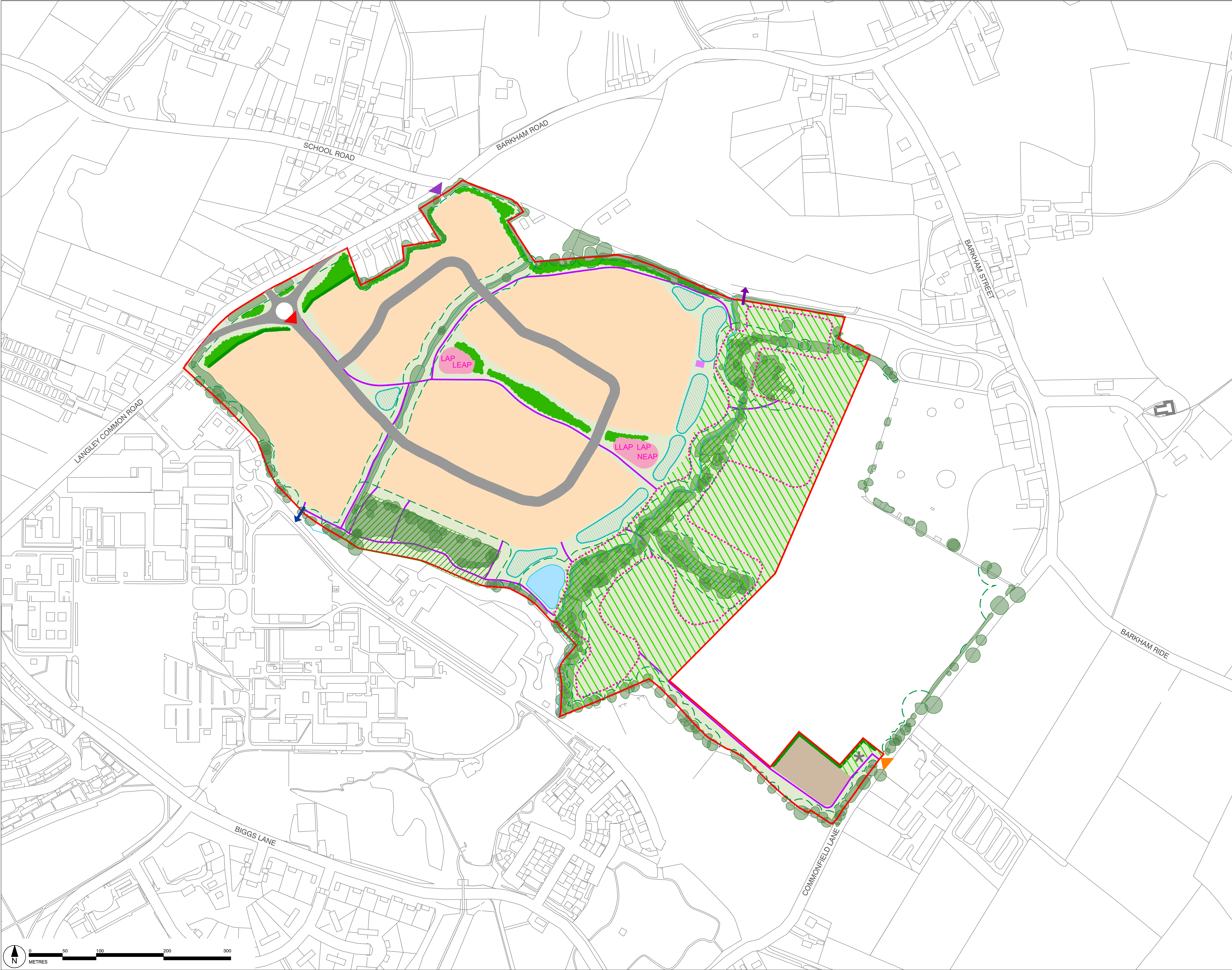
MHCLG (2024). National Planning Policy Framework. Accessible here:

<https://www.gov.uk/government/publications/national-planning-policy-framework--2>

DEFRA (2024). "The Statutory Biodiversity Metric User Guide". Accessed online:

[https://assets.publishing.service.gov.uk/media/65c60e0514b83c000ca715f3/The\\_Statutory\\_Biodiversity\\_Metric\\_-\\_User\\_Guide\\_.pdf](https://assets.publishing.service.gov.uk/media/65c60e0514b83c000ca715f3/The_Statutory_Biodiversity_Metric_-_User_Guide_.pdf)

UKHab Ltd (2023). *UK Habitat Classification* Version 2 [online]. Available at: <https://www.ukhab.org>



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NOTES:

1. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER LANDSCAPE DRAWINGS AND DOCUMENTS
2. THIS DRAWING IS NOT INTENDED FOR CONSTRUCTION
3. DO NOT SCALE FROM THIS DRAWING
4. ANY DISCREPANCIES WITHIN THIS DRAWING OR BETWEEN THIS DRAWING AND ANY OTHER INFORMATION IS TO BE REPORTED TO BMD FOR CLARIFICATION

- APPLICATION BOUNDARY
- EXISTING
  - EXISTING ANCIENT WOODLAND
  - EXISTING VEGETATION
  - OFFSETS FROM VEGETATION & WATER  
REFER TO S&P TOP NL 2020-011 BARKHAM SQUARE.DWG AND NATURAL ENGLAND GUIDANCE
  - EXISTING DITCH
  - EXISTING WATERCOURSE
  - EXISTING POND
- PROPOSED
  - RESIDENTIAL DEVELOPMENT / ELDERLY CARE
  - INDICATIVE SUDS
  - PUBLIC OPEN SPACE
  - ALLOTMENTS
  - PROVISION FOR PLAY  
NEIGHBOURHOOD EQUIPPED AREAS OF PLAY (NEAP), LOCALLY EQUIPPED AREAS OF PLAY (LEAP), LOCAL LANDSCAPED AREAS OF PLAY (LLAP), LOCAL AREAS OF PLAY (LAP)
  - SUITABLE ALTERNATIVE NATURAL GREENSPACE (SANG)
  - SANG CAR PARK
  - BUFFER/SCREENING PLANTING
  - HEDGEROW
  - SANG FOOTPATH
  - FOOTPATH OR PEDESTRIAN/CYCLE ROUTE
  - ROAD INFRASTRUCTURE  
EXACT ALIGNMENT SUBJECT TO DEVIATION +/-150M
  - VEHICULAR ACCESS
  - ALLOTMENT AND SANG CAR PARK ACCESS
  - EMERGENCY VEHICLE ACCESS
  - NON VEHICULAR ACCESS POINTS
  - NON VEHICULAR ARBORFIELD GREEN ACCESS POINT  
CONNECTION PROVIDED UP TO THE BOUNDARY
  - INDICATIVE FOUL WATER PUMPING STATION LOCATION

|     |                                         |          |
|-----|-----------------------------------------|----------|
| K   | Updated application boundary            | 24/02/26 |
| J   | Access arrows updated                   | 17/02/26 |
| I   | Updates to Land Owner comments          | 27/01/26 |
| H   | Updated note in key                     | 28/11/25 |
| G   | Increased NDA and updated site boundary | 29/08/25 |
| F   | Updates to Crest comments               | 21/08/25 |
| E   | Updates to client and LPA comments      | 23/06/25 |
| D   | Updated with pump station location      | 29/11/24 |
| C   | Updated application boundary            | 21/11/24 |
| B   | Updates to pedestrian/cycle route       | 05/09/24 |
| A   | Updated to Rapley comments              | 15/08/24 |
| Rev | Description                             | Date     |

Purpose of Issue

**PLANNING**

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Client

|                                                               |                 |                  |                    |
|---------------------------------------------------------------|-----------------|------------------|--------------------|
| Project<br><b>BARKHAM SQUARE</b>                              |                 |                  |                    |
| Drawing Title<br><b>PARAMETER PLAN - GREEN INFRASTRUCTURE</b> |                 |                  |                    |
| Drawn<br>EW                                                   | Checked<br>MP   | Approved<br>RW   | Date<br>09/08/2024 |
| Job No.<br>23.0016                                            | Scale<br>1:2500 | Sheet Size<br>A1 | Revision           |
| Drawing Number<br>BMD.23.0016.DR.P006                         |                 |                  | K                  |