BUNGALOW SITE, NEW YEARS GREEN LANE, HAREFIELD, SOUTH BUCKINGHAMSHIRE, UB9 6LX

Report for LONDON BOROUGH OF HILLINGDON

Biodiversity Net Gain Assessment

22/11/23

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1.0 Executive Summary

1.1.1 The proposed development is anticipated to result in a 29.15% net loss in area-based habitat units and a 151.73% net gain in hedgerow units. It is noted that watercourse units are not relevant to this assessment. Although the proposed development achieves a compliant net gain with regards to hedgerow units, the net gain for area-based habitat units is under the minimum target of 10%. The development is therefore not compliant with legislation (Environment Act 2021) or planning policy (National: NPPF; Local: London Borough of Hillingdon Local Plan 2020). Furthermore, the proposals do not satisfy the habitat trading rules due to the overall loss of bramble scrub and ruderal/ ephemeral vegetation, which are not effectively compensated for with the same habitat type or by creating new habitats of higher distinctiveness.

1.1.2 Recommendations to achieve a minimum 10% net gain for area-based units and to satisfy the habitat trading rules are included within Section 5.

2.0 Introduction

2.1 Background

2.1.1 Plowman Craven was appointed by London Borough of Hillingdon to undertake a Biodiversity Net Gain Assessment for The Bungalow Site, New Years Green Lane, Harefield, South Buckinghamshire, UB9 6LX (the 'Site').

2.1.2 This report should be read in conjunction with the following documents:

- Defra Biodiversity Metric 4.0 (Plowman Craven 2023).
- Preliminary Ecological Appraisal (PEA) (Plowman Craven 2023).

2.2 Development Proposal

2.2.1 Proposals for the site comprise the demolition of the main building and select outbuildings on site and the subsequent construction of a new staff training/ welfare centre with associated infrastructure and landscaping. The proposed development plan is provided in **Appendix 1**.

2.3 Site Context

2.3.1 The site is located at National Grid Reference TQ 06228 88175 and has an area of approximately 0.601ha. The site comprises an area of derelict land which includes disused buildings, hedgerows, lines of trees, other neutral grassland, dense scrub, and hardstanding colonised with ephemeral/ tall ruderal vegetation. The site is located on a semi-rural position north of Uxbridge and is enclosed by New Years Green Lane to the south, and open, unmanaged grassland fields on all other aspects. A site location plan is provided in **Appendix 2**.

2.4 BNG Informative

2.4.1 BNG is a specific, measurable outcome of project activities that deliver demonstrable and quantifiable benefits to biodiversity compared to the baseline condition. In order to achieve BNG, a project must be able to demonstrate that it has followed all 10 of the Principles of Biodiversity Net Gain.

2.4.2 The recently legalised Environment Act (2021) requires developments in England to demonstrate a measurable net gain in biodiversity and sets a target of a minimum of 10% BNG for all developments. It also stipulates that a management plan with a minimum 30-year term, should be adopted to ensure biodiversity net gain can be delivered. The Environment

Act (2021) is still in a transitional phase and is not expected to become mandatory until 2023. However, the requirement for biodiversity net gain is also enshrined within the National Planning Policy Framework (NPPF).

2.4.3 The DEFRA Biodiversity Metric (current iteration: 4.0) is the widely accepted tool used to calculate BNG. It enables the calculation of habitat value pre- and post-development in order to determine the overall change in biodiversity value as a result of the proposed development. The Biodiversity Metric has separate BNG assessments for areas of habitat, hedgerows and watercourses.

2.4.4 The biodiversity value of a site should be maximised. However, it may not always be possible to achieve a 10% biodiversity net gain within a site and therefore the Biodiversity Metric 4.0 can also account for offsite habitat creation, where land is available. Alternatively, developers can seek to provide an agreed financial contribution to an appropriate third party (such as the Local Authority, the UK Government, or another landowner) to deliver the required biodiversity net gain elsewhere on their behalf.

3.0 Methodology

3.1 Baseline Biodiversity Value

3.1.1 The baseline BNG Calculation was informed by the PEA which was completed by Plowman Craven in September 2023 (Plowman Craven 2023).

3.1.2 The baseline habitat plan is provided in **Appendix 3**.

Habitat Classification

3.1.3 The PEA classified the habitats on site according to UK Habitat Classification User Manual (UK Habitat Classification Working Group, 2018).

Habitat Area/Length

3.1.4 The area or length of each habitat was calculated using qGIS software. In calculating the area or length of each habitat, habitats which occur as two or more isolated parcels across the site were combined, where they were deemed to be of a similar composition and condition. Distinctions were made between habitats to be retained (i.e. left as found in baseline), enhanced (i.e. improved condition) or lost (i.e. destroyed by proposed development).

Habitat Condition

3.1.5 Habitat condition was assessed using the relevant condition assessment sheets found in the Biodiversity Metric 4.0 Technical Annex 1 (Natural England 2023). The habitat condition assessments were based on the information provided within the Retrospective PEA, including the habitat descriptions, species list and site photos.

Strategic Significance

3.1.6 Strategic significance was assigned for each habitat based upon a review of the following:

- Ecological value (based on the PEA).
- Function within the landscape (based on a review of Google and OS imagery).
- Any site or habitat allocations detailed within Local Planning Policy and Biodiversity Action Plans.

3.2 Post-development Biodiversity Value

3.2.1 The post development BNG Calculation was informed by the Proposed Landscape Plans (Hillingdon Borough Council 2023).

3.2.2 The proposed landscape plans are provided in **Appendix 4**.

Habitat Classification

3.2.3 Proposed habitats were translated to their equivalents in the UK Habitat Classification using The UK Habitat Classification Habitat Definitions Version 1.0 (The UK Habitat Classification Working Group, May 2018).

Habitat Area/Length

3.2.4 The area or length of each proposed habitat was calculated using qGIS software. In calculating the area or length of each habitat, habitats which occur as two or more isolated parcels across the site were combined, where they were deemed to be of similar composition and condition. Distinctions were made between habitats to be retained (i.e. left as found in baseline), enhanced (i.e. improved condition) or newly created.

Habitat Condition

3.2.5 Target habitat condition for each proposed habitat was determined assessed using a combination of the relevant condition assessment sheets found in the Biodiversity Metric 4.0 Technical Annex 1 (Natural England 2023) and the Temporal Multipliers Tab included in the Biodiversity Metric 4.0 spreadsheet. This is based on the assumption that a 30-year management plan will be adopted for the site.

Strategic Significance

3.2.6 Strategic significance was assigned for each proposed habitat based upon a review of the following:

- Likely ecological value (based on the landscape plans and professional judgement).
- Function within the landscape (based on the location of the proposed habitats and a review of Google and OS imagery).
- Any site or habitat allocations detailed within Local Planning Policy and Biodiversity Action Plans.

3.3 Limitations

3.3.1 It is noted that although a landscape plan has been produced for the site which shows the broad habitat types present post-development, detailed planting plans have not yet been produced. As such, the following assumptions have been made when completing this assessment:

- Proposed new hedgerows will be planted using a combination of at least three native woody species of local provenance such as hawthorn *Crataegus monogyna,* blackthorn *Prunus spinosa,* field maple *Acer campestre,* holly *Illex aquifolium,* hazel *Corylus avellana,* elder *Sambucus nigra,* and crab apple *Malus sylvestris.*

- All proposed trees to be planted within new and existing hedgerows will comprise native species of local provenance such as English oak *Quercus robur,* silver birch *Betula pendula,* common lime *Tilia x europaea,* beech *Fagus sylvatica,* and bird cherry *Prunus padus.*

- Areas of other neutral grassland of good condition will be created through the diversification of species and habitat structure via effective long-term management and use of an appropriate seed mix. Specifically, it is recommended that a diverse seed mix that includes both grassland and wildflower species is selected, which includes yellow rattle *Rhinanthus minor.* Yellow rattle is semi-parasitic and gains nutrients from the roots of dominant grass species. This helps prevent a single grass species dominating, which enhances species composition and structural diversity. The Emorsgate Tussocky Meadow Mix EM10 (or similar specification from alternative supplier) is considered appropriate.

4.0 Results

4.1 Baseline Habitats

4.1.1 **Table 1** details the baseline habitats present within the site along with their area/length, condition, and strategic significance.

Table 1: Baseline Biodiversity Value

Habitat	Area (ha)/ Length (km)	Description	Condition Assessment	Strategic Significance	Area Enhanced or Retained
Area-Based Habitats					
Urban: Developed land; sealed surface	0.052ha	Area covered by buildings as identified through the PEA.	Habitat condition is predetermined as N/A as detailed within the Biodiversity Metric 4.0 Technical Annex 1.	Habitat classification is not included within any local strategy.	0.013ha retained
Sparsely Vegetated Land: Ruderal/ ephemeral vegetation	0.132ha	Area covered by hardstanding colonised with ruderal vegetation as identified through the PEA.	Habitat condition was assessed using the Urban Habitat Type Condition Sheet. The ruderal vegetation is assessed to pass criteria A, B, & C. The ruderal vegetation is therefore assessed to be of good condition.	Habitat classification is not included within any local strategy.	0ha
Heathland and Shrub: Bramble scrub	0.117ha	Area covered by bramble scrub as identified through the PEA	Habitat condition is predetermined as N/A as detailed within the Biodiversity Metric 4.0 Technical Annex 1.	Habitat classification is not included within any local strategy.	0ha
Grassland Other neutral grassland	0.303ha	Area covered by neutral grassland as identified through the PEA.	Habitat condition was assessed using the Grassland - Medium, High, & Very High Distinctiveness Condition Sheet. The grassland is assessed to pass criteria A, B, C, & D and fail criteria E & F. The grassland is therefore assessed to be of moderate condition.	Habitat classification is not included within any local strategy.	0.108ha retained 0.147ha enhanced

Hedgerows					
Hedgerow: Species-rich native hedgerow	0.138km	Area covered by the tree lines enclosing the south site boundaries as identified through the PEA, which have been reclassified as native hedgerows for the purposes of this assessment.	Habitat condition was assessed using the Hedgerow Habitat Type Condition Sheet. The hedgerows are assessed to pass criteria A1, A2, B1, B2, C1, D1, & D2 and fail criteria C2. The hedgerows are therefore assessed to be of good condition.	Formally identified in local strategy.	0.138km enhanced
Hedgerows: Line of trees	0.133km	Area covered by lines of trees located centrally and to the north as identified through the PEA.	Habitat condition was assessed using the Line of Trees Habitat Condition Sheet. The line of trees are assessed to pass criteria B & E and fail criteria A, C, & D. The lines of trees are therefore assessed to be of poor condition.	Location ecologically desirable but not in local strategy.	0ha

4.2 Post Development Habitats

4.2.1 **Table 2** details the post development habitats present within the site along with their area/length, condition and strategic significance.

Table 2: Post-Development Biodiversity Value

Habitat	Area/ Length	Description	Condition Assessment	Strategic Significance
Area-Based Habitats				
Urban: Developed Land; Sealed Surface	0.209ha	Area covered by new buildings and hardstanding as shown on the Proposed Landscape Plan.	Habitat condition is predetermined as N/A as detailed within the Biodiversity Metric 4.0 Technical Annex 1.	Habitat classification is not included within any local strategy.

Urban: Artificial unvegetated, unsealed surface	0.091ha	Area covered by permeable paving and gravel as shown on the Proposed Landscape Plan.	Habitat condition is predetermined as N/A as detailed within the Biodiversity Metric 4.0 Technical Annex 1.	Habitat classification is not included within any local strategy.
Grassland: Other neutral grassland (newly created)	0.036ha	Area covered by newly created other neutral grassland, which will predominantly be in place of existing bramble scrub, as shown on the Proposed Landscape Plan.	Habitat condition was assessed using the Grassland - Medium, High, and Very High Distinctiveness Condition Sheet. The grassland is anticipated to pass all criteria A, B, C, D, E, & F. The grassland is therefore anticipated to be of good condition.	Habitat classification is not included within any local strategy.
Grassland: Other neutral grassland (existing enhanced)	0.147ha	Area covered by retained neutral grassland that can be enhanced to be of good condition through the diversification of species composition and habitat structure.	This is primarily proposed within the field in the southeast section of the site. The enhanced grassland is anticipated to pass all criteria A, B, C, D, E, & F. The grassland is therefore anticipated to be of good condition.	Habitat classification is not included within any local strategy.
Hedgerows				
Hedgerow: Species-rich native hedgerow	0.11km	Area covered by new native hedgerows without trees as Shown on the Proposed Landscape Plan.	Habitat condition was assessed using the Hedgerow Habitat Type Condition Sheet. The hedgerows are anticipated to pass criteria A1, A2, B1, B2, C1, C2, & D1 and fail criteria D2. The hedgerows are therefore anticipated to be of good condition.	Formally identified in local strategy.
Hedgerow: Species-rich native hedgerow with trees	0.194km	Area covered by new native hedgerows with trees as Shown on the Proposed Landscape Plan.	Habitat condition was assessed using the Hedgerow Habitat Type Condition Sheet. The hedgerows are anticipated to pass criteria A1, A2, B1, B2, C1, C2, D1, D2, & E2 and fail criteria E1. The hedgerows are therefore anticipated to be of good condition.	Formally identified in local strategy.
Hedgerow: Species-rich native	0.138km	Area covered by existing native hedgerows that are proposed to be enhanced with tree	Habitat condition was assessed using the Hedgerow Habitat Type Condition Sheet. The hedgerows are anticipated to pass criteria A1, A2, B1, B2, C1, C2, D1, D2, &	Formally identified in local strategy.

hedgerow with trees. (existing enhanced)		planting as shown on the Proposed Landscape Plan.	E2 and fail criteria E1. The hedgerows are therefore anticipated to be of good condition.	

4.3 Change in Biodiversity Value of the Site

Full details are provided in the Biodiversity Metric 4.0. The headline results as described below.

- The baseline biodiversity unit score:

  Area-Based Habitat Units: 4.05; **Hedgerow units:** 2.20; **Watercourse units:** N/A
- The post-development biodiversity unit score:

  Area-Based Habitat Units: 2.87; **Hedgerow units:** 5.53; **Watercourse units:** N/A

This results in the following change in biodiversity value of the site:

- **Area Based Habitat Units: -29.15%**
- **Hedgerow Units: +151.73%**
- **Watercourse units:** N/A

5.0 Recommendations

5.1.1 The proposed development is anticipated to result in a 29.15% net loss in area-based habitat units and a 151.73% net gain in hedgerow units. It is noted that watercourse units are not relevant to this assessment. Although the proposed development achieves a compliant net gain with regards to hedgerow units, the net gain for area-based habitat units is under the minimum target of 10%. The development is therefore not compliant with legislation (Environment Act 2021) or planning policy (National: NPPF; Local: London Borough of Hillingdon Local Plan 2020). Furthermore, the proposals do not satisfy the habitat trading rules due to the overall loss of bramble scrub and ruderal/ ephemeral vegetation, which are not effectively compensated for with the same habitat type or by creating new habitats of higher distinctiveness.

5.1.2 In order to achieve the required 10% net gain for area-based habitat units, an additional **1.585 units** are required **((Baseline unit value x 1.1) – post-development unit value)**.

5.1.3 In order to achieve the required 10% net gain in area-based habitat units and to satisfy habitat trading rules, the below options will need to be considered:

- Amending the proposals to enhance the post-development units provided. This would best be achieved through the reduction of developed areas in favour of public realm landscaping.
- Provision of compensation and enhancement within an off-site receptor area, should suitable land be available to the developer. Although note any off-site land must also be subject to surveys to determine the baseline value.
- An agreed financial contribution to an appropriate third party (such as the Local Planning Authority, the UK Government, or another landowner) to deliver the required biodiversity net gain elsewhere on the behalf of the developer.
- A combination of the above. Maximising the onsite post-development biodiversity unit value will reduce requirements for any off-site compensation and/ or agreed financial contributions.

5.1.4 It is assessed that there is limited scope to provide the required enhancements within the redline boundary in accordance with the existing scheme. Notably, much of the areas available for biodiversity off-setting are already utilised for the creation of other neutral grassland of good condition, through a combination of new creation and existing grassland enhancements. There is scope to provide some additional area-based habitat units through the provision of new trees over other neutral grassland. However, tree density would need to be limited in order to allow the other neutral grassland to reach a good condition, which represents better unit value.

5.1.5 However, it is noted that there are fields adjacent to the site outside of the red line boundary owned by the developer to the east, north, and west. These areas could be utilised for

biodiversity off-setting subject to the appropriate surveys to determine the baseline condition. Should this be acceptable to the developer, further survey work should be undertaken to determine the baseline condition and the scope for enhancement to help achieve the minimum target of 10% net gain.

5.1.6 Assuming the fields within the ownership curtilage outside of the site boundary contain grassland of a similar nature to that recorded on site, i.e. other neutral grassland in moderate condition, initial calculations indicate that should 0.5ha of this grassland be enhanced to good condition and 0.2ha of grassland be converted to mixed scrub in good condition (0.7ha total area), then the proposed development would achieve a net gain of 11.55% for area-based habitat units and satisfy the habitat trading rules. The area of the adjacent fields required to fulfil this biodiversity off-setting is shown on the plan in **Appendix 5**.

5.1.7 Once this BNG Assessment has been finalised, it is recommended that a Landscape and Ecology Management Plan (LEMP) is produced for the development. The LEMP would detail best practice installation and long-term management detail covering a 30-year management term to ensure the proposed habitat creation and enhancement fulfil target condition assessments.

6.0 Bibliography

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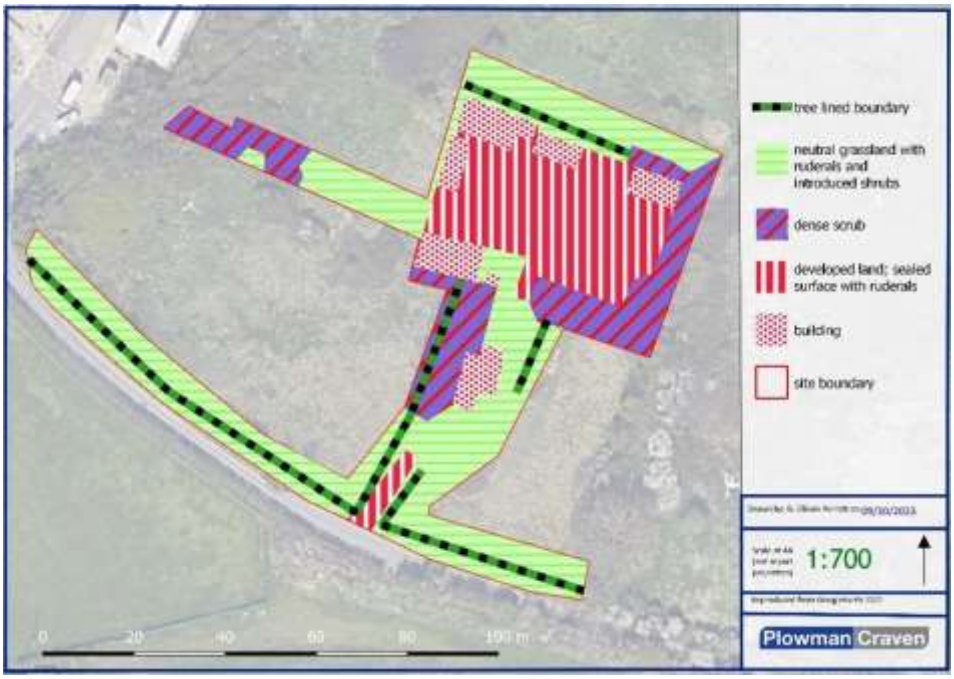
7.0 Appendices

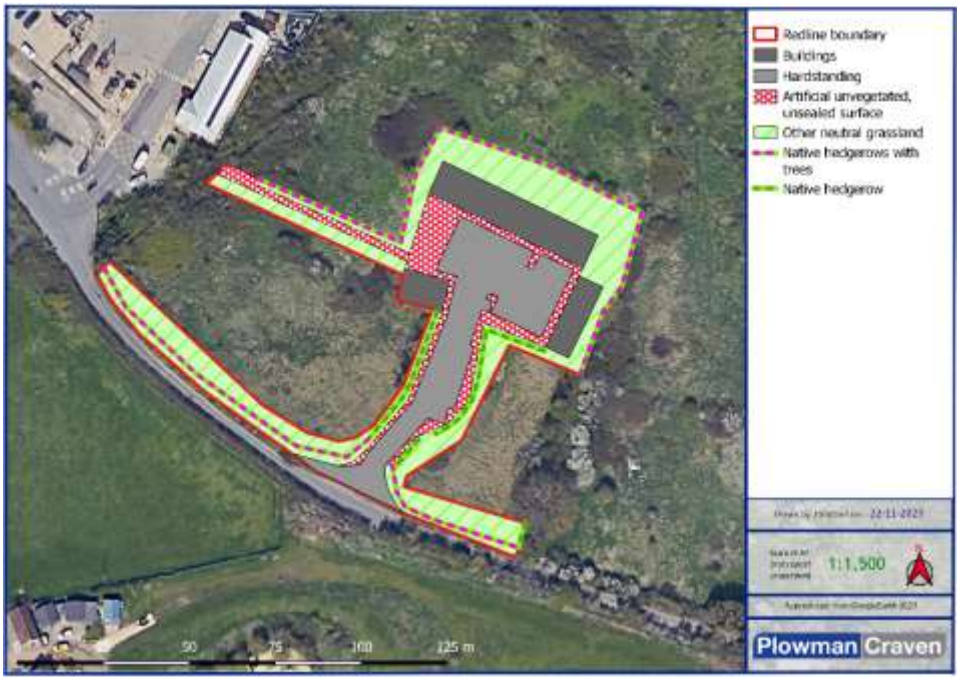
7.1 Appendix 1 – Proposed Site Plan

7.2 Appendix 2 – Site Location Plan

7.3 Appendix 3 – Baseline Habitat Plan



7.4 Appendix 4 – Post-Development Habitat Plan



7.5 Appendix 4 – Proposed Biodiversity Off-Setting Areas