



BIODIVERSITY NET GAIN ASSESSMENT

SITE LOCATION

Okell Drive,
Knowsley
L26 7XX

ISSUE DATE

27th November 2023

SEED REF

1649-BNG-V1-A

CLIENT

Enabl Limited

ARBORICULTURAL CONSULTANCY

SEED-ARB.CO.UK

DOCUMENT CONTROL

Date	Author	Checked	Revision
17/11/23	Andrew Taylor MSc	KB	Rev A

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1. Introduction

Scope & Purpose

- 1.1.1. Seed Arboriculture Ltd were commissioned Enabl Limited to undertake a Biodiversity Net Gain (BNG) Assessment at Okell Drive, Knowsley L26 7XX. This report has been prepared to inform a planning application at the site relating to the demolition of the building and a residential development.
- 1.1.2. The author of this report is Andrew Taylor MSc, Graduate Ecologist and has been overseen by Katie Bird MEnvSci, ACIEEM, Principal Ecologist. Katie is highly experienced managing schemes and has produced many ecological reports to inform planning permission. She holds a Class 2 Natural England Bat Licence and a Class 1 Natural England Great Crested Newt Licence.

Site Location

- 1.1.3. Please refer to Figure 1 for the approximate site location.



Figure 1 - Site Location Plan

Objectives

- 1.1.4. The report has been produced to document the methods, results and conclusions of a BNG Assessment undertaken based on the proposed development for the site to fulfil the following:
- Ensure that the mitigation hierarchy has been applied;
 - Identify the baseline habitats present and provide a condition assessment;
 - Identify the post development habitats on site, assess the possible target condition and provide an indication of the likely importance of those habitats;
 - Calculate the overall change in biodiversity score from pre- post development
 - Provide design recommendations to maximise potential net gain achievable
 - Provide an indication of likely outcomes and indicative cost as required.

Planning Context

- 1.1.5. Paragraph 174(d) of the revised National Planning Policy Framework (2023) states that “Planning polices, and decisions should contribute to and enhance the natural and local environment by... minimising impacts on and providing net gains for biodiversity...”
- 1.1.6. The Government 25-year Environment Plan states that government will “embed environmental net gain principle for development.
- 1.1.7. Upon review of the Knowsley Local Plan: Core Strategy (2013), the document does not define the requirement of a 10% net gain.

2. Methodology

Existing Habitat (Baseline)

- 2.1.1. A Preliminary Ecological Appraisal (PEA) of the site was undertaken by Katie Bird, Principal Ecologist. The survey was undertaken on the 16th August 2023. The site was surveyed using UKHab classifications to assess the habitats present (The UK Habitat Classification Working Group, May 2018) using the UK Habitat Classification V1 guidance tool. A habitat map was produced to demonstrate the habitats on site pre-development which also outlines the total area of each habitat parcel.
- 2.1.2. An Arboricultural Impact Assessment (AIA) was also produced by DEP Landscape Architecture in November 2023, which was utilised to assist in the assessment (report reference: 5326 - Arb Survey Okell Drive).

Planning Layout (Post-development)

- 2.1.3. The Proposed Site Plan (drawing reference: 5326.01A Landscape Plan) provided an indicative redline and development site boundary and detailed the habitats to be created on site. The Proposed Site Layout was developed in combination with this Biodiversity Net Gain Calculation to provide habitats of high value where possible.

DEFRA Metric 4.0

- 2.1.4. The BNG calculation was undertaken utilising 4.0 Metric from DEFRA (full calculation available in excel), the site's Habitat map and proposals available. The calculation was performed by a technically competent and experienced ecologist as detailed in British Standard BS8683 – Suitably qualified person –definition in BS8683:2020.
- 2.1.5. The Metric uses habitat features as a proxy measure for capturing the value and importance of nature. The metric takes into account the size, ecological condition, location and proximity to nearby 'connecting' features. The metric enables assessments to be made of the present and forecast future biodiversity value of a site.
- 2.1.6. The Small Sites Metric is applicable for use for small scale schemes. This site would qualify for use of The Small Sites Metric due to having a total site area of 2762 m² and building footprint of 522m². However, the small sites metric could not be used due to the presence of Halewood Triangle Site of Biological Interest (SBI) located adjacent on the northern and western aspect. As such the standard Metric 4.0 has been utilised.

Habitat Scoring

- 2.1.7. The Biodiversity Metric 4.0 supplies reference documents and user guides in which to accurately evaluate and assess the different habitats on site. The methodology for the baseline and post development calculations are demonstrated in the following sections.

Baseline Units

- 2.1.8. To assess the quality of a habitat and therefore calculate the units scored the Biodiversity Metric 4.0 utilises three scoring factors as detailed below.

Condition

- 2.1.9. The condition of a habitat is assessed utilising the Condition Sheets' provided for each habitat type. These list positive indicators for each habitat and indicate how many of these indicators need to be present to meet certain thresholds of condition. These condition sheets can be found in the Biodiversity Metric 4.0 habitat condition assessment sheets with instructions tool Technical (Natural England Joint Publication, 2023).

Distinctiveness

- 2.1.10. The distinctiveness of each habitat (area and linear) is automatically assigned by the tool, based upon national records of the occurrence and rarity of each habitat (Biodiversity Metric 4.0).

Strategic Significance

- 2.1.11. The idea of strategic significance works at a landscape scale. It gives additional unit value to habitats that are in preferred locations for biodiversity and other environmental objectives. Strategic significance utilises published local plans and objectives to identify local priorities for targeting biodiversity and nature improvement, such as Nature Recovery Areas, local biodiversity plans, National Character Area objectives and green infrastructure strategies.

Post Development Units

- 2.1.12. Additional factors are implemented when assessing post development habitats.
- Difficulty of Creation/Enhancement
 - Temporal Risk "Time to target condition".
 - Spatial Risk (when offsite mitigation is necessary)

Limitations Of Assessment

- 2.1.13. Whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment. The conclusions and recommendations detailed in this report are based upon the site redline boundary and the development proposals as outlined by the client at the time of writing. Should there be any changes to the site redline boundary or development proposals at a later stage, this assessment should be reviewed to determine whether any amendments or additional survey work is required.
- 2.1.14. Habitats areas (pre-development) have been measured using online mapping and will not be entirely accurate.
- 2.1.15. Habitat areas (post-development) have been provided by the appointed landscape architect.

3. Survey Results

Strategic Significance

- 3.1.1. The site is assessed as “Formally identified in local strategy” due to be located adjacent to Halewood Triangle SBI.

Habitat Descriptions

Urban – Developed Land; Sealed Surface

- 3.1.2. A total area of 0.161ha comprised hardstanding and buildings, making up developed land; sealed surface. The metric pre-sets the condition as “N/A – Other”.

Grassland – Modified Grassland

- 3.1.3. The northern parcel of Modified grassland covered a total area of 0.053ha. The habitat was assessed as “Good” condition, due to meeting the following criteria:
- There are 6-8 vascular plant species per m² present, including at least 2 forbs (this may include those listed in Footnote 1).
 - 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.
 - Some scattered scrub (including bramble *Rubus fruticosus agg.*) may be present, but scrub accounts for less than 20% of total grassland area.
 - 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 10%, including localised areas (for example, a concentration of rabbit warrens).
 - Cover of bracken *Pteridium aquilinum* is less than 20%.
 - There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA4).
- 3.1.4. The south-western parcel of Modified grassland covered a total area of 0.015ha. The habitat was assessed as “Moderate” condition, due to meeting the following criteria:
- There are 6-8 vascular plant species per m² present, including at least 2 forbs.
 - 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.
 - Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area.
 - Cover of bracken is less than 20%.

- There is an absence of invasive non-native plant species³ (as listed on Schedule 9 of WCA4).
- 3.1.5. The south-eastern parcel of Modified grassland covered a total area of 0.005ha. The habitat was assessed as “Moderate” condition, due to meeting the following criteria:
- There are 6-8 vascular plant species per m² present, including at least 2 forbs.
 - Some scattered scrub (including bramble *Rubus fruticosus agg.*) may be present, but scrub accounts for less than 20% of total grassland area.
 - Cover of bracken *Pteridium aquilinum* is less than 20%.
 - There is an absence of invasive non-native plant species³ (as listed on Schedule 9 of WCA4).

Willow Scrub

- 3.1.6. A total area of 0.016ha of willow scrub was present on the northern aspect. The habitat was assessed as “Poor” condition due to meeting the following criteria;
- There is an absence of invasive non-native plant species³ (as listed on Schedule 9 of WCA4) and species indicative of sub-optimal condition⁵ make up less than 5% of ground cover.
 - The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.

Vacant/ Derelict Land

- 3.1.7. A total area of 0.025ha of vacant/ derelict land was present. The habitat was assessed as “Moderate” condition due to meeting the following criteria;
- The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.
 - "Invasive non-native plant species (listed on Schedule 9 of WCA1) and others which are to the detriment of native wildlife (using professional judgement)² cover less than 5% of the total vegetated area.

Strategic Significance

- 3.1.8. The site is assessed as not being in the local strategy.

Condition Assessment

- 3.1.9. Under The Small Sites Metric, a condition assessment is not applicable for Baseline Habitats. Table 3.1 summarises the baseline habitats and area size.

Table 1 - Habitat Type and Total Area (pre- development)

Habitat Type	Area (ha)
Urban – Developed Land; Sealed Surface	0.161
Grassland – Modified grassland – Northern parcel	0.053

Grassland – Modified grassland – Southwestern parcel	0.015
Grassland – Modified grassland – Southeastern parcel	0.005
Heathland and shrub - Willow scrub	0.016
Urban – Vacant or derelict land	0.025

Lost Habitats

3.1.10. All habitats are to be lost to facilitate development.

Pre- Development Habitat Baseline

3.1.11. Please refer to Table 2 summarising the Habitat Baseline for the calculation, demonstrating habitats to be retained, enhance and/or lost.

Table 2 - Habitat Baseline

	Onsite Baseline	Retained	Enhanced	Lost
Habitat (Area) Units	0.72	-	-	0.72

4. Habitat Creation

Urban – Developed Land; Sealed Surface

- 4.1.1. A total area of 0.1772ha of buildings and hardstanding is to be created within the site. The Targeted Condition is pre-set as “N/A – Other”.

Urban – Vegetated Garden

- 4.1.2. A total area of 0.0657ha of vegetated garden is to be created within the site. The Targeted Condition is pre-set as “Condition Assessment N/A”.

Individual Trees – Urban Trees

- 4.1.3. Five small sized trees are to be planted within the site, covering a total area of 0.0204ha. The trees will target a “Moderate” Habitat Condition by seeking to meet the following condition assessments:
- More than 70% of trees are native species.
 - There is little or no evidence of an adverse impact on tree health by anthropogenic activities such as vandalism or herbicide use. There is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.
 - Trees are immediately adjacent to other vegetation, and tree canopies are oversailing vegetation beneath.

Grassland – Modified Grassland

- 4.1.4. A total of 0.0041m² of “Modified grassland” is to be created to amenity grassland and is to be managed under the appointed management company. It is set to target a “Moderate” condition. This will be achieved through the following management practices by targeting the following conditions:
- There must be 6-8 species per m².
 - Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area.
 - Physical damage is to be 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 to be between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).
 - Cover of bracken is to be less than 20%.
 - There is to be an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).

Shrub and Heathland – Mixed Native Scrub

- 4.1.5. A total of 0.0193ha of “Mixed Native Scrub” is to be created and referenced as Proposed Native Scrub Mix and Proposed Shrub Beds on the landscape plan. It is set to target a “Moderate”

condition. This will be achieved through the following management practices by targeting the following conditions:

- There is to be a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.
- There is to be an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981) and species indicative of sub-optimal condition make up less than 5% of ground cover.
- The scrub will have a well-developed edge with scattered scrub and tall grassland and/or herbs present between the scrub and adjacent habitat(s).
- There will be clearings, glades or rides present within the scrub, providing sheltered edges.

Hedgerow - Native Hedgerow

4.1.6. A total length of 0.032km of “Native Hedgerow” is to be created and referenced as Proposed Native Hedge on the landscape plan. It is set to target a “Moderate” condition. This will be achieved through the following management practices by targeting the following four conditions:

- >90% of the hedgerow or undisturbed ground is free of non-native and neophyte species.
- Gaps to make up <10% of total length
- Gap between ground and base of canopy <0.5 m for >90% of length
- Plant species indicative of nutrient enrichment dominate <20% cover
- Height to be >1.5m average along length
- >90% of the hedgerow or undisturbed ground is free of damage caused by human activities.

5. Summary

- 5.1.1. This report and Metric submitted have demonstrated that the proposed habitat creation will achieve a net gain in hedgerow units, but a percentage cannot be provided due to no hedgerow units existing predevelopment. However, there is a loss of 44.19% of habitat units. The trading rules have also not been satisfied due to the loss modified grassland, vacant or derelict land and willow scrub.
- 5.1.2. Given the net loss achieved on site, and the lack of opportunity within the scheme to provide sufficient habitat space to achieve a net gain, offsetting will be required in order to meet emerging policy requirements. It is calculated that 0.33 Biodiversity Area Units will be required for the scheme to achieve a net gain. As stated, the Knowsley Local Plan does not state the requirement of a 10% net gain, but rather a net gain under the NPPF 2023 requirement. Consultation with the Local Planning Authority should be undertaken to identify suitable locations for offsetting or for an offsetting contribution.

Figure 5.1 - Summary

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-0.32
	Hedgerow units	0.12
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-44.19%
	Hedgerow units	N/A
	Watercourse units	0.00%
Trading rules satisfied?		No - Check Trading Summaries ▲

Unit Type	Target	Baseline Units	Units Required	Unit Deficit
Habitat units	10.00%	0.72	0.79	0.39
Hedgerow units	10.00%	0.00	0.00	0.00
Watercourse units	10.00%	0.00	0.00	0.00

- 5.1.3. It is recommended that a production of a Biodiversity Enhancement Management Plan (BEMP) is conditioned as part of the planning application. The BEMP will need to set out the actions required to achieve and maintain the biodiversity value of the site for a period of 30 years. All habitats whose value is contributing to the overall biodiversity value of the site must be detailed in the BEMP.
- 5.1.4. The BEMP objectives would need to include:
- a plan of the areas of habitat to be maintained, enhanced and/or created;
 - a schedule of actions to create or enhance and maintain each habitat at the required quality for a period of 30 years;
 - a schedule of ecological monitoring for the 30 year period identifying when key indicators of habitat maturity should be achieved; and
 - schedule of actions to be undertaken in case signs of failing are identified.



Drawing Title : UK HAB Plan -
Okell Drive, Knowsley
Date: 23.08.23

-  Developed Land
-  Willow Scrub
-  Vacant, Derelict land
-  Modified Grassland
-  Site Boundary

Scale: 1:800
Drawn By: CW
Checked By: OC
Approved By: OC



Client: Enabl	
Site: Okell Drive, Knowsley	
Project Number: 20- 1187	Rev: 1.0
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