

BIODIVERSITY NET GAIN CALCULATION

35 Midhurst Gardens Uxbridge UB10 9DL

Report by

Michal Mixa FdSc.

On the instructions of Hammad Khan

Sunday, 6 April 2025



1	INTRODUCTION AND BACKGROUND	3
2	RESULTS AND EVALUATION	7
3	CONCLUSIONS AND RECOMMENDATIONS	9
	APPENDIX 1 - REFERENCES	10
	APPENDIX 2: EXISTING UKHAB PLAN	11
	APPENDIX 3: PROPOSED UKHAB PLAN	12
	APPENDIX 4: BNG CALCULATION HEADLINE RESULTS SPREADSHEETS	13

1 Introduction and background

1.1 Background and Purpose of the Report

- 1.1.1 Biodiversity Net Gain (BNG) is a specific, measurable outcome of development or land management that delivers demonstrable improvements to biodiversity compared to a pre-development baseline. Under the Environment Act 2021, BNG must be achieved in accordance with the 10 Good Practice Principles for Biodiversity Net Gain (CIEEM, CIRIA & IEMA, 2016), ensuring that gains are genuine, sustainable, and contribute to nature recovery.
- 1.1.2 Biodiversity Net Gain (BNG) is a strategic approach to development and land management that aims to leave the natural environment in a measurably better state than it was before. Introduced as a mandatory requirement under the **Environment Act 2021**, BNG ensures that biodiversity losses resulting from development are not only compensated but exceeded, with a minimum 10% net gain in habitat value calculated using the **Statutory Biodiversity Metric (v4.0)** developed by **Natural England**.
- 1.1.3 BNG supports the wider goals of the Government's 25 Year Environment Plan, Local Nature Recovery Strategies (LNRS), and planning policy objectives outlined in the **National Planning Policy Framework (NPPF)**. It is now a statutory requirement for most major developments in England from **12 February 2024**, with small sites coming into scope from **2 April 2024**, unless exempt.
- 1.1.4 The purpose of this report is to:
- Establish a baseline of existing biodiversity on the site using the **UKHab classification system** and condition assessment methodologies.
 - Calculate baseline biodiversity units for habitats, hedgerows, and watercourses using the Statutory Biodiversity Metric.
 - Quantify the anticipated biodiversity losses and gains associated with the proposed development.
 - Demonstrate how the project will achieve a measurable net gain in biodiversity of at least 10%, through habitat creation, enhancement, and/or off-site compensation.
 - Ensure compliance with statutory BNG requirements and local planning policy.
 - Set out long-term habitat management and monitoring measures to secure the biodiversity gains for a minimum period of 30 years.

- 1.1.5 This report forms part of the planning submission and provides the evidence base to support the BNG strategy. It includes the completed metric calculations, UKHab condition assessments, habitat mapping, and a summary of proposed mitigation and enhancement measures.

1.2 Site Context

- 1.2.1 The site comprises approximately 0.0384 hectares of semi detached residential dwelling with front and rear garden, located within the administrative boundary of London Borough of Hillingdon. The surrounding landscape is characterised by (Figure 1 site location).



Figure 1 Site in situ, boundary highlighted red (source Google)

1.3 Methodology

- 1.3.1 Biodiversity Net Gain (BNG) represents a specific, quantifiable result of project activities that yield clear and measurable advantages to biodiversity compared to the initial situation. A project must demonstrate adherence to all 10 Principles of Biodiversity Net Gain.

Habitat Survey and Classification

- 1.3.2 A baseline habitat survey was conducted in line with the **UK Habitat Classification (UKHab) v2.01** methodology. All habitats within the site boundary were mapped and described using primary UKHab codes. Where relevant, secondary codes were applied to provide greater detail. Habitat features were digitised using QGIS, and each polygon was labelled with its UKHab code, area, and condition score.

Habitat Condition Assessment

- 1.3.3 Each habitat type was assessed against the condition criteria set out in the **Statutory Biodiversity Metric Technical Supplement**, using a standardised proforma. Condition scores (Good, Moderate, Poor, etc.) were assigned based on the presence or absence of key condition attributes specific to each habitat type. Where access was limited or attributes could not be confidently assessed, precautionary assumptions were applied.

Biodiversity Metric Calculations

- 1.3.4 The statutory Biodiversity Metric, published by Natural England, was used to calculate baseline and post-development biodiversity units. The following unit types were assessed:
- **Area-based habitats** (measured in hectares)
 - **Hedgerows and lines of trees** (measured in linear metres)
 - **Rivers and watercourses** (measured in linear metres, where present)
- 1.3.5 The metric accounts for habitat distinctiveness, condition, strategic significance, and spatial risk multipliers. The metric calculator was completed in full and submitted as an appendix to this report.

Proposed Development and Habitat Changes

- 1.3.6 The post-development layout and landscape proposals were assessed to identify habitat retention, loss, enhancement, and creation. These changes were mapped and digitised, and each proposed habitat was assigned an expected condition score based on proposed management actions and delivery timescales. Where necessary, expert judgment was used to assign realistic time-to-target condition estimates.
- 1.3.7 The report distinguishes between on-site habitat changes and any off-site habitat units proposed as part of the BNG strategy.

1.4 Limitations and Assumptions

1.4.1 This assessment is based on the most up-to-date development proposals and survey data available at the time of writing. Any significant changes to site design, access, or ecological condition may affect the BNG outcome and will require reassessment. The following limitations apply:

- Seasonal constraints may affect visibility of certain species or habitat features.
- Assumptions regarding habitat condition or deliverability are based on best available information.
- Off-site proposals (if applicable) are subject to landowner agreements and legal mechanisms.

1.4.2 All limitations have been documented, and precautionary assumptions have been applied in accordance with best practice.

2 Results and Evaluation

2.1 Baseline Conditions and Habitat value

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

2.1.2 Total biodiversity value of the site has been established at 0.048 habitat units.

Broad Habitat	Habitat type	Irreplaceable habitat	E. Total Area (m ²)	Targeted condition	Strategic significance
Urban	Developed land; sealed surface	No	39.00	N/A - Other	Area/compensation not in local strategy/ no local strategy
Urban	Developed land; sealed surface	No	141.00	N/A - Other	Area/compensation not in local strategy/ no local strategy
Urban	Vegetated garden	No	204.00	Condition Assessment N/A	Area/compensation not in local strategy/ no local strategy

Table 1 identified Baseline Habitats

2.2 Proposed Conditions and habitat value

2.2.1 The proposal seeks development of two residential dwellings with associated infrastructure front driveway and rear garden.

2.2.2 Total biodiversity value after facilitation displays 0.038 or decrease by 6.81% of habitat units.

2.2.3 Table 2 details preliminary outline habitats within the site based on the proposal and provided landscape scheme.

Broad Habitat	Habitat type	E. Total Area (m ²)	Targeted condition	Strategic significance
Urban	Developed land; sealed surface	82.00	N/A - Other	Area/compensation not in local strategy/ no local strategy
Urban	Developed land; sealed surface	105.00	N/A - Other	Area/compensation not in local strategy/ no local strategy
Urban	Vegetated garden	197.00	Condition Assessment N/A	Area/compensation not in local strategy/ no local strategy

Table 2 Post development proposed habitats.

2.2.4 Detailed results of the calculation are submitted separately of this document. Headline results can be found in appendix 4.

3 Conclusions and Recommendations

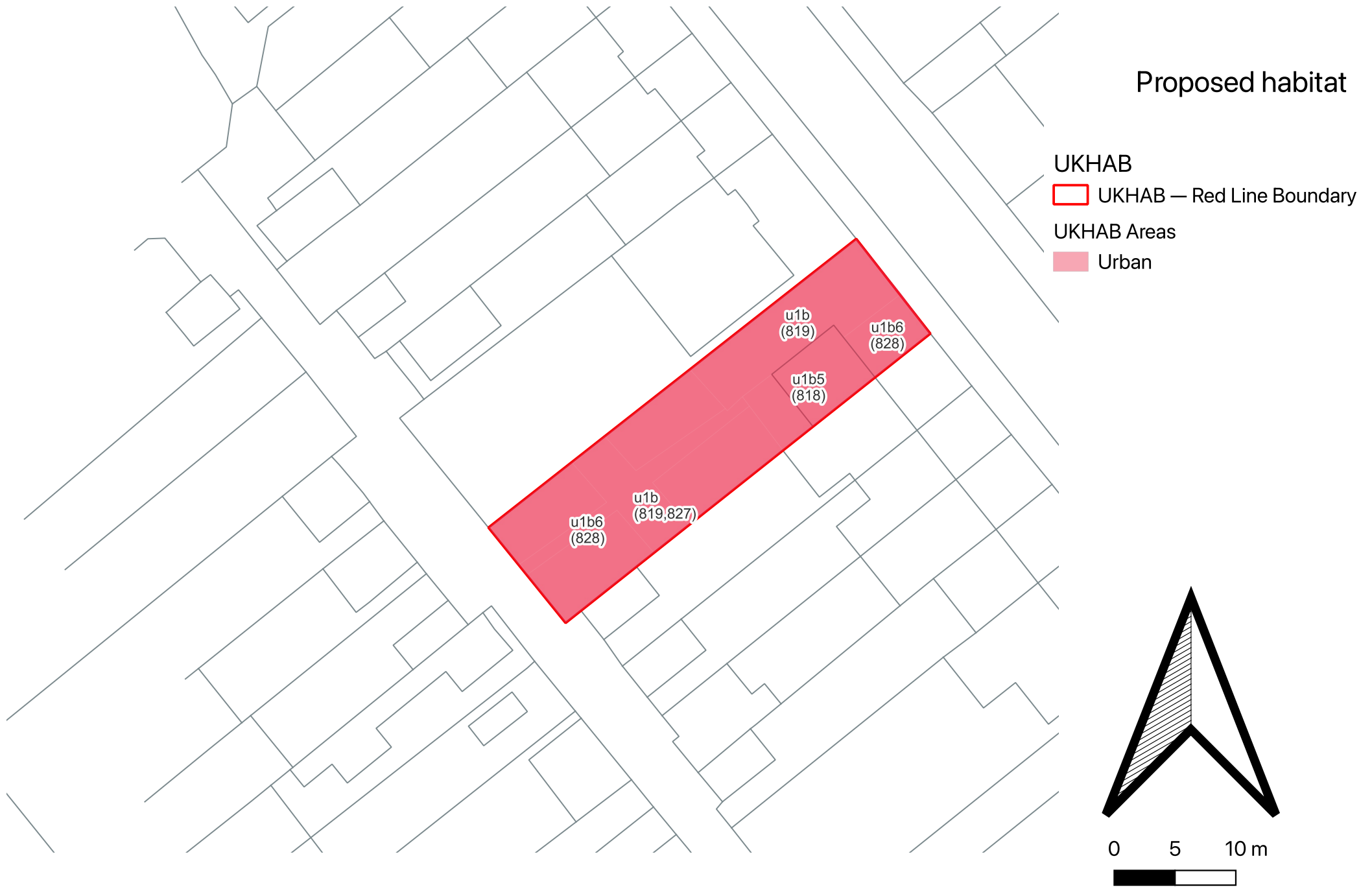
- 3.1.1 The biodiversity of baseline biodiversity value was made. The proposal does not satisfy LPA requirements of 10% biodiversity net gain.
- 3.1.2 The proposal by nature cannot achieve biodiversity net gain. As such to satisfy LPA biodiversity increase requirement, biodiversity units will have to be purchased. At present the proposal requires 0.0134 habitat units, which can be purchased either from local biodiversity bank or by applying biodiversity credits from government (<https://www.gov.uk/guidance/buying-statutory-biodiversity-credits>), in order to satisfy the planning policy.
- 3.1.3 When biodiversity units will be purchased from local biodiversity bank the proposal will be achievable in ecological terms.

Appendix 1 – References

1. *BRITISH STANDARD 8683:2021 (2021). PROCESS FOR DESIGNING AND IMPLEMENTING BIODIVERSITY NET GAIN.*
2. *CIEEM-CIRIA-IEMA (2019) BIODIVERSITY NET GAIN – GOOD PRACTICE PRINCIPLES FOR DEVELOPMENT.*
3. *GOOGLE EARTH (2021) ACCESSED ON 27/01/2023.*
4. *JOINT NATURE CONSERVATION COMMITTEE (2010). HANDBOOK FOR PHASE 1 HABITAT SURVEY A TECHNIQUE FOR ENVIRONMENTAL AUDIT.*
5. *[HTTP://JNCC.DEFRA.GOV.UK/PDF/PUB10_HANDBOOKFORPHASE1HABITATSURVEY.PDF](http://jncc.defra.gov.uk/pdf/pub10_handbookforphase1habitatsurvey.pdf)*
6. *MAGIC DATABASE (2022) [HTTP://WWW.MAGIC.GOV.UK/MAGICMAP.ASPX](http://www.magic.gov.uk/magicmap.aspx) ACCESSED ON 27/01/2023.*
7. *PANKS, S.A., WHITE, N., NEWSOME, A., NASH, M., POTTER, J., HEYDON, M., ALVAREZ, M., RUSSELL, T., CASHON, C., GODDARD, F., SCOTT, S.J., HEAVER, M., SCOTT, S.H., TREWEEK, J., BUTCHER, B. & STONE, D. (2022). BIODIVERSITY METRIC 3.1: AUDITING AND ACCOUNTING FOR BIODIVERSITY – USER GUIDE. NATURAL ENGLAND.*
8. *PANKS, S.A., WHITE, N., NEWSOME, A., NASH, M., POTTER, J., HEYDON, M., ALVAREZ, M., RUSSELL, T., CASHON, C., GODDARD, F., SCOTT, S.J., HEAVER, M., SCOTT, S.H., TREWEEK, J., BUTCHER, B. & STONE, D. (2022). BIODIVERSITY METRIC 3.1: AUDITING AND ACCOUNTING FOR BIODIVERSITY – USER GUIDE. NATURAL ENGLAND.*
9. *PANKS, S.A., WHITE, N., NEWSOME, A., NASH, M., POTTER, J., HEYDON, M., ALVAREZ, M., RUSSELL, T., CASHON, C., GODDARD, F., SCOTT, S.J., HEAVER, M., SCOTT, S.H., TREWEEK, J., BUTCHER, B. & STONE, D. (2022). BIODIVERSITY METRIC 3.1: AUDITING AND ACCOUNTING FOR BIODIVERSITY – USER GUIDE. NATURAL ENGLAND.*
10. *J., BUTCHER, B. & STONE, D. (2022). BIODIVERSITY METRIC 3.1: AUDITING AND ACCOUNTING FOR BIODIVERSITY – TECHNICAL SUPPLEMENT. NATURAL ENGLAND.*
11. *THE BIODIVERSITY METRIC 4.0 (JUNE 2023). [HTTP://PUBLICATIONS.NATURALENGLAND.ORG.UK/PUBLICATION/6049804846366720](http://publications.naturalengland.org.uk/publication/6049804846366720)*
12. *UK HABITAT CLASSIFICATION WORKING GROUP (2018). UK HABITAT CLASSIFICATION – HABITAT DEFINITIONS V1.0 [HTTP://ECOUNTABILITY.CO.UK/UKHABWORKINGGROUP-UKHAB/](http://ecountability.co.uk/ukhabworkinggroup-ukhab/)*

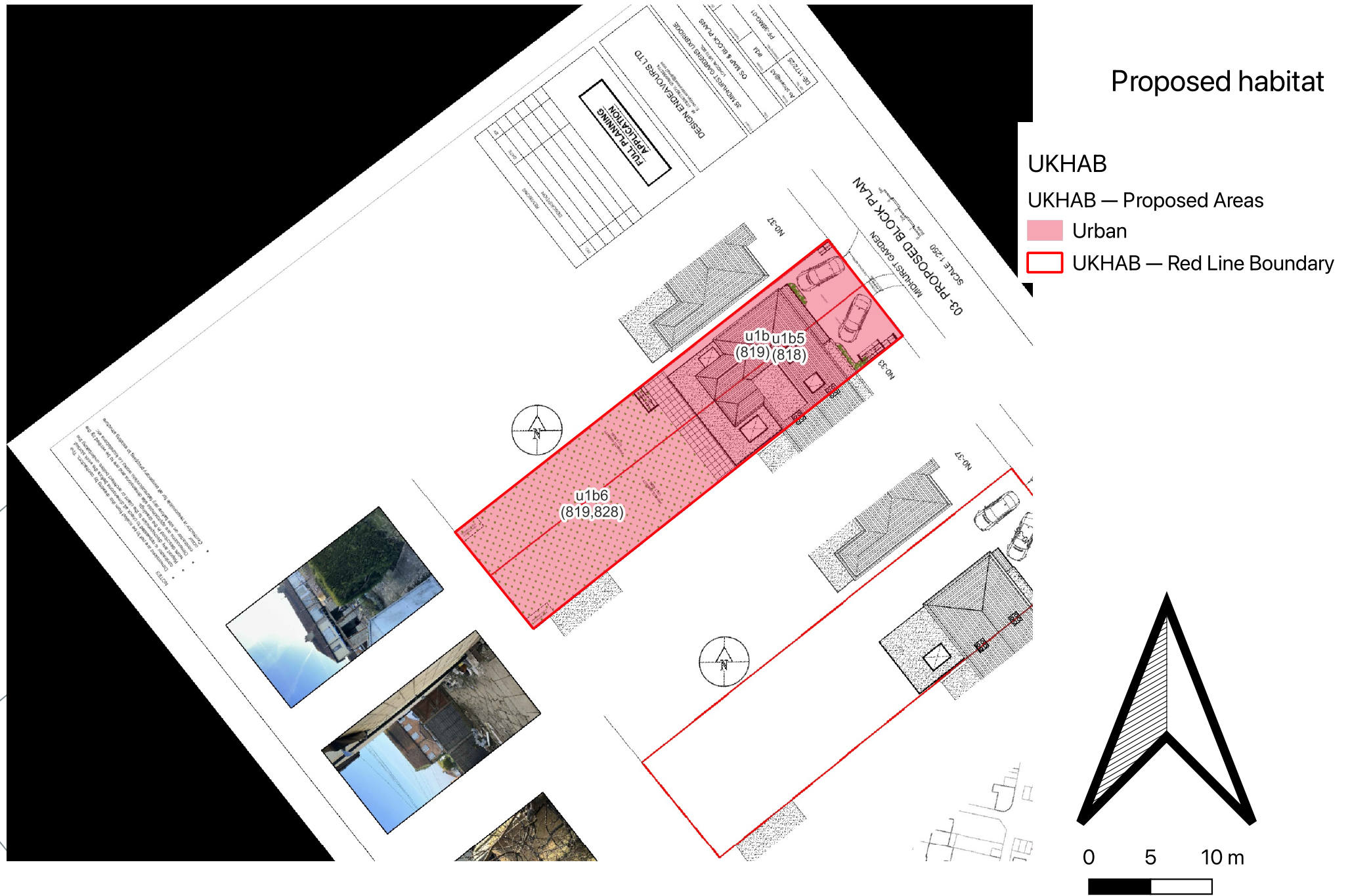
Appendix 2: Existing UKHab Plan

35 Midhurst Gardens Uxbridge UB10 9DL



Appendix 3: Proposed UKHab Plan

35 Midhurst Gardens Uxbridge UB10 9DL



Appendix 4: BNG Calculation Headline Results Spreadsheets

Site Name		35 Midhurst Gardens Uxbridge UB10 9DL
Sheet Name		Headline Results
Headline Results		
Headline		BNG Targets Not Met ▲
Trading Rules		Trading Rules Not Satisfied ▲
Next steps		Scheme alterations or offsite units required
Baseline Units	Habitat units	0.0408
	Hedgerow units	Zero Units Baseline
	Watercourse units	Zero Units Baseline
Post-development Units	Habitat units	0.0380
	Hedgerow units	0.0000
	Watercourse units	0.0000
Total net unit change	Habitat units	-0.0028
	Hedgerow units	0.0000
	Watercourse units	0.0000
Total net % change	Habitat units	-6.81%
	Hedgerow units	% target not appropriate
	Watercourse units	% target not appropriate
Habitats units required to meet target		0.0134
Hedgerow units required to meet target		0.0000
Watercourse units required to meet target		0.0000

Chart 1 - Unit change by habitat group

