



Biodiversity Net Gain Assessment

19 Ogmore Close, Reading, RG30 4SX

Khan Herbert

Status	Issue	Name	Date
Draft	1	Oliver Bevilacqua, MSc, BSc (Hons), Consultant Ecologist	04/04/2023
Final	2	Oliver Bevilacqua, MSc, BSc (Hons), Consultant Ecologist	10/04/2024
Final	3	Oliver Bevilacqua, MSc, BSc (Hons), Consultant Ecologist	13/05/2024

Arbtech Consultant's Contact Details:

Oliver Bevilacqua

Consultant Ecologist

Tel: 07512327452 **Email:** oliverbevilacqua@arbtech.co.uk

<https://arbtech.co.uk>

Limitations and Copyright

Arbtech Consulting Limited has prepared this report for the sole use of the above-named client or their agents in accordance with our General Terms and Conditions, under which our services are performed. It is expressly stated that no other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Arbtech Consulting Limited. The conclusions and recommendations contained in this report are based upon information provided by third parties. Information obtained from third parties has not been independently verified by Arbtech Consulting Limited.

© This report is the copyright of Arbtech Consulting Limited. Any unauthorised reproduction or usage by any person other than the addressee is strictly prohibited.

Industry Guidelines and Standards

This report has been written with due consideration to:

- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management, Construction Industry Research and Information Association & Institute of Environmental Management and Assessment (2019). Biodiversity Net Gain – Good Practice Principles for Development.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation, and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary, and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.

(BS 42020, 2013)

Executive Summary

Arbtech Consulting Limited was instructed by Khan Herbert to undertake a Biodiversity Net Gain (BNG) Assessment at 19 Ogmores Close, Reading, RG30 4SX (hereafter referred to as “the site”). The assessment was required to inform a planning application for the ‘Construction of 1no dwelling’ (hereafter referred to as “the proposed development”).

- The baseline area-based habitat value of the site is 0.5 units.
- In order to achieve a +10% biodiversity net gain for area-based habitats, a minimum area-based unit score of **0.55** will need to be achieved.
- All trading conditions must be satisfied which means the tree removal on site must be compensated for by the same broad habitat type or a habitat with higher distinctiveness.
- There is limited scope on site using the statutory metric and this provision may not be possible to achieve on site or adjacent with the current arrangement (within the redline boundary or offsite on other owned land) considering the size of the proposed development area and the limited amount of soft landscaping within the parcel.
- It is important to note that trees cannot be planted inside vegetated gardens and must be on communal land which undergoes central and not private management.

Contents

1.0 Introduction and Context 7

1.1 Site Location, Geology and Landscape Context 7

1.2 BNG Informative..... 7

1.3 Scope of this Report 8

2.0 Methodology.....9

2.1 Baseline Biodiversity Value..... 9

2.2 Post Development Biodiversity Value..... 9

2.3 Limitations 10

3.0 Results 11

3.1 Baseline Habitats..... 11

3.2 Change in Biodiversity Value of the Site..... 13

4.0 Recommendations to Deliver BNG 13

4.1 Discussion..... 13

4.2 Biodiversity Offsetting 14

4.3 Post Development 14

4.4 Design statement Error! Bookmark not defined.

5.0 Bibliography.....15

Appendix 1: Proposed Development Plan..... 16

Appendix 2: Site Location Plan 17

Appendix 3: Baseline Habitat Plan 18

Appendix 5a: Habitat Condition Assessment Sheets – Baseline..... 19

Appendix 6: Headline BNG Results 20

1.0 Introduction and Context

Arbtech Consulting Limited was instructed by Khan Herbert to undertake a Biodiversity Net Gain (BNG) Assessment at 19 Ogmores Close, Reading, RG30 4SX (hereafter referred to as “the site”). The assessment was required to inform a planning application for the ‘Construction of 1no dwelling’ (hereafter referred to as “the proposed development”). A plan showing the proposed development is provided in Appendix 1.

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

- ❖ The Statutory Biodiversity Metric Calculation Tool 19 Ogmores Close Reading RG30 4SX
- ❖ Preliminary Ecological Appraisal (PEA): 19 Ogmores Close, Reading, RG30 4SX (Arbtech Consulting Ltd., 2024).

1.1 Site Location, Geology and Landscape Context

The site is located at National Grid Reference SU67104 73451 and has an area of approximately 0.066 ha comprising of a house, shed, driveway, garden, and felled trees. The site is predominantly surrounded by housing in all directions with the exception of the Blundells Copse Local Nature Reserve ancient woodland which lies directly adjacent to the eastern boundary. A site location plan is provided in Appendix 2.

1.2 BNG Informative

BNG is a specific, measurable outcome of project activities that deliver demonstrable and quantifiable benefits to biodiversity compared to the baseline situation. 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 (as outlined in the *British Standard 8683:2021 Process for Designing and Implementing Biodiversity Net Gain*).

The 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 requirement for biodiversity net gain is also enshrined within the National Planning Policy Framework (NPPF, 2023). As of 12th February 2024, BNG has become mandatory. Furthermore, BNG is a requirement of Policy EN12 of the Reading Borough Local Plan (adopted in 2019).

The DEFRA Statutory Biodiversity Metric is the latest and final version of the metric 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.

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 Statutory Biodiversity Metric 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.

1.3 Scope of this Report

This report assesses the biodiversity value of the site pre-development and outlines the minimum biodiversity units required to achieve a +10% net gain.

2.0 Methodology

2.1 Baseline Biodiversity Value

The baseline BNG Calculation was informed by a PEA (Arbtech Consulting Ltd., 2024). A baseline habitat plan is provided in Appendix 3.

Habitat Classification

The PEA classified the habitats on site according to UK Habitat Classification User Manual (UK Habitat Classification Working Group, 2023).

Habitat Area/Length

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).

Areas of scattered trees were calculated using the Tree Helper tool within the Statutory Biodiversity Metric. Class sizes for urban trees are set out in Table 13 of the Draft Statutory Biodiversity Metric User Guide (Natural England, 2023).

Habitat Condition

Habitat condition was assessed using the relevant condition assessment sheets found in the Draft Statutory Biodiversity Metric User Guide (Natural England, 2023).

Strategic Significance

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

- ❖ Ecological value
- ❖ Function within the landscape
- ❖ Any site or habitat allocations under the Reading Borough Local Plan (adopted in 2019).

2.2 Post Development Biodiversity Value

The post development BNG Calculation was informed by 9306-103 Proposed Site Plan which is included in Appendix 1. A post development habitat plan is provided in Appendix 4.

Habitat Classification

Proposed habitats were translated to their equivalents in the UK Habitat Classification using The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, 2023) and the information provided within the 9306-103 Proposed Site Plan.

Habitat Area/Length

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.

Areas of scattered trees were calculated using the Tree Helper tool within the Statutory Biodiversity Metric. Class sizes for urban trees are set out in Table 13 of the Draft Statutory Biodiversity Metric User Guide (Natural England, 2023).

Habitat Condition

Target habitat condition for each proposed habitat was determined assessed using the Temporal Multipliers Tool and the Enhancement Temporal Multipliers Tool included in the Statutory Biodiversity Metric spreadsheet as well as the relevant condition assessment sheets found in the Draft Statutory Biodiversity Metric User Guide (Natural England, 2023). This is based on the assumption that a 30-year management plan will be adopted for the site.

Strategic Significance

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

- ❖ Likely ecological value
- ❖ Function within the landscape
- ❖ Any site or habitat allocations under the Reading Borough Local Plan (adopted in 2019).

2.3 Limitations

All five scattered trees present on site were felled prior to the PEA site visit. This meant that the condition score is based on the estimation of how many condition criteria would have passed/failed for each tree prior to felling.

3.0 Results

3.1 Baseline Habitats

Table 1 details the baseline habitats present within the site along with their area/length, condition and strategic significance. A full condition assessment for each habitat (where relevant) is provided in Appendix 5a.

Table 1: Baseline Biodiversity Value

Type	Habitat	Area (ha) / Length (km)	Description	Condition Assessment	Strategic Significance
Area Based	Buildings (u1b5) [Labelled as Developed land; sealed surface (u1b) in the metric]	0.0063ha	The house on site will not be affected by the proposed development. The small wooden shed will be removed to make room for the development. The shed is enclosed on all sides with a height of approximately 2.5m and area of approximately 6m ² .	Habitat condition pre-determined as ' N/A ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).
	Developed land; sealed surface (u1b)	0.0054ha	There is an approximate 2.5m wide paved driveway along the southwestern section of the site.	Habitat condition pre-determined as ' N/A ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).

	Vegetated Garden (u1 828)	0.0546ha	The remainder of the site is comprised of regularly managed vegetated garden that closely resembles a modified grassland, most of which will be removed during the development. The sward is maintained at <5 cm for over 80% of the total area with several small patches of ruderals and ephemerals scattered around the garden. Bare ground is also present in small, scattered patches around the garden as well as two larger patches beside the shed and the entrance to the garden. The species present in the garden are common and widespread, with roughly 5 species per m ² .	Habitat condition pre-determined as ' N/A ' as detailed within the Statutory Biodiversity Condition Assessment Supplement.	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).
	Urban Tree (u1 32)	0.0489ha	There are 2 are 'medium sized' with a DBH between 30.0 and 90.0cm.	Moderate: passes 4 of 6 criteria. Assessed using the 'Individual Trees' habitat type condition sheet.	Low Strategic Significance Area/compensation not in local strategy/no local strategy and no evidence to suggest the habitat is of medium strategic significance (not part of a habitat corridor or steppingstone).

3.2 Change in Biodiversity Value of the Site

Full details are provided in the DEFRA Statutory Biodiversity Metric. The headline results are presented in Appendix 6.

Area-Based Habitat Units

The baseline area-based habitat value of the site is 0.5 units, comprising 0.11 units of vegetated gardens, 0.39 units of urban trees and sealed surfaces (no value).

4.0 Recommendations to Deliver BNG

4.1 Discussion

The current landscaping proposal must generate a net gain of area-based habitat units of 10% for the proposed development to be compliant with upcoming legislation (Environment Act 2021) and current planning policies (National: National Planning Policy Framework, 2023; Reading Borough Local Plan 2019).

All trading conditions must be satisfied which means the tree removal on site must be compensated for by the same broad habitat type or a habitat with higher distinctiveness.

A Biodiversity Net Gain (BNG) Management Plan must be produced for the site. This should include recommendations for the implementation, management, and monitoring of the site for at least 30 years to ensure that biodiversity net gain is delivered.

There is limited scope on site using the statutory metric and this provision may not be possible to achieve on site or adjacent with the current arrangement (within the redline boundary or offsite on other owned land) considering the size of the proposed development area and the limited amount of soft landscaping within the parcel. It is important to note that trees cannot be planted inside vegetated gardens and must be on communal land which undergoes central and not private management.

4.2 Biodiversity Offsetting

In order to achieve a +10% biodiversity net gain for area-based habitats, a minimum area-based unit score of **0.55** will need to be achieved (baseline unit score of 0.5 + 10% of this value).

For offsite habitat creation, this can be compensated for on other off-site land owned by the client, or a financial contribution to off-site ecological enhancements within the government's approved statutory biodiversity credits scheme (when available), or with the LPA directly through a s106 agreement is required to make up to the +10% net gain for area units.

The mechanism for securing this off-setting will need to be proposed to, and confirmed by the LPA e.g., purchasing conservation credits through a registered provider, directly through the client owned or LPA offered land or another provider such as a local nature reserve or park. As well as the creation of new habitats, this should also secure the management of the proposed habitats to help achieve the desired condition for at least 30 years. This would be linked to the application through a planning obligation Section 106 (S106) agreement. The proposed habitat compensation should be of an appropriate distinctiveness to meet the trading rules of BNG. An ecology survey of the baseline habitat of any off-site land will be required to inform the baseline conditions of any land subject to off-site compensation measures. Any purchased credits (see [here](#)) need to provide an overall +10% net gain and satisfy trading rules.

4.3 Post Development

A Biodiversity Net Gain (BNG) Management Plan must be produced for the site. This should include recommendations for the implementation, management, and monitoring of the site for at least 30 years.

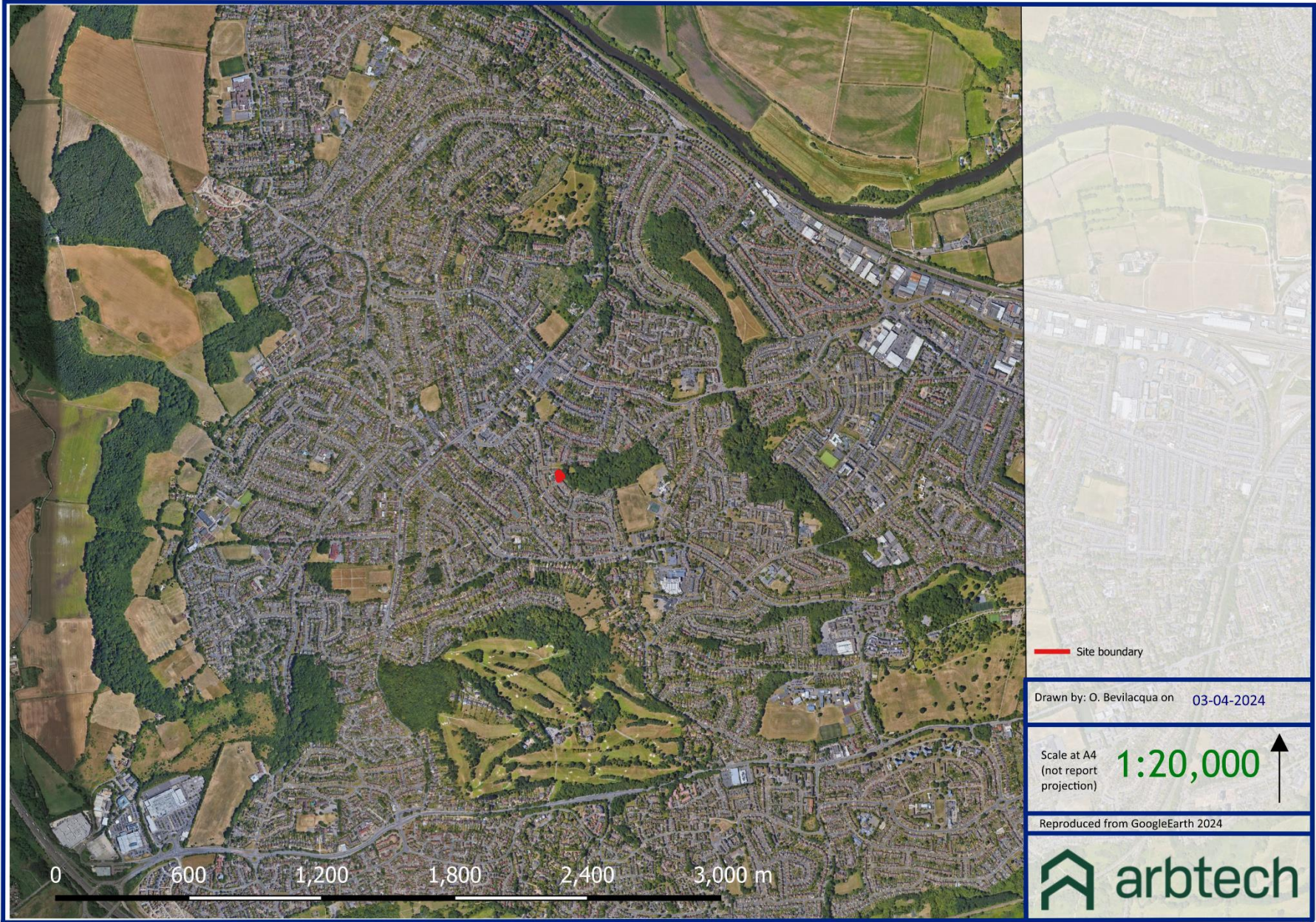
5.0 Bibliography

- Arbtech Consulting Ltd. (2024). Preliminary Ecological Appraisal (PEA): 19 Ogmore Close, Reading, RG30 4SX.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.
- CIEEM-CIRIA-IEMA (2019) Biodiversity Net Gain – Good Practice Principles for Development.
- Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey a technique for environmental audit. http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf
- National Planning Policy Framework (2023). <https://www.gov.uk/government/publications/national-planning-policy-framework--2>
- Natural England (2023). The Draft Statutory Biodiversity Metric User Guide (November 2023). <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>
- Natural England (2023). The Statutory Biodiversity Metric (November 2023). <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>
- UK Habitat Classification Working Group (2023). UK Habitat Classification – Habitat Definitions V2.0.

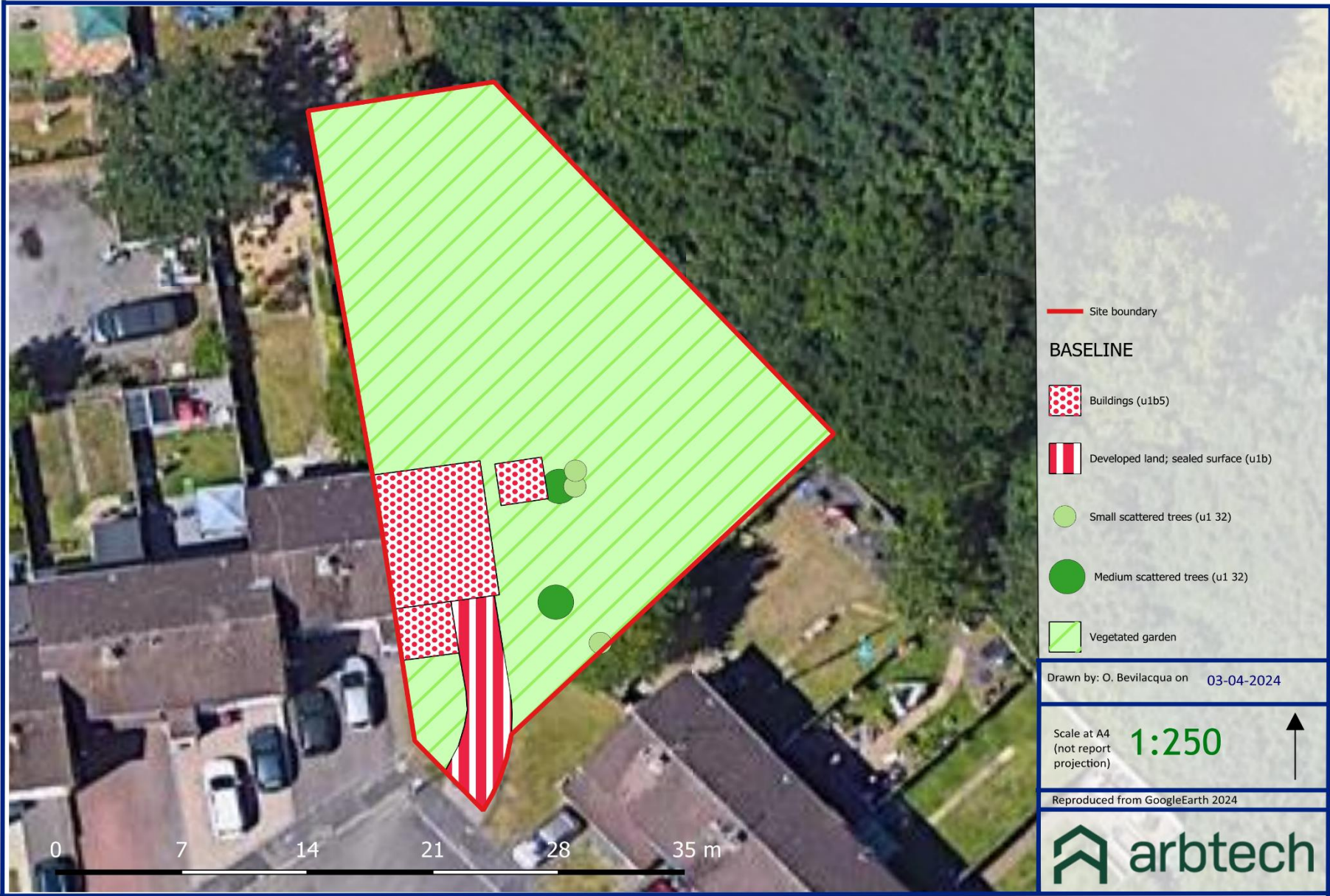
Appendix 1: Proposed Development Plan



Appendix 2: Site Location Plan



Appendix 3: Baseline Habitat Plan



Appendix 5a: Habitat Condition Assessment Sheets – Baseline

Urban Trees; assessed using 'Individual Trees' habitat type condition sheet:

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
A	The tree is a native species (or more than 70% within the block are native species).	Y	All trees are native.
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Y	All trees are individual trees and thus automatically pass this criterion.
C	The tree is mature (or more than 50% within the block are mature).	N	No mature trees on site.
D	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.	Y	Little to no evidence of adverse anthropogenic impacts; all trees have retained >75% of their expected canopy.
E	Natural Ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N	None observed.
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Y	More than 20% of the tree canopy area has vegetation underneath.
Number of criteria passed			4
Condition Assessment Result	Condition Assessment Score	Score Achieved x/✓	
Passes 5 or 6 of 6 criteria	Good (3)		
Passes 3 or 4 of 6 criteria	Moderate (2)	✓	
Passes 0, 1 or 2 of 6 criteria	Poor (1)		

Appendix 6: Headline BNG Results

The DEFRA Statutory Biodiversity Metric is provided as a separate excel spreadsheet.