

# Biodiversity Net Gain Assessment

**Survey site:**

5 Grove Road, Sherston, Malmesbury, Wiltshire, SN16 0NF

**Client:**

Nicholas and Susan Palmer

**Report date:**

6th February 2025

**Project:**

This report is prepared to inform a planning application for:

Build of three residential properties, including one large, detached property at the top of the site whereby the existing commercial property will be demolished, along with two semi-detached properties in place of the existing residential dwelling at the front of the site.

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## 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 Nicholas and Susan Palmer to undertake a Biodiversity Net Gain (BNG) Assessment at 5 Grove Road, Sherston, Malmesbury, Wiltshire, SN16 0NF (hereafter referred to as “the site”). The assessment was required to inform a planning application for the build of three residential properties, including one large detached property at the top of the site whereby the existing commercial property will be demolished, along with two semi-detached properties in place of the existing residential dwelling at the front of the site. (hereafter referred to as “the proposed development”).

The baseline habitat value of the site is 0.08 area-based habitat units, comprising sealed surfaces and buildings (no value), and vegetated garden (0.08 units).

The post development habitat value of the site is 0.09 units, comprising the creation of new buildings and hardstanding (no value), and new vegetated garden (0.09 units).

This results in a net change in biodiversity of **11.35%** (i.e. a net gain) and satisfies trading rules.

The proposed development is therefore anticipated to surpass the minimum target of 10% biodiversity net gain and thus is compliant with legislation (Environment Act 2021).

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## **1.0 Introduction and Context**

### **1.1 Background**

Arbtech Consulting Limited was instructed by Nicholas and Susan Palmer to undertake a Biodiversity Net Gain (BNG) Assessment at 5 Grove Road, Sherston, Malmesbury, Wiltshire, SN16 0NF (hereafter referred to as “the site”). The assessment was required to inform a planning application for the build of three residential properties, including one large detached property at the top of the site whereby the existing commercial property will be demolished, along with two semi-detached properties in place of the existing residential dwelling at the front of the site. (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:

- Defra Statutory Biodiversity Metric (Arbtech 2025)
- Preliminary Ecological Appraisal for the site (Arbtech 2025)

### **1.2 Site Location, Geology and Landscape Context**

The survey site is centred on National Grid Reference ST 85382 85789 and has an area of approximately 0.1ha. The site consists of an assemblage of urban habitats including a commercial premises at the west, and a residential property with associated garden at the east, both surrounded by concrete parking and driveway area.

It is located at the edge of the rural settlement area of Easton Town. Whilst the site is directly surrounded by residential dwellings and associated gardens in all directions, the immediate landscape to the south and east is comprised of a well-connected network of high-grade habitats including woodlands, orchards, rivers and streams, as well as rich grasslands such as lowland calcareous and lowland meadows. The local landscape outside of existing settlement areas is dominated by arable land, however this contains excellent linear commuting corridors such as hedgerows and tree lines along boundaries. A site location plan is provided in Appendix 2.

### **1.3 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 Environment Act (2021) states biodiversity net gain is mandatory for sites over 0.5ha as of February 2024. The requirement for biodiversity net gain is also enshrined within

the National Planning Policy Framework (NPPF, 2024). The DEFRA Statutory Biodiversity Metric 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. 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.

## **2.0 Methodology**

### ***2.1 Baseline Biodiversity Value***

The baseline BNG Calculation was informed by a Preliminary Ecological Appraisal (PEA) (Arbtech, January 2025) A baseline habitat plan is provided in Appendix 3.

#### **Habitat Classification**

The PEA classified the habitats on site according to The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, July 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 14 of the Statutory Biodiversity Metric User Guide (Natural England, 2023).

#### **Habitat Condition**

Habitat condition was assessed using the relevant condition assessment sheets found in the 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 Wiltshire Local Plan (2015-2026)

## **2.2 Post Development Biodiversity Value**

The post development BNG Calculation was informed by the draft landscape plan titled 334. 5 Grove Road, Sherston 08.11.24 TOPO, 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, July 2023) and the information provided within the draft landscape 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 14 of the 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 Statutory Biodiversity Metric User Guide (Natural England, 2023).

### **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 Wiltshire Local Plan (2015-2026)

### ***2.3 Limitations***

The Preliminary Ecological Appraisal (Arbtech 2025) was undertaken outside of the optimal period for botanical species identification and habitat classification, however given the low/very low distinctiveness urban habitats present on the site, this is not considered to be a major limitation. Further, vegetated garden habitat is not subject to a condition assessment.

### 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.

Table 1: Baseline Biodiversity Value

| Habitat                                               | Area (ha) | Description                                                                                                                                                                                                                                          | Condition Assessment | Strategic Significance                                                 |
|-------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------------|
| Developed land; sealed surface<br>Including buildings | 0.099     | The west portion of the site is comprised of an active operational yard, with sealed concrete ground with various vehicles, machinery and storage materials, a workshop building (B2) and barn (B3), as well as several storage garages (B4 and B5). | N/A                  | Low strategic significance.<br>Area/compensation not in local strategy |
| Built up areas and gardens;<br>Vegetated garden       | 0.039     | The vegetated garden at the east portion of the site is comprised of short length modified grassland, as well as several introduced shrubs and small trees, with a DBH of <7.5cm.                                                                    | N/A                  | Low strategic significance.<br>Area/compensation not in local strategy |

#### 3.2 Post Development Habitats

Table 2 details the post development habitats present within the site along with their area/length, condition and strategic significance. The proposed development will result in the loss of all habitats on site, alongside creation of replacement habitats of the same distinctiveness.

Table 2: Post Development Biodiversity Value

| Habitat                                               | Area (ha) | Description                                                                                                                                      | Target Condition | Strategic Significance                                                 |
|-------------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------------------------------------------------|
| Developed land; sealed surface<br>Including buildings | 0.093     | New sealed surfaces include three new dwellings, associated shed outbuildings, paved patio areas and tarmacked access road and car parking areas | N/A              | Low strategic significance.<br>Area/compensation not in local strategy |
| Built up areas and gardens;<br>Vegetated garden       | 0.045     | Three new vegetated garden spaces associated with the new residential plots                                                                      | N/A              | Low strategic significance.<br>Area/compensation not in local strategy |

### ***3.3 Change in Biodiversity Value of the Site***

Full details are provided in the Defra Statutory Biodiversity Metric. The headline results are presented in Appendix 5.

#### **Areas of Habitat**

The baseline habitat value of the site is 0.08 units, comprising sealed surfaces and buildings (no value), and vegetated garden (0.08 units).

The post development habitat value of the site is 0.09 units, comprising the creation of new buildings and hardstanding (no value), and new vegetated garden (0.09 units).

This results in a net change in biodiversity of 11.35% (i.e. a net gain).

## 4.0 Recommendations to Deliver BNG

### 4.1 Discussion

The current proposed plan will result in an area decrease of sealed surfaces, and an increase of vegetated garden habitat areas.

The baseline habitat value of the site is 0.08 units, with the post development habitat value delivering 0.09 units. This results in a **11.35%** net gain in habitat units, which is more than the 10% target of biodiversity net gain.

### 4.2 Post Development

The habitats proposed on site include private garden, buildings and hardstanding, all of which are urban low/very low value habitats which do not require long-term management, therefore post-development maintenance and management is not required, and a Biodiversity Net Gain Management Plan is not anticipated to be required for the site.

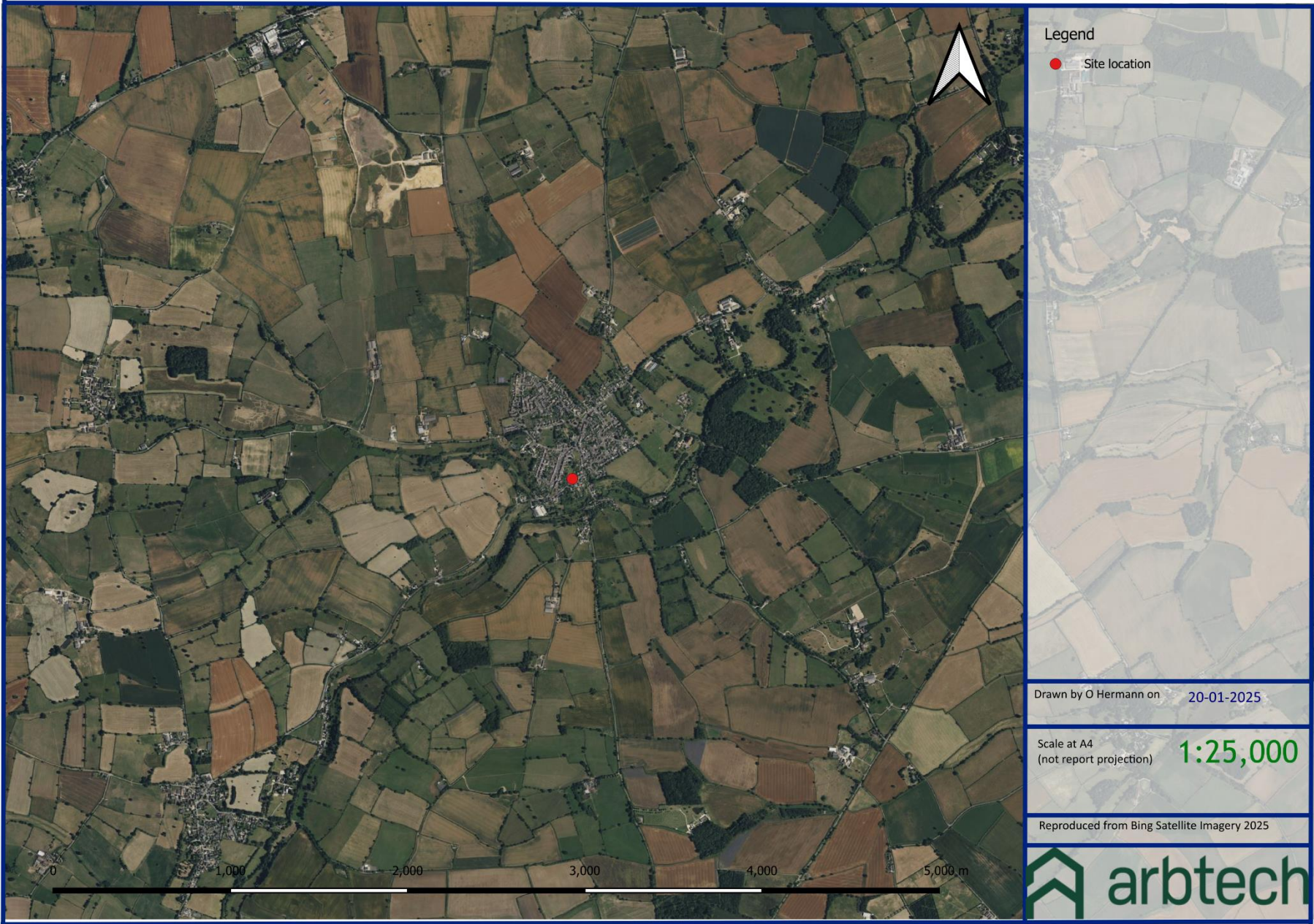
## 5.0 Bibliography

- Arbtech (2025). Preliminary Ecological Appraisal- 5 Grove Road, SN16 0NF.
- Arbtech (2025). Statutory Biodiversity Metric- 5 Grove Road, SN16 0NF.
- 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](http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf)
- Natural England (2023). The Statutory Biodiversity Metric (JP039).
- Natural England (2023). The Statutory Biodiversity Metric User Guide (JP039).
- Natural England (2023). The Statutory Biodiversity Metric Technical Annex 1 - Condition Assessment Sheets and Methodology (JP039).
- Natural England (2023). The Statutory Biodiversity Metric Technical Annex 2 – Technical Information (JP039).
- The UK Habitat Classification Habitat Definitions Version 2.0 (The UK Habitat Classification Working Group, July 2023)

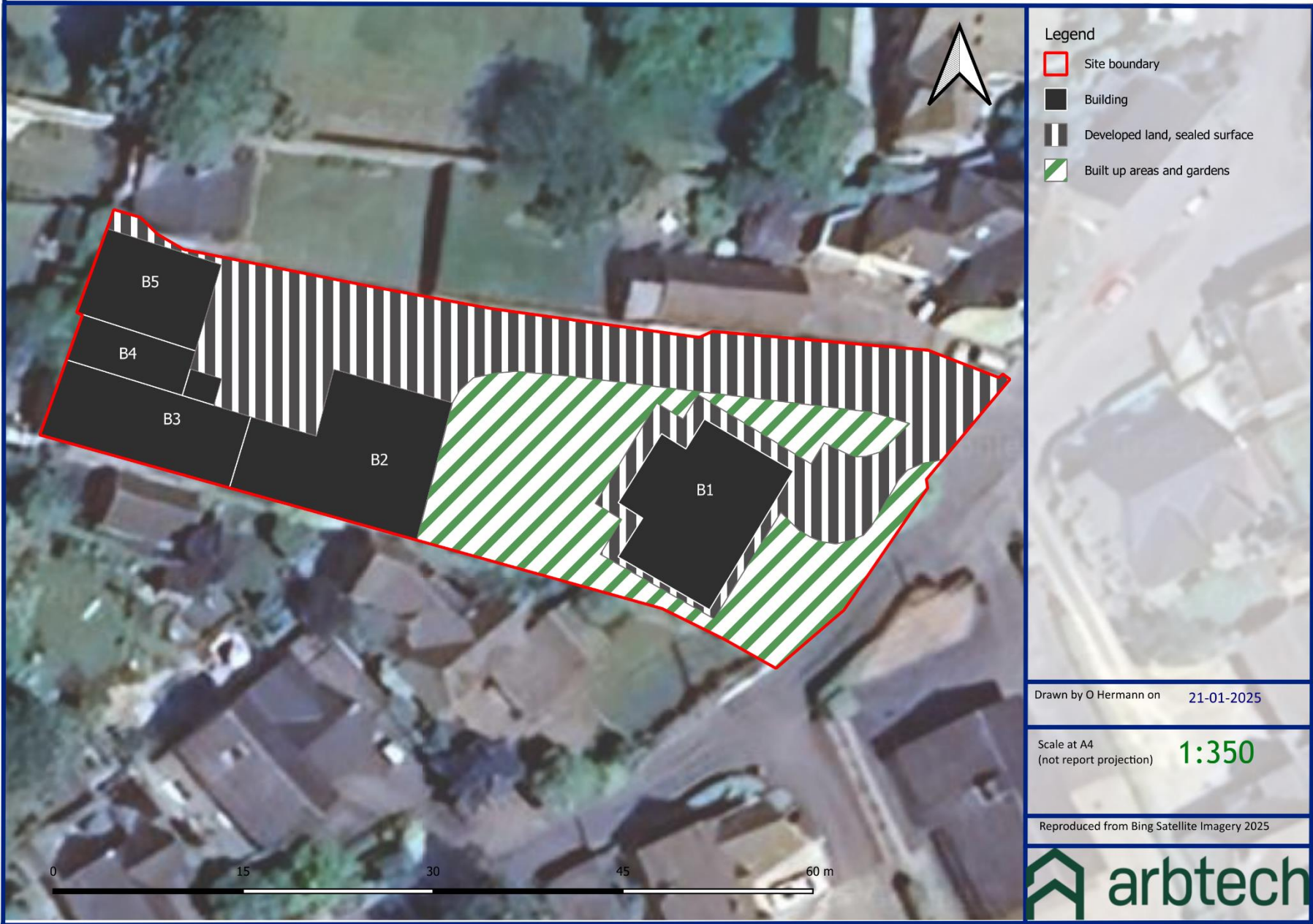
Appendix 1: Proposed Development Plan



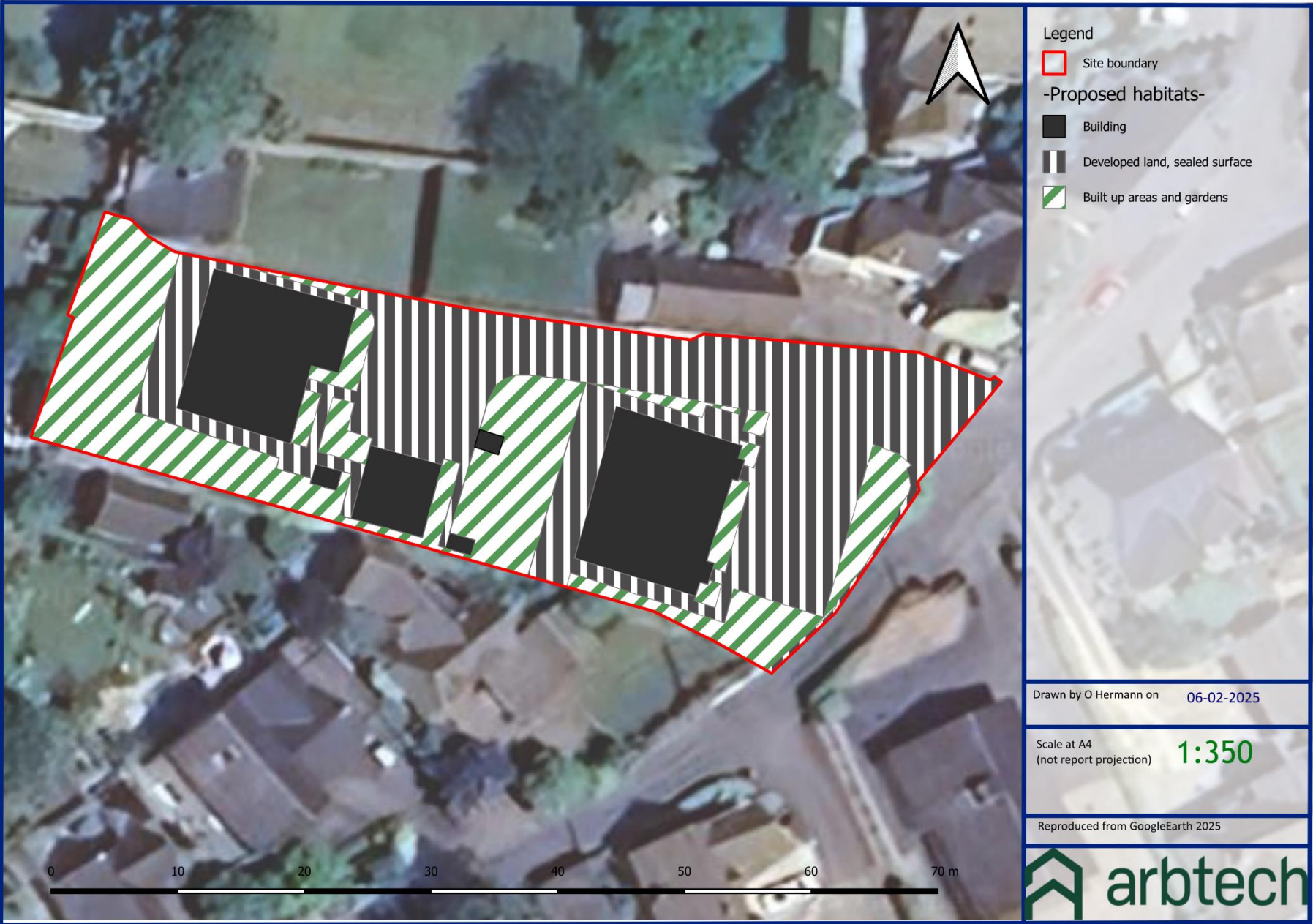
Appendix 2: Site Location Plan



Appendix 3: Baseline Habitat Plan



Appendix 4: Post Development Habitat Plan



## Appendix 6: Headline BNG Results

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

| FINAL RESULTS                                                                                                |                          |        |
|--------------------------------------------------------------------------------------------------------------|--------------------------|--------|
| <b>Total net unit change</b><br>(Including all on-site & off-site habitat retention, creation & enhancement) | <i>Habitat units</i>     | 0.01   |
|                                                                                                              | <i>Hedgerow units</i>    | 0.00   |
|                                                                                                              | <i>Watercourse units</i> | 0.00   |
| <b>Total net % change</b><br>(Including all on-site & off-site habitat retention, creation & enhancement)    | <i>Habitat units</i>     | 11.35% |
|                                                                                                              | <i>Hedgerow units</i>    | 0.00%  |
|                                                                                                              | <i>Watercourse units</i> | 0.00%  |
| <b>Trading rules satisfied?</b>                                                                              | Yes ✓                    |        |

| Unit Type                | Target | Baseline Units | Units Required | Unit Deficit |
|--------------------------|--------|----------------|----------------|--------------|
| <i>Habitat units</i>     | 10.00% | 0.08           | 0.09           | 0.00         |
| <i>Hedgerow units</i>    | 10.00% | 0.00           | 0.00           | 0.00         |
| <i>Watercourse units</i> | 10.00% | 0.00           | 0.00           | 0.00         |

No additional area habitat units required to meet target ✓

No additional hedgerow units required to meet target ✓

No additional watercourse units required to meet target ✓