Biodiversity Net Gain (BNG) Report

Land at Titmore Green Farm, Stevenage

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LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living animals and plants are capable of migration/establishing and whilst such species may not have been located during the survey duration, their presence may be found on a site at a later date.

This report provides a snap shot of the species that were present at the time of the survey only and does not consider seasonal variation. Furthermore, where access is limited or the site supports habitats which are densely vegetated only dominant species maybe recorded.

The recommendations contained within this document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to or during works.

1.0 Introduction

1.1 The site (TL 21377 26486) is approximately 0.5 ha and includes farm buildings, hardstanding, artificial unsealed surface, modified grassland and a ruderal/ ephemeral menage. The wider landscape consists of commercial and residential buildings and grassland. The site is split into two different application boundaries

1.2 The red line boundaries for the site is shown in Figure 1 & 2.

Figure 1: Red line boundary for area 1.

Figure 2: Red line boundary for area 2.

1.3 There are two separate applications for this site, these are detailed as follows.

1.4 The first is for the change of use of an agricultural building into a 5-bedroom residential dwelling, external alterations and re-cladding and the demolition of the outdoor menage. The proposals also include the re-cladding and external alterations to Atcost Barn for use with the dwelling, with associated parking and landscaping (Figure 3).

1.5 The second is for the change of use of an agricultural barn into three business/storage units, with external alterations and re-cladding. These proposals also include the demolition of the open storage yard, layout for parking, construction of a cycle store and associated landscaping (Figure 4).

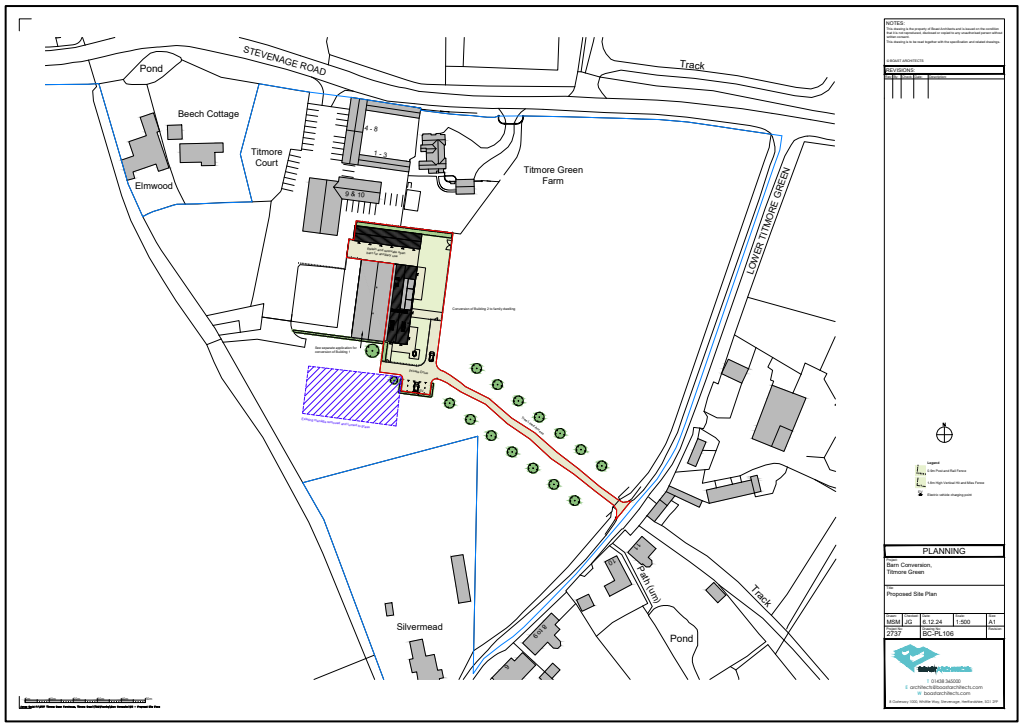


Figure 3: Proposed development for area 1 (Boast Architects 2024).

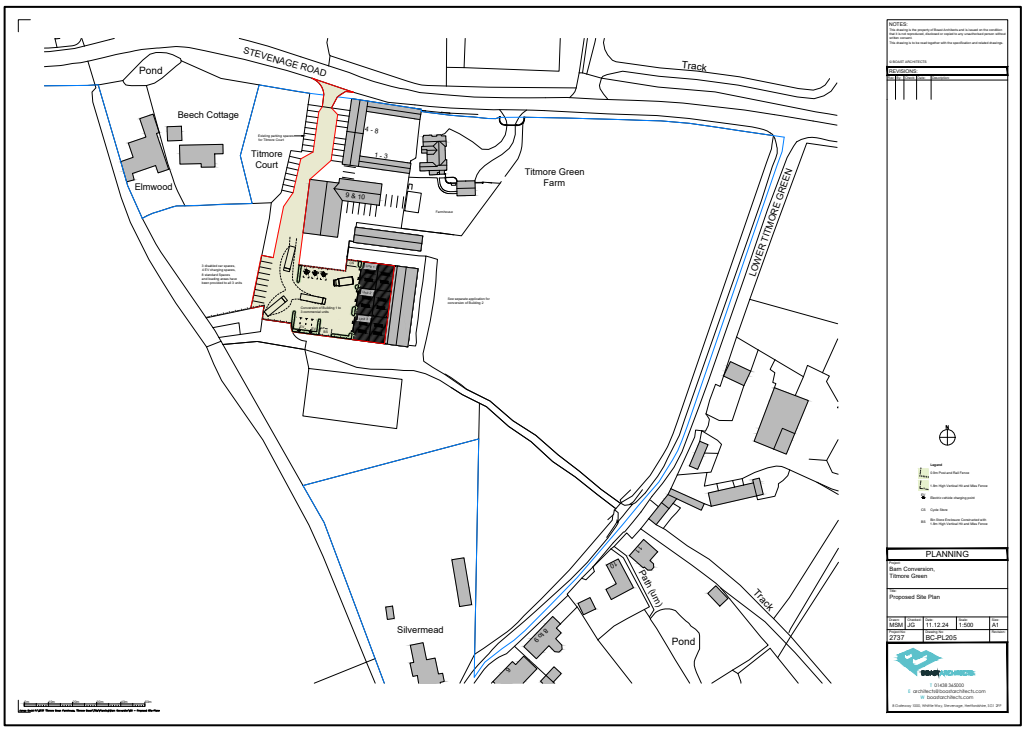


Figure 4: Proposed development for area 2 (Boast Architects 2024).

1.6 Biodiversity Net Gain (BNG) principles support both the aspired green infrastructural proposals set to define the created landscape, and support biodiversity and habitat enhancement. BNG principles are set within the Environment Act (2021).

2.0 Methodology

2.1 In order to identify areas for ecological enhancements, the PEA (Preliminary Ecological Appraisal) and condition assessments of the site was undertaken on the 20th March 2024, by Digby Hayden BSc (Hons) and Natasha Wilson BSc (Hons), of the Ecology Partnership.

2.2 The creation of areas which would support potential net-gain areas are based on the following:

- Identification / classification of the on-site baseline habitats;
- Identification of habitats which are of high ecological value;
- Provision of habitat mapping;
- Identification of potential for ecological connectivity;
- Identification of areas which support landscape development;
- Linking biodiversity net gain areas, landscape features in order to identified opportunity areas which support the Nature Recovery Network aspirations;
- Recommendations for species rich, native planting.

2.3 The Statutory Metric is used to calculate biodiversity losses and gains for habitats within the application area. The Statutory Biodiversity Metric (version issue date 23.07.2024) is included as a separate excel document and underpins the Environment Act provision for mandatory BNG in England.

2.4 The Statutory Metric uses habitat as a proxy for wider biodiversity with different habitat types scoring different values according to their relative biodiversity value. These are dependent on the condition and location of the habitat, in order to calculate '**biodiversity units**'.

2.5 The site has been assessed in terms of the condition assessment of the baseline and habitats were classified in more detail during this assessment. A map of the existing and proposed site layouts are shown in Appendix 1, 2, 3 & 4.

3.0 DEFRA Metric

Area 1

Baseline Habitat Units

3.1 The habitats currently present on site have been divided into a number of habitat types. These are shown in Table 1. The existing habitats have been detailed in the PEA document, but broken down further within Table 1. Baseline habitats are shown on the habitat map in Appendix 1.

Table 1: Existing Habitat Breakdown – Pre-Development 0.29ha

Habitat	Area (ha)	Condition
Urban – Developed land: sealed surface	0.05 (retained) 0.017	All buildings within the site. Areas of existing hard standing Condition '**N/A - other**' by default.
Urban – Bare Ground	0.10.2	This is used to describe the area of bare ground on site, mostly located along the access track. Condition '**Poor**' condition.
Sparsely Vegetated Land – Ruderal/Ephemeral	0.084	Used to describe the ruderal/ephemeral habitats located in the existing menage. Condition '**Poor**' condition.
Grassland – Modified Grassland	0.041	Describing the grassland located along the eastern boundary of the site. Considered **'Poor'** condition.
Total	**0.29ha**	

Hedgerow Units

3.2 Hedgerow units which incorporate linear vegetated features are calculated separately from habitat units. For the Hedgerow Units element of proposals a net gain is required for these features separately from that required of the area habitats. There were no linear features on site at the time of the survey.

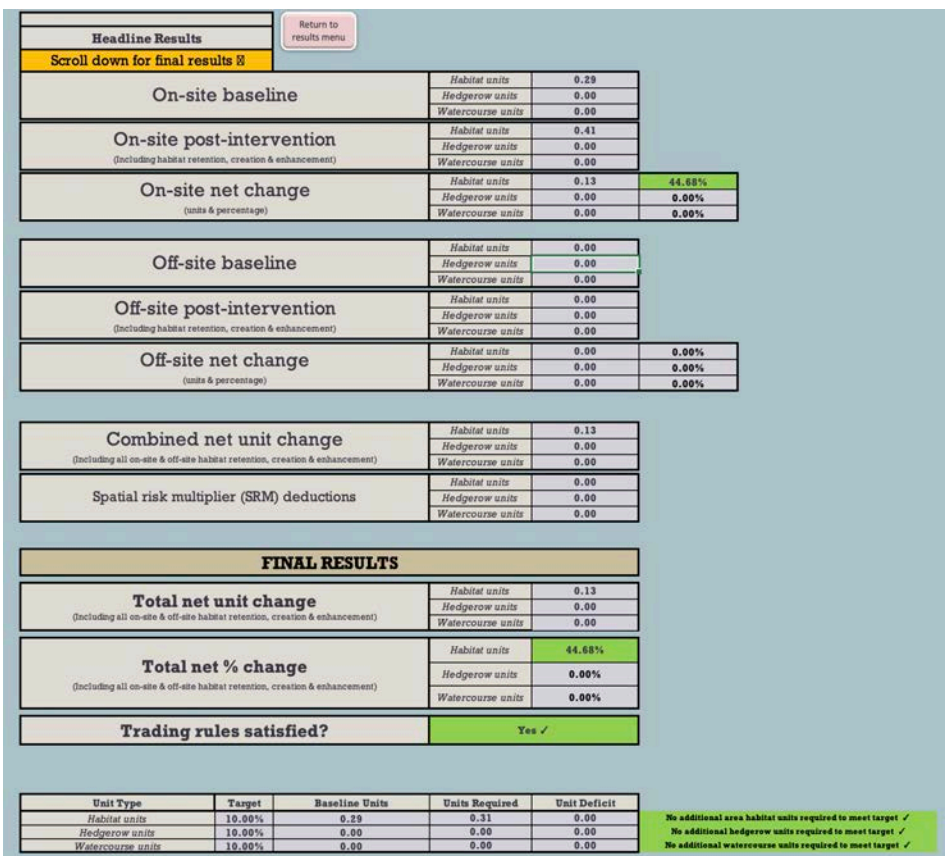
Illustrative Proposed Habitat Units

3.3 Assumptions have been made about the proposed habitats based on the illustrative masterplan. The habitats currently proposed on site have been divided into a number of

habitat types. The proposed habitats have been detailed in the Appendix 2 drawing document and broken down within Table 2.

Table 2: Proposed Habitat Breakdown – Post-Development 0.29ha

Habitat	Area (ha)	Condition
Urban – Developed land; sealed surface	0.05 (retained) 0.099	All buildings located within the proposed layout. All roads and paved driveways detailed within the proposals. Condition '**N/A - other**' by default.
Urban – Vegetated Garden	0.06	Vegetated garden habitats outlined in the proposals. Condition '**N/A - other**' by default.
Grassland – Other Neutral Grassland	0.08	Species-rich flowering lawn mix managed as amenity grassland within the menage area. Anticipated **'Poor'** condition.
Total	(0.05 retained) **0.29ha**	



Headline Results

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Scroll down for final results ⊠

On-site baseline	Habitat units	0.29	
	Hedgerow units	0.00	
	Watercourse units	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.41	
	Hedgerow units	0.00	
	Watercourse units	0.00	
On-site net change (units & percentage)	Habitat units	0.13	44.68%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%
Off-site baseline	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site net change (units & percentage)	Habitat units	0.00	0.00%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.13	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Spatial risk multiplier (SRM) deductions	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	

FINAL RESULTS

Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.13
	Hedgerow units	0.00
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	44.68%
	Hedgerow units	0.00%
	Watercourse units	0.00%
Trading rules satisfied?	Yes ✓	

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	10.00%	0.29	0.31	0.00	No additional area habitat units required to meet target ✓
Hedgerow units	10.00%	0.00	0.00	0.00	No additional hedgerow units required to meet target ✓
Watercourse units	10.00%	0.00	0.00	0.00	No additional watercourse units required to meet target ✓

Figure 5: Illustrative masterplan BNG metric calculation headline results

3.4 The calculations confirm that a 10% net-gain is currently achievable in area 1 based on the current site layout, with a biodiversity net gain of **+44.68%** in habitat units, these proposals also do satisfy the trading rules. The proposals do however achieve a no net change in hedgerow units since the baseline habitats did not contain any linear features.

Area 2

Baseline Habitat Units

3.5 The habitats currently present on site have been divided into a number of habitat types. These are shown in Table 4. The existing habitats have been detailed in the PEA document, but broken down further within Table 3. Baseline habitats are shown on the habitat map in Appendix 1.

Table 3: Existing Habitat Breakdown – Pre-Development 0.22ha

Habitat	Area (ha)	Condition
Urban – Developed land: sealed surface	0.045 (retained) 0.079	All buildings within the site. Areas of existing hard standing Condition '**N/A - other**' by default.
Urban – Artificial Unvegetated – Unsealed Surface	0.053	Pea shingle driveway. Condition '**N/A - other**' by default.
Sparsely Vegetated Land – Ruderal/Ephemeral	0.04	Used to describe the ruderal/ephemeral habitats located in the south-western aspect of the site. Condition '**Poor**' condition.
Total	**0.22ha**	

Hedgerow Units

3.6 Hedgerow units which incorporate linear vegetated features are calculated separately from habitat units. For the Hedgerow Units element of proposals a net gain is required for these features separately from that required of the area habitats. There were no linear features on site at the time of the survey.

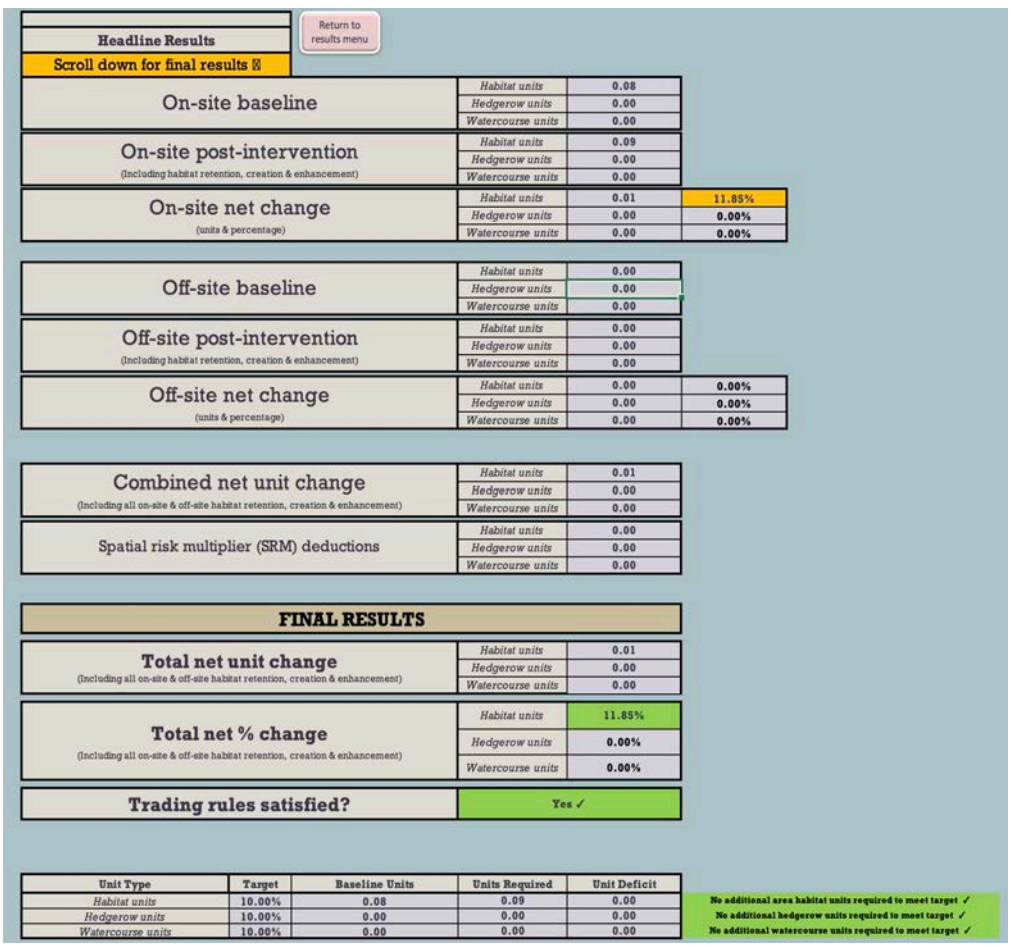
Illustrative Proposed Habitat Units

3.7 Assumptions have been made about the proposed habitats based on the illustrative masterplan. The habitats currently proposed on site have been divided into a number of

habitat types. The proposed habitats have been detailed in the Appendix 2 drawing document and broken down within Table 4.

Table 4: Proposed Habitat Breakdown – Post-Development 0.22ha

Habitat	Area (ha)	Condition
Urban – Developed land; sealed surface	0.045 (retained) 0.167	All buildings located within the proposed layout. All roads and paved driveways detailed within the proposals. Condition '**N/A - other**' by default.
Grassland – Modified Grassland	0.006	Areas of modified grassland located around vehicle parking. Anticipated **'Poor'** condition.
Individual Trees – Urban Tree	0.0285	7 proposed small trees '**Poor**' condition.
Total	(0.045 retained) **0.22ha**	



Headline Results

Return to results menu

Scroll down for final results

On-site baseline	Habitat units	0.08	
	Hedgerow units	0.00	
	Watercourse units	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.09	
	Hedgerow units	0.00	
	Watercourse units	0.00	
On-site net change (units & percentage)	Habitat units	0.01	11.85%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%
Off-site baseline	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site net change (units & percentage)	Habitat units	0.00	0.00%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%
Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.01	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Spatial risk multiplier (SRM) deductions	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
FINAL RESULTS			
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	0.01	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	11.85%	
	Hedgerow units	0.00%	
	Watercourse units	0.00%	
Trading rules satisfied?	Yes ✓		

Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
Habitat units	10.00%	0.08	0.09	0.00	No additional area habitat units required to meet target ✓
Hedgerow units	10.00%	0.00	0.00	0.00	No additional hedgerow units required to meet target ✓
Watercourse units	10.00%	0.00	0.00	0.00	No additional watercourse units required to meet target ✓

Figure 6: Illustrative masterplan BNG metric calculation headline results

3.8 The calculations confirm that a 10% net-gain is currently achievable in area 1 based on the current site layout, with a biodiversity net gain of **+11.85%** in habitat units, these proposals also do satisfy the trading rules.

3.9 The BNG strategy has been developed in order to adhere to good practice principles (CIEEM 2016), which references measures to review and support biodiversity initiatives during the design, building and maintenance of developments.

4.0 Post-development planting schemes

4.1 Planting schemes are outlined below which aim to support details required for the BNG. Please note these are subject to change and will be approved by the project ecologist and landscape architect.

Modified grassland – General purpose amenity mix

4.2 The area of modified grassland should be planted with a general-purpose seed mix for amenity purposes. This area will be kept at a short sward height as a part of ongoing management.

Other neutral grassland – Flowering lawn mix

4.3 Newly formed areas of poor condition other neutral grassland to be planted with flowering lawn mixtures. Emorsgate Seeds ELI Flowering Lawn Mixture, or equivalent, as determined by the project ecologist (subject to availability), is considered a suitable recommendation, as it contains slow growing grasses and a selection of wildflowers which respond well to regular short mowing.

- Common Bent (*Agrostis capillaris*)
- Crested dogstail (*Cynosurus cristatus*)
- Red fescue (*Festuca rubra*)
- Smaller Cat's-tail (*Phleum bertolonii*)
- Lady's bedstraw (*Galium verum*)
- Rough hawkbit (*Leontodon hispidus*)
- Oxeye daisy (*Leucanthemum vulgare*)
- Bird's-foot trefoil (*Lotus corniculatus*)

- Cowslip (*Primula veris*)
- Selfheal (*Prunella vulgaris*)
- Meadow buttercup (*Ranunculus acris*)
- Red clover (*Trifolium pratense*)

Hedgerows and Trees

4.4 This will help to improve hedgerow wildlife corridors around the site for species such as badgers, small mammals and birds, it is recommended that native species be used including:

- Hazel (*Corylus avellana*)
- Hawthorn (*Crataegus monogyna*);
- Blackthorn (*Prunus spinosa*);
- Field maple (*Acer campestre*);
- Holly (*Ilex aquifolium*);
- Elder (*Sambucus nigra*);
- Wild privet (*Ligustrum vulgare*);
- Dog rose (*Rosa canina*);
- Honeysuckle (*Lonicera periclymenum*).

4.5 Any new tree planting within amenity areas should use native species where possible, particularly at the site entrance. These might include beech (*Fagus sylvatica*), whitebeam (*Sorbus aria*), lime (*Tilia x europaea*), rowan (*Sorbus aucuparia*), and silver birch (*Betula pendula*). However, it is considered that non-native and cultivars are acceptable within the built environment.

5.0 Other Enhancements

Gardens

5.1 Whilst gardens will become private property post-development, the initial planting of these areas should be carried out with wildlife in mind. Native trees and shrubs should be planted where possible and species-rich turf should be laid, as per appointed landscape architect advice. Information leaflets can be provided informing new homeowners of the opportunities for wildlife created in and around their homes and what they can do should they wish to create more wildlife-friendly gardens.

Bat Boxes

5.1 Bat boxes can be hung on the proposed buildings and existing trees to provide new roosting opportunities. The box should be positioned on a north or east facing aspect and at least 2m above the ground if possible. Recommended boxes include:

- Low Profile Woodstone Bat Box – A general purpose bat box that supports a range of species (Figure 4). These can be hung on trees and buildings in a variety of heights and aspects in order to provide a variety of micro-climates.
- Large Multi Chamber WoodStone Bat Box – This is a multipurpose box designed for larger colonies and a range of bat species including pipistrelles, noctules and brown long-eared bats. These should be hung on mature trees around the site (Figure 7).

Figure 7: Low Profile Woodstone Bat Box (left) and Large Multi Chamber WoodStone Bat Box (right)

Bird Boxes

5.2 Additional bird nesting opportunity can also be installed on site, as integrated boxes on existing trees on site. Hardwearing woodcrete boxes, or similar, are recommended. Figure 8 provides an example of a suitable bird box, of which these or similar, could be installed onto the trees. The box should be positioned on a north or east facing aspect and at least 2m above the ground if possible. These would cater for species such as house sparrows and wagtails.

Figure 8: 2GR Schwegler Nest Box

6.0 Conclusions

6.1 The current proposals achieve a biodiversity net gain of **+44.68%** in area 1, and **+11.85%** in area 2. Both areas also satisfy the trading rules, since there were no linear features located within areas 1 and 2 during the site visit, then there is no need to achieve 10% net gain in hedgerow units.

6.2 Recommended species lists and seed mixes for the scheme have been given within this report, and well as additional enhancements which are not recognised within the Defra metric. These will ensure that the proposed scheme achieves an enhanced value for biodiversity post-development, creating opportunities for wildlife on site and within the wider area.

Appendix 1: Baseline Map for Area 1

Appendix 2: Baseline Map for Area 2

Habitat Map Area 2

- Site boundary
- Buildings
- Hard Standing
- Artificial Unvegetated Ground
- Ruderal/Ephemeral (Poor)

Title: Habitat Map Area 2
Site: Titmore Green Farm
Client: Wealden Beesley
Date: 13th December 2024

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Appendix 3: Proposed Map for Area 1

Appendix 4: Proposed Map for Area 2

BNG Proposed Map
Area 2

Site boundary
Buildings
Hard Standing
Modified Grassland (Poor)

BNG proposed points area 2
Proposed Small Tree (Poor)

Title: Habitat Map Area 2
Site: Titmore Green Farm
Client: Wealden Beesley
Date: 13th December 2024

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