BIODIVERSITY NET GAIN (BNG) ASSESSMENT

IN RELATION TO

A FULL PLANNING APPLICATION FOR

A PROPOSED AGRICULTURAL BUILDING

AT

TOAD HALL FARM
THURGOLAND
SHEFFIELD
S35 7BB

CLIENT:

W WATTS

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Appendices

1.0 SUMMARY

- A Biodiversity Net Gain (BNG) assessment has been undertaken to support the submission of a full planning application for the erection of an agricultural building at Toad Hall Farm, Thurgoland. The site is part of an agricultural holding and is located on agricultural land.

- A BNG assessment for the site was undertaken by Bagshaws LLP on the 12th September 2025 using DEFRA's latest BNG Metric (Small sites or The Statutory Biodiversity Metric) which should be reviewed in conjunction with this report.

- To ensure that the development satisfies National and Local Planning Policy, the applicant proposes to enhance an existing onsite modified grassland area to become a Wildflower Meadow and plant an additional 10m hedgerow.

- According to the Metric, this will provide a 13.86% net gain in habitat units and a 15.05% net gain in hedgerow units which is in line with the planning policy requirements

2.0 INTRODUCTION & CONTEXT

- This report has been prepared by Bagshaws LLP on behalf of W Watts. It sets out the findings of a Biodiversity Net Gain (BNG) assessment at Toad Hall Farm, Thurgoland hereinafter referred to as 'the site'. A Location plan is provided with the submission (drawing reference 001).

- The design of the scheme has been informed by the BNG assessment process and the mitigation hierarchy, through avoiding impacts to habitats where possible, then minimising the impact, using mitigation, and finally compensating for a loss of habitat where this cannot be avoided.

- The site area assessed is approximately 5179m² and comprises a parcel of grassland, a concreted yard area/access drive and bare land/compacted earth which is managed by the existing agricultural operation (i.e. livestock grazing, vehicle storage area and movements). The field boundary's consist of hedgerow and stone walls.

- The existing native hedgerow which runs along the access drive has also been assessed.

- The objectives of this report are to:

    - ✓ Demonstrate the application of the mitigation hierarchy and minimise impacts on biodiversity where possible.
    - ✓ Establish a baseline condition of the site pre-development and calculate the post development biodiversity unit value.
    - ✓ Determine the change biodiversity units as a result of the proposed development
    - ✓ Advise on how to deliver a minimum of 10% increase in BNG.

3.0 METHODOLOGY

3.1. Desktop Research

- Online data sources including DEFRA'S interactive MAGIC map, Google Earth, DEFRA's priority habitat inventory, Soilscape, LandIS Soils association in England and Wales and LandApp were used for an initial desktop baseline assessment of the site.

- This provided access to environmental information such as the location of Special Protection Areas, Special Areas of Conservation, RAMSAR sites, SSSI Impact Risk Zones, Nature Conservation Sites, soil types, land use and Priority Habitats.

3.2. Onsite survey

- An onsite walkover survey was undertaken on 30th April 2025 by Mrs Dianne Brown AssocRICS in good clear weather conditions.

- The survey involved a walkover of the site which collated information in relation to the following:
  - Land use
  - Species
  - Habitats present
  - The size and location of each habitat parcel

- A UKHab condition assessment survey was not required to be carried out due to the Small Sites Metric being used. By using the SSM, the condition is automatically assigned at baseline stage.

- The area was assessed to be a combination of modified grassland and bare ground. The SSM applied a condition score of 2 (moderate) to both areas.

- In addition, the existing yard area and access drive has a condition score of 0.

- The existing native hedgerow which runs along the access drive has a condition score of 2 (moderate).

3.3. Habitat Mapping

- Ordnance Survey Digital Maps were used alongside the British National Grid OSG:27700 co-ordinate system to accurately map the baseline habitat units.

3.4. Statutory Biodiversity Metric

- The 'Small Sites' Statutory Biodiversity Metric (Version 1.2.3) was used to calculate the baseline habitat and hedgerow units of the site.

3.5. Mitigation hierarchy and good practice principles

- The proposals for the site have been developed with reference to the ecological mitigation hierarchy which is central to the BNG process.

- The scheme has been designed to follow the mitigation hierarchy by avoiding ecological impacts as much as possible, with the development to be located within the habitats of lowest ecological importance, namely the modified grassland and bare ground. The development does not involve the removal of any hedgerows or trees.

- Where impacts to habitats cannot be avoided, specific measures will be undertaken to compensate any loss of habitats and impacts that occur, to ensure opportunities for wildlife are provided for the long-term, biodiversity increases, and an overall ecological enhancement occurs.

4.0 BNG Results

4.1 Strategic Significance

- The site is not located within any statutory or non-statutory sites designation, and none are located adjacent to the site.

- The site is not identified as an area of nature conservation. No local strategic policy or objectives were identified which would classify the site habitats as being of strategic importance to the local area.

- The site is not considered to provide benefits for protected or priority species or nesting or foraging opportunities for birds given the level of disturbance from grazing and the intensity of the agricultural use.

- Based on the above, the site habitats (both pre and post development) are therefore assessed as being of low strategic significance.

4.2. Baseline Habitat Units and Habitat Loss

- The site is part of a parcel of agricultural grassland. A baseline Habitat and Hedgerow Plan is provided in Appendix I.

- According to the Small Sites Metric (The Statutory Biodiversity Metric), there are three habitat types within the red-line boundary comprising Modified Grassland, bare ground and a concrete sealed surface.

- The results of the site walkover and the data entered into the SSM are shown below:

Broad Habitat	**Habitat Type**	**Total Area (m²)**	**Area retained (m²)**	**Area enhanced**	**Total Baseline habitat units onsite**	**Total Baseline Area Lost**	**Total Baseline Units Lost**	**Comments**
Grassland	Modified Grassland	1031.20	533.20	0.00	0.41	498.00	0.199	Loss of area is due to building footprint
Urban	Bare Ground	1313.00	1207.00	0.00	0.53	106.00	0.042	Loss of area due to building footprint
Urban	Developed land; sealed surface	1936.40	1936.40	0.00	0.00	0.00	0.00	Existing farm access track & yard
Grassland	Modified Grassland	898.70		898.70	0.36	0.00	0.00	Part of field on the East side of the drive

4.3. Habitat Retained

- The modified grassland surrounding the site will be retained.

- There will be no changes to the existing farm access track and yard.

4.4. Habitat Enhancement

- The proposed habitat enhancement comprises of an area of modified grassland to become a Wildflower Meadow.

- A wildflower meadow will maximise biodiversity in that area. The habitat will be incorporated into the current modified grassland area on the east side of the existing access drive. The area indicated is the minimum area recommended.

- A variety of wildflower mixes can be found on the Meadowmania or Wildflower Turf webpages. It is recommended that EM34 diverse meadow mixture or similar is used.

- Recommended species:

  Wildflowers total 20%; Borage (Borago officinalis) 1.4%, corn poppy (Papaver Rhoeas) 2.0%, cornflower (Cenaturea Cyanus) 1.6%, lesser knapweed (Centaurea nigra) 0.6%, musk mallow (Malva moschata) 0.4%, ox eye daisy (Leucanthemum Vulgare) 0.6%, red campion (Silene Dioica) 3.0%, ribwort plantain (Plantago lanceolata) 2.4%, salad burnet (Sanguisorba Minor) 3.0%, selfheal (Prunella Vulgaris) 1.0%, white campion (Silene Alba) 2.4%, wild red clover (Trifolium pratense) 1.0%, and yarrow (Archillea millefolium) 0.6%.

  Grasses total 80%; Chewings fescue (Festuca rubra subsp. Commutata) 24%, common bent (Agrostis capillaris) 4.4%, crested dogs tail (Cynosurus cristatus) 1.6%, slender creeping red fescue (Festuca rubra subsp. Litoralis) 20%, strong creeping red fescue (Festuca rubra) 28%, sweet vernal grass (Anthoxanthum odoratum) 1%, and yellow oat grass (Trisetum flavescens) 1%.

- Planting to be carried out during May to September.

- It is recommended that EM34 diverse meadow mixture or similar is sown at a rate of 4-5 grams per square metre (equivalent to 40-50 kg per hectare).

- This must be connected to other habitat features to ensure beneficial invertebrates, such as bees and butterflies, can find and utilise this habitat. This is due to some species not crossing open areas, so connectivity with linear habitat features is critical. Further information on creating wildflower meadows can be found here.

- These areas should be mown once a year:

  Autumn cut – cut between the end of August and late November.

- Management of the grassland should avoid mowing of the entire space, to allow patches of taller or rough grassland patches and flowering to take place.

- A Post-development Habitat and Hedgerow Plan showing the proposed habitat creation is included at Appendix 2.

- This proposal will create 0.1797 habitat units onsite, providing a 13.86% net gain in habitat units.

- The headline results for habitats are shown below:

Baseline habitat units	1.2972
Post-development habitat units	1.4769
Total net unit change	0.1797
Total net % change	13.86%
Trading rules satisfied	**Yes**

4.5. Baseline Hedgerow Units

- According to the Small Sites Metric (The Statutory Biodiversity Metric), a length of native hedgerow has been assessed within the red-line area.

- A baseline Habitat and Hedgerow Plan is provided in Appendix I.

- The results of the site walkover and the data entered into the SSM are shown below:

Broad Habitat	**Habitat Type**	**Total Length (m)**	**Length retained (m)**	**Total Baseline units onsite**	**Total Baseline Length Lost**	**Total Baseline Units Lost**	**Comments**
Hedgerows and Lines of trees	Native hedgerow	65.00	65.00	0.26	0.00	0.00	Length of hedgerow within the red-line area

4.6. Hedgerow Retained

- There will be no changes to the existing hedgerow. All existing hedgerows to be retained.

4.7. Hedgerow Creation

- The proposed hedgerow creating comprises the planting of 10m of native hedgerow, planted to the north of Toad Hall Farm Cottage. A Post-development Habitat and Hedgerow Plan showing the proposed hedgerow creation is included at Appendix 2.

- All new hedgerows typically consist of at least five native species per 30m. A typical mix of shrubs to create a traditional hedgerow is 50% hawthorn (Crataegus monogyna), 25% hazel (Corylus avellana), 15% field maple (Acer campestre), 2% holly (Ilex aquifolium), 2% wild privet (Ligustrum vulgare), 2% guelder rose (Viburnum opulus), 2% dog rose (Rosa canina), and 2% buckthorn (Rhamus frangula) for every 30m of hedge.

- Hedgerows can be planted at either three plants per metre, planted at 33cm intervals, or at five plants per metre in a staggered double row, with 33cm between each plant along the row and 40cm between the rows.

- Planting to be carried out between October and April.

- This proposal will create 0.0391 hedgerow units onsite, providing a 15.05% net gain in hedgerow units.

- The headline results for hedgerow are shown below:

Baseline hedgerow units	0.2600
Post-development hedgerow units	0.2991
Total net unit change	0.0391
Total net % change	15.05%
Trading rules satisfied	**Yes**

4.8 Future Management:

- Habitats created will be maintained for at least 30 years post development to satisfy the conditions for BNG in the Environment Act 2021, as well as best practice guidelines. This should be secured through a Habitat Management and Monitoring Plan (HMMP), this document will be provided along with the BNG Plan following the Local Authority granting planning approval for the proposal. The management will be adapted based on monitoring results to ensure the best desired outcomes are achieved.

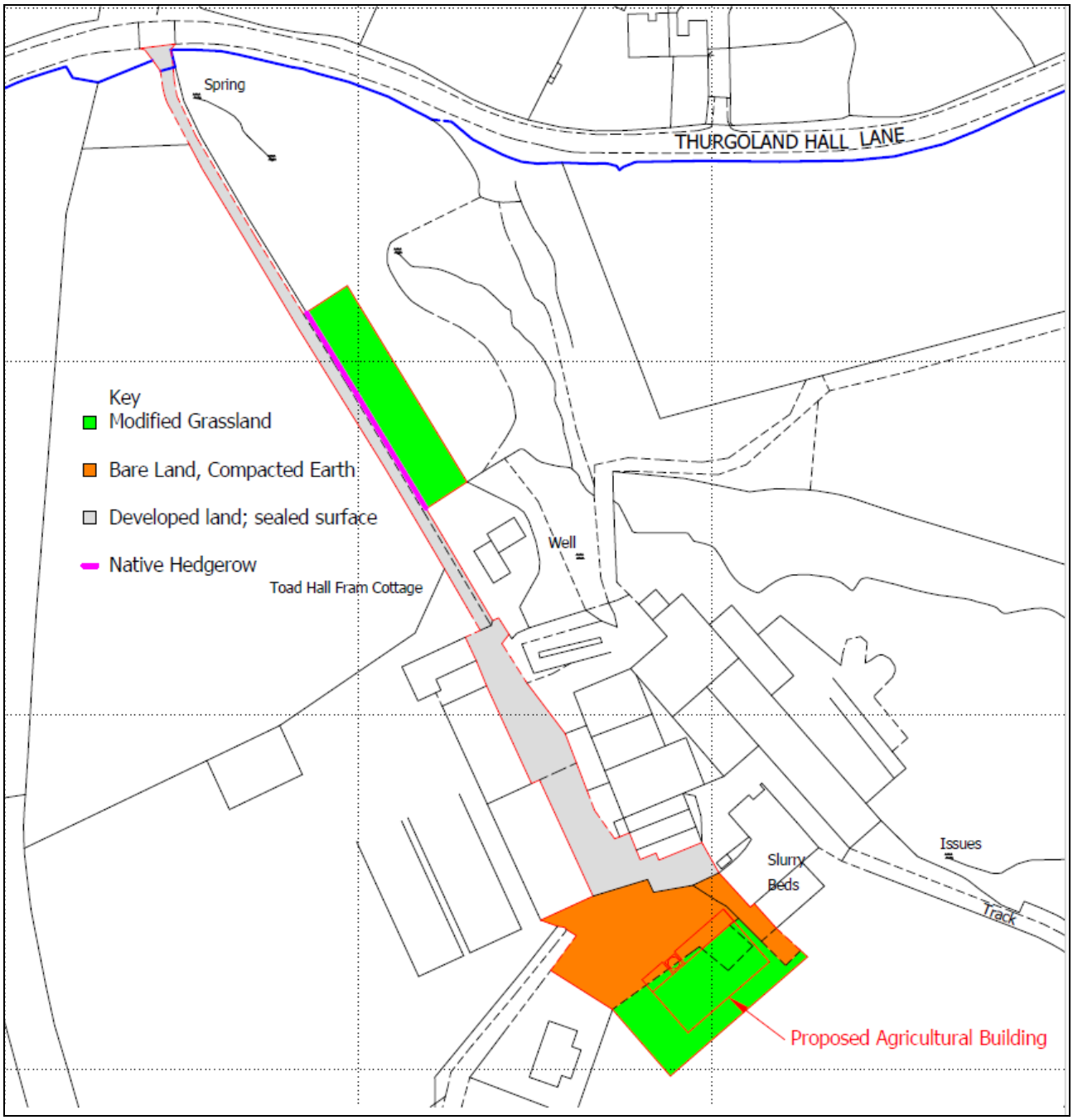
5. CONCLUSION

- The Small Sites Metric (The Statutory Biodiversity Metric) has calculated that the compensatory area results in a net gain of 0.1797 habitat units, equating to +13.86% BNG.

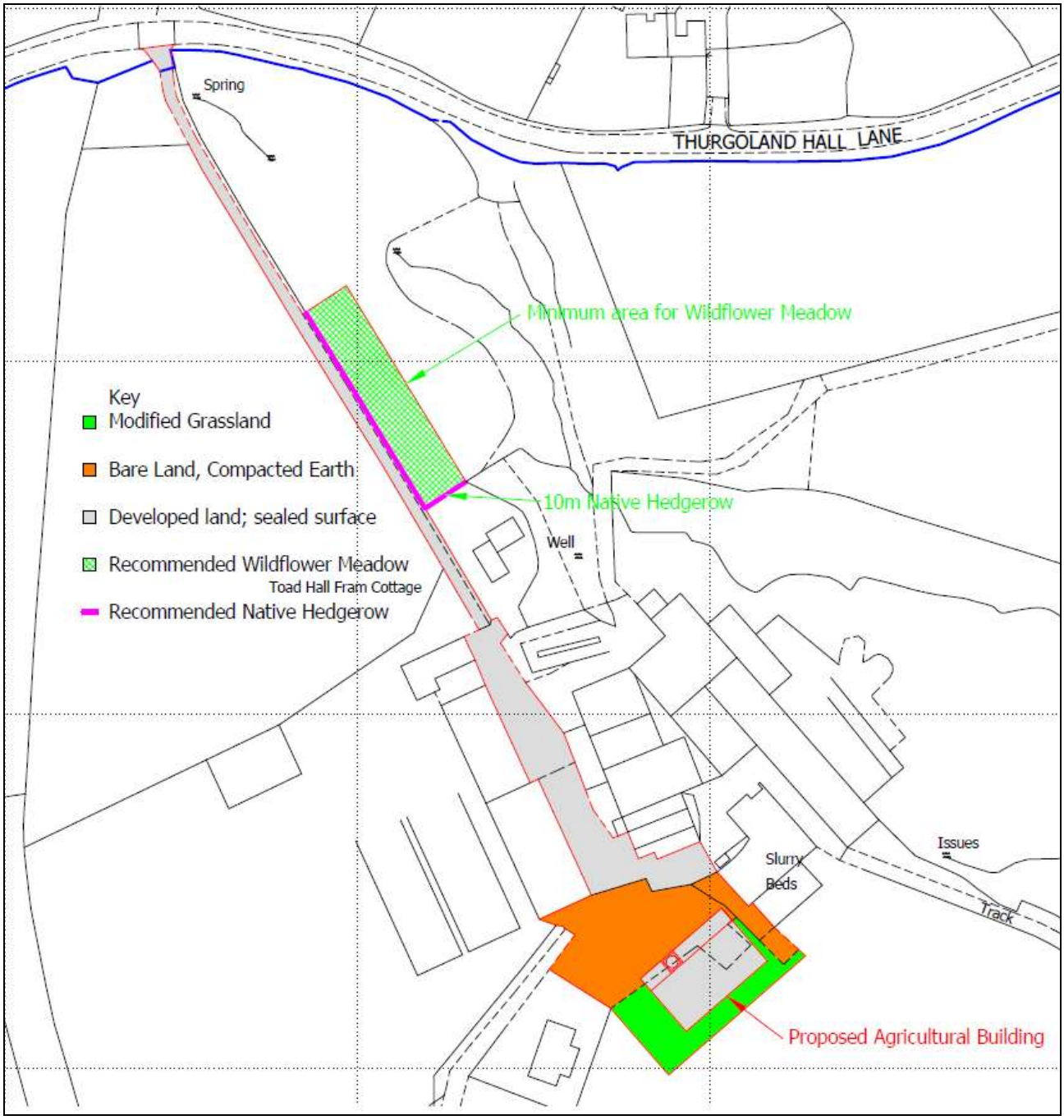
- The Small Sites Metric (The Statutory Biodiversity Metric) has calculated that the compensatory area results in a net gain of 0.0391 hedgerow units, equating to +15.05% BNG.

- As well as the requirement for achieving 10% BNG, the Environment Act also requires all trading rules to be met. The trading rules have been satisfied with the cumulative surplus of units being medium distinctiveness habitat, replacing the loss of low distinctiveness habitat.

Appendix 1: Baseline Habitat and Hedgerow Plan



Appendix 2: Post-development Habitat and Hedgerow Plan



Appendix 3: Biodiversity Planning Policies and Legislation

This appendix provides a summary of relevant policy and legislation and contains extracts from the relevant legislation/planning documents.

It does not in any way supersede the policy or legislation documents to which it refers, and the relevant full documents should always be consulted prior to decision making or advice provision.

National Planning Policy Framework 2024

Biodiversity is a material consideration under the National Planning Policy Framework (2024). Relevant text to biodiversity from the NPPF is described below.

"187. Planning policies and decisions should contribute to and enhance the natural and local environment by:

[…]

d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;"

"192. To protect and enhance biodiversity and geodiversity, plans should:

[…]

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."

"193. When determining planning applications, local planning authorities should apply the following principles:

[…]

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate."

The Environment Act 2021

Schedule 14 makes provision for biodiversity gain to be a condition of planning permission in England. The biodiversity net gain relevant percentage is currently set at 10% by the Act.

The Biodiversity Gain Requirements (Exemptions) Regulations 2024

These regulations make provision for the requirement of 10 percent Biodiversity Net Gain to be a pre-requisite for the granting of planning permission to all developments except a restricted number of exemptions which are very small in scale or limited in extent or those which apply to permitted development rights or householders.

Appendix 4: References

British Standards Institute (BSI) (2013). BS 42020:2013 Biodiversity. Code of practice for planning and development. British Standard Institute, London

Defra Gov.uk Biodiversity Net Gain, The Collection. Published February 2023, updated April 2024.

CIEEM (2021). Biodiversity Net Gain Report and Audit Templates. Chartered Institute of Ecology and Environmental Management, Winchester UK.

Defra (2024) The Small Sites Metric (Statutory Biodiversity Metric) – User Guide, Department for Environment, Food and Rural Affairs. Published February 2024, updated July 2024.

UKHab Ltd (2023). UK Habitat Classification Version 2.0

Habitat Guide: The Small Sites Metric (Statutory Biodiversity Metric) Habitat Management and Monitoring Plan Template (2024). Natural England Joint Publication JP058

Ammonia Reduction by Trees Summary Report, 2022. Bill Bealey, for Natural England, UK Centre for Ecology and Hydrology

Appendix 5: Photographs


Photograph 1 and 2: Picture of proposed building site taken from South-East and North-West


Photograph 3 and 4: Typical sward composition – perennial ryegrass