WATERWAY DRAINAGE ENGINEERING

BIODIVERSITY NET GAIN ASSESSMENT

New House Farm
Drigg
Cumberland
CA19 1XD

March 2026
2026-032
Rev B

CONTENTS

APPENDICES

1.0 INTRODUCTION

1.1 PURPOSE OF THIS REPORT

Waterway Drainage Engineering Ltd were requested to undertake a Biodiversity Net Gain (BNG) assessment for the proposed erection of two agricultural sheds and a farmhouse building at New House Farm, Drigg. CA191XD.

The report sets out the policy background for Biodiversity Net Gain, the baseline conditions of the 'Site', the proposed site layout and the results of the net gain calculations.

Each habitat type was mapped using the standard habitat mapping convention using Phase 1 habitat survey (JNCC, 2010) which was subsequently converted into the UK Habitat Classification (Butcher *et al.*, 2020) for the purposes of using the DEFRA metric.

Using the findings of the baseline surveys, pre-construction ecology was measured against the proposed habitat changes arising from future ecological enhancements based on the proposed site plan.

This report presents the results of this desk-based study to assess net change in biodiversity 'units' in connection with the removal of habitat for the proposed development on land at New House Farm, Drigg.

1.2 ECOLOGICAL CONTEXT

The proposed 0.7881 ha development site on land at New House Farm, Drigg is illustrated by the blue boundary within *Figure 1*.

Figure 1: Site Location Plan

1.3 BIODIVERSITY NET GAIN POLICY CONTEXT

1.3.1 Guidance

This guidance has been produced in line with the template for a 'BNG Feasibility Report' in the CIEEM Biodiversity Net Gain Report and Audit Templates (CIEEM, 2021). It utilises the BNG Good Practice Principles for Development (CIRIA, 2019) (including the checklist for Biodiversity Net Gain design) and BS8683, the British Standard for Biodiversity Net Gain (British Standards Institute, 2021), to inform outputs and recommendations.

1.3.2 Legislation

The Environment Act 2021 was granted Royal Assent on the 9 November 2021 and contains provisions which will mandate achieving a 10% BNG for most developments (including Nationally Significant Infrastructure Projects). These provisions came into effect in November 2023 for developments requiring planning permission and in 2025 for Nationally Significant Infrastructure Projects. They will legally require developers to ensure sites are improved for biodiversity, with a 10% increase in habitat value for wildlife compared with the pre-development baseline. All biodiversity enhancements will be required to be maintained for a minimum of 30 years (UK Parliament, 2021).

1.3.3 Planning Policy

In England, biodiversity net gain is required under a statutory framework introduced by Schedule 7A of the Town and Country Planning Act 1990 (inserted by the Environment Act 2021). This statutory framework is referred to as 'biodiversity net gain' in Planning Practice Guidance to distinguish it from other or more general biodiversity gains.

Under the statutory framework for biodiversity net gain, subject to some exceptions, every grant of planning permission is deemed to have been granted subject to the condition that the biodiversity gain objective is met ("the biodiversity gain condition"). This objective is for development to deliver at least a 10% increase in biodiversity value relative to the pre-development biodiversity value of the onsite habitat. This increase can be achieved through onsite biodiversity gains, registered offsite biodiversity gains or statutory biodiversity credits.

The biodiversity gain condition is a pre-commencement condition: once planning permission has been granted, a Biodiversity Gain Plan must be submitted and approved by the planning authority before commencement of the development. There are exemptions and transitional arrangements which disapply the condition from certain planning permissions, as well as special modifications for planning permissions for phased development and the treatment of irreplaceable habitats.

The relevant primary legislation for the statutory framework for biodiversity net gain is principally set out under Schedule 7A (Biodiversity Gain in England) of the Town and Country Planning Act 1990. This legislation was inserted into the 1990 Act by Schedule 14 of the Environment Act 2021, and was amended by the Levelling Up and Regeneration Act 2023. The Biodiversity Gain (Town and Country Planning) (Consequential Amendments) Regulations 2024 made consequential amendments to other parts of the 1990 Act.

2.0 METHODOLOGY

2.1 METHODOLOGY

The pre-development (baseline) and post development (proposed) value of the habitat at the proposed development site at Drigg has been calculated using DEFRA / Natural England's Biodiversity Metric 1.0.4 calculator. The methodology for determining habitat distinctiveness and condition value follows the guidelines set out by the User Guide and Technical Supplement for Biodiversity Metric 1.0.4.

2.2 MITIGATION HIERARCHY

The ecological mitigation hierarchy is central to the BNG process and is the first of the BNG Good Practice Principles. The ecological mitigation hierarchy, as set out in the National Planning Policy Framework (NPPF, 2024), and the National Planning Policy Practice Guidance (NPPG) sets out the order in which the following measures should be implemented, in which avoidance of impacts should always be the priority.

Avoidance – development should be designed to avoid significant harm to valuable wildlife habitats and species.

Mitigation – where significant harm cannot wholly or partially avoided, it should be minimised through the use of effective mitigation measures.

Compensation – where, despite whatever mitigation would be effective, there would still be significant residual harm, as a last resort, compensation should be used to provide an equivalent value of biodiversity.

2.3 DATA SOURCES

The following data sources have been used to define the boundary for the BNG calculation and determine the relevant attributes for BNG (e.g. size, habitat type and condition) for the pre and post development habitats.

2.3.1 Boundary

The boundary used for the BNG assessment is the red line application boundary for the project shown within *Figure 1* of this document.

2.3.2 Baseline Habitats

In order to generate the Site baseline habitat data (e.g. habitat type, condition) the following data was used:

A habitat survey was undertaken of the land within the Site using UK Habs guidance by Biome Consulting on the 4, 5 and 6 June 2024. A fine scale MNU of 25m^2 was selected as the project is small enough for the most detailed mapping to be feasible. The survey followed the UK Habitat Classification Use Manual Version 1.1 (2020) guidance, with the Site systematically walked over, and the dominant habitat type in each area recorded. Dominant plant species were noted, as were any that are legally protected (Schedule 8 of the Wildlife and Countryside Act (WCA) 1981), notable (GB / England Red Listed, Section 41), or invasive species listed in Schedule 9 of the WCA 1981.

2.4 ASSESSMENT STEPS

The following steps were taken to estimate the BNG value:

2.4.1 Calculation of Baseline Habitat Species

The UK Hab types used within the Biodiversity Metric 1.0.4 were used, with reference to guidance in the User Guide and Technical Supplement and the G-1 All Habitat Tab in the 1.0.4 metric which details which metric habitat types corresponds to each UK Hab habitat. In the case of the habitats on the Site, these were simple one to one conversions. The metric includes three broad categories of habitats and biodiversity units for which scores are calculated differently. These are:

- Area habitats (such as grasslands, woodlands and ponds).
- Liner hedgerows and lines of trees.
- Linear rivers and ditches.

Given the very limited nature / footprint of the Site, as defined by the red line boundary, no linear rivers, or watercourses are present. Therefore, these features are not included on either the baseline or the post development proposals. Distinctiveness and condition scores were assigned to habitats based on the results of the UK Habs habitat classification survey and guidance in the Biodiversity Metric 1.0.4 User Guide and Technical Supplement.

2.4.2 Calculation of the Post Development Units

Quantification of post development biodiversity units were undertaken using habitat data derived from surveys in these areas. Precautionary habitat scores were assigned based on the management feasibility. Once the calculation had been completed the outputs were reviewed to understand the losses and gains for each type of habitat and understand whether the development complies with the Biodiversity Metric 1.0.4 trading rules (no trading of habitat value).

Rule 3 of the Biodiversity Metric 1.0.4 relates to the trading down and states that this must be avoided. Replacement of lost habitat should be on a 'like for like' or 'like for better' basis, in terms of distinctiveness, condition and total units. New, or restored, habitats should aim to achieve a higher distinctiveness and / or condition than those lost. This rule intends to prevent the development of BNG plans that compensate for the loss of biodiverse habitats with larger areas of less biodiverse habitats. Rule 4 states that 'losses and deterioration of irreplaceable habitat cannot be accounted for through the metric'. Separate, bespoke consideration is required if there is a loss or deterioration of any irreplaceable habitat. The presence of irreplaceable habitat was determined from the desk study and field survey results.

2.5 LIMITATIONS AND ASSUMPTIONS

Post development condition scores are indicative and are dependent on the appropriate management and maintenance of the post development habitats. In general, the management of created, enhanced and restored habitats is important within the BNG metric because the metric accounts for some of the risks associated with the difficulty in doing this as well as the time it takes the habitat type to establish and reach a target condition. In committing to the BNG process, the landowners are committed to the management and maintenance requirements that will be necessary to ensure the enhanced / created habitats achieve their target condition and beyond, to a minimum of 30 years post-construction.

The identified option for achieving BNG assumes that the habitats enhanced / created / retained will be maintained for a minimum of 30 years post development as required to satisfy the conditions for biodiversity net gain in the best practice guidelines (CIEEM, IEMA & CIRCA, 2019). A BNG Management and Monitoring Plan (MMP) would need to be implemented by the appointed contractor and then adopted by the Site operator to ensure that all BNG is delivered to the required condition. This MMP would need to include the following details:

- Aftercare maintenance and long-term habitat management and monitoring of created and enhanced features.
- How management will be implemented for a minimum period of 30 years.
- What monitoring will be implemented during and after construction.

3.0 BASELINE CONDITIONS

3.1 VALUE OF BASELINE HABITATS

The baseline habitat has been calculated using the Biodiversity Metric 1.0.4, as having a baseline habitat value of 1.15. A map of the pre-development habitats is shown within *Appendix A*. The information is summarised in *Table 1*.

Broad Habitat	Habitat Type	Area (ha)	Distinctiveness	Condition	Habitat Units	Strategic Significance
Grassland	Other Neutral Grassland	0.0032	Medium	Poor	0.01	Low strategic significance
Individual Trees	Rural Tree	0.0244	Medium	Poor	0.10	Low strategic significance
Grassland	Modified Grassland	0.4999	Low	Poor	1.00	Low strategic significance
Urban	Developed Land; Sealed Surface	0.2422	V. Low	N / A – Other	0.00	Low strategic significance
Urban	Vegetated Garden	0.0184	Low	Condition Assessment N/A	0.04	Low strategic significance

Table 1: Summary of the pre-development baseline habitat units

The onsite hedgerow baseline habitat has been calculated using the Biodiversity Metric 1.0.4, as having a baseline habitat value of 0.22. The information is summarised in *Table 2*.

Hedge Number	Habitat Type	Length (km)	Distinctiveness	Condition	Habitat Units	Strategic Significance
21	Species Rich Native Hedgerow	0.039	Medium	Poor	0.16	Low strategic significance
20	Native Hedgerow	0.005	Low	Poor	0.01	Low strategic significance
19	Native Hedgerow	0.019	Low	Poor	0.04	Low strategic significance
18	Native Hedgerow	0.009	Low	Poor	0.02	Low strategic significance

Table 2: Summary of the pre-development baseline hedgerow habitat units

4.0 POST DEVELOPMENT HABITAT

4.1 ON-SITE HABITAT PROPOSALS

The proposed development habitat has been identified within the *Appendix B*. This plan determines that there will be the following land uses on Site:

- Developed Land; Sealed Surface (0.3460 ha)
- Other Neutral Grassland (0.2100 ha)
- Vegetated Garden (0.0309 ha)
- Modified Grassland (0.1612 ha)
- Native Hedgerow (0.0033 km)
- Species Rich Native Hedgerow (0.0650 km)

These figures have been inputted into the Biodiversity Metric 1.0.4 and would comprise an area of 0.7881 ha.

4.2 CHANGE IN BIODIVERSITY VALUE

Under the current proposals set out within the Site Plan, located within *Appendix B*, there will be a gain of Habitat Area Units of 0.13 (11.18 %) and a gain of hedgerow units of 0.28 (124.70 %). This is shown within *Table 3*.

On-site baseline	Area habitat units	1.15	
	Hedgerow units	0.22	
	Watercourse units	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	Area habitat units	1.28	
	Hedgerow units	0.50	
	Watercourse units	0.00	
On-site net change (units & percentage)	Area habitat units	0.13	11.18%
	Hedgerow units	0.28	124.70%
	Watercourse units	0.00	0.00%
Off-site baseline	Area habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site post-intervention (Including habitat retention, creation & enhancement)	Area habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site net change (units & percentage)	Area 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)	Area habitat units	0.13	
	Hedgerow units	0.28	
	Watercourse units	0.00	
Spatial risk multiplier (SRM) deductions	Area 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)	Area habitat units	0.13	
	Hedgerow units	0.28	
	Watercourse units	0.00	
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Area habitat units	11.18%	
	Hedgerow units	124.70%	
	Watercourse units	0.00%	
Trading rules satisfied?	Yes ✓		

Table 3: Summary of the post-development units

5.0 RECOMMENDATIONS AND CONCLUSIONS

5.1 SUMMARY

The post development plan within this report is sufficient to achieve an area based Biodiversity Net Gain, comprising a net area gain of 11.18 % of habitat units and 124.70 % of hedgerow units when compared to the baseline; assuming the habitat creation starts in the year construction commences.

Given the nature of the development it was not possible to avoid all habitat impacts by re-siting the development; however, none of the habitats lost are high distinctiveness, very high distinctiveness or irreplaceable and they will be compensated for in order to provide a gain in the metric.

5.2 CONTINUED OBSERVATIONS

To ensure compliance with the BNG conditions outlined within this report, an ecologist should attend the site periodically throughout 2025 and 2026, both before and during construction works, to collect evidence that BNG conditions are being adhered to and the management strategy is being followed.

During these visits, National Vegetation Classification (NVC) surveys should be carried out by a suitably qualified professional to appropriately update the species list on site, so to best provide the most up to date information and recommendations for the ongoing BNG management.

6.0 REFERENCES

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