



Biodiversity Net Gain Baseline Assessment – Metric 4.0

Back of Wells Street, Bury, BL9 0TU

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Status	Issue	Name	Date
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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 Lorraine Howarth to undertake a Biodiversity Net Gain (BNG) Assessment at Back of Wells Street, Bury, BL9 0TU (hereafter referred to as “the site”). The assessment was required to inform an outline planning application - full details were unavailable at the time of writing this report, however it is thought that the development will comprise the construction of 3no. residential dwellings (hereafter referred to as “the proposed development”).

The baseline habitat value of the site is 0.44 units, comprising solely of 0.44 units of scrub with areas of sealed surface/buildings present.

The baseline hedgerow value of the site is 3.10 units, comprising of 3.07 units line of trees and 0.03 units ornamental/non native hedgerow.

In order to achieve a 10% biodiversity net gain, a minimum area-based unit score of 0.354 will need to be achieved (baseline unit score of 3.54+ 10% of this value).

Recommendations for habitat creation include the installation of native hedgerows and planting of native trees where possible. Should this not be possible an area of land to the north of the developments site could be enhanced in order to further increase the net gain of the site.

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1.0 Introduction and Context

Arbtech Consulting Limited was instructed by Lorraine Howarth to undertake a Biodiversity Net Gain (BNG) Assessment at Back of Wells Street, Bury, BL9 0TU (hereafter referred to as “the site”). The assessment was required to inform an outline planning application - full details were unavailable at the time of writing this report, however it is thought that the development will comprise the construction of 3no. residential dwellings (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 Biodiversity Metric 4.0.
- PEA Report for the site.

1.2 Site Location, Geology and Landscape Context

The site is located at National Grid Reference SD 80031 10074 and has an area of approximately 0.12ha comprising of bramble scrub, scattered trees, and offsite lines of trees. It is located to the south of the centre of Bury and is between Wells Street and an active railway.

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) is still in a transitional phase and is not expected to become mandatory until November 2023. However, the requirement for biodiversity net gain is also enshrined within the National Planning Policy Framework (NPPF, 2021).

The DEFRA Biodiversity Metric 4.0 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 Biodiversity Metric 4.0 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 preliminary Ecological assessment (Arbtech 2023). 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, 2018).

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 Biodiversity Metric 4.0. Class sizes for urban trees are set out in Table 8-1 of the Biodiversity Metric 4.0 User Guide (Natural England, 2023).

Habitat Condition

Habitat condition was assessed using the relevant condition assessment sheets found in the Biodiversity Metric 4.0 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

2.3 Limitations

The PEA survey was conducted in the sub-optimal season for ground flora identification however, given the habitats present within the site, this is not anticipated to have affected the assessment of the site

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

Habitat	Area / Length	Description	Condition Assessment	Strategic Significance
Bramble scrub (h3d)	0.101ha	A large portion of the site was historically managed as allotments, and have been unmanaged for the last 3 years, according to the client. Species include bramble, willow herb, dock, nettles, goat willow, meadow grass, hogweed, goosegrass and creeping buttercup. Sward length / height is between 1.5m and 10mm.	N/A – automatically generated	Medium - Location ecologically desirable but not in local strategy
Hedge (h2b-77)	0.032km	An onsite, unmanaged boundary hedge comprised solely of Lawson cypress. A break in the hedge approximately 1-2m long is observed on the north western boundary. This hedge is located adjacent to a chain link fence, which is in fair condition, although has gaps underneath the fence.	N/A – automatically generated	Medium - Location ecologically desirable but not in local strategy
Line of trees (w1g6)	0.698km	Located on the southern end of the site is a large linear group of trees. Species include ash, willow and laurel, according to the aerial image, and from what was visible onsite, a large group of offsite trees appear to be located along the western boundary.	Condition assessment 16A to be used. Habitat passes 4 out of 5 criteria. Only failed criteria C - One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and	Medium - Location ecologically desirable but not in local strategy

			attached deadwood, cavities, ivy or loose bark.	
Building (u1b5)	0.003ha	Located within the site is a double garage constructed from wood.	N/A – automatically generated	Low - Area not in local strategy/ no local strategy

Areas of Habitat

The baseline habitat value of the site is 0.44 units, comprising solely of 0.44 units of scrub with areas of sealed surface/buildings present.

Hedgerows

The baseline hedgerow value of the site is 3.10 units, comprising of 3.07 units line of trees and 0.03 units ornamental/non native hedgerow.

4.0 Recommendations to Deliver BNG

4.1 Discussion

In order to achieve a 10% biodiversity net gain, a minimum area-based unit score of 0.354 will need to be achieved (baseline unit score of 3.54+ 10% of this value).

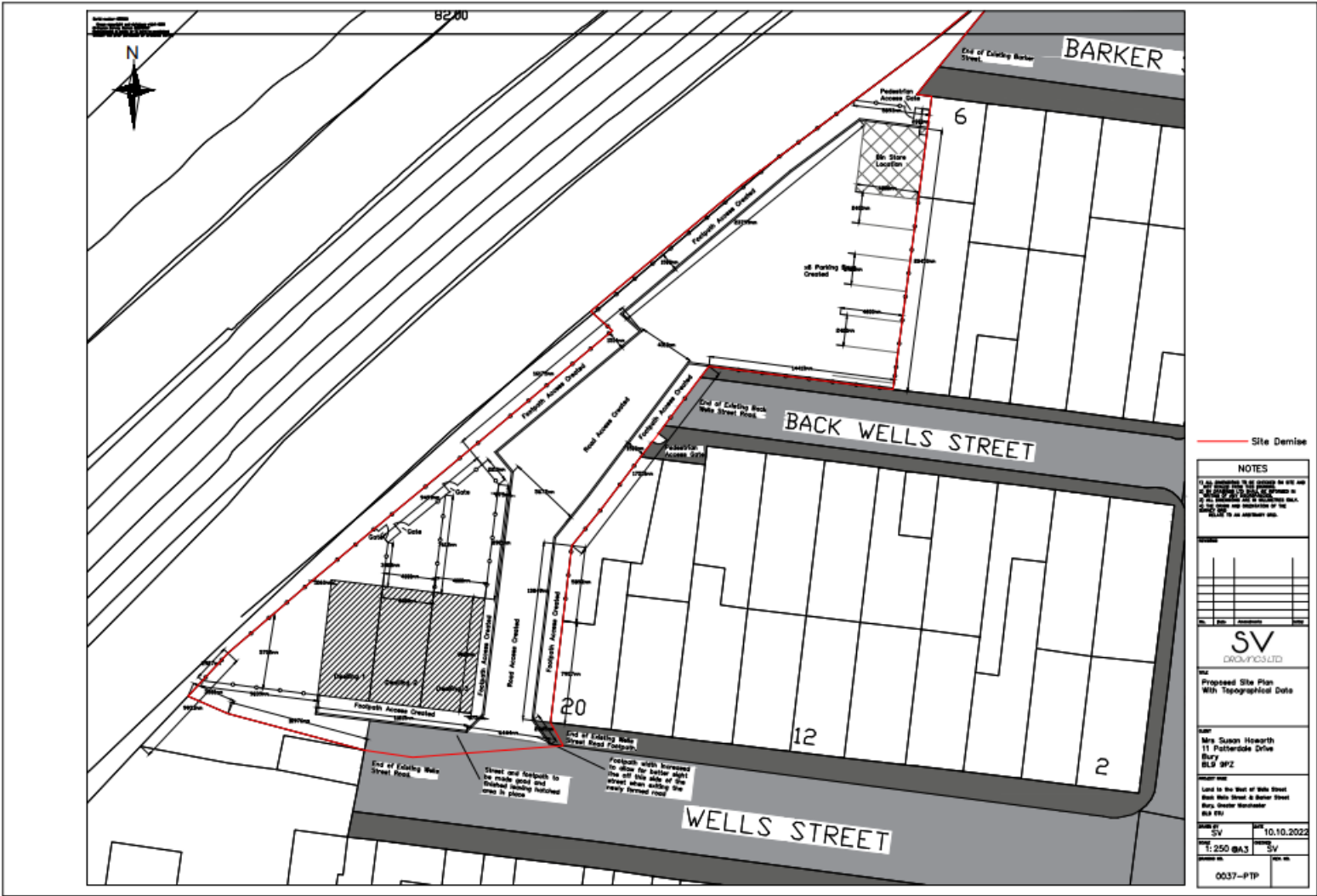
Recommendations for habitat creation include the installation of native hedgerows and planting of native trees where possible. Should this not be possible an area of land to the north of the developments site could be enhanced in order to further increase the net gain of the site.

Should net gain not be achieved through onsite enhancement and the enhancement of the adjacent area, then a financial contribution to off-site ecological enhancements within an approved scheme will be required to make up the 10% net gain

5.0 Bibliography

- Arbtech Consulting Ltd (2023). Preliminary Ecological Assessment
- 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.
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- Natural England (2023). The Biodiversity Metric 4.0 User Guide (JP039).
- Natural England (2023). The Biodiversity Metric 4.0 Technical Annex 1 - Condition Assessment Sheets and Methodology (JP039).
- Natural England (2023). The Biodiversity Metric 4.0 Technical Annex 2 – Technical Information (JP039).
- UK Habitat Classification Working Group (2018). UK Habitat Classification – Habitat Definitions V1.0.

Appendix 1: Outline Development Plan



Appendix 2: Site Location Plan



Appendix 3: Baseline Habitat Plan



Appendix 4: Habitat Condition Assessment Sheets - Baseline

Condition Sheet: LINE OF TREES Habitat Type			
Habitat Type(s)			
Line of trees Line of trees – associated with bank or ditch Ecologically valuable line of trees Ecologically valuable line of trees – associated with bank or ditch			
Habitat Description			
See the Biodiversity Metric 4.0 User Guide Section 9. This assessment is based on the Hedgerow Survey Handbook¹. For further clarifications please refer to the Handbook. Where ancient and veteran trees are present within the line of trees, see Footnote 2 for standing advice.			
Site name and location		On-site or off-site	
Limitations (if applicable)		Survey reference (if relating to a wider survey)	
Grid reference		Habitat parcel reference	
Condition Assessment Criteria		Criterion passed (Yes or No)	Notes (such as justification)
A	At least 70% of trees are native species.	yes	
B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	yes	

C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	no	
D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice ² .	yes	
E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	yes	
Number of criteria passed			4
Condition Assessment Result (out of 5 criteria)	Condition Assessment Score	Score Achieved ×/✓	
Passes 5 criteria	Good (3)		
Passes 3 or 4 criteria	Moderate (2)	moderate	
Passes 2 or fewer criteria	Poor (1)		

Appendix 5: Headline BNG Results

The Defra Biodiversity Metric 4.0 is provided as a separate excel spreadsheet.

Back of Wells Street, Bury, BL9 0TU

Headline Results

Scroll down for final results ▲

Return to results menu

Errors flagged below - please investigate further ▲

On-site baseline	Habitat units	0.44	
	Hedgerow units	3.10	
	Watercourse units	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
On-site net change (units & percentage)	Habitat units	-0.44	-100.00%
	Hedgerow units	-3.10	-100.00%
	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	-0.44	
	Hedgerow units	-3.10	
	Watercourse units	0.00	
Spatial risk multiplier (SRM) deductions	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	

On-site net gain is less than target set ▲

On-site net gain is less than target set ▲