



Biodiversity Net Gain Assessment

UYS building, Garsington Road Cowley Oxfordshire OX4 2BW

Charterhouse House Property Group (Oxford) Ltd

Status	Issue	Name	Date
Final	1	Leah Cook, Consultant Ecologist	06/03/2024

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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 Charterhouse House Property Group (Oxford) Ltd to undertake a Biodiversity Net Gain (BNG) Assessment at UYS building, Garsington Road Cowley Oxfordshire OX4 2BW (hereafter referred to as “the site”). The survey was required to inform a planning application for the demolition of the existing buildings (hereafter referred to as “the proposed development”). A plan showing the proposed development is provided in Appendix 1.

The current proposed plan results in a 15.93% net gain in habitat units. This is more than the 10% target of biodiversity net gain.

A Biodiversity Net Gain (BNG) Management Plan must be produced for the site. This should include recommendations for the implementation, management and monitoring of the site for at least 30 years to ensure that biodiversity net gain is delivered.

Contents

1.0 Introduction and Context 7

 1.1 Background 7

 1.2 Site Location, Geology and Landscape Context 7

 1.3 BNG Informative 7

2.0 Methodology 9

 2.1 Baseline Biodiversity Value 9

 2.2 Post Development Biodiversity Value 9

 2.3 Limitations 10

3.0 Results 11

 3.1 Baseline Habitats 11

 3.2 Post Development Habitats 11

 3.3 Change in Biodiversity Value of the Site 13

4.0 Recommendations to Deliver BNG 14

 4.1 Discussion 14

 4.2 LandscapingError! Bookmark not defined.

 4.3 Biodiversity OffsettingError! Bookmark not defined.

 4.4 Post DevelopmentError! Bookmark not defined.

5.0 Bibliography 15

 Appendix 1: Proposed Development Plan 16

 Appendix 2: Site Location Plan 17

 Appendix 3: Baseline Habitat Plan 18

Appendix 4: Post Development Habitat Plan 19

Appendix 5a: Habitat Condition Assessment Sheets - BaselineError! Bookmark not defined.

Appendix 5b: Habitat Condition Assessment Sheets - ProposedError! Bookmark not defined.

Appendix 6: Headline BNG Results..... 20

1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Charterhouse House Property Group (Oxford) Ltd to undertake a Biodiversity Net Gain (BNG) Assessment at UYS building, Garsington Road Cowley Oxfordshire OX4 2BW (hereafter referred to as “the site”). The survey was required to inform a planning application for the demolition of the existing buildings (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.
- Ecological Impact Assessment (EclA)(Arbtech 2024).

1.2 Site Location, Geology and Landscape Context

The site is located to the west of Oxford and is located within 2km of priority habitats (ordered by closest) including Deciduous woodland (bordering the site to the north and south), Traditional orchard (900m southwest), Lowland meadows (1.1km northwest), Lowland dry acid grassland (1.4km north), and Lowland heathland (1.9km northwest). There are no priority habitats within the site boundary. Soil type on the site is slowly permeable, seasonally wet, slightly acidic but base rich loamy and clayey.

The site is located at National Grid Reference SP 56830 04297 and has an area of approximately 2.5ha comprising one commercial warehouse, a temporary building, hardstanding, woodland, grassland, ornamental shrubs and scattered trees. It is surrounded by agricultural land and scattered trees with an industrial park directly to the west and Horspath village to the north. The wider landscape comprises of Oxford to the west, an area of woodland to the north and Wheatley village and the M40 to the east. 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 January 2024. However, the requirement for biodiversity net gain is also enshrined within the National Planning Policy Framework (NPPF, 2021). Furthermore, BNG is a requirement of the Local Plan.

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 Statutory 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 the Ecological Impact Assessment for UYS building, Garsington Road Cowley Oxfordshire OX4 2BW (EcIA, Arbtech 2024). A baseline habitat plan is provided in Appendix 3.

Habitat Classification

The EcIA (Arbtech 2024) 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 8-1 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 (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 Oxford Local Plan 2016-2036.

2.2 Post Development Biodiversity Value

The post development BNG Calculation was informed by The Proposed Site Plan DRAFT (Cryer&Coe architects, 2024) 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 The Proposed Site Plan DRAFT (Cryer&Coe architects, 2024).

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 8-1 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). This is based on the assumption that a 30-year management plan will be adopted for the site.

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 Oxford Local Plan 2016-2036.

2.3 Limitations

It was not considered that there were any significant limitations to the completion of this 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 / Length	Description	Condition Assessment	Strategic Significance
Developed land; sealed surface	2.163 ha	There are two vacant commercial buildings onsite consisting of the main warehouse at the centre of the site and a temporary structure to the north of the site. The site is dominated by hard standing which includes tarmac road surrounding the buildings in addition to a tarmac carpark to the north of the site.	N/A - Other	Area/compensation not in local strategy/ no local strategy
Introduced shrub	0.131 ha	There are patches of ornamental shrubs around the car park and to the east of the site.	Condition Assessment N/A	Area/compensation not in local strategy/ no local strategy
Lowland mixed deciduous woodland	0.279 ha	To the east of the site is a parcel of woodland with species including Oak (<i>Quercus robur</i>), Hawthorn (<i>Crataegus monogyna</i>), Field Maple (<i>Acer campestre</i>), Ash (<i>Fraxinus excelsior</i>), and Hazel (<i>Corylus avellana</i>). The canopy is dense with no understory, scrub or field layers. All trees are mature/semi-mature and there are no ancient or veteran trees. Trees are in good health with no dead wood.	Poor – Due to scoring as follows: (A=2) + (B=1) + (C=3) + (D=3) + (E=3) + (F=3) + (G=2) + (H=3) + (I=1) + (J=1) + (K=1) + (L=1) + (M=1) = 25	Location ecologically desirable but not in local strategy
Other neutral grassland	0.053 ha	A small strip of grassland is present to the south of the site with species including Timothy (<i>Phleum pratense</i>), False Oat Grass (<i>Arrhenatherum elatius</i>), Creeping Thistle (<i>Cirsium arvense</i>), Dandelion (<i>Taraxacum officinale</i>), Daisy (<i>Bellis perennis</i>), Ragwort (<i>Jacobaea vulgaris</i>), Ground Ivy (<i>Glechoma hederacea</i>), Ivy-Leaved Speedwell (<i>Veronica hederifolia</i>), Perennial Rye Grass (<i>Lolium perenne</i>), Lesser Celandine (<i>Ficaria verna</i>), Yarrow (<i>Achillea millefolium</i>), Cut Leaved Cranesbill (<i>Geranium dissectum</i>), Bramble (<i>Rubus fruticosus</i>), and Mosses. The grassland has been left unmanaged and scrub has begun to dominate.	Poor – Due to passing only criteria A & B.	Area/compensation not in local strategy/ no local strategy
Rural tree	0.159 ha	There are patches of ornamental shrubs around the car park and to the east of the site. Within the ornamental shrubs are also a number of semi mature trees with species including Ash (<i>Fraxinus excelsior</i>) and Alder (<i>Alnus glutinosa</i>).	Good – Due to passing all criteria.	Location ecologically desirable but 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.

Table 2: Post Development Biodiversity Value

Habitat	Area / Length	Description	Target Condition	Strategic Significance
Developed land; sealed surface	2.163 ha	The building will be demolished but the concrete base will be retained in addition to all other areas of hard standing being retained.	N/A - Other	Area/compensation not in local strategy/ no local strategy
Mixed scrub	0.121 ha	Areas of mixed scrub will be planted in place of the ornamental shrubs within the parking area and around the trees.	Moderate	Area/compensation not in local strategy/ no local strategy
Lowland mixed deciduous woodland	0.279 ha	The woodland will be enhanced through thinning to encourage new growth and the development of a field and scrub layer.	Moderate	Location ecologically desirable but not in local strategy
Other neutral grassland	0.053 ha	The grassland to the rear of the site will be retained in its current condition.	Moderate – Can be achieved by thinning the woodland to encourage both a field and shrub layer which would increase criteria J to 3 points and give the woodland an overall score of 27. Thinning the woodland would also encourage new growth and leaving standing dead wood would increase points further.	Area/compensation not in local strategy/ no local strategy
Rural tree	0.122 ha (retained) 0.057 ha (planted)	All trees not within the woodland will be retained on site.	Good (retained) Moderate - Can be achieved by passing 3 or 4 of the following criteria: <ul style="list-style-type: none"> - Tree (or >70% of group) is a native species. - Tree canopy is continuous (individual trees automatically pass). - Tree (or >50% of group) is mature. - There is little or no evidence of impact on tree/s by human activities and no regular pruning. - Natural ecological niches for invertebrates are present (deadwood, cavities, loose bark, etc) - >20% tree canopy is over sailing vegetation beneath. 	Location ecologically desirable but not in local strategy

3.3 Change in Biodiversity Value of the Site

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

Areas of Habitat

The baseline habitat value of the site is 4.41 units, comprising 0.21 units of other neutral grassland, 0.26 units of introduced shrubs, 1.84 units of lowland mixed deciduous woodland and 2.10 units of rural trees.

The post development habitat value of the site is 5.11 units, comprising 2.14 units of enhanced woodland, 0.36 units of enhanced grassland, 0.81 units of planted mixed scrub, 1.61 units of retained trees and 0.19 units of planted trees.

This results in a net change in biodiversity of 15.93% (i.e. a net gain).

4.0 Recommendations to Deliver BNG

4.1 Discussion

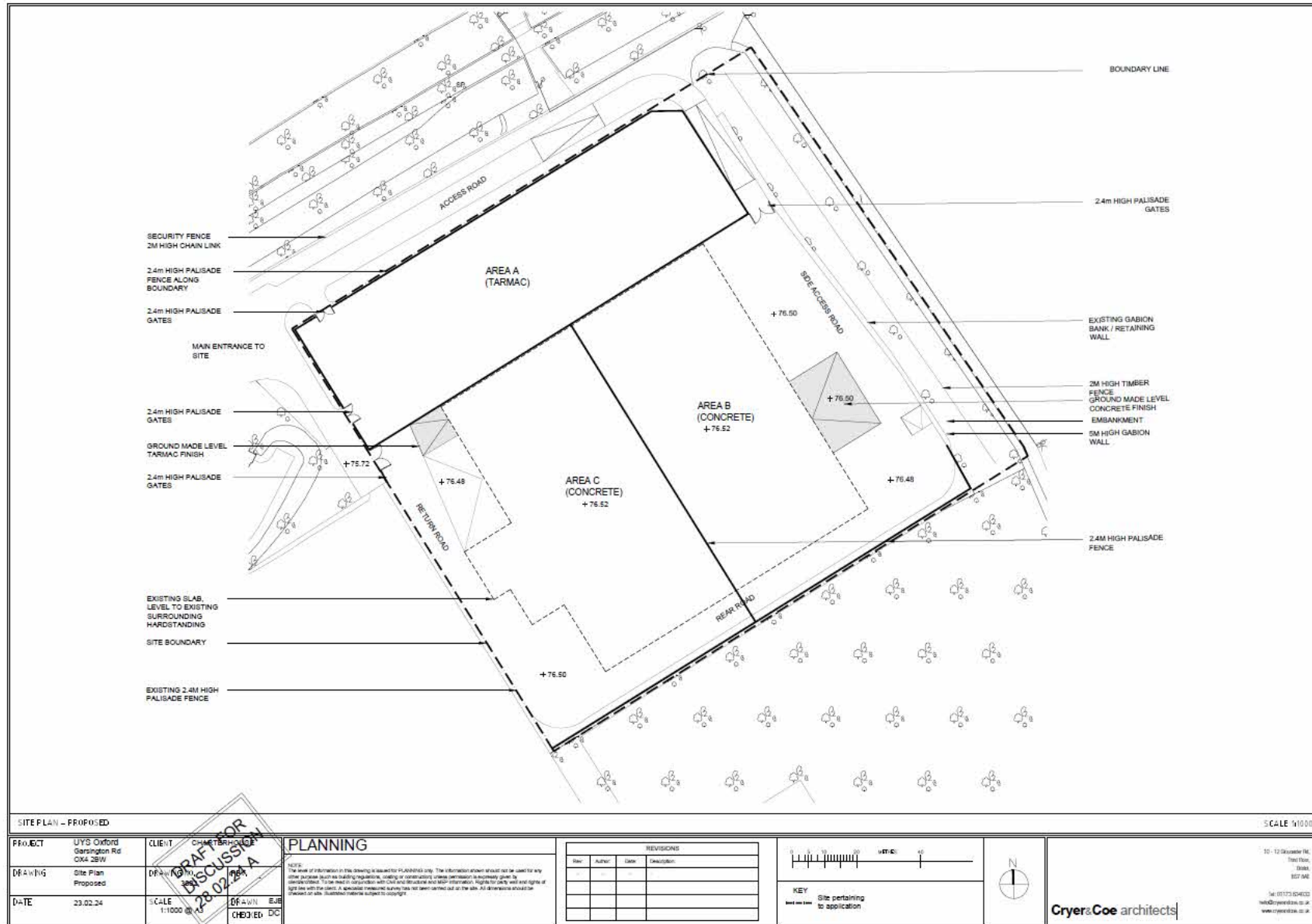
The current proposed plan results in a 15.93% net gain in habitat units. This is more than the 10% target of biodiversity net gain.

A Biodiversity Net Gain (BNG) Management Plan must be produced for the site. This should include recommendations for the implementation, management and monitoring of the site for at least 30 years to ensure that biodiversity net gain is delivered.

5.0 Bibliography

- 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.
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http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf
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- 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 5: Headline BNG Results

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

FINAL RESULTS					
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	0.70			
	<i>Hedgerow units</i>	0.00			
	<i>Watercourse units</i>	0.00			
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	15.93%			
	<i>Hedgerow units</i>	0.00%			
	<i>Watercourse units</i>	0.00%			
Trading rules satisfied?	Yes ✓				
Unit Type	Target	Baseline Units	Units Required	Unit Deficit	
<i>Habitat units</i>	10.00%	4.41	4.85	0.00	No additional area habitat units required to meet target ✓
<i>Hedgerow units</i>	10.00%	0.00	0.00	0.00	No additional hedgerow units required to meet target ✓
<i>Watercourse units</i>	10.00%	0.00	0.00	0.00	No additional watercourse units required to meet target ✓