Biodiversity Net Gain Assessment

Westwood Nursing Home, 8 Polygon Road, Manchester, M8 5DD

T & A Textiles & Hosiery Ltd

Status	Issue	Name	Date
Draft	1	Arthur Mytum BA (Hons), MSc, BERS Intern	26/06/2024
Reviewed	1.1	Elen Griffin BSc, MRSB, Consultant Ecologist	05/06/2024
Final	2	Elen Griffin BSc, MRSB, Consultant Ecologist	05/06/2024
Landscaping amended	2.1	Elen Griffin BSc, MRSB, Consultant Ecologist	11/09/2024

Arbtech Consultant's Contact Details:

Name: Elen Griffin
Job Title: Consultant Ecologist
Tel: N/A Email: elengriffin@arbtech.co.uk
https://arbtech.co.uk

Limitations and Copyright

Arbtech Consulting Limited has prepared this report for the sole use of the above-named client or their agents in accordance with our General Terms and Conditions, under which our services are performed. It is expressly stated that no other warranty, expressed or implied, is made as to the professional advice included in this report or any other services provided by us. This report may not be relied upon by any other party without the prior and express written agreement of Arbtech Consulting Limited. The conclusions and recommendations contained in this report are based upon information provided by third parties. Information obtained from third parties has not been independently verified by Arbtech Consulting Limited.

© This report is the copyright of Arbtech Consulting Limited. Any unauthorised reproduction or usage by any person other than the addressee is strictly prohibited.

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 T & A Textiles & Hosiery to undertake a Biodiversity Net Gain (BNG) Assessment at Westwood Nursing Home, 8 Polygon Road, Manchester, M8 5DD (hereafter referred to as "the site"). The assessment was required to inform a planning application for the partial demolition of the existing building and the conversion of the remaining building into residential use, in addition to the construction of a new building and associated parking and bin storage (hereafter referred to as "the proposed development").

The baseline habitat value of the site is 0.32 units, comprising 0.29 units of other neutral grassland, 0.03 units of bramble scrub, buildings and hardstanding (no value).

The post development habitat value of the site is 0.46 units, comprising poor and moderate condition other neutral grassland in (0.21 units), mixed scrub (0.09 units), introduced shrub (0.01 units), modified grassland (0.02 units) individual tree (0.01 units) and the creation of buildings and hardstanding (no value),

The baseline hedgerow value of the site is 0.32 units, comprising 0.32 units line of trees.

The post development habitat value of the site is 0.76 units, comprising the retention of the existing line of trees (0.32 units) and the creation of native hedgerow (0.40 units).

The current proposed plan results in a **44.00% net gain** in habitat units and a **112.30% net gain** in hedgerow units. This is more than the 10% target of biodiversity net gain and therefore meets the trading rules and legislation.

Contents

1.0 Introduction and Context 6
1.1 Background 6
1.2 Site Location, Geology and Landscape Context 6
1.3 BNG Informative 6
2.0 Methodology 8
2.1 Baseline Biodiversity Value 8
2.2 Post Development Biodiversity Value 8
2.3 Limitations 9
3.0 Results 10
3.1 Baseline Habitats 10
3.2 Post Development Habitats 11
3.3 Change in Biodiversity Value of the Site 12
4.0 Recommendations to Deliver BNG 13
4.1 Discussion 13
4.2 Post Development 13
5.0 Bibliography 14
Appendix 1: Proposed Development Plan 15
Appendix 2: Site Location Plan 16
Appendix 4a: Post Development Habitat Plan 18
Appendix 5a: Habitat Condition Assessment Sheets – Baseline 19
Appendix 6: Headline BNG Results 22

1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by T & A Textiles & Hosiery to undertake a Biodiversity Net Gain (BNG) Assessment at Westwood Nursing Home, 8 Polygon Road, Manchester, M8 5DD (hereafter referred to as "the site"). The assessment was required to inform a planning application for the partial demolition of the existing building and the conversion of the remaining building into residential use, in addition to the construction of a new building and associated parking and bin storage (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.
- Preliminary Ecological Appraisal (PEA) Report (Arbtech Ltd) for the site.
- Site Report, Appraisals and Plans (Christians Environmental) for the site.

1.2 Site Location, Geology and Landscape Context

The site is located at National Grid Reference SD 83762 02386 and has an area of approximately 0.2ha comprising grassland, shrub and lines of trees. The soil is seasonally wet acid loamy and clayey soil. It is surrounded by urban landscape with associated roads and pockets of amenity parkland. The site is ~4.3km north of Manchester City centre, Kind David High School ~145m to the south and Crumpsall train station ~360m east. There are four notable habitats within 2km including several areas of deciduous woodland, the closest being ~ 370m southeast. 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) states biodiversity net gain is mandatory for sites over 0.5ha as of February 2024. The requirement for biodiversity net gain is also enshrined within the National Planning Policy Framework (NPPF, 2021). 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 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 Site Report, Appraisals and Plans (Christians Environmental, 2024) and the PEA (Arbtech, 2024). A baseline habitat plan is provided in Appendix 3.

Habitat Classification

The PEA 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 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
- Any site or habitat allocations under the Greater Manchester Biodiversity Action Plan

2.2 Post Development Biodiversity Value

The post development BNG Calculation was informed by the Detailed Landscape Plan (Squareyard, 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 Detailed Landscape Plan (Squareyard, 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 Greater Manchester Biodiversity Action Plan

2.3 Limitations

None.

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 baseline habitat map is provided in Appendix 3. A full condition assessment for each habitat (where relevant) is provided in Appendix 5a.

Table 1: Baseline Biodiversity Value

Type	Habitat	Area (ha) / Length (km)	Description	Condition Assessment	Strategic Significance
Area based habitat	Buildings – u1b5	0.05148	There is large one building in the southeast half of the site that was previously a care home but is now abandoned.	**N/A - Other**	**Low** – Area/compensation is not in local strategy
	Developed land, sealed surface with ruderal vegetation – u1b, 81	0.04669	There is a large area of tarmac occupying the southwest half of the site that has become colonised by ruderal vegetation during the years of abandonment.	**N/A - Other**	**Low** – Area/compensation is not in local strategy
	Other neutral grassland with introduced shrubs – g3c, 847	0.06367	There is a large area of unmanaged grassland occupying the north of the site. Along the northern boundary are planted ornamental shrubs.	**Poor** Condition assessment sheet is included in Appendix 5a	**High –** Formally identified in local plan
	Bramble Scrub – h3d	0.00569	There is a section of bramble scrub to the east of B1 that has encroached onto previous hardstanding ground.	**Condition Assessment – N/A**	**Medium** – Ecologically desirable but not in local plan
Linear based	Line of Trees - 33	0.08791	There is a line of trees along the northern and western boundaries.	**Moderate** Condition Assessment sheet is included in Appendix 5a	**Medium** – Ecologically desirable but not in local plan

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. An assessment of the anticipated condition for each habitat (where relevant) is provided in Appendix 5b, which is based on the assumption that a 30-year management plan will be implemented for the site. The proposed development will result in a gain of 36.27%. area-based habitat units and a gain of 101.82% hedgerow units.

Table 2: Post Development Biodiversity Value

Type	Habitat	Area (ha) / Length (km)	Description	Target Condition	Strategic Significance
ModArea based habitat	Developed land, sealed surface (including buildings) – u1b & u1b5	0.0901	Newly constructed hardstanding including pedestrian pavements, car parking and new buildings.	**N/A - Other**	**Low** – Area/compensation is not in local strategy.
	Other neutral grassland – g3c	0.009	Small areas of grassland around the existing lines of trees are to be retained on site	**Poor** This is a retained habitat and therefore still covered by the condition assessment contained in Appendix 5a	**High –** Formally identified in local plan
	Other neutral grassland – g3c	0.038	The area of grassland to the north of the site and the area surrounding are to be enhanced by spreading a neutral soil seed mix containing species such as Lady's Bedstraw, Sainfoin, Yarrow, Fescue grasses.	**Moderate** A seed mix will be used to enhance the current grassland. Once these seed germinate this will provide a good example of other neutral grassland. Assessment sheet results included in Appendix 5b	**High –** Formally identified in local plan
	Mixed scrub – h2b	0.021	A strip of grassland along the northern border of the site shall be converted to mixed scrub. A variety of species should be planted such as Yew, Hawthorn, Blackthorn and Hazel.	**Poor** An even mix of woody species will be planted and maintained to good condition. Assessment sheet results included in Appendix 5b	**Medium** – Ecologically desirable but not in local plan
	Modified grassland – g4	0.005	A new grassland area is to be planed along the southern site boudanry with the same mix as used to enhance the existing grassland.	**Good –** likely to pass 5 criteria due to seed mix use and likely management	**Low** – Area/compensation is not in local strategy.
	Introduced shrub -	0.003	Amenity shrubs adjacent to the new bin storage and both dwelling will be created.	**Condition Assessment N/A**	**Low** – Area/compensation is not in local strategy.

	Individual Tree - 32	0.0041	A new tree will be planted in the enhanced grassland surrounding the bin storage.	**Moderate** Assessment sheet results included in Appendix 5b	**Medium** – Ecologically desirable but not in local plan
Linear based	Line of Trees - 33	0.08102	The line of trees along the northern and western border will be retained.	**Moderate** This is a retained habitat and therefore still covered by the condition assessment contained in Appendix 5a	**Medium** – Ecologically desirable but not in local plan
	Native hedgerow -	0.104	Along the bottom half of the eastern border, between the grassland and newly planted scrub and around the bin storage will be newly planted lines of native hedgerow.	**Moderate** These hedges will be a mixture of native hedgerow species including hawthorn, dogwood and hazel and will be maintained to a moderate condition, including a height of 1.5m. Assessment sheet results included in Appendix 5b	**Medium** – Ecologically desirable but not in local plan

3.3 Change in Biodiversity Value of the Site

Full details are provided in the Defra Statutory Biodiversity Metric. The headline results are presented in Appendix 6.

Areas of Habitat

The baseline habitat value of the site is 0.32 units, comprising 0.29 units of other neutral grassland, 0.03 units of bramble scrub, buildings and hardstanding (no value).

The post development habitat value of the site is 0.46 units, comprising poor and moderate condition other neutral grassland in (0.21 units), mixed scrub (0.09 units), introduced shrub (0.01 units), modified grassland (0.02 units) individual tree (0.01 units) and the creation of buildings and hardstanding (no value),

This results in a net change in biodiversity of 44.00% (i.e. a net gain).

Hedgerows

The baseline hedgerow value of the site is 0.32 units, comprising 0.32 units line of trees.

The post development habitat value of the site is 0.76 units, comprising the retention of the existing line of trees (0.32 units) and the creation of native hedgerow (0.40 units).

This results in a net change in biodiversity of 112.30% (i.e. a net gain).

4.0 Recommendations to Deliver BNG

4.1 Discussion

The current proposed plan results in a 44.00% net gain in habitat units and a 112.30% gain in hedgerow units. This is more than the 10% target of biodiversity net gain and therefore meets the trading rules and legislation.

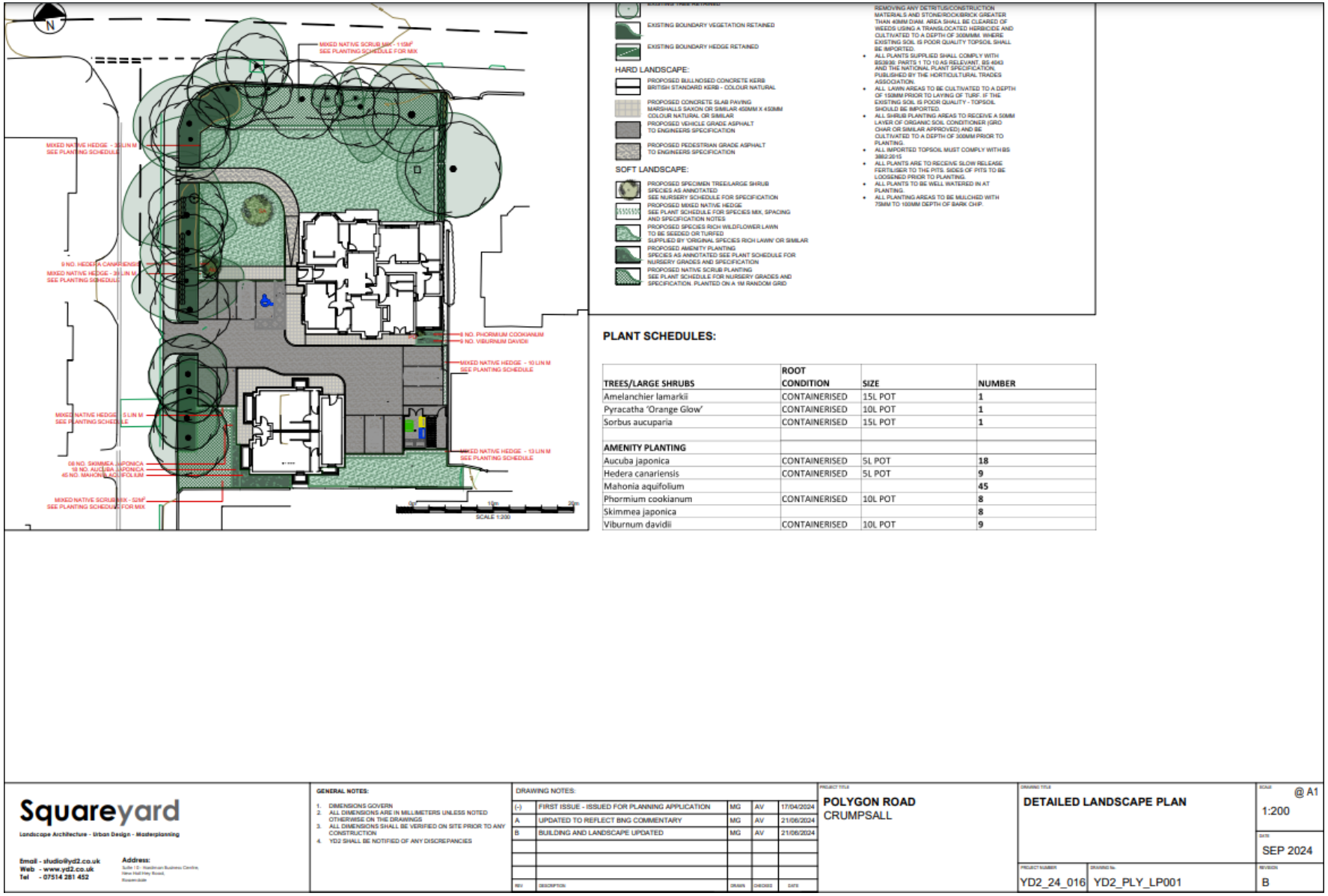
4.2 Post Development

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.

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.
- Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey a technique for environmental audit. http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf
- Natural England (2023). The Statutory Biodiversity Metric (JP039).
- Natural England (2023). The Statutory Biodiversity Metric User Guide (JP039).
- 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 Map



Appendix 4a: Post Development Habitat Plan



Appendix 5a: Habitat Condition Assessment Sheets – Baseline

Broad Habitat	Habitat Type	Criteria		Results
Grassland	Other neutral grassland	**A**	**NO**	**Poor** Failed criteria A and F. Poor species diversity and presence of sub-optimal species
		B	**YES**	
		C	**YES**	
		D	**NO**	
		E	**YES**	
		F	**NO**	
Woodland	Line of trees	**A**	**YES**	**Moderate** Passed 3 criteria
		B	**NO**	
		C	**YES**	
		D	**NO**	
		E	**YES**	

Appendix 5b: Proposed Condition Assessment Sheets

Broad Habitat	Habitat Type	Criteria		Results
Hedgerow	Native hedgerow	**A1**	**YES**	**Moderate** No more than 4 fails in total and doesn't fail both criteria in any of the function groups.
		A2	**NO**	
		B1	**YES**	
		B2	**YES**	
		C1	**YES**	
		C2	**NO**	
		D1	**YES**	
		D2	**NO**	
Grassland	Other neutral grassland	**A**	**YES**	**Moderate** Criteria F failed, species diversity less than 10 species per m2. Multiple mixes sown over several years needed for this level to establish.
		B	**YES**	
		C	**YES**	
		D	**YES**	
		E	**YES**	
		F	**NO**	
Heathland and Shrub	Mixed scrub	**A**	**YES**	**Poor** Passed 2 criteria. Good species composition but a hard edge and no glades or openings.
		B	**NO**	
		C	**YES**	
		D	**NO**	
		E	**NO**	
Individual Tree	Urban tree	**A**	**YES**	**Moderate** Passed 4 criteria
		B	**YES**	
		C	**NO**	
		D	**YES**	
		E	**NO**	
		F	**YES**	
Grassland	Modified grassland	**A**	**YES**	**Good** Likely to pass 5 criteria
		B	**NO**	
		C	**YES**	
		D	**YES**	

		E	YES	
		F	YES	

Appendix 6: Headline BNG Results

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

Westwood Nursing Home, 8 Polygon Road, M			
Headline Results			
Scroll down for final results ⚠			
On-site baseline	*Habitat units*	0.32	
	Hedgerow units	0.36	
	Watercourse units	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.46	
	Hedgerow units	0.76	
	Watercourse units	0.00	
On-site net change (units & percentage)	*Habitat units*	0.14	44.00%
	Hedgerow units	0.40	112.30%
	Watercourse units	0.00	0.00%

Return to results menu