

Biodiversity Net Gain Assessment and Planting Plan

‘Penhaven’, Haverigg

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Report 0125/4

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EXECUTIVE SUMMARY

The local planning authority have requested a Biodiversity Net Gain (BNG) assessment for the proposed demolition and re-building of 'Penhaven', Haverigg. BNG requires a 10% gain in wildlife habitats post construction.

This report describes the existing habitats on site (using UK Habitats classification criteria) and provides an assessment of their condition, as well as any habitat losses as a direct consequence of the proposed development. The habitat value of the site was calculated using DEFRA's Statutory Small Sites Metric.

Enhancement measures are described in the report, and implementation (planting plans), management, and monitoring plans are included.

A desktop search for statutory protected sites and priority habitats was undertaken. There are no such sites within the red line boundary. There are no statutory sites within 500m of the property, but there are 2 priority habitats within 500m – neither of which are likely to be impacted by the proposals.

All habitats on site are classed as urban – either 'developed land with sealed surface' (i.e. patio, buildings, paths and drive), or garden. All of these areas will be damaged/ removed as part of the development.

The proposals for the new dwelling include a significantly larger back garden, as well as similarly sized front garden. This increase in size will result in an overall uplift of over 32% in biodiversity units. All trading rules required in the metric calculation have been followed.

As urban gardens do not have any ecological condition assessment requirement, there is no need for specific planting, management or monitoring plans. Suggestions have been included in section 5, detailing simple things that can be done to enhance the wildlife value of a garden.

As the new garden is part of the BNG calculation, it needs to be maintained as a garden for a minimum of 30 years.

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1. INTRODUCTION

1.1 The aim of the report

The aim of the report is to make an assessment of the baseline ecological conditions present at 'Penhaven', Haverigg and to compare these conditions with the likely ecological status of the site after the development, both with and without enhancement measures. Ecological enhancement measures will be designed to ensure that the completed project results in a measurable gain to local habitats. Implementation, management and monitoring plans will be included for the lifetime of the project (30 years), including a planting plan.

This report follows technical guidelines provided by CIEEM (Chartered Institute of Ecology and Environmental Management) and the habitat was mapped following UK Habitat Classification guidance (see Appendices for full references).

1.2 Biodiversity Net Gain

Following the Environment Bill 2021, a demonstrable net gain in biodiversity is required for most new developments (with some specific exceptions). This is mandatory for most projects from 12th February 2024, and for small sites from 2nd April 2024. As part of the assessment the current biodiversity value of the landholding is calculated, and compared with the likely biodiversity value of the land after the development after taking account of enhancement measures prescribed by the ecologist. The aim is for a minimum of a 10% gain in biodiversity value of the land after completion of the development.

The standard means of calculating Biodiversity Net Gain (BNG) is using the Statutory DEFRA Matrix. As the area affected by this project is less than 1ha, the small sites calculation tool has been used. The full details and calculations are included in the appendices.

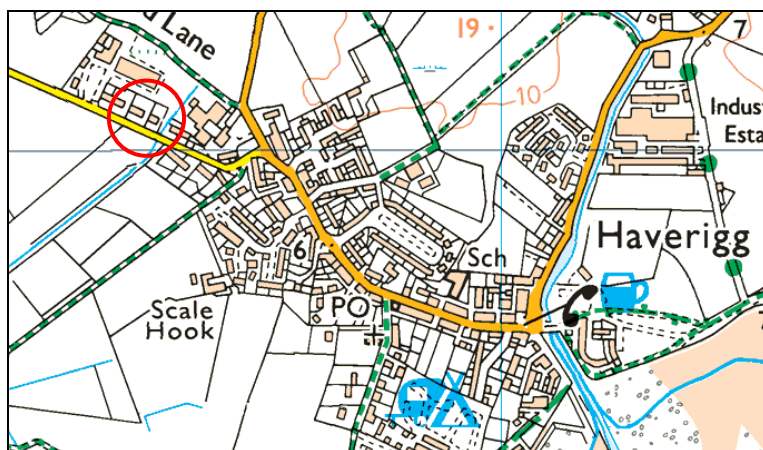
1.3 Proposed works

The proposed works involve demolition of the existing house and two outbuildings, stripping of the site to allow construction of a single dwelling. The two existing lawned areas to the front and rear will be destroyed, but proposals include a new lawned area to the front and garden to the rear.

1.4 Location

The property is located t the edge of Haverigg village (grid reference SD1538 7906).

Figure 1: Location of proposed development (red line)



OS Map copied under licence (No. 100055725)

2. SURVEY METHOD

2.1 Desktop study

The DEFRA Magic website (www.magic.gov.uk) was used to ascertain whether any priority habitats has been identified on, or adjacent to, the site. Natural England and JNCC websites were used to obtain boundaries of any statutorily designated sites in the area.

2.2 Walkover survey

The walkover survey was carried out by Tamsin Douglas MCIEEM (South Lakes Ecology) on 9th January 2025. Weather was cold, sunny and calm.

Habitats within the survey area were classed into standard UK Habitats Classification categories (UKHab 2023). The Professional edition of the UKHab guidance was followed, and habitats classed to level 5 of the hierarchy were applicable. An assessment was also made of the condition of the habitats on site, following guidance described in the BNG Metric methodology.

2.3 Survey constraints

There were no constraints on access. The weather (sunny, cool with light breeze) was suitable for carrying out botanical surveys.

The time of year was not ideal for assessing botanical quality of grasslands, as many plants (notably grasses) have died back for the winter. The grass is also regularly mown, further limiting the potential to identify all grass species present. This constraint is of limited importance, however, given the habitats present on site.

3. BASELINE ECOLOGICAL CONDITIONS

3.1 Desktop survey results

3.1.1 Protected and statutory sites search

There are no statutory protected sites on the site of the development, or within 500m of the property.

3.1.2 Notable habitats search

DEFRA's Magic website indicated that there are no priority habitats mapped on the site of the development. There are two priority habitats within 500m of the property – coastal and floodplain grazing marsh and deciduous woodland. The coastal and floodplain grazing marsh is 10m south of the property (on the opposite side of the road). The deciduous woodland is 300m from the project.

It is considered very unlikely that either of these priority habitats will be impacted directly or indirectly by these proposals. If there were likely impacts, then the rules state that the standard statutory metric should be used instead of the small sites metric.

3.2 Habitat survey results

The habitats were mapped, following UKHab methodology (see methods section and appendices), as shown in Figure 2 below. Descriptions of the major habitats are given in section 3.2.2 below.

Photographs of the area of the proposed works are provided at the end of the report.

3.2.1 Habitats recorded within survey area

- u1 Urban – gardens
- u1b Urban – buildings and developed land with sealed surface

3.2.2 Habitat descriptions

u1 – Gardens (urban)

There are two areas of lawned garden at the property. The front garden has some shrubs alongside, but the rear lawn has no other features. There are no condition assessments carried out for urban garden habitats, but the existing garden is of very limited value to wildlife. Both of these lawned areas will be removed as part of the development.

u1b – Developed land, sealed surface (including buildings)

The majority of the site includes this habitat – which comprises the house, two outbuildings, driveway and access paths and a large paved area at the rear of the garden. All of this area will be demolished/ dug up as part of these proposals.

There are no boundary hedgerows within the red line area, garden boundaries are all fences/ low walls. There are no mature trees on site.

Figure 2. Habitat map of land inside the red line boundary of the project



3.2.3 Habitat condition assessments

Habitat condition assessments were not required for urban habitats in the Small Sites Metric.

4. Biodiversity Net Gain assessment

4.1 Rationale

The principles of Biodiversity Net Gain (BNG) are enshrined in local planning policy, and an assessment is required for most new developments (with some specific exceptions). The local planning authority (Cumberland Council) has requested a BNG assessment for this development, with a target increase of 10%. Habitats enhanced or retained as part of the BNG calculation need to be managed appropriately for a minimum of 30 years to satisfy the requirements of the metric.

Using the habitat condition assessments above, the impact of the proposals on the conservation value of the habitats has been calculated using DEFRA's Statutory Small Sites Metric. Detailed results are in the appendices and the calculation tool Excel file attached separately, but summary results are shown in 4.3 below.

4.2 Proposed measures

The new property will include a house, driveway, access paths and patio areas, as well as two new garden areas to the front and rear. The front garden will be broadly similar in size and location to the existing area, but the back garden will be substantially larger than the existing rear lawned area, and will include flower beds and shrubs to significantly increase its biodiversity value.

4.3 Metric calculations and conclusions

The proposed development will result in the net loss of approximately 220m² of lawned garden. There is no condition assessment for this habitat, but it is considered to be of limited value to wildlife in its current form. This existing habitat has a biodiversity value of 0.044 units (the hard standing and building areas have no biodiversity value).

The new development will result in the creation of a much larger rear garden, with more habitat structure (shrubs and flower beds), and a similarly sized front garden. The total garden area will be approximately 300m² in the completed development, equating to total of 0.0585 biodiversity units.

A copy of the headline results page of the BNG calculation is shown in Figure 3 overleaf. These indicate that the creation of a new larger garden area will result in an overall gain in habitats on site of 0.0145 units, equating to a gain of 32.91% above the baseline value.

Figure 3. Headline results, showing required gain is achievable.

Site Name		Penhaven, Haverigg	
Sheet Name		Headline Results	
Headline Results			
Headline		BNG Targets Met ✓	
Trading Rules		Trading Rules Satisfied ✓	
Next steps		Check for input errors/rule breaks present in the metric ⚠	
Baseline Units	Habitat units	0.0440	
	Hedgerow units	Zero Units Baseline	
	Watercourse units	Zero Units Baseline	
Post-development Units	Habitat units	0.0585	
	Hedgerow units	0.0000	
	Watercourse units	0.0000	
Total net unit change	Habitat units	0.0145	✓
	Hedgerow units	0.0000	
	Watercourse units	0.0000	
Total net % change	Habitat units	32.91%	✓
	Hedgerow units	% target not appropriate	
	Watercourse units	% target not appropriate	
Habitats units required to meet target		0.0000	
Hedgerow units required to meet target		0.0000	
Watercourse units required to meet target		0.0000	

(NB the highlighted cell 'input error/ rule breaks' is due to the presence of priority habitat within 500m of the property. The proposals are not considered likely to have any impacts on these habitats, so it is still valid to use the small sites metric).

5. Implementation and monitoring

5.1 Planting plan

5.1.1 New gardens

The size of the proposed new gardens is adequate to provide a significant uplift in the biodiversity value of the site. There is no condition assessment required for urban garden habitats, but there are several things that can be done to enhance the wildlife value.

The best diversity of wildlife will be found in gardens with a variety of structure, species and flowering periods. Planting shrubs and small trees will provide height and shelter – and this can encourage birds and insects into the garden. Providing a variety of plants which flower throughout the season will ensure that the garden is attractive to pollinating insects (such as bumblebees and butterflies) throughout the spring, summer and autumn months.

For the very best wildlife gains in a garden creating a small wildlife pond brings a lot of interest into the garden (even if just one square metre in size). Planting fruit trees (apple, cherry or plum) is also very beneficial as they provide blossom for insects, nesting areas for birds, and food for birds and insects from any fallen fruit in autumn.

5.2 Management plan

5.2.1 New gardens

Where possible the garden should be managed with minimal chemical use (pesticide and herbicide) – as these can have a significant impact on wildlife (particularly on insects).

5.3 Monitoring

There is no monitoring requirement for this development, as the habitats on site do not need to conform to any ecological condition assessments.

6. REFERENCES

- Butcher B., Carey P., Edmonds R., Norton L. and Treweek J. (2023) The UK Habitat Classification User Manual version 2.01 www.ukhab.org
- Cumbria Biodiversity Data Centre <https://www.cbdc.org.uk/data-services/cumbria-biodiversity-evidence-base/cbeb-interactive-map/>
- DEFRA (2007) *Hedgerow Survey Handbook*
- DEFRA Metric Details and calculation tools for BNG and condition assessment <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>
- Halliday G. (1997) *A Flora of Cumbria* University of Lancaster
- Institute of Ecology and Environmental Management, Professional Guidance Series (CIEEM www.cieem.net) [Members only]
- NCC (1990) *Handbook for Phase 1 Habitat Survey* JNCC Peterborough
- Preston C.D., Pearman D.A. & Dines T.D. (2002) *New Atlas of the British and Irish Flora* Oxford University Press
- Stace C.(2010) *New Flora of the British Isles* 3rd edition Cambridge University Press
- www.magic.gov.uk (Information on priority habitats, species and protected sites)
- www.jncc.defra.gov.uk (Information on legal framework, BAP species and habitats)

APPENDICES

Appendix 1.
Figure 4: Habitat Map after completion of works

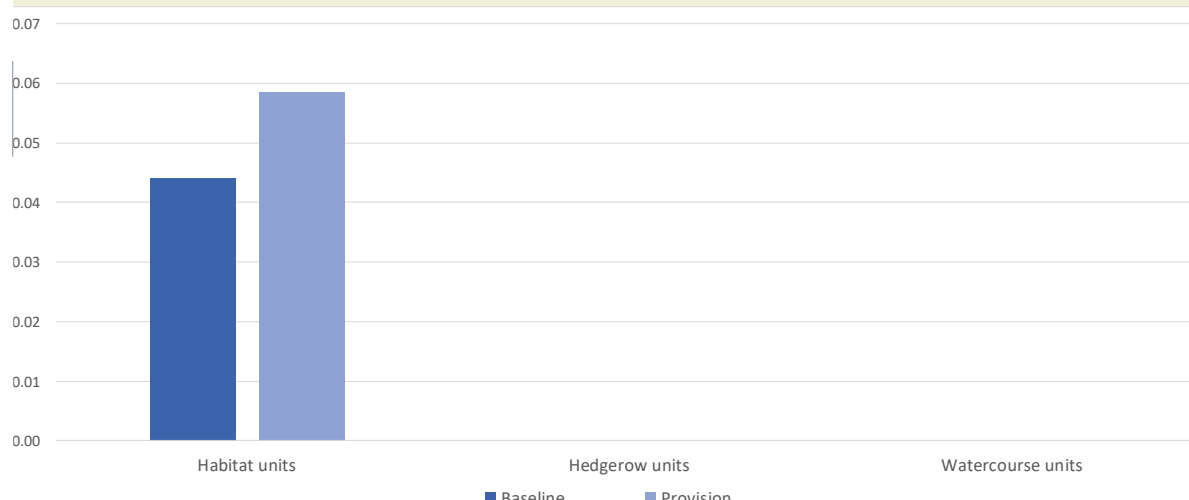


The orange area includes the new building and all hardstanding surfaces (drive, paths and patios).

Appendix 2. Biodiversity Net Gain Calculations- detailed results

Site Name		Penhaven, Haverigg	
Sheet Name		Headline Results	
Headline Results			
Headline		BNG Targets Met ✓	
Trading Rules		Trading Rules Satisfied ✓	
Next steps		Check for input errors/rule breaks present in the metric ⚠	
Baseline Units	Habitat units	0.0440	
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	Hedgerow units	0.0000	
	Watercourse units	0.0000	
Total net % change	Habitat units	32.91% ✓	
	Hedgerow units	% target not appropriate	
	Watercourse units	% target not appropriate	
Habitats units required to meet target		0.0000	
Hedgerow units required to meet target		0.0000	
Watercourse units required to meet target		0.0000	

Chart 1 - Unit change by habitat group



Appendix 3. Photographs



Photo 1.
Small rear lawned area. Of very little wildlife value as no adjacent habitats such as flowers or shrubs.



Photo 2.
Patio at the rear of the property – which will be removed as part of the project. Of no particular wildlife value.



Photo 3.
Front lawned area. Some shrubs along the boundary fence, but mostly of limited wildlife value.