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Report prepared for: David White

For the Site of: The White House, Valley Rise, Royston, SG8 9GH

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Ecological reports are limited in shelf life, usually 12 months for baseline surveys and for BNG as and when plans change. Information is believed to be accurate at the time of the survey; recommendations are made without bias based on good practice guidelines within the industry. However, species presence and ecological parameters can change over time.

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Biodiversity Net Gain (BNG)/Biological Impact Assessment (BIA)

0.0 Non-Technical Summary

0.1 Background

The client commissioned Cherryfield Ecology to undertake a Biodiversity Net gain (BNG)/Biodiversity Impact Assessment (BIA) for the site of The White House, Valley Rise, Royston, SG8 9GH to determine the biological impact of the proposed development.

Biodiversity Net Gain (BNG) is an approach to development that leaves biodiversity in a better state than it was before. The process relies on the mitigation hierarchy, which sets out that everything possible must be done to firstly avoid, secondly, minimise and thirdly restore and rehabilitate losses of biodiversity on site.

This report uses the Statutory Biodiversity Metric (DEFRA 2024), to quantify the biodiversity baseline for the site and calculate the post-development biodiversity unit for the proposed scheme following the best practice guidelines as set down by CIRIA (2019).

0.2 Results and Findings

A summary of the change in Biodiversity Net Gain on site is given in Table 1.

Table 1: Change in Biodiversity Net Gain (BNG) on site

BIA Units	Total Net Unit Change	Total Net % change
Habitat Units	-0.28	-10.56%
Hedgerow Units	n/a	n/a
Watercourse Units	n/a	n/a

0.3 Impact Assessment and Recommendations

A 10% increase for each unit type present is required to meet the minimum statutory requirement.

The proposed development will result in a **-10.56% net loss** in Habitat Units and, therefore, does not meet this requirement.

As such, in order to meet the required 10% net gain for Habitat Units, a further **0.54 Habitat Units** will need to be achieved. To satisfy the trading rules, 0.20 units of this will need to be Medium Distinctiveness Individual Tree or higher habitat type.

This is not possible on-site and off-site compensation will be required.

1.0 Introduction

1.1 Aim

The client, David White, has commissioned Cherryfield Ecology to undertake a BNG/BIA for the site of The White House, Valley Rise, Royston, SG8 9GH.

The aim of this report is to determine the Biodiversity Net Gain for the proposed scheme and, where necessary, make recommendations for increasing net gain in order to comply with the statutory requirements.

1.2 Site Information

The baseline habitat on site consists of buildings, developed land; sealed surface, vegetated garden, individual trees and an ecologically valuable line of trees. The proposed development includes for demolition of the existing garage, extension and shed and construction of three new dwellings.

1.3 Study Area

The site is 0.226 Ha in size. The national grid coordinates for the centre of the site are TL 36543 40780.

1.4 Suitably Qualified Ecologist

This report has been completed by Julian Newman and checked by Heather Stuckey and Martin O'Connor. Heather and Martin both meet the criteria for a suitably qualified Ecologist as defined in BS 8683:2021

2.0 Methods

Biodiversity Net Gain is assessed through the use of biodiversity calculators to assess the biodiversity value of habitats pre- and post-development based on habitat type, distinctiveness and condition.

A biodiversity index is derived for the baseline and the proposed development and net gain is achieved where an increase in value is delivered either on-site (or through offsite compensation), where lower value habitat is replaced with one of higher value.

This report uses the Statutory Biodiversity Metric (DEFRA 2024), to quantify the biodiversity baseline for the site and calculate the post-development biodiversity unit for the proposed scheme following the best practice guidelines as set down by CIRIA (2019).

2.2 Limitations

It is important to note that a scheme-wide biodiversity net gain or no net loss cannot be achieved for the scheme as a whole if there are negative impacts on irreplaceable habitats.

Any compensation offered to address impacts on irreplaceable habitats should be agreed directly with Natural England (NE). The baseline habitat which is identified for such compensation and the biodiversity units resulting from this compensation should also be excluded from biodiversity unit calculations.

Following Defra guidance, impacts on irreplaceable habitats and their compensation have been excluded from this biodiversity unit calculation.

Biodiversity Impact Assessment only deals with habitat and as such this report does not cover any of the requirements of the proposed development arising from potential impacts on protected species and designated sites.

3.0 Site Context

3.1 MAGiC

The following statutory sites and Natural England Protected Species (NEPS) have been located within the 2km search area (Figure 1).

Table 2: MAGiC search results

Receptor	Distance and Direction to Nearest (m/km)	Description
Statutory sites	~1367m southwest	Therfield Heath (LNR)
	~1367m southwest	Therfield Heath (SSSI)
	~1620m northwest	Holland Hall (Melbourn) Railway Cutting (SSSI)
Granted protected species licenses	~1332m northwest	Great Crested Newt <i>Triturus cristatus</i> (licence 2014-1854)
Priority habitat	~1367m southwest	Lowland Calcareous Grassland
	~940m southeast	Lowland Meadows
	~114m east	Deciduous Woodland
	~1633m southwest	Traditional Orchards

MAGiC

Magic Map

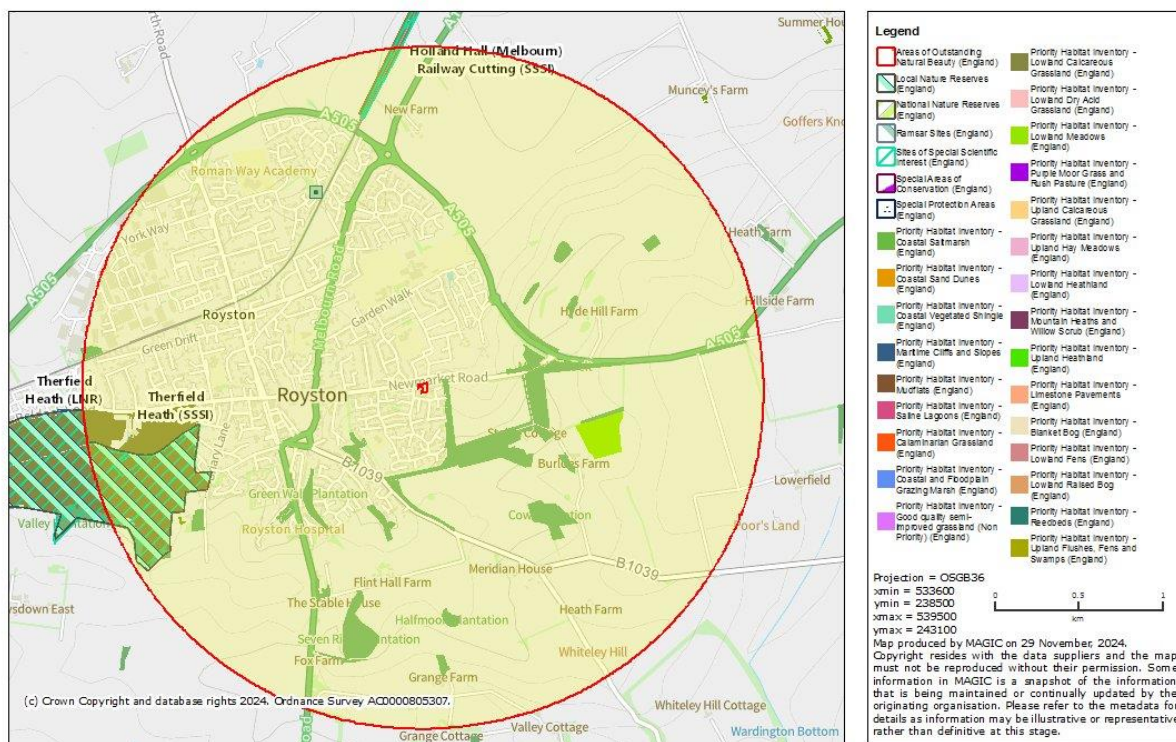


Figure 1: MAGiC

3.2 Strategic Significance

There is no LRNS for the area, and based on biodiversity opportunity areas the site is not located in an area of strategic significance.

4.0 Baseline Units

The UK Hab survey map used to assess the baseline is provided in Figure 2. Please refer to the Ecological Appraisal (Cherryfield Ecology, 2024) for full site details.

The following table summarises the condition assessments for all habitat features on-site as assessed during the ecological assessment. There are no linear or watercourse features present.

Table 3: Biodiversity Net Gain Condition Assessment Results. Please see separate Excel sheet for full condition assessments.

Habitat (UKHabs)	Condition Score
Buildings/Developed Land Sealed Surface	Set score
Vegetated Garden	Set score
Urban Tree	Medium Trees: Good



Figure 2: Baseline Habitats Site Plan

Table 4: Baseline Habitat Units.

UKHab Category	Area (Ha)	Habitats Units Delivered
Buildings/Developed Land Sealed Surface	0.08	0.00
Vegetated Garden	0.15	0.29
Urban Tree	0.20	2.34
Total Biodiversity Units		2.63

5.0 Post-Development Units

Proposed site plans “white house proposed site plan” were provided by the Client and used to calculate the Biodiversity Units post-development. It has been assumed that with appropriate management the proposed habitats on site can achieve the following conditions.

Table 5: Assumed Condition of Habitats Post-Development.

UKHab Category	Condition
Buildings/Developed Land Sealed Surface	Set score
Vegetated Garden	Set score
Urban Tree (Retained)	Medium Trees: Good



Figure 3: Proposed Habitats Site Plan

The Habitat Units for the site post-development have been calculated using georeferenced GIS software (Table 6).

Table 6: Summary of Habitat Units Post-Development

UKHab Category	Area (ha)	Habitats Units Delivered
Buildings/Developed Land Sealed Surface	0.13	0.00
Vegetated Garden	0.10	0.21
Urban Tree	0.18	2.15
Total Biodiversity Units		2.36

6.0 Results

The change in broad habitat types on site for the proposed development are outlined in Table 7.

Table 7: Summary of change in Biodiversity Units on-site

Broad Habitat Type	Existing Value	Proposed Value	On-site Unit Change
Urban	0.29	0.21	-0.08
Individual Trees	2.34	2.15	-0.20

The proposed development will result in a **-10.56% net loss** in Habitat Units on site.

6.1 Discussion

6.1.1 Mitigation Hierarchy

The mitigation hierarchy is the cornerstone of achieving net gain. It is a sequence of mitigation actions as described in Table 8.

Table 8: Mitigation hierarchy

Stage	In practice
Avoidance	This first stage is to avoid harm to biodiversity, for example locating to an alternative site. It is the most important stage and can ease the consent process, whereas missing this stage can lead to objections and refusal of permission to the development.
Minimise	If avoiding all adverse impacts is not possible, action is taken to minimize these affects.
Compensation	Addresses residual adverse effects, only considered after all possibilities for avoidance and minimising the effects have been implemented. Offsetting is a form of compensation that trades losses of biodiversity in one location with measurable gains in another. Offsetting losses of biodiversity with gains elsewhere can be within or outside of the development footprint.

Table 9 outlines how the mitigation hierarchy has been applied to this site.

Table 9: Application of the mitigation hierarchy

Hierarchy Level	Action	Habitat on site
Avoidance	Avoid	There are no priority habitats on site that would make avoidance necessary.
Minimise	Retain	The dwelling portion of B1, most of the trees and 0.095 Ha of vegetated garden will be retained.
	Enhance	There are no habitats on site that can be enhanced.
Compensation	On-site creation	0.009 Ha of vegetated garden and 0.105 Ha of developed land; sealed surface (including buildings) will be created.
	Off-site creation	As the site consists of private residential land, any on-site enhancements cannot be conditioned. As such off-site compensation will be required to achieve the national guidelines for biodiversity net gain. (see Environment Bank https://environmentbank.com/ and Environmental Trading platform https://www.environmentaltradingplatform.com/ for available off-site units).

7.0 Conclusion

A 10% increase for each unit type present is required to meet the minimum statutory requirement.

The proposed development will result in a **-10.56% net loss** in Habitat Units and, therefore, does not meet this requirement.

As such, in order to meet the required 10% net gain for Habitat Units, a further **0.54 Habitat Units** will need to be achieved. To satisfy the trading rules, 0.20 units of this will need to be Medium Distinctiveness Individual Tree or higher habitat type.

This is not possible on-site and off-site compensation will be required.

7.1 Recommendations

Shrubs

The site plan did not include a proposed planting list for the areas of ornamental shrub and herb planting. These should include, where possible, native species of local provenance or plants that have berries and flowers beneficial to wildlife.

Most urban planting is heavily managed reducing their value to wildlife. Where possible no cutting should take place during peak bird nesting season, which runs from March to September. Where possible, shrubs should not be cut back annually, as flower buds often form on second-year growth. Pruning should ideally be undertaken on a two-year or three-year rotation, targeting different sections each year, to ensure there are always flowers for pollinators in spring and berries for birds in autumn. Rotational cutting can also save time and money that would be invested in annual cutting.

Hedgerows

A hedgerow could be included in development plans to assist a range of species. Suitable hedgerow species include:

- Hawthorn (*Crataegus monogyna*)

- Hazel (*Corylus avellana*)
- Holly (*Ilex aquifolium*)
- Wild privet (*Ligustrum vulgare*)
- Field maple (*Acer campestre*)
- Blackthorn (*Prunus spinosa*)
- Guelder rose (*Viburnum opulus*)
- Wayfaring tree (*Viburnum lantana*)
- Dog rose (*Rosa canina*)
- Spindle (*Euonymus europaea*)

The hedgerow should include 5 or more woody species within a 30m length in order to be classified as **species-rich**.

Where possible no cutting should take place during peak bird nesting season, which runs from March to September inclusively. If it is necessary to cut the hedgerows during this period a suitable qualified person should check for nesting birds immediately prior to works being undertaken. Trimming hedges on a two or three year rotation, targeting different sections each year, will make sure there are always flowers for pollinators in spring and berries for birds in autumn. Hedges cut every three years can produce two and a half times as many blossoms as those cut annually. Rotational cutting can also save time and money that would be invested in annual cutting.

8.0 References

Cherryfield Ecology (2024), Ecological Appraisal Report

CIRIA (2020), Biodiversity Net Gain: good practice principles for development.

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