

Wildlife Enhancement Plan	
For:	Havenforth Homes Ltd
Site	Land off Main Street, Bubwith, Selby, YO8 6LY
Report Date:	7 th November 2023
Report Reference	SQ-986



Surveying Ecologist:
Sam Toon BSc (hons)



Client:	Havenforth Homes Ltd
Site Address:	Land off Main Street, Bubwith, Selby, YO8 6LY
Grid Reference:	SE 71768 36431
Report:	Wildlife Enhancement Plan
Planning Application Reference:	22/01739/OUT (East Riding Council) – Condition 15
Author:	Sam Toon BSc (hons)

Issue:	Revision:	Stage:	Date:	Prepared by:	Approved by:
1	-	Draft for review	7 th November 2023	Sam Toon BSc (hons), Gradcieem, Estrada Ecology Ltd	Natasha Estrada MRes, MCIIEEM, Estrada Ecology Ltd
2	n/a	FINAL	7 th November 2023	Sam Toon BSc (hons), Gradcieem, Estrada Ecology Ltd	Natasha Estrada MRes, MCIIEEM, Estrada Ecology Ltd



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Whilst every effort has been taken to ensure the accuracy of this report and its contents in view of potential ecological constraints to development or the likely presence or absence of species it must only be viewed as a snapshot in time and therefore not be viewed as definitive. Due to external factors, such as seasonality, weather etc. having the potential to affect survey results no liability can be assumed for omissions or changes that may or may not occur after the date this report was produced.



1 Introduction and Background to the Site

- 1.1 Estrada Ecology Ltd was commissioned by Havenforth Homes Ltd to prepare a biodiversity enhancement plan for the proposed development.
- 1.2 The application site was subject to a walkover survey on 11th April 2023 to ascertain an ecological baseline of the site.
- 1.3 The survey of the site was led by ecologist Sam Toon BSc (hons) (Natural England Bat Licence 2018-35446-CLS-CLS); Qualifying member of the Chartered Institute of Ecology and Environmental Management, a licenced bat and great crested newt ecologist for over 8 years.
- 1.4 The survey site is approximately 0.30 hectares in size, the majority of which comprises of amenity grassland, buildings and sections of hardstanding. The hardstanding has also been colonised in parts by ephemeral vegetation.
- 1.5 Arable land is situated immediately to the north and east of the site, with further vacant land to the west. Residential land is present outside the southern boundary.
- 1.6 The report was commissioned to satisfy condition 15 of planning application 22/01739/OUT, which states:

No part of the development hereby permitted shall be commenced until a Wildlife Enhancement Plan, compiled by a suitable qualified ecologist has been submitted to and approved in writing by the Local Planning Authority. The scheme shall make appropriate provisions bat and bird boxes, where appropriate with full details provided. The approved Wildlife Enhancement Plan shall be complied with within one month of the completion of the development and thereafter be retained in perpetuity.

This pre-commencement condition is imposed to ensure there is a biodiversity net gain from the proposal and to comply with the National Planning Policy Framework (NPPF) and the Natural Environment and Rural Communities Act (NERC) 2006.



- 1.7 The site within Figure 1 shows the red line boundary, which was subject to the walkover survey in April 2023.

Figure 1: The site location.



Google Earth

- 1.8 The purpose of the Wildlife Enhancement Plan is to help increase and promote biodiversity within the site, following the implementation of bird and bat boxes to the proposed development.
- 1.9 The purpose of this strategy is to set out a framework for enhancing biodiversity on site with a focus on sustainable ecological enhancement of the wildlife value of the site.

Figure 2: Proposed Site Plans



Innovative Design Solutions

2.1 Bats

2.1.1 To enhance roosting opportunities for bats, it is proposed that three Habibat bat boxes (custom facing) are integrated within the proposed structure within the site.

2.1.2 The Habibat bat box is a large, solid box made of insulating concrete with an internal roost space, which can be incorporated into the fabric of a building as it is built. This bat box is well insulated providing consistent temperatures and contains a single narrow cavity, so can be used throughout the year by crevice-dwelling species of bat (NHBS, No Date).

2.1.3 The boxes require no ongoing management and are self-contained. Droppings are released via the access panel. Being durable and integrated, it is expected that the boxes will be in situ for the lifetime of the buildings.

2.1.4 The boxes should be erected at a height of at least 3 metres high. Locations directly above doors and windows should be avoided to minimise dropping release onto windows and doors below. The boxes should ideally be located on the southern aspects of the proposed new properties.

2.1.5 The flight path to the boxes should not have any light overspill in the vicinity which could deter bats from using the boxes. No vegetation should be allowed to grow that could impede the flight line to the integrated boxes.



Figure 3: Indicative Locations for Bat Boxes within Development



Innovative Design Solution

2.2 Nest Box Provisions - House Sparrow

2.2.1 To enhance nesting provision within the site for breeding birds, it is recommended that enhancements for breeding birds, with specific provisions targeting house sparrow (*Passer domesticus*) are implemented.

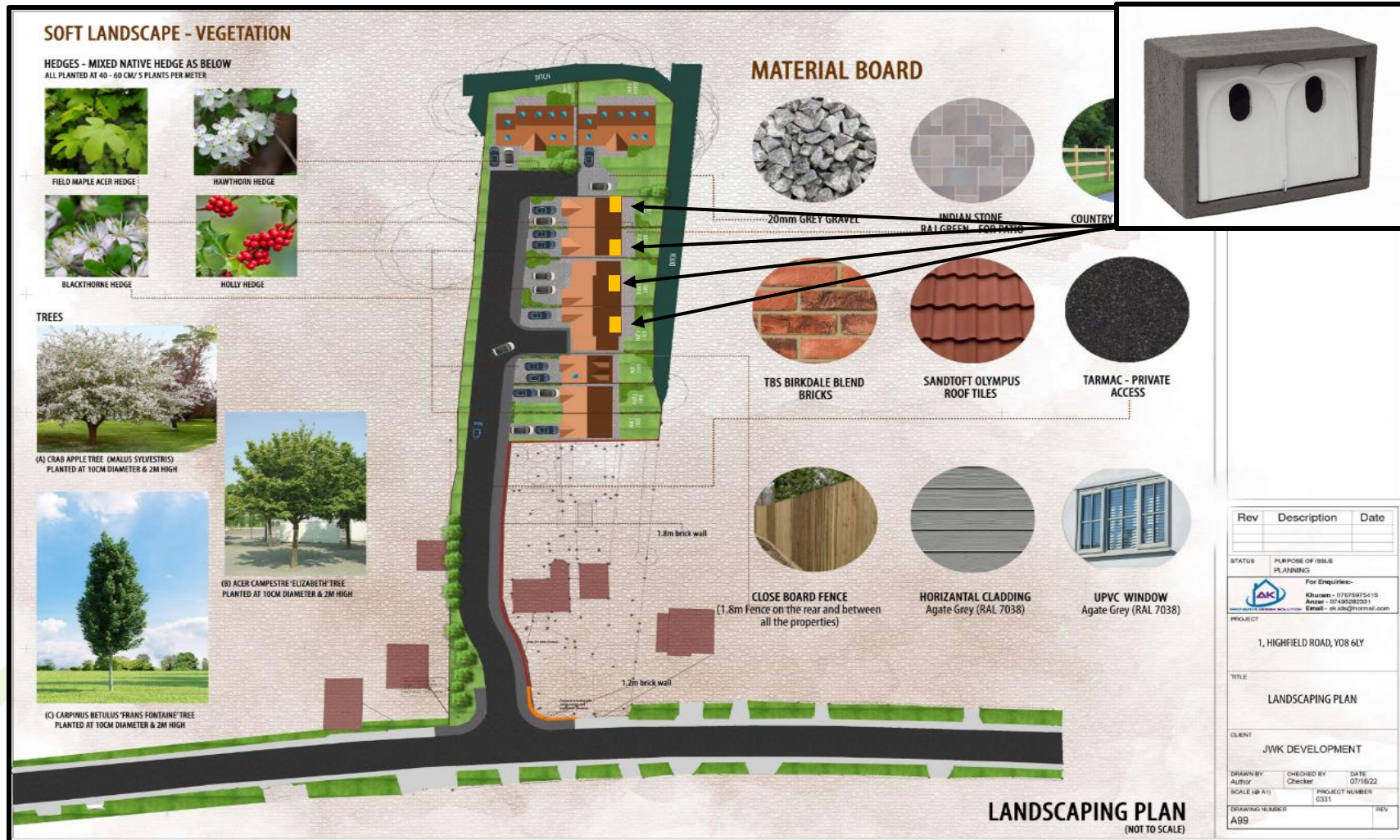
2.3 House Sparrow

2.3.1 House sparrow populations have been reported to have declined 71% between 1977 and 2008, with substantial declines in both rural and urban environments.

2.3.2 Four Vivara Pro Woodstone House Sparrow Nest Boxes, one in each plot are proposed to be integrated on the eastern elevations of the buildings approximately three meters from ground level as highlighted in Figure 4. Boxes should be installed away from any ledges or cables, due to the threat of predation from above or nearby which could potentially deter the species utilising the boxes.



Figure 4: Indicative House Sparrow Provisions to be Implemented



Innovative Design Solution

Rev	Description	Date

STATUS: PURPOSE OF ISSUE: PLANNING

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PROJECT: 1, HIGHFIELD ROAD, YO8 6LY

TITLE: LANDSCAPING PLAN

CLIENT: JWK DEVELOPMENT

DRAWN BY: Author
 CHECKED BY: Checker
 DATE: 07/18/22

SCALE: 1:100
 PROJECT NUMBER: 0331

DRAWING NUMBER: A99
 REV:

2.4 Lighting Scheme

- 2.4.1 Illuminating habitat used for foraging and commuting bats can affect the way bats respond to features in the landscape. Artificial light can act as a barrier to bats and disrupt flight paths of some species.
- 2.4.2 Different species of bats have differing light tolerances when commuting and foraging, with bat species that emerge later in the evening such as *Myotis* or *Plecotus* species being more sensitive to increased light levels (Stone, 2014). Species such as *Pipistrellus*, *Nyctalus* and *Eptesicus* are thought to be less affected.
- 2.4.3 It has also been shown that insect prey can be attracted to artificial lighting drawing insects away from their natural habitat creating a 'vacuum effect' (Eisenbeis, 2006), disadvantaging light sensitive bat species, and leading to a competitive advantage of those species able to take advantage of artificially lit areas (Artettaz, et al., 2000 and Davies, et al 2012).
- 2.4.4 Lighting causes direct mortality of insects and gives bats a competitive advantage over insect prey, such as moths, which are attracted to lights changing the predator prey relationship (Svensson & Rydell, 1998).
- 2.4.5 Where feasible, no artificial lighting should be installed upon the southern and eastern elevations of the site to avoid artificial light splay onto boundary habitats which could be used by foraging bats and breeding birds.
- 2.4.6 Where lighting is installed on the exterior of the buildings for health and safety / security reasons, light intensity should be as low as is permissible. All luminaires used within the lighting scheme should be LED which provide a lower intensity. A warm white spectrum (ideally <2700 Kelvin) should be adopted to reduce the blue light component with a wavelength exceeding 550nm. External lighting should be as directional as possible with the luminaire angled sharply downwards illuminating just the intended source and thus avoiding splay over a wider area.



- 2.4.7 Any external security lighting should be set on motion-sensors and short (1min) timers. All luminaires should always be mounted on the horizontal, eliminating upward tilt and splay.
- 2.4.8 No artificial light sources should be positioned in the location of integrated bat or bird boxes and no splay should be allowed to cover the integrated features thus minimising potential disturbance.
- 2.4.9 During construction and general site works, artificial lighting should not be used between thirty minutes before dusk and thirty minutes after sunrise or during sensitive foraging or commuting times from April-September.

2.5 Boundary Treatments-Hedgehogs

- 2.5.1 All boundary treatments should be designed to allow passage for small mammals. Any close board fencing or gravel boards along the site boundary should have an arch shape, no more than 15cm wide x 13cm high in each alternate panel to provide passage for small mammals including hedgehogs between the site and land outside the site boundary.

Figure 5: Examples of hedgehog highways in fence panels.



Suffolk Wildlife Trust

3 Biodiversity Net Gain Assessment

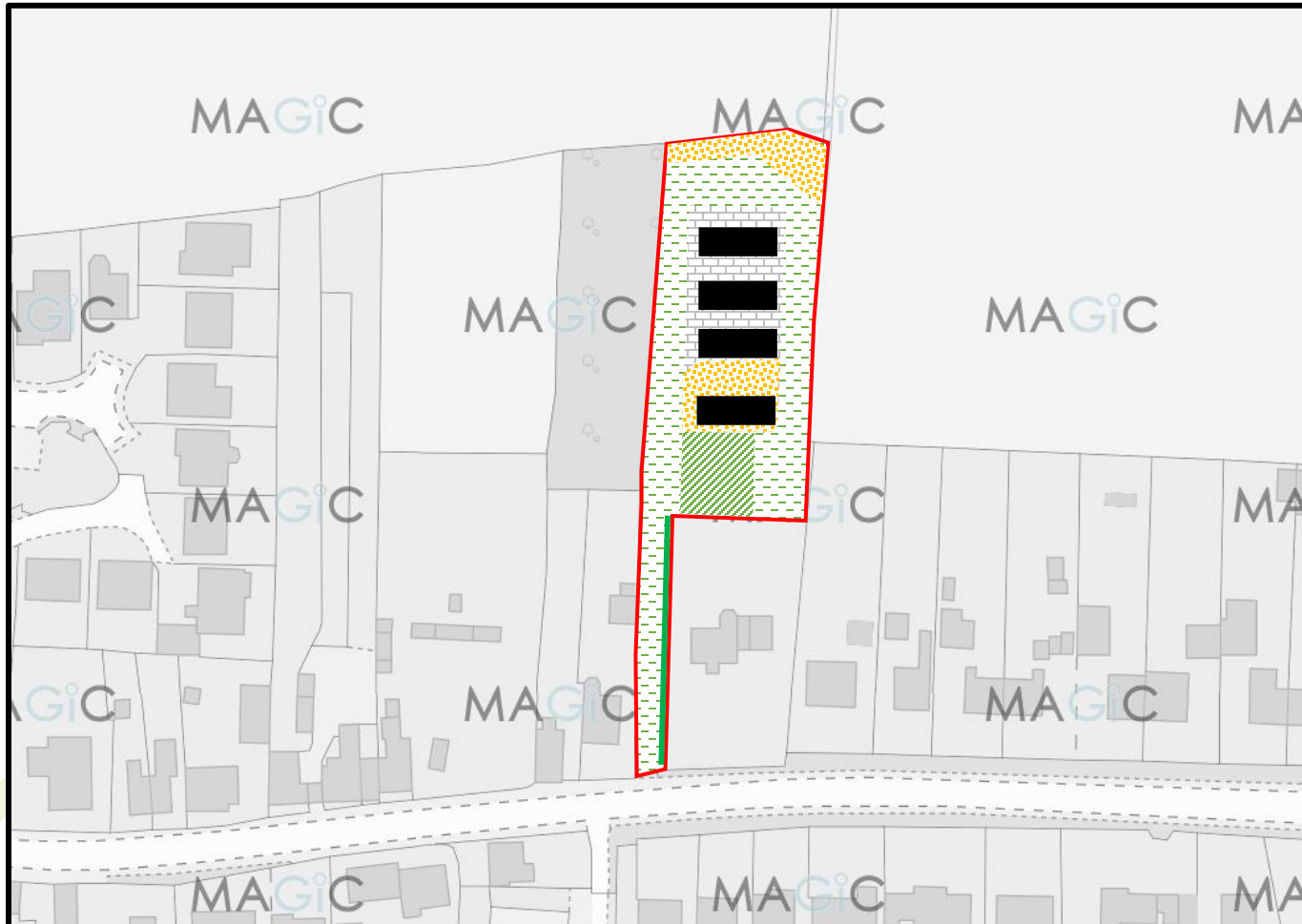
- 3.1.1 Biodiversity metric calculations were requested by the client to determine the extent of net loss, no net loss, or net gain for the Biodiversity Net Gain requirements of Selby District Council. The calculations were required for submission as part of a planning application, in accordance with local and national planning policies.
- 3.1.2 Biodiversity Metric calculations were therefore undertaken for baseline and post-development habitats for the development site, using the Biodiversity Metric 4.0 tool developed by DEFRA. This assessment evaluates the impact of current development proposals on existing biodiversity resources within the development site.

3.2 Baseline and Post Development Scheme Designs

- 3.2.1 The UK HABS habitat classification map in Figure 6 summarises the habitats identified via field survey undertaken by Estrada Ecology in April 2023.
- 3.2.2 Figure 7 presents the summary of the DEFRA metric 4.0 calculations.
- 3.2.3 The proposed scheme design and landscaping are provided in Appendix One and Appendix Two.



Figure 6: Phase 1 Habitat Map



KEY	
Site Boundary	
Vegetated Garden	
Modified Grassland	
Built Linear Features	
Developed Land, Sealed Surface	
Ephemeral Vegetation	
Hedgerow	

3.3 Methodology

3.3.1 The Environment Bill (2020) seeks to improve biodiversity through several means, including the introduction of a mandatory requirement for new developments to achieve a minimum of 10% biodiversity net gain, which will be managed as such for a minimum of 30 years after the development has been completed (Environment Bank, 2021). Key parts of the Environment Bill which relate to biodiversity net gain and its delivery are Part 6 Nature and Biodiversity and the supporting Schedule 14, particularly sections 9(3), 13(2), 14(2) and 15.

3.3.2 Baseline habitats were surveyed, and their condition assessed during a site assessment in April 2023 and based on the UK HABS Habitat Classification map (Figure 1). Post-development habitats were measured using AutoCAD 2022, based on the planting scheme of the proposed development.

3.3.3 The DEFRA Biodiversity Metric 4.0 was used to calculate biodiversity units for baseline and post-development habitats for the development site, to determine if the proposed development will be likely to achieve net loss, no net loss, or net gain of biodiversity units.

- Individual habitat areas were rounded to four decimal places, with the minimum mappable unit being 0.0001 hectares. The canopy areas of Individual trees were calculated using the Urban Tree Helper tool. Linear habitat features such as hedgerows and ditches were measured in meters or kilometres.
- Habitat condition indicates the quality of the habitat, either existing or to be achieved, based on the habitat condition assessments using the Biodiversity Metric 4.0 Habitat Condition Sheets (Natural England, 2023).
- Habitats were assessed for their strategic significance at a landscape scale, using information from sources such as Local Plans, Biodiversity Action Plans, and Nature Recovery



Areas to determine their significance within a specific landscape. If habitats weren't included within published reports, significance was determined by their contribution to habitat connectivity and green corridors.

- 3.3.4 Biodiversity unit calculations are based on the retention and/or enhancement of existing habitats within the proposed scheme design, and the creation of new habitats. Biodiversity units for linear habitat features are calculated separately within the metric.

3.4 Limitations

- 3.4.1 Habitat areas are rounded up or down to the nearest whole value, with a minimal mappable unit of 0.0001 hectares. However, the overall total of site habitat area and biodiversity units within the Biodiversity Metric 4.0 are calculated and accurate to two decimal places.

- 3.4.2 Habitat areas used in the calculations are based on two-dimensional plans, and so will not necessarily take into account an increase in overall surface area as a result of slopes and banks.

3.5 UK HABS Habitat Classification Codes

- 3.5.1 The UK HABS habitat classifications used within the Biodiversity Metric 4.0 and applicable to the site are provided in Table 1 with their associated habitat codes.



Table 1: UK HABS habitat classifications and codes

Phase 1 Habitat Type	Primary Code	Secondary Code
Hardstanding	u1b	
Buildings	u1b5	
Modified Grassland	g4	
Hedgerow	h2	
Ruderal or Ephemeral		81
Vegetated Garden		828

3.6 Biodiversity Net Gain

3.6.1 The total baseline biodiversity units for the site were calculated at 0.42 units, with hedgerow units calculated at 0.13 units. A ditch is present immediately outside the northern (dry) and eastern (wet) boundaries. Due to their proximity to the site, both have been included, resulting in 0.59 units.

3.6.2 The total biodiversity units of on-site habitats post development are 0.49 units for habitats. The total biodiversity units of on-site hedgerows post development are 0.048 units for linear. Ditch habitats are to be retained, with no enhancements proposed.

3.7 Overall Development

3.7.1 Overall, the proposals for the development site will result in a gain of +0.07 biodiversity units for habitats, representing a 16.63% net gain. Overall, the proposals for the development site will result in a gain of +0.34 biodiversity units for hedgerows, representing a 257.72% net gain. The river units remain at 0.59 units representing a zero percent gain.

Figure 7: Summary of Biodiversity Metric 4.0 results

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	0.07
	<i>Hedgerow units</i>	0.34
	<i>Watercourse units</i>	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	16.63%
	<i>Hedgerow units</i>	257.72%
	<i>Watercourse units</i>	0.00%
Trading rules satisfied?	Yes ✓	

3.8 Recommendations

- 3.8.1 The site, with current proposed scheme design will result in a net gain for habitat and hedgerow units. Furthermore, the trading summary is satisfied within the current proposals.
- 3.8.2 The landscaping scheme provided includes eighteen trees. Within the landscaping plan, all trees are proposed to be planted with a diameter of 10cm. For the purpose of the metric calculation, it has been confirmed that all trees will be sized as small, targeting a moderate condition.
- 3.8.3 The calculations in this report are based on target habitat conditions post-development and post-management, taking future land usage and public access into consideration.
- 3.8.4 Current development and landscaping proposals as they stand will result in a net gain in biodiversity units for the site. Furthermore, the current landscaping plan delivers a satisfied trading summary.
- 3.8.5 It is recommended that an updated Biodiversity Net Gain report with updated calculations is completed should current development and landscaping proposals change in any way. An updated report will review habitat condition scores of habitats and will take into account any changes in a final masterplan.

4 Conclusions and Recommendations

- 4.1 As a general biodiversity enhancement measure, all codes of good practice for wildlife should be undertaken whilst development is underway on the site. For example, trenches should be covered or, where left open, ramps provided for hedgehogs and other small mammals to use as a means of escape. Pest control products such as slug pellets should be avoided where feasible and the use of herbicides should be limited where practical to spot on treatments to prevent drift.
- 4.2 No artificial lighting should be installed within the vicinity of the proposed bat and bird boxes so as not to cause elevated levels of disturbance from light splay.
- 4.3 If the recommendations outlined in this report are followed, then it is envisaged that there should be an enhancement in the overall biodiversity of the site.
- 4.4 All bird and bat boxes are commercially available from www.nhbs.com



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