



Biodiversity Enhancement & Mitigation Plan

220 Elgar Road, Reading

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Report	Biodiversity Enhancement & Mitigation Plan (BEMP)
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Client	Abri
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1.0 INTRODUCTION

1.1 Brief

Ecosupport Ltd were commissioned by Abri to produce a Biodiversity Enhancement and Mitigation plan (BEMP) for the site known as 220 Elgar Road, Reading, in relation to the proposed residential development a block of 16 apartments with associated works. This is required in order to discharge condition 15 of appeal decision APP/E0345/W/23/3315618.

The condition is as follows;

15. No dwelling hereby approved shall be occupied until details of biodiversity enhancements, to include a minimum of four integral universal nest bricks and four bat boxes, tiles or bricks built into the new buildings and native and wildlife friendly landscaping (including gaps at the bases of fences to allow hedgehogs to traverse through the gardens), is submitted to and approved in writing by the Local Planning Authority. The biodiversity enhancements shall thereafter be installed as approved, prior to the first occupation of any residential unit.

A brief letter report confirming that the boxes, bricks or tiles have been installed (including a plan showing their location and photographs of the boxes, bricks or tiles in situ) and a programme for ongoing maintenance, shall be submitted to and approved in writing by the Local Planning Authority prior to first occupation of any residential unit. The biodiversity enhancement scheme shall be adhered to in accordance with the agreed programme and retained and maintained thereafter.

1.2 Aim

The aim of this report is to devise a site-wide Biodiversity Enhancement and Mitigation Plan (BEMP). This will ensure all features of ecological value, and all legally protected species are protected, that their presence on site is retained in perpetuity, and satisfy a schedule condition of the appeal decision.

1.3 Site Description

The site comprises 220-222 Elgar Road, a former driving test centre, located to the western side of Elgar Road, Reading, RG2 0BW (centred on OS grid reference SU 715 721) (**Fig. 1**). The site is bound by residential properties and gardens to the north and south, with industrial/commercial areas to the east beyond Elgar Road. To the west of the site is an area of amenity grassland and recreational grounds (known as Waterloo Meadows) and the River Kennet. The wider environment comprises an industrial estate bound by residential properties and is situated approximately 1.3km south-east of Reading town centre.

Figure 1 - Approximate redline location of the site

1.4 Proposed Plans

It is understood that the residential redevelopment comprises the demolition of the existing single storey building and the erection of 16 dwellings together with associated works.

2.0 ECOLOGICAL BASELINE SUMMARY

An extended Phase 1 Habitat Survey was completed in August 2020 by Jan-Piet Stuursma on behalf of Windrush Ecology Ltd. A walkover of the site was undertaken, and a description of the present habitats was prepared using standard Phase 1 Habitat Survey methodology (JNCC, 2010).

2.1 Habitats

The vegetation within the site has been described below using the UK Habs Habitat Definitions Version 2.0 (UKHab Ltd., 2023). These have been converted from Phase 1 classification. The habitat types on site comprise:

2.1.1 Buildings (u1b5)

A detached, single storey building with a flat roof is present on site (**fig. 2 and 3**).

Figure 2. A view of the north-eastern elevation of the building.



Figure 3. A view of the south-western elevation of the building.



2.1.2 Developed land; sealed surface (u1b)

Areas of hard standing are present in the form of a driveway and tarmac parking area (**Fig. 4**) to the north and the west of the building. There are also other limited areas of hard standing.

Figure 4. A view of the hard-standing tarmac car park on the western side of the building.



2.1.3 Modified grassland (g4)

A small area of amenity grassland along the eastern side of the boundary is present, separating it from Elgar Road. It appears to be managed regularly through mowing and has a short sward height (**Fig. 5**). Within the amenity grassland there is a butterfly bush (*Buddleia davidii*).

Figure 5. A view of the amenity grassland and the buddleia shrub to the east of the site



2.2 Bats

The buildings on site were assessed for any potential for roosting bats by Windrush Ecology in 2020. The external walls of the building are in a good state of repair, with no crevices, cracks or cavities within the brickwork. The roofing material is tight-fitting and intact with no gaps or crevices under the material or into the fabric of the roof that could offer shelter to roosting bats. An area of tight-fitting timber barge board is present on south-western elevations. The building is assessed as having 'negligible' potential (Collins, 2018) to offer shelter to roosting bats.

There is no evidence to indicate that the building is being used as a place of shelter/protection by roosting bats, and the building is considered to be unsuitable for bats.

The proposed works are unlikely to result in any significant impacts on bats or the places that they use for breeding, shelter and/or protection (roosts) and no specific compensation measures are considered necessary.

Since no significant impacts on bats are predicted under The Conservation of Habitats and Species Regulations 2017, a European Protected Species (bat) licence will not be required for the proposed works to proceed.

2.3 Badgers

The site was thoroughly searched for evidence of Badgers including latrines, dung pits, feeding remains and foraging evidence, trails and setts. No badger setts or other evidence of badgers were noted during the survey. The site was considered unsuitable for badgers due to lack of suitable habitats. The site lacks suitable foraging habitat or refugia for hedgehogs.

2.4 Reptiles

The majority of the site consists of areas of hard-standing and amenity grassland. This does not support any of the features that would be favoured by reptiles, so they were considered to be absent.

2.5 GCN

There are no ponds within a 500m radius of the site. The hard-standing and amenity grassland offers no suitable habitat to GCN. Therefore, they were considered to be absent.

2.6 Hazel Dormice

The site contains no favourable habitat features in the form of hedgerows or areas of scrub. Additionally, there are no pockets of suitable habitat connecting to the site from the surrounding landscape. There are also no local records for Dormice. Therefore, the site was considered to be unsuitable for Hazel Dormice.

2.7 Notable and Birds of Conservation Concern (BoCC)

There is no evidence that birds are using the building for nesting. The buddleia shrub and amenity grassland were not considered to offer any habitat for nesting birds.

3.0 MITIGATION, COMPENSATION AND ENHANCEMENTS

This chapter deals with mitigation, compensation and enhancement. Mitigation refers to measures that can be undertaken to avoid or reduce ecological impacts. Compensation refers to measures taken in order to offset potential significant impacts and finally enhancements contribute towards a net gain for ecology.

3.1 Bats

3.1.1 Sensitive Lighting Strategy

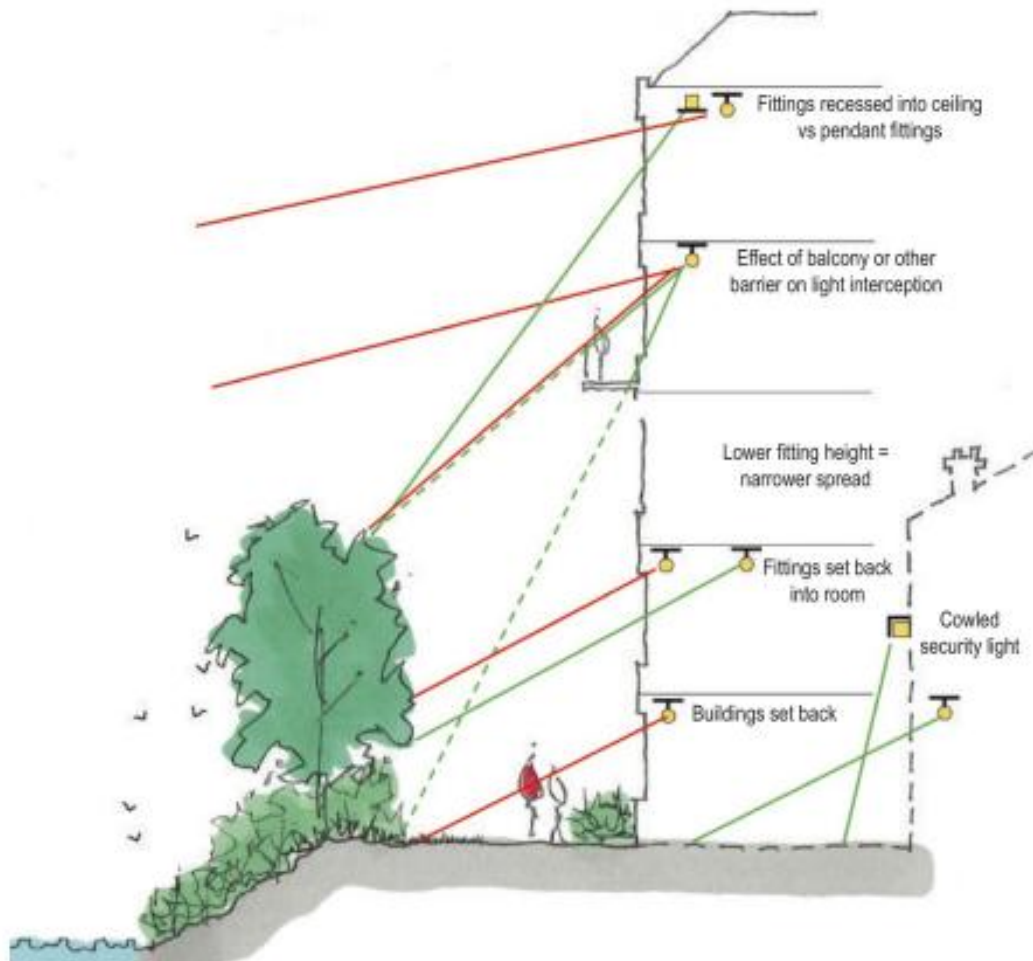
It is recommended that any lighting complies with the following the newly published *Guidance Note 08/23 Bats and Artificial Lighting at night* (ILP / BCT, 2023) produced via a collaboration between the Institute of Lighting Professionals (ILP) and the Bat Conservation Trust (BCT), which outlines the latest recommendations to minimise the impacts of increased artificial lighting on bats. The key recommendations within this document have been outlined below and will be implemented as far as is practicable:

‘Light sources, lamps, LEDs and their fittings come in a myriad of different specifications which a lighting professional can help to select. However, the following should be considered when choosing luminaires and their potential impact on Key Habitats and features:

- *All luminaires will lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used*
- *LED luminaires will be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability*
- *A warm white light source (2700Kelvin or lower) will be adopted to reduce blue light component*
- *Light sources will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012)*
- *Internal luminaires can be recessed (as opposed to using a pendant fitting - See **Fig 6**) where installed in proximity to windows to reduce glare and light spill*
- *Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges (see Case Study 1)*
- *Column heights will be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards*
- *Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered - See ILP GN01*
- *Luminaires will always be mounted horizontally, with no light output above 90° and/or no upward tilt*
- *Where appropriate, external security lighting will be set on motion sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate*

- Use of a Central Management System (CMS) with additional web-enabled devices to light on demand. Use of motion sensors for local authority street lighting may not be feasible unless the authority has the potential for smart metering through a CMS
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues. See Case Study 6
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely'

Figure 6. Internal lighting mitigation options (ILP 2023)



3.1.2 Bats Bricks

In order to enhance roosting opportunities for bats, four Ibstock bat bricks (**Fig 7**) will be integrated within the external brick work. These features are entirely self-contained and available in a variety of

different colours to match different construction materials. They should ideally be placed on an elevation which will benefit from some degree of sunlight exposure and be located away from windows.

Figure 7. Ibstock bat brick 'B' which will be integrated into the gable walls of half of the new dwellings on site.



3.2 Birds

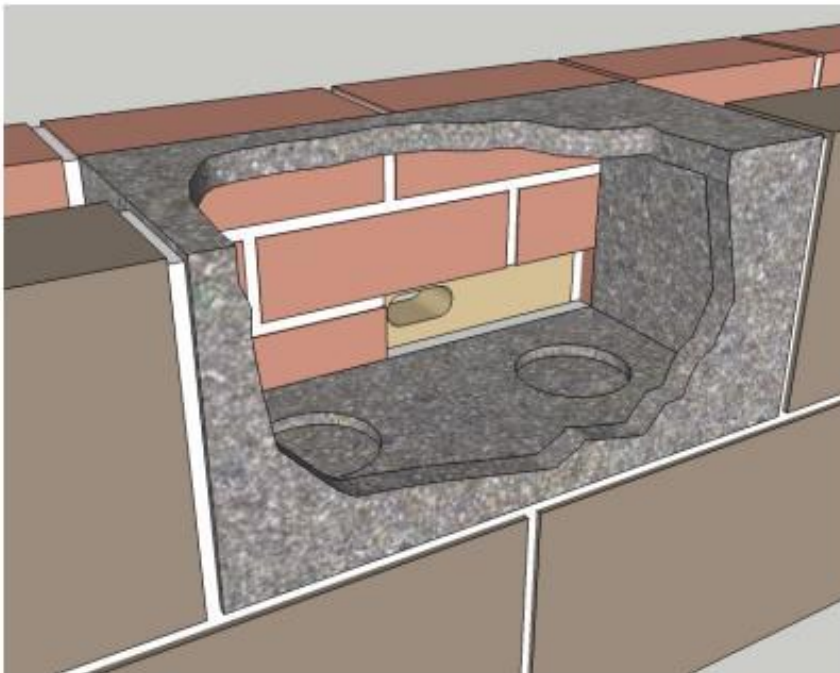
3.2.1 Mitigation

To avoid disturbing nesting birds or damaging their nests, vegetation clearance will be undertaken outside of the bird nesting season (March – August, dependent on weather). If this is not possible, sections to be cleared should be thoroughly checked by an ecologist immediately prior to clearance. If any active nests are found, they should be left undisturbed with a suitable buffer of vegetation (5m), until the nestlings have fledged.

3.2.2 Enhancement

To act as biodiversity enhancement, four swift bricks will be incorporated into the new building. The 'CJ Wildlife Swift maxi nesting box' (**Fig 8**) with entrance via a CJ Wildlife 'Cambridge Swift full-face brick' will be used (The Cambridge System is a concept comprising an entrance piece and a nest box embedded in the cavity and inner leaf. It is particularly suited to gable ends at roof-space level). If this model is not suitable for the building specifications, an alternative swift box with internal floor space exceeding 400cm squared must be used.

Figure 8. A schematic of how the Cambridge full face Swift brick leads into a cavity created by the prior installation of the Swift maxi nesting box.



3.3 Badgers

During the construction phase, any open excavations left overnight will either be covered to prevent commuting Badgers falling in or escape ladders will be used to prevent them from becoming trapped. Any open pipework will be checked and then capped nightly.

3.4 Hedgehogs

To ensure permeability for small mammals across the site, any garden fences will ensure at least 2 gaps are present within the gravel boards / bases of each fence line to allow for movement of Hedgehogs between gardens and into the wider area. The gaps should be at least 15 cm high by 15 cm wide with permeability for small mammals.

Small signage could be installed at these points to ensure they remain open upon completion of the development. The People's Trust for Endangered Species provide such signage, the purchase of which also supports conservation efforts (**Fig 9**).

Figure 9. Example of Hedgehog Highway signage to be placed above fence gaps provided to allow movements between gardens.



3.5 Invertebrate Enhancement

To increase the opportunities for invertebrates on site, one national trust apex insect house (**Fig. 10**) will be installed on site within the planting bed. The apex insect house should be hung less than 2m from the ground and, as it is recommended to be sheltered, it should be placed within the tree's shadow (NHBS 2024).

Figure 7. National Trust Apex Insect House (NHBS 2025)



3.6 Wildlife Friendly Planting

As a general enhancement, any new landscape planting will aim for a minimum 70:30 ratio in favour of native species over non-natives and ornamentals (in line with the CIEEM guidance outlined within Smith & Day (2012)). Species that can be considered within any planting include: Rowan (*Sorbus aucuparia*), Alder (*Alnus glutinosa*), Hazel (*Corylus avellana*), Holly (*Ilex aquifolium*), Silver Birch (*Betula pendula*), Small-leaved Lime (*Tilia cordata*) and Willow (*Salix* spp.). Non-natives and ornamentals should only be given a bias in formal locations where aesthetics is a priority.

Planting a mixture of flowering plants, trees (including fruit trees) and shrubs encourages a diversity of insects to sustain bats. It is beneficial that the flowers vary in colour (although pale flowers are more easily seen in poor light and so attract insects at dusk), fragrance, shape, amount of nectar and time of flowering. (It is important to provide native flowering plants, shrubs and trees throughout spring, summer and autumn). Flowers with 'landing platforms' for insects increase opportunities for insects and in turn foraging bats and these will be included within marginal habitats where appropriate.

4.0 CONCLUSION

This document has been prepared to bring together all the existing ecological information for Elgar Road, Reading to provide a site-wide Biodiversity Enhancement & Mitigation Plan. This includes methods for carrying out the works without causing harm to protected species and providing opportunities for enhancement that are consistent with the aims of national and local planning policy.

Recommendations are also made within this document to provide compensation and enhancements for bats, birds and invertebrates.

Should all aspects of this document be implemented, adequate mitigation can be achieved to minimise impacts on the existing population of protected and notable species on site and produce a net gain in the site's biodiversity value.

5.0 REFERENCES

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APPENDIX 1 – ENHANCEMENT PLAN



Legend

- Site Boundary
- ⬠ Insect House - Apex
- ▲ Integrated Bat Brick (4)
- ▲ Integrated Swift Brick (4)



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