Ecological Apprsaisal at Lydcott, Lodge Lane, Nailsea, Somerset

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NATURAL SOLUTIONS

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Non-technical Summary

Background

In February 2023, Crossman Associates was commissioned by Dexter Design to undertake an ecological appraisal and bat survey of Lydcott, Lodge Lane, Nailsea, Somerset, BS48 1BH.

The site is proposed for redevelopment.

Methods

The survey follows Phase 1 habitat survey methodology that was extended to record the provisional signs of notable/protected species. All survey work was undertaken by Fairbrass Knowles, an experienced ecologist, full member of CIEEM and licenced bat worker (12392 CLS-CLS).

Bat activity and reptile surveys were conducted in May and June 2023.

Results

Lydcott consists of a c.1930's 5-bedroom brick built bungalow with a large garden. A number of mature conifer trees have been cleared from the site recently and part of the site consists of bare ground and chippings. Remaining habitat consists of ornamental borders, amenity lawn, hedges and trees.

Bat surveys confirm likely absence of a bat roost. A reptile survey confirms likely absence.

Recommendations

It is recommended that the following is undertaken as part of the proposals.

- A precautionary approach to development
- Minimal and controlled external lighting.
- Incorporate bat and bird boxes.
- Soft landscaping should incorporate plants that benefit local wildlife.

Contents

1. Introduction

1.1. In February 2023, Crossman Associates was commissioned by Dexter Design to undertake an ecological appraisal and bat survey of Lydcott, Lodge Lane, Nailsea, Somerset (site Ordnance Survey grid reference; ST 4826 7092).

1.2. Figure 1, Appendix I provides a site location map.

1.3. The objectives of the ecological appraisal were to:

- Map the existing habitats on site.
- Provide an assessment of the likely presence/absence of notable or protected species.
- Identify any legislation or policy constraints relevant to the site.
- Provide recommendations for further surveys, mitigation or compensation, as appropriate.

Site Description

1.4. Lydcott is a large, detached C. 1930's five-bedroom brick-built bungalow with pitched roofs. The site covers approximately 2,600 m^2. The gardens have recently undergone some management which involved the felling of numerous conifer trees. Also present is a makeshift DIY constructed detached garage and two small garden sheds.

1.5. The site is located within an urban and residential area on the eastern side of the town of Nailsea and immediate and wider surroundings are predominantly dense residential housing. Dwellings generally have small gardens which along with

occasional green open spaces of which the closest is a large park approximately 150 m to the south-west with grassland and scattered trees.

1.6. According to Ordnance Survey maps there is a pond approximately 350 m to the north-east of the site; Green Pastures Pond occupies a small copse on the edge of woodland and just outside of the town limits.

Proposals

1.7. Development proposals are to demolish the dwellings, sheds and garage and construct six detached dwellings.

2. Methodology

Desktop Study

2.1. The MAGIC website was accessed to gain information on any statutory site designations within 2 km of the site. This was extended to 4 km in respect of sites specifically designated for bat conservation.

2.2. National Planning Policy has been reviewed for policies that relate to nature conservation relevant to the site.

Field Survey

2.3. The ecological appraisal follows Phase 1 habitat survey methodology, which is a survey method and habitat classification system that was developed by the Nature Conservation Council, now Joint Nature Conservation Committee (JNCC, 2003) to map habitats and land use categories to a 'consistent level and accuracy'. The habitats are mapped using standard colour codes allowing rapid visual assessment of the extent and distribution of different habitat types. Where appropriate, Target Notes highlight potential features of interest.

2.4. An extended Phase 1 habitat survey also records provisional signs of protected or notable species and assesses the suitability of the habitats on-site and within the accessible surroundings of the site to support such species.

Bat scoping survey

2.5. The buildings were methodically inspected internally and externally for any evidence of roosting bats, including actual bats, droppings, urine staining and evidence of feeding activity such as discarded insect wings and cases.

2.6. The buildings were also assessed for their suitability to support roosting bats by considering several factors including whether bats can access internal and external voids within the building and whether these voids provide adequate protection and shelter for roosting bats. If the building is not confirmed as a roost, it is assessed from High to Negligible Suitability as follows.

- **High Suitability** – many roosting opportunities. Buildings tend to be old, large and rural.
- **Moderate Suitability** – some roosting opportunities. Building tends to be old, rural with some recent maintenance
- **Low Suitability** – few roosting opportunities. Buildings tend to be modern, urban and well maintained.
- **Negligible Suitability** – insignificant roosting opportunities. Buildings tend to be small, modern, urban and very well maintained.

Evening emergence / activity survey

2.7. Two number surveys were conducted on the dwelling.

2.8. The surveys were conducted by suitably qualified personnel. Three surveyors attended each of the surveys, the surveyors were positioned so that all aspects of the buildings suitable for roosting bats could be observed. Surveys were undertaken during suitable weather conditions. The emergence surveys commenced 15 minutes prior to sunset and continued for 2 hours.

2.9. Echo meter touch and Peersonic bat detectors were used together with visual observations on flight patterns and feeding behaviour to aid identification to species level. Recordings of bat calls were made and later analysed using dedicated computer software 'Kaleidoscope' by wildlife Acoustics.

Birds

2.10. The buildings were also inspected for the presence of birds including house sparrow *Passer domesticus*. The buildings were checked for field signs including nesting material, accumulations of droppings.

2.11. The buildings were also inspected for the presence of birds including house sparrow *Passer domesticus*. The buildings were checked for field signs including nesting material, accumulations of droppings.

2.12. Trees were checked from ground level for suitability to support roosting bats, including holes, loose bark or decay.

Reptile survey

2.13. The reptile survey follows guidance set out in The Reptile Habitat Management Handbook (2010), Froglife Advice Sheet 10: Reptile Surveys (1999) and Gent and Gibson (2003).

2.14. Both visual encounter surveys and refuge surveys were employed.

2.15. 16 reptile refuges (600 mm lengths of roofing felt) were laid out within suitable habitat across the site approximately 2 m – 5 m apart. These were allowed to establish for approximately 10 days. Seven site visits were subsequently made during early October 2022 to check the refuges for signs of reptile presence.

2.16. For each site visit the site was systematically walked to check for reptile presence. Refuges were checked during optimum weather conditions during periods of cloud with sunny spells and little-no wind. Temperatures for each visit did not fall below 9°C and did not exceed 18.5°C.

2.17. The buildings were also inspected for the presence of birds including house sparrow *Passer domesticus*. The buildings were checked for field signs including nesting material, accumulations of droppings.

Site Evaluation

2.18. The site evaluation for the habitat areas and species present (where appropriate) is based on published criteria given in the CIEEM guidelines for ecological impact assessment. Values are assigned between International Value and Negligible Value to habitats that are likely to be directly or indirectly affected by the proposed development.

2.19. The value categories used the assessment are as follows:

- International – Europe
- National – England
- Regional – South-west
- County – Somerset
- District – North Somerset
- Local – Nailsea
- Site – Within the immediate zone of influence

2.20. The conservation and ecological status of the site is assessed using the Ratcliffe criteria (1977).

3. Results

Desktop Study

Data search

3.1. The MAGIC website informed of the following site designated for nature conservation within a 2 km radius of the site.

- Bucklands Pool / Backwell Lake Local Nature Reserve (LNR) – the site lies approximately 1.8 km south-west of the site and consists of a large balancing pond constructed in the mid 1970's and provides an area of open water with an island and marginal vegetation. The site covers an area of approximately 5.52 hectares and the pond has become an important site for a variety of wildfowl including gadwell, shoveler, pochard, tufted duck, grey heron and mute swan as well as dragonflies and a useful foraging habitat for bats. LNR's are primarily designated for their accessibility by local residents as opposed to the rarity of the habitats and species present. The LNR is considered to be of local ecological value.

Bats

3.2. The MAGIC website informed of the following statutory site designation for bats.

North Somerset and Mendip Bats SAC Consultation Zones

3.3. The North Somerset and Mendip Bats Special Area of Conservation (SAC) is designated as a site of international significance for bats. The North Somerset and Mendip Bats SAC as a whole is designated for several important hibernation sites for Annex II species; lesser horseshoe bats *Rhinolophus hipposideros* and hibernation and maternity roost sites for greater horseshoe bats *Rhinolophus*

ferrumequinum (supporting 3% of the UK population) as well as for Annex I habitats, semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (important orchid sites) and Tilio-Acerion forests of slopes, screes and ravines.

3.4. The SAC also comprises several component Sites of Special Scientific Importance (SSSIs) including the King's and Urchin Wood SSSI, Brockley Combe Stables SSSI both of which support important greater horseshoe bat maternity roosts.

3.5. The zone is divided into three distinct areas; A, B & C which reflect the likely importance of the habitats for greater and lesser horseshoe bats and proximity to maternity roosts. Within the consultation zone development is likely to be subject to requirements, depending on the sensitivity of the site. The guidance also identifies the juvenile sustenance zones for both the horseshoe species which lay 1 km around known maternity roosts.

3.6. There are two known maternity roosts for greater horseshoe bat, as outlined below:

- Brockley Combe Stables lays approximately 4 km to the south of the site.
- Kings and Urchin Wood lays approximately 5.5 km to the south-east of the site

3.7. The highest level of bat foraging activity is generally focused within Bands A which are situated within a 2.2 km radius of known maternity roosts; however, the bats can make regular use of key foraging habitat that lies within 4 km of known maternity roosts i.e., within Bands B.

3.8. Where proposals within Bands A or B have the potential to affect significant features, early discussions with the local planning authority are essential and further surveys may be necessary.

3.9. The proposed site lies within Band B of the North Somerset Bat Consultation Zone for greater and lesser horseshoe bats.

3.10. The surveyed site does not contain roosting opportunities for horseshoe bats, nor does it provide any significant foraging opportunities for either horseshoe species.

3.11. No further survey effort in respect of horseshoe bats is considered necessary.

Planning Policy

3.12. National policy guidance is provided by National Planning Policy Framework (NPPF), which sets out the Government' planning policies for England and how they should be applied to planning applications.

Conserving and enhancing the natural environment

- Planning decisions should contribute to and enhance the natural and local environment by:

  a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan).

  b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland.

  c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate.

  d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.

e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Habitats and Biodiversity

- When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused.

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest.

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees)

should be refused, unless there are wholly exceptional reasons, and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

Habitat Survey

3.13. The habitats on site are described in the paragraphs below and are shown in Figure 2, Appendix I. Photographic reference can be found in Appendix II.

3.14. The site was visited on 28 February 2023.

3.15. The habitats on-site are considered to fall into the following categories:

- Bare ground
- Amenity lawn
- Introduced shrub
- Scrub
- Tree
- Species-poor hedgerow
- Hardstanding
- Buildings

Bare ground

3.16. A number of coniferous trees, likely Lawson's Cypress have been recently felled on site and the stumps remain. The ground cover that would have been in deep shade, directly beneath the trees is sparsely vegetated with common ivy *Hedera helix*. Chippings are spread thinly around parts of the site (Target Note 1) and are catergorised as bare ground for the purposes of this survey.

3.17. A compost heap is present in the south-west corner and is shown as Target Note 2.

Amenity lawn

3.18. Areas of lawn are dominated by amenity grass species including perennial rye-grass *Lolium perenne, Agrostis sp* and fescues *Festuca sp* and include abundant bryophyte cover.

Introduced shrub

3.19. Narrow borders occupy the sides of the dwelling, edge the drive and are present in the south-west corner. The beds are planted with a variety of ornamental annuals, perennials and small shrubs. Planting is fairly sparse.

Scrub

3.20. Small areas of bramble are present.

Tree

3.21. A single mature lawsons cypress is the only tree on the site and occupies the north-west corner. The tree lacks any significant complexities. Current plans are to retain the tree.

Species-poor hedgerows

3.22. A mature 14 m long lawsons cypress conifer hedge is present adjacent to the western elevation of the dwelling. The hedge is made up of approximately 18 closely planted trees with a base diameter averaging approximately 200 mm and approximately 4 m high. Current plans are to retain the hedge.

Hardstanding

3.23. An entrance drive access the dwelling from the eastern boundary and leads up to the house with a fork section leading to the garage in the north-west corner. Also present are a few small paths. The driveway and paths are devoid of any significant vegetative growth.

Buildings

3.24. A dwelling, garage and two sheds are present these are described below under species observations *'Bats'.*

Species Observations

Flora

3.25. No rare or notable species of flora were noted, and no non-native invasive species listed on Schedule 9 of the Wildlife and Countryside Act (1981) (as Amended) were noted on site. However, heavy management may conceal roots or corms of invasive species, so absence of invasive species cannot be confirmed within the remit of this work.

3.26. The garden provides a managed and disturbed habitat with limited structural diversity.

Invertebrates

3.27. The garden is likely to support a limited to moderate invertebrate community of species typical of domestic gardens.

Birds

3.28. Denser areas of scrub, the tree and the hedgerow provide limited opportunities for nesting birds and the garden is likely to offer foraging and nesting opportunities for a range of common garden and farmland species. Wren *Troglodytes troglodytes* and black bird *Turdus merula* was recorded on site during the survey. The seed and berry-bearing plants on site provide a potential foraging resource for birds.

Reptiles & Amphibians

3.29. The site has no ponds. There are no significant ponds within close proximity of the site, which precludes the presence of any significant population of amphibians, including great crested newt *Triturus cristatus.*

3.30. The garden is above average in size and provides areas of scrub, shrub and flower borders as well as significant piles of chippings. This provides a mosaic of habitats that are suitable in providing habitat for common reptiles, notably slow worm *Anguis fragilis.* The onsite habitats are also suitable for widespread amphibians, typically common toad *Bufo bufo* and common frog *Rana temporaria*, both these species are known to breed in small garden ponds which may be present in the gardens of local properties.

Table 1: Reptile survey results

Survey No	Date	Weather conditions	Species	Other non-reptile species
1	16 May 2023	Dry, sunny, cloud 25%, wind 1. 18^0C	0	0
2	24 May 2023	Dry, sunny, cloud 10%, wind 1. 17^0C	0	0
3	25 May 2023	Dry, sunny intervals, cloud 75%, wind 1 / 2. 18°C	0	0
4	26 May 2023	Dry, sunny intervals, cloud 15%, Wind 1 18.5°C.	0	0
5	05 June 2023	Dry, sunny, clear, wind 1. 18^0C	0	0
6	09 June 2023	Dry, overcast, wind 1. 17°C.	0	0
7	15 June 2023	Dry, sunny intervals 17°C. Wind 1	0	0

3.31. The reptile survey confirms that reptiles are likely absent from the site.

Birds

3.32. During the survey no bird nests were found in association with the dwelling, garage or sheds.

3.33. Identified gaps associated with the dwellings roof may provide small crevice nesting birds, e.g., house sparrow with nesting opportunities.

Badgers

3.34. There is no badger *Meles meles* setts on site and no evidence of badger activity was recorded on site.

Hedgehog

3.35. The site provides potential habitat for hedgehogs *Erinaceous europaeus* which may use the garden in conjunction with adjacent gardens as a foraging site.

Bats

3.36. The site provides a dwelling and two sheds, which are described in the table below.

Table 1: building description and suitability for bats

	Feature	Feature Description	Bat suitability
Dwelling	Overview	Lydcott consists of a large, detached C. 1930s 5-bedroom brick-built bungalow. The main roofs are a series of pitched roofs clad with old traditional clay Roman tiles. Overall, the dwelling is pretty tired, particularly the roof which includes numerous slipped and broken tiles and loose / poorly seated ridge tiles.	Moderate Suitability ☒
	Exterior	The majority of the walls are of some sort of masonry finished with painted render. Some decorative red brick face work exists, e.g., around the main entrance on the northern elevation, however the walls provide no significant cracks, holes or evidence of subsidence. All windows and doors are old but remain functional; fitting and shutting well within their respective reveals. An area on the front, north elevation just west of the entrance has become densely encroached by ivy *Hedera helix,* from ground to eaves height.	

	Feature	Feature Description	Bat suitability
	Interior	All living areas are composed of decorated living rooms. Two separate roof voids are present; one occupies the western end, while the other occupies the eastern end. Both roof voids follow a similar layout and are created from a timber cut and pitch roof with traditional type 1 felt. The western void has a floor to ridge height of approximately 1.6 m while the eastern has a height of approximately 2.5 m. The sarking layer is traditional type 1 f felt which looks very old and from the localised assessment it showed evidence of wear and tear and included some sections no longer well fitted, with sections hanging down. The roof void has no floor and the intervening gaps between the ceiling joists are infilled with old traditional glass fibre loft insulation. Due to health and safety neither roof void was deemed to be safe enough to fully access, however the area in the vicinity of the loft hatch was clearly	

	Feature	Feature Description	Bat suitability
		visible and with the aid of a powerful torch the area showed no evidence of bats or bat droppings.	
	Roof	The main roof consists of a series of low height hipped roofs that are all clad with traditional double Roman clay tiles, with simple triangular shaped tiles cladding the hips and ridge lines. The majority of the roof tiles are present; however, the roof is very tired and shows evidence of damage and slippage which generates significant crevices, the roof is also designed to have an open eaves which leads to the presence of a continuous and significant gap along all elevations (gutter line). The identified gaps and crevices provide small crevice dwelling bats with opportunities to access the shallow cavity that is created by the topside of the sarking layer and the roof tiles. The ridge and hip tiles are all present, however many are no longer well cemented in place and show clear evidence of gaps where the cement	

	Feature	Feature Description	Bat suitability
		mortar is absent. These gaps potentially offer small crevice dwelling bats with access to the small hidden cavity within the hollow section of the tile. The eaves are fitted with simple soffits. Apart from a couple of areas on the central northern elevation where decal had led to the creation of two holes. Refer to photograph 7.	
Sheds 1 & 2 and detached garage.	Overview	The two small garden sheds and the makeshift garage provide bats with no significant roosting suitability.	Negligible Suitability ☒

Evening emergence surveys

3.1. The dwelling has been assessed as having **Moderate Suitability** for roosting bats. Therefore, in line with survey guidance (2016), two evening emergence surveys were undertaken with three surveyors attending each survey. The surveys were led by Fairbrass Knowles assisted by Rosie Lockstone, Catherine Knowles, George Hughes and Alex Crossman. The result is outlined below, in Table 2.

Table 2; Bat emergence table

Date	Emergence Survey 01/06/2023	Emergence Survey 15/06/2023
Structure	Dwelling	Dwelling
Survey Fundamentals	Cloud: 0% Weather: Dry Wind level: (1-12): 1 Start temp: 15^{0}C End temp: 13^{0}C Sunset time: 21:18	Cloud: 0% Weather: Dry Wind level: (1-12): 1 Start temp: 20^{0}C End temp: 17^{0}C Sunset time: 21:30
Emergence survey	No bat emergence	No bat emergence
General bat activity. Non emergence	Common pipistrelle *Pipistrellus pipistrellus* 21:53 1 number bat flew through the eastern side of the garden in a north – south direction.	Common pipistrelle 22:00 – 22:26 2 brief passes recorded on the eastern side of the garden. Serotine *Eptesicus serotinus*

		22:17 A single serotine entered the eastern side of the garden form the northern boundary and flew rapidly southwards.

Foraging and commuting

3.2. A table within Appendix III sets out the criteria for the way a site is assessed for its value to bats as a commuting / foraging area.

3.3. The site occupies an urban setting and immediate and wider environs are dominated by fairly dense residential housing and as such provide bats with sub-optimal foraging and commuting habitats. Dwellings do however generally have small gardens and this along with occasional green open spaces may provide potential habitat for more urban and light-tolerant bats, such as common pipistrelle *Pipistrellus pipistrellus.*

3.4. The site offers bats with sub-optimal foraging and commuting suitability.

Evaluation

3.5. The garden provides an artificially created area containing mainly non-native species, and therefore lacks permanence or rarity. Through a lack of recent management some areas have been left to follow a more natural life cycle adding a small element of naturalness. An element of fragility may also come about if the site proves to support protected species.

The site is considered to be of ecological value at a site level.

Bats

Dwelling

3.6. During the scoping survey no droppings, staining, feeding remains or actual bats were observed.

3.7. Bat roosting suitability is assessed as follows.

- Gaps and crevices associated with the traditional clay Roman roof tiles, ridge and hip tiles.
- Two roof voids which maybe accessible via the gaps associated with the roof tiles, as described above.

3.8. The above potential roosting features (PRF's) are considered suitable in providing roosting opportunities for both crevices-dwelling bats; typically, common pipistrelle *Pipistrellus pipistrellus* and roof void dwelling bats; typically, brown long-eared bat.

3.9. The dwelling is assessed to provide bats with **Moderate Roosting Suitability.**

Sheds and garage

3.10. Neither shed nor the garage provides bats with roosting suitability and both sheds are assessed to provide bats with **Negligible Roosting Suitability.**

Activity results

Dwelling

3.11. During the survey no bats were recorded either emerging or re-entering any aspect of the dwelling, confirming the likely absence of a bat roost in association with the dwelling.

3.12. During the surveys common pipistrelle and serotine were recorded in low numbers with individual bats making very brief foraging passes.

4. Recommendations

4.1. The recommendations in the paragraphs below should be followed to help ensure that wildlife and important ecological features are protected during the course of works. Recommendations also set out mitigation measures to minimise harm where this cannot be avoided and provide compensation measures to allow the proposals to meet current legislative and planning policy objectives.

4.2. The Natural Environment and Rural Communities (NERC) Act (2006) states that a public authority must 'in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity; Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat'.

4.3. Under the Government's National Planning Policy Framework (NPPF, 2021) opportunities to incorporate biodiversity in and around developments should be encouraged.

Bats

4.4. All bats within the UK are fully protected under the Wildlife and Countryside Act (1981) as Amended and the Conservation of Habitats and Species Regulations 2017. Under this registration there are strict liability offence to injure or destroy a bat or to disturb, damage or destroy the resting place (roost) of a bat. Under the Bonn Convention, the UK is obliged through the planning system to protect important bat habitats.

<u>Dwelling and sheds/garage</u>

4.5. Due to the likely absence of roosting bats in association with the buildings, it is not considered necessary or beneficial to undertake any further survey work.

4.6. Due to the transitory nature of bats, there is a small possibility that bats could be encountered during demolition works; therefore, all works must proceed under a cautionary approach. Tiles and roof panels will be removed in a vertical rather than horizontal sliding motion. Soffits and masonry will be dismantled using a 'soft' approach taking care with cavity walls where present. All site workers will be vigilant at all times and in the very unlikely event that a bat is found, then works must stop immediately and advice should be sought from Crossman Associates or Natural England (telephone number 0300 0603900).

Toolbox talk

4.7. Prior to the start of works it is recommended that the builders are provided with a toolbox talk. The toolbox talk will cover basics such as bat biology and what action they should take in the event of an un-expected discovery of a bat during works. The toolbox talk should be delivered by a suitable qualified ecologist and can be conducted via a telephone call.

Exterior lighting

4.8. Bat surveys confirm the presence of at least two bat species.

4.9. The inappropriate use of external lighting has the potential to disturb and discourage the areas usage by bats and other nocturnal wildlife, leading to the potential severance of wildlife corridors, therefore any external lighting schemes that may be planned for the site must avoid light spill onto the boundary features. New exterior lighting schemes should consist of modern LED lights that provide directional and softer less harsh lighting onto areas where it is actually essential; alternatively, lights can be cowed or louvered.

4.10. The choice of lighting is important to minimising light spill and it is recommended that the following factors are considered to reduce the impact as much as possible.

- Narrow spectrum lights with no UV content

- Low pressure sodium and/or warm white LED
- Directional downlighting, illuminating downwards and below the horizontal plane to avoid light trespass.

4.11. A recommended exterior light unit is the Knightsbridge WALL 1LBK which is a wall mounted down lighter installed with a 3000K LED bulb which provides a beam angle of 50 degrees.

4.12. Refer to Appendix III for an information sheet on lighting.

Birds

4.13. All nesting birds are protected under the Wildlife and Countryside Act (1981) (as amended), which makes it an offence to damage or destroy a nest when being built or in use. This legislation has implications for the timing of vegetation clearance and renovation works.

4.14. Works may will require the removal of further areas vegetation. This work should ideally take place outside of the nesting bird season, which runs from March to September; if any works are to be carried out within this period it should be overseen by an ecologist or an ecological clerk of works (ECoW). Prior to the commencement of works, a thorough check will be made for nesting birds or dependent young. If birds are found to be nesting and/or rearing young, then works in the vicinity will be deferred until young have fledged and left the nest.

Dwelling

4.15. The roof tiles of the dwelling are clad with traditional Roman style tiles with open eaves and crevices present associated with the loose-fitting nature of these old-style tiles. The gaps and crevices provide small crevice nesting birds, typically house sparrow with potential nesting opportunities.

4.16. Prior to any works commencing a thorough inspection should be undertaken. If birds are nesting, then any works that may directly affect the nest would have to cease until all dependent young have left the nest.

Hedgehog

4.17. In the UK hedgehogs are listed on schedule 6 of the Wildlife and Countryside Act (1981) as Amended which makes it illegal to kill or capture wild hedgehogs. Hedgehogs are also listed as a species of 'principal importance' under the Natural Environmental and Rural Communities Act 2006, which is meant to confer a 'duty of responsibility' to public bodies.

4.18. Excavated holes and trenches on building sites have the potential to trap wildlife including hedgehogs leading to the potential suffering and death of the animal (s) particularly if they become filled with water.

4.19. If during the development excavated holes / trenches are likely to be left open, then timber builders' planks should be fitted as ramps to enable any wildlife including hedgehogs a means of escape.

Vegetation removal

4.20. The following methodology is recommended to avoid the possibility of accidently killing or injuring hedgehogs should they be present on the site but is also equally applicable to other mammals.

4.21. To reduce the likelihood of killing or injuring any hedgehogs that may be present during development, the following mitigation strategy should be followed. The strategy aims to encourage any hedgehogs away from the development area through a displacement method that relies on systematic habitat manipulation.

4.22. Prior to vegetation clearance, any piles of brash should be carefully dismantled and checked for the presence of hedgehogs and other species. Vegetation would

then be systematically and slowly, removed in stages. Firstly, the vegetation would be carefully and slowly cut to a height of approximately 200 mm. The remaining vegetation would then be further reduced 24 hours later using a second more sensitive and slower method of cutting. This method will reduce the potential for any impacts to hedgehogs and other species and would render the habitat unsuitable.

4.23. All cut material should be removed by the end of each working day and must not be left store on site.

4.24. During all operations careful observation should be kept for hedgehogs and other species.

Ecological Enhancements

Bats

4.25. It is recommended that 1 number Habibat bat box (type 001) is built into each new dwelling as it is constructed. This model is designed for a variety of bat species and has good thermal properties making it suitable as both a maternity roost and hibernation roost. A variety of facings can be fitted to suit any existing brick, wood, stonework or rendered finish, making the box unobtrusive and aesthetically pleasing.

4.26. The bat box ideally should be placed beneath the eaves or on gable ends and away from windows and doors and ideally should be fitted in a location that gives bats immediate access to foraging habitat.

4.27. The final placement of the bat box will be discussed between the owner / planner / ecologist.

4.28. An information sheet detailing this type of bat roosting box can be found in Appendix III, information sheets.

4.29. Boxes are available from www.habibat.co.uk.

Birds

4.30. The development provides an opportunity to provide nesting potential for house sparrows *Passer domesticus* (a species that has shown a recent and dramatic decline in the UK) Integrally fitted sparrow nesting boxes are recommended for both new dwellings. The boxes should be constructed into the outer skin of the supporting walls as they are being built. Alternative surface mounted boxes are available which should be securely fitted to exterior walls.

4.31. Each new dwelling should each receive 1 number sparrow nest box.

4.32. Sparrow boxes are readily available and should be fitted below eaves or on gable walls. Suitable models are produced by Habibat, Schwegler and Vivara which are strong, durable, long lasting, discreet and available in brown, stone colour or match required brick/render finish.

4.33. In the siting of the sparrow nest boxes it is recommended that advise is provided by a suitably qualified ecologist, but north or easterly elevations should be chosen.

4.34. Sparrow terraces are available from www.habibat.co.uk telephone number 01642 724626 and www.wildlifeservices.co.uk telephone number 03339000927.

Landscape Recommendations

4.35. Any new landscape proposals should include new tree and shrub planting, including a range of native and non-native species.

4.36. If a solid fence is necessary, then this should be combined with a hedgerow. In the case of solid fences small holes measuring approximately 150 mmx 150 mm should be created at the bases to allow the passage of wildlife, including hedgehogs.

4.37. An information sheet is included in Appendix III which includes a range of tree, shrub, and herb species that could be incorporated; these are recommended for encouraging bats but will also attract a wide range of other species.

5. Limitations

5.1. This report records wildlife found during the survey and anecdotal evidence or sightings. It cannot record any plants or animals that may appear at other times of the year or not evident at the time of visit.

5.2. This report represents a preliminary assessment only. Recommendations and conclusions are subject to change should further findings significantly differ from those collected from the survey efforts to date.

5.3. The advice contained in this report relate primarily to factual survey results and general guidance only. On all legal matters you are advised to take legal advice.

6. References

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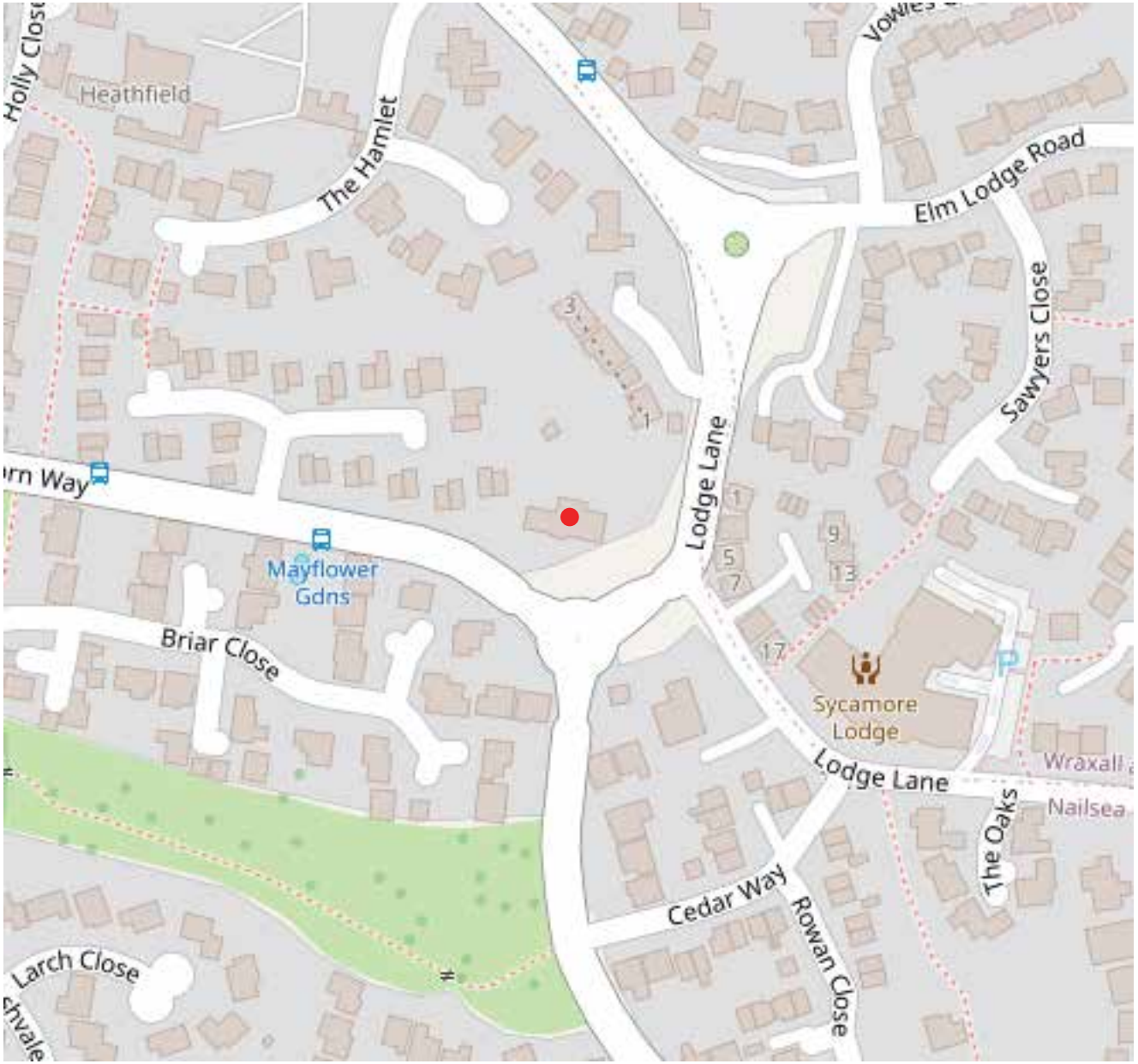
Appendix I – Site Figures



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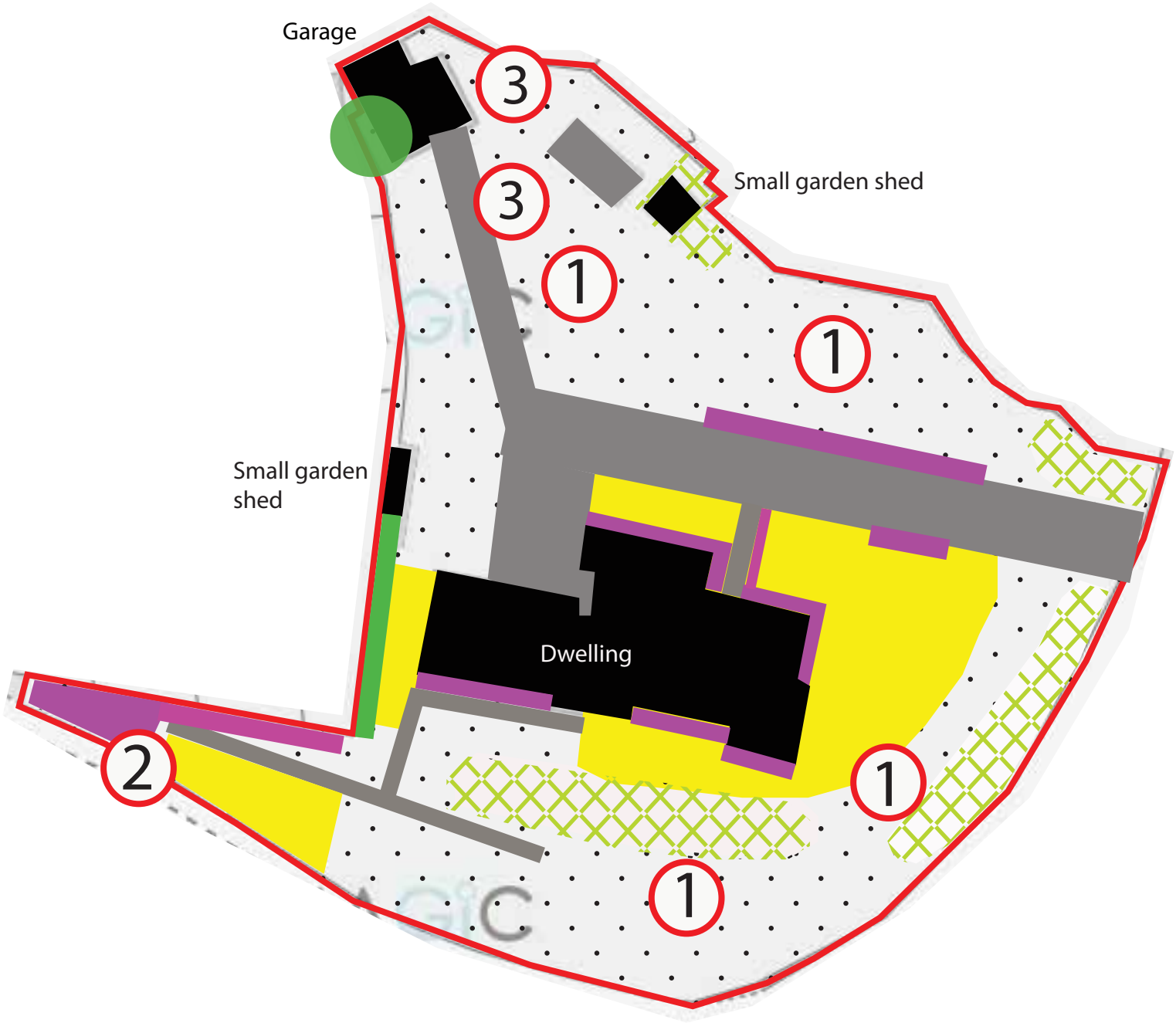
● Site location

Client	Dexter Design
Title	Location plan
Site	Lydcott, Nailsea
Figure	1
Date	28 February 2023
Scale	Not to scale



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- Site boundary
- Bare ground
- Amenity lawn
- Scrub
- Ornamental plants
- Tree
- Conifer hedge
- Target Note
- Buildings
- Hard-standing

Client	Dexter Design
Title	Habitat Map
Site	Lydcott, Nailsea
Figure	2
Date	28 February 2023
Scale	Indicative

Appendix II – Site Photographs

Photographs 1- 3

Photograph 1:

Front; northern elevation.

Photograph 2:

Eastern elevation.

Photograph 3:

Southern elevation,.

Photographs 4 - 6

Photograph 4:

Western elevation.

Photograph 5:

The main roof of the dwelling is a series of interconnected double pitched roofs which is generally in a poor condition.

Photograph 6:

Soffits are in reasonable condition.

Photographs 7 - 9

Photograph 7:

One area of soffit adjacent to the entrance (northern elevation) has a significant hole caused by decay.

Photograph 8:

Roof void 1.
Occupies the western end.

Photograph 9:

Roof void 2.
Occupies the eastern end.

Photographs 10 - 12

Photograph 10:

Garage

Photograph 11:

Garage interior

Photograph 12:

Small garden shed

Photographs 13 - 15

Photograph 13:

Small garden shed 2.

Photograph 14:

Small area of scrub associated with the central northern elevation.

Photograph 15:

The majority of the northern elevation consists of cleared ground which previously had conifer trees growing on it. Much of the land is now covered in a layer of the chipped remains from the conifers, which also form a few large piles.

Photographs 16 - 18

Photograph 16:

View looking from the front of the house (north side), and looking eastwards down the drive.

Photograph 17:

East - amenity lawn fringed by cleared areas of conifer trees and now is clear but provides a low covering of mainly ivy scrub.

Photograph 18:

Southern side.

Photographs 19 - 21

Photograph 19:

The extreme north-west corner is occupied by amenity lawn and areas of introduced plants. Also present is a moderate sized compost heap.

Photograph 20:

A short C 10 m mature lawsons conifer hedge forms a boundary feature close to the dwellings western elevation.

Photograph 21:

A single mature lawsons conifer tree provides the only tree on the site and is present tight in the north-west corner. The tree is shown as a Target Note

Appendix III– Information Sheets

Bat Habitat Suitably Criteria

Bat Roosting Suitability	Criteria	Survey requirement to prove likely absence
Negligible	Negligible habitat features on site likely to be used by roosting bats.	No further survey work required
Low	A building, structure or tree with one or more potential roosting sites that could be used by individual bats opportunistically; however, these possible roost sites do not provide enough space, shelter, protection and/or suitable surrounding habitat to be used by large numbers of bats and are unlikely to be suitable for maternity or hibernation roosts.	One activity survey
Medium	A building, structure or tree with one or more potential roost sites that could be used by bats due to the size, shelter, protection, conditions and surrounding habit, but is unlikely to support a roost of high conservation status.	Two activity surveys
High	A building, structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Three activity surveys

Survey requirements are taken from Bat Surveys for Professional Ecologists: Good Practice Guidelines (2016), which is the recognised industry standard guidance used by local planning authorities and other statutory consultees.

Information sheet Artificial bird nesting boxes for Buildings: Swifts, house martins and house sparrows

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Habibat house sparrow nest box

Vivara woodstone sparrow nest box; suitable for both integral fitment or surface mounting

Ibstock Swift boxes are also suitable for house sparrows. Can be customised to suit any exterior finish.Site boxes under eaves, away from windows and direct sunlight.

Ibstock Box

Sparrow boxes should be grouped together and be at least 2 m of the ground. The boxes can be also be sited on gable walls. At least 3 per averaged size house.

Swifts boxes should be at least 5 m above the ground with an clear un-obstructed flight path.

Schwegler model 9b

Schwegler house martin box model 9 b double is a suitable box for house martins and can be used to encourage the uptakeof a building by this species. The boxes can be attached to the exterior walls in a sheltered position; ideally beneath the eaves. At least two sets should be placed on an averaged size house.

Bat Friendly Planting

ECOLOGICAL LANDSCAPING Nº 001

Plants of known benefit to UK bat species:

Border Flowers

Corncockle *Agrostemma githago*
Cornflower *Centaurea cyanus*
Corn poppy *Papaver rhoeas*
English bluebell *Hyacinthoides non-scripta*
Knapweed *Centurea niger*
Night-scented catchfly *Silene noctiflora* *
Ox-eye daisy *Leucanthemum vulgare*
Primrose *Prima rosa*
Red campion *Selene diotica*
Scabious species *Scabiosa Sp.*
St Johns wort *Hyppericum perforatum*
Sweet rocket *Hesperis matronalis* *
Yarrow *Achillea millefolium*

Herbs

Angelica *Angelica archangelica*
Bergamot *Citrus bergamia*
Borage *Borago officinalis* *
Chives *Allium schoenoprasum*
Engligh marigolds *Calendula officinalis* *
Fennel *Foeniculum vulgare*
Feverfew *Tanacetum parthenium*
Hyssop *Hyssopus officinalis*
Lavenders *Lavandula Sp.*
Lemon balm *Melissa officinalis* *
Marjoram *Origanum majoram* *
Rosemary *Rosmarinus officinalis*
Sweet Cicely *Myrris odorata*
Thyme *Thymus vulgaris*

Trees

Elder *Sambucus niger*
English oak *Quercus niger*
Hawthorn *Crataegus Sp.*
Hazel *Corylus avellana*
Pussy willow *Salix caprea*
Rowan *Sorbus Sp.*
Silver birch *Betula pendula*
Common alder *Alnus glutinosa*

Shrubs and Climbers

Bramble *Rubus fruticosa* *
Buddleia *Buddleia buddleia*
Dog rose *Rosa canina* *
Gorse *Ulex europaeus*
Guelder rose *Viburnum opulus*
Honeysuckle *Lonicera Sp.* *
Ivy *Hedera helix*
Jasmine *Jasminum* *

Aquatic plants

Bog bean *Menyanthus trifoliata*
Bugle *Ajuga Reptans*
Creeping Jenny *Lysimachia nummularia*
Flag iris *Iris pseudacorus*
Hemp agrimony *Eupatorium cannabinum*
Lady's smock *Cardamine pratensis*
Marsh mallow *Althaea officinalis*
Marsh marigold *Caltha palustris*
Purple loosestrife *Lythrum salicaria*
Water mint *Mentha aquatica* *

Landscaping Planting for Bats
As very active mammals bats need to eat up to 3000 midges, mosquitoes and other insects a night. Incorporating night-scented plants within your site will especially help encourage bat prey insect species. Using structural plants such as trees and large shrubs can also improve a soft landscaped area by introducing dark and sheltered areas.

* Night-scented

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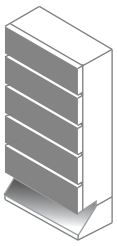
Bat Tubes

BUILT-IN HABITATS N° 004

Woodcrete Bat Tubes

We recommend the use of wood-crete-type bat tubes that are manufactured by Habibat or Schwegler. These are a well known brands so are always accepted as a compensation measure for planning applications and Natural England Licence applications. The tubes also have a low visual impact on the development because they can be built into the exterior wall and then rendered or painted, or in the case of the Habibat, faced with brick or stone.

Recommended bat tubes



Habibat

The great advantage of the Habibat box is that it can be faced with brick, stone or render, so that it blends in and doesn't alter the aesthetic of the build.

Specifications

Height	44 cm
Width	21 cm
Depth	10 cm
Weight	7 kg

Schwegler 1FR & 2FR

There are two similar designs that we use regularly. The 1FR is designed to be used singularly whereas the 2FR has transverse connecting holes (model shown) that allow tubes to be connected together.

Specifications

Height	47.5 cm
Width	20 cm
Depth	12.5 cm
Weight	9.8 kg

How Many to Install

The number of bat tubes to install is dependent on the level of compen-sation or mitigation that is required. Typically one tube is recommended on sites where there are low number of bats and multiple groups of tubes are recommended on sites of high ecological significance.

Location

The tubes should be positioned at least 0.5m below the eave or gable apex to prevent predation by domestic cats. It is also recom-mended that where practical, the tubes are not positioned above windows or doors.

Installation

The tubes should be built into the exterior wall of the building, typically at the gable apex. The tubes should be installed flush with the surrounding wall and can then be rendered or painted with breathable paint if required.

Bat Tubes

Bat tubes are an excellent way to provide discreet and low impact roosting opportunities for certain species of bats that tend to occupy crevices within buildings. They are relatively compact and can be installed flush or beneath a rendered surface and can be painted with an air permeable paint if required.

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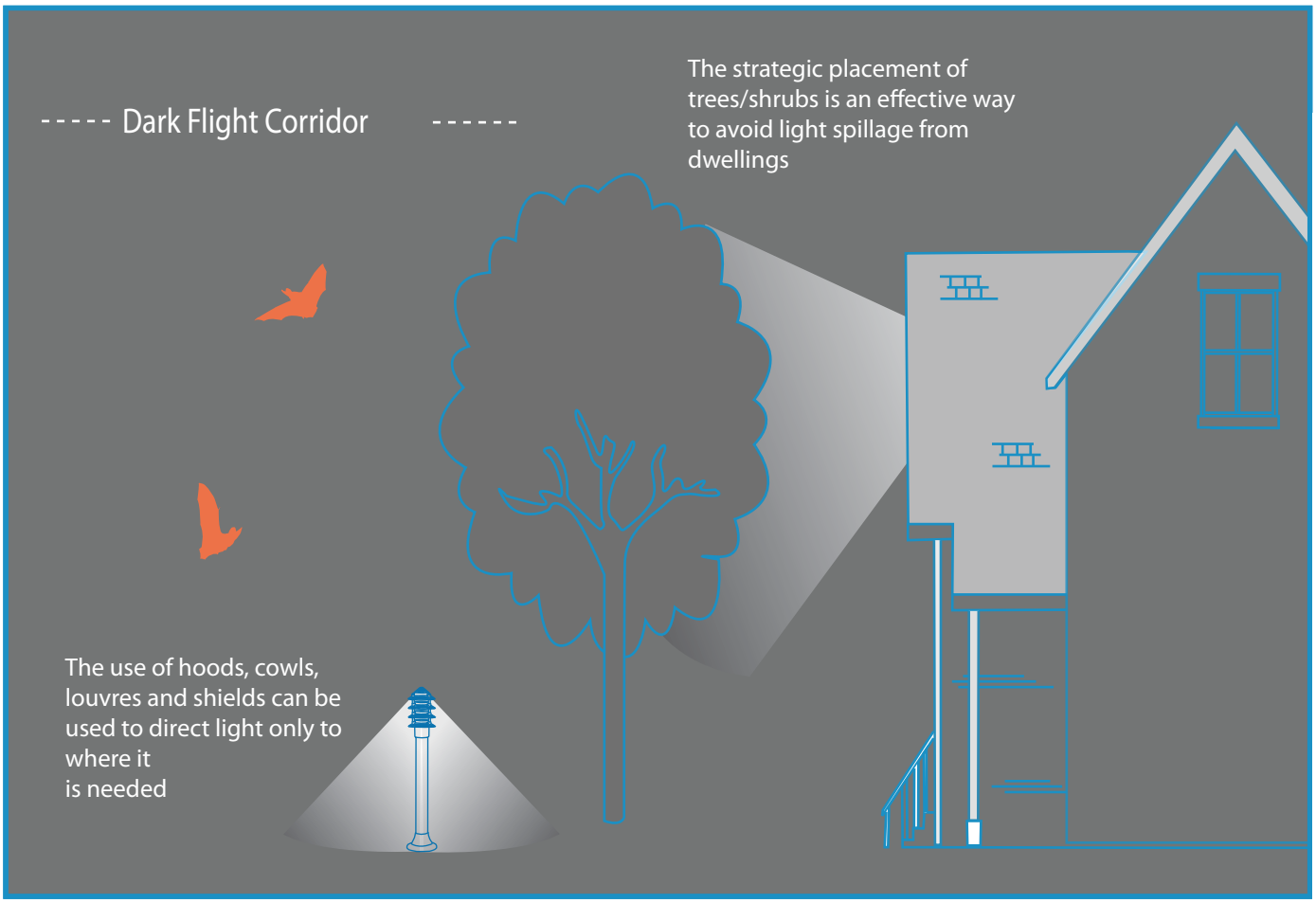
Sensitive Lighting for Bats

MITIGATION GUIDELINE Nº 001



Lamp Type

The impact of light on bats can be minimised by the use of low/high pressure sodium lamps.

Lighting Column

The height of lighting columns should be kept as low as possible to reduce the impact of light spill. For example, when designing lighting for pedestrian walkways, use short bollard lights that produce a low level light (as low as 3 lux) directed downwards.

Light Mapping

Mapping the light spill of a lighting scheme using computer software can prove essential in designing schemes that are fit for purpose, that minimise energy costs and create dark flight corridors and foraging areas for bats.

Light Levels

Proposed light levels within landscape plans should be as low as possible. If lighting is not needed, don't light.

Timing of Lighting

The times at when lighting is left on should be limited where possible. The use of movement sensors and timers for lights is useful for saving energy and reducing the amount of time a light is left on.

Impacts of Light on Bats

As nocturnal mammals, light causes disturbance to bats and many species will actively avoid lit areas. The illumination of bat roosts can delay bats emerging and thus shorten their foraging time and may eventually lead to bats abandoning their roost. The illumination of foraging or commuting areas may also lead to an increase in the rate of predation of bats by predators.

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