

**TOWNSCAPE HOMES LTD**

**KENSINGTON COURT DAY CARE CENTRE, NEWPORT**

**PRELIMINARY ECOLOGICAL APPRAISAL**

August 2025



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## SUMMARY

Soltys Brewster Ecology were instructed by Townscape Homes Ltd to undertake a Preliminary Ecological Appraisal (PEA) of a parcel of land, located to the east of Oaklands Road within the north-east of Newport within the administrative area of Newport City Council. The site is proposed for redevelopment into residential housing comprising 6no. plots within 4no. detached buildings, including associated landscaping, drainage infrastructure, access roads, and other supporting amenities. A survey to establish the ecological baseline conditions and identify any ecological constraints or opportunities at the site is therefore required to inform a planning application.

Desk-based consultation confirmed that the proposed site does not hold a statutory designation for nature conservation and only a single statutory designated site located within 1km of the site, with the St. Julian's Park LNR (and overlapping St. Julian's Park SINC) located approx. 887m to the north-east. However, these sites are not expected to be impacted by the proposed scheme and subsequently were not considered of ecological relevance. Although, the site falls within a section of the B-Lines, Cymru network, no habitats within the site boundary were assessed as wildflower-rich under B-Line criteria, and therefore is designation is not considered of particular ecological relevance to the proposed scheme. The study also identified 3no parcels of ancient woodland within 1km, with the nearest record located just 65m from the proposed site. However, the woodland is not expected to be impacted by the proposed scheme due to the presence of physical barriers and is not considered of particular ecological relevance. Records of protected species within 1km (extended to 2km for bats) included at least 5no. species of foraging/commuting bats, 1no. confirmed bat roost, a range of protected/priority bird and invertebrate species, Water Vole, Otter, Hazel Dormouse, Hedgehog, and common amphibians and reptiles such as Slow-worm, Common Lizard, Common Frog, Common Toad, Smooth Newt, and Palmate Newt.

An Extended Phase 1 Habitat survey conducted in July 2025 identified a limited range of habitats at the site. The site is predominantly composed of dense scrub, hardstanding, and 2no. derelict buildings, with semi-natural woodland and scattered trees present to a lesser extent. Semi-natural woodland is listed as priority habitats under the UK BAP and is subsequently considered of most ecological significance at the site, capable of support and range of protected and priority species. Furthermore, the dense scrub and scattered trees throughout the site are considered of ecological value in the context of the site only but are common and widespread in the surrounding landscape. Furthermore, 2no. mature trees at the south of the site were assessed as suitable for individual roosting bats (PRF-I).

The proposed development will require the demolition of both buildings located onsite, along with the removal of dense scrub and scattered broadleaved trees located near the site centre and towards the northern extent of the site. The area of semi-natural broadleaved woodland along the western site boundary is to be retained, although a new timber retaining wall is proposed to extend partially into this habitat. The area of dense scrub and scattered trees situated at the south of the site, containing the 2no. trees (TN 10 & 15 in Appendix III) identified as having potential to support roosting bats and the small garden pond recorded at the site in 2020, is also planned to be retained.

No further surveys are required. However, a number of avoidance, mitigation, and enhancement measures are recommended to minimise impacts to existing ecological features and wildlife at the site. These include (but are not limited to) (i) the retention of priority habitats as far as possible (i.e. semi-natural broadleaved woodland along eastern boundary) and ecologically valuable mature trees and dense scrub at south of the site, (ii) vegetation clearance (trees and scrub) and building demolition to avoid bird season and be undertaken over the winter period (between September – February), (iii) implementation of a two-stage vegetation clearance methodology to safeguard common herpetofauna and small mammals during vegetation removal, (iv) design of site lighting to minimise artificial light spill onto boundary features and all retained PRFs within mature trees to limit impacts to bats (foraging/commuting/roosting) and other nocturnal wildlife, (v) covering of any excavations overnight or means of escape provided during construction phase to minimise risks to Badger and any other small mammals that may become trapped, (vi) the provision of bat and bird boxes onto new units and retained trees, and (vii) the use of native species or those with a known biodiversity benefit within any future soft landscape plan and (viii) implement a management plan for new and retained habitats/planting.

## 1.0 INTRODUCTION

- 1.1 Soltys Brewster Ecology were instructed by Townscape Homes Ltd to undertake a Preliminary Ecological Appraisal (PEA) of a parcel of land, centrally located at OS Grid Reference ST 32732 88440, located to the east of Oaklands Road within the north-east of Newport within the administrative area of Newport City Council (hereafter referred to as 'the site'). The site is proposed for redevelopment into residential housing comprising 6no. plots within 4no. detached buildings, including associated landscaping, drainage infrastructure, access roads, and other supporting amenities (Appendix I). A survey to establish the ecological baseline conditions and identify any ecological constraints or opportunities at the site is therefore required to inform a planning application.
- 1.2 The site, approx. 0.43ha in size, supports a limited range of habitat types, with the majority of the area comprising a derelict building and areas of hardstanding surrounded by dense scrub and scattered trees, with semi-natural woodland present to a lesser extent. The site is bordered by woodland to the north and west, and residential properties with mature gardens to the south and east. The wider area surrounding the site is predominantly suburban in character, with further residential housing and mature gardens to the east and west, Woodland Park to the north, and more densely populated urban areas to the south.
- 1.3 The current report presents the findings of an ecological desk study and Extended Phase 1 Habitat survey undertaken at the site in July 2025. The current report describes the existing ecological conditions as well as identifying any potential ecological constraints/opportunities associated with the proposed development at the site.

## 2.0 METHODOLOGY

2.1 In order to establish the baseline ecological conditions at the site and adjacent habitats, a combination of desk-based consultation and Extended Phase 1 Habitat Survey were undertaken in July 2025.

### Desk study

2.2 The desk study involved consultation with the South East Wales Biodiversity Records Centre (SEWBRc) to identify any records of rare, protected or notable flora and fauna at the site and within a radius of 1km (extended to 2km for bats as per the Bat Conservation Trust's good practice guidelines) extending from the central point of the site (Appendix II). The search criteria also included information relating to the location and citation details (where available) for any sites designated for their nature conservation interest such as Sites of Special Scientific Interest (SSSIs) or Sites of Importance for Nature Conservation (SINCs).

2.3 An evaluation of previous ecological surveys relevant to the proposed development has been undertaken as part of the desk study. This included a review of an Ecological Impact Assessment (EclA) report produced for the site by Wildwood Ecology (WWE) in 2021 (WWE, 2021), as well as a previous bat activity (dusk emergence) survey conducted on the buildings at the site by WWE in 2019 (WWE, 2019).

### Extended Phase 1 Habitat Survey

2.4 The fieldwork was undertaken on 3<sup>rd</sup> July 2025 by two suitably experienced ecologists<sup>1</sup> and followed standard Phase 1 Habitat Survey protocol (JNCC, 2010 & Institute of Environmental Assessment, 1995). All habitats within and immediately adjacent to the site boundaries, were classified and mapped as accurately as possible. Habitats considered to have potential to support rare, protected or otherwise notable species of flora and fauna were noted, as were any direct signs of these species (e.g. Eurasian Badger *Meles meles* setts and dung-pits). Incidental observations of birds on or flying over the site were also recorded and any incidence of invasive weed species (e.g. Japanese knotweed *Fallopia japonica*) noted.

2.5 A map of habitats was produced and if required, target notes were used to identify features of ecological interest. Where possible, habitats were cross-referenced to any relevant important UK or Wales priority habitats as identified under Section 7 of the Environment Act (Wales) 2016.

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<sup>1</sup> Full Member of the Chartered Institute of Ecology & Environmental Management (MCIEEM) and Associate Member of the Chartered Institute of Ecology & Environmental Management (ACIEEM), both with experience in protected species and habitat surveys.

2.6 During the field survey any trees found within or directly adjacent to the site boundaries were assessed for their potential to support roosting bats and were categorised in relation to the bat roosting features (BCT, 2023). The categories are as follows:

- **PRF-I** – Potential Roost Feature (PRF) is only suitable for individual bats or very small numbers of bats either due to their size or lack of suitable surrounding habitats;
- **PRF-M** - PRF is suitable for multiple bats and may therefore be used by a maternity colony;
- **Negligible** – Negligible habitat features on site likely to be used by roosting bat.

### External/Internal Building Inspection

2.7 As part of the Extended Phase 1 Habitat survey, an external inspection of any existing buildings/structures present within or immediately adjacent to the site boundaries was also completed. The focus of the building inspection was to establish the likelihood that the buildings could be used by roosting bats (or nesting birds) and aimed to identify:

- If bats are, or have been, present within the building and if so, which species are present;
- The type of roost (e.g. maternity roost, day roost used by males or non-breeding females, feeding perch, night roost, mating roost, transitional roost, hibernaculum);
- How bats use the building (e.g. location of exit and entrance points to potential roosts).

2.8 The inspection of the buildings involved the use of binoculars and a hand torch to identify possible access/entry points into the structures and any evidence of use by bats such as droppings, prey remains, staining etc. The buildings were assigned to the relevant categories listed below, as per latest guidelines published by the Bat Conservation Trust (BCT, 2023). An assessment of the buildings potential to support nesting birds was also undertaken.

- **Known or confirmed roost.**
- **High** - A structure 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. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.
- **Moderate** – A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and

hibernation – the categorisation described in this list is made irrespective of species conservation status, which is established after the presence is confirmed).

- **Low** – A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site but could be used by individual hibernating bats).
- **Negligible** – No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
- **None** – No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).

### Survey Constraints

2.9 No constraints were encountered during the desk study or site survey that were considered to adversely affect the overall appraisal of the site. The remaining buildings on site are in a poor condition and internal inspection was limited to areas considered safe to enter by the surveyor during the survey.

### 3.0 RESULTS

#### Desk Study

##### *SEWBRc Records*

- 3.1 Consultation with SEWBRc confirmed that the proposed site does not hold a statutory designation for nature conservation. However, a single statutory designated site is located within the 1km search radius for the site, with St. Julians Park Local Nature Reserve (LNR) located approx. 887m to the north-east. However, due to the absence of physical and hydrological connectivity, this designation is not considered to fall within the zone of influence of the proposed development and is not of ecological relevance. Summary plans to illustrate the SEWBRc records are included in Appendix II.
- 3.2 The desk study also identified that the proposed site falls within a section of the B-Lines, Cymru network, an initiative aimed at establishing and connecting wildflower-rich habitats to support pollinating insects across designated B-Line corridors. Depending on whether the onsite vegetation qualifies as wildflower-rich in line with B-Line criteria (i.e. supporting a high diversity of native wildflower species), compensatory wildflower planting may be necessary to offset any habitat loss and maintain existing connectivity with the wider B-Lines network. Furthermore, the St. Julians Park Site of Importance for Nature Conservation (SINC) is located approx. 883m to the north-east and overlaps with the aforementioned St. Julians Park LNR. However, due to a lack of physical and hydrological connectivity, this designation is not considered to fall within the zone of influence of the proposed development and is not of ecological relevance.
- 3.3 During the desk study, a small number of Priority Areas were returned within a 1km radius of the proposed site (see Appendix II), with 3no. areas of woodland listed as Ancient Semi Natural Woodland (ASNW) under the Ancient Woodland Inventory (2021). The nearest ASNW is located approx. 65m to the north of the site and despite its close proximity, the proposed site is separated from this woodland by physical barriers, including Eveswell Park Road and additional non-ancient semi-natural woodland. Therefore, the ASNW lacks physical and hydrological connectivity to the proposed development and is not regarded as particularly ecologically relevant to the scheme.

**Table 1 – Summary of Statutory & non-statutory designated sites in local area**

Site Name	Reason for Designation	Location/Distance from Site
B-Lines, Cymru	<ul style="list-style-type: none"> <li>Initiative led by Buglife to create and connect wildflower-rich habitats for pollinator insects within B-Line areas.</li> </ul>	The site is located within a B-Line area.
St. Julian's Park SINC	<ul style="list-style-type: none"> <li>A large mosaic site of semi-improved and unimproved neutral grassland areas with bracken.</li> <li>Semi-natural recent broadleaved woodland and improved grassland areas.</li> <li>Supports Bulbous Foxtail <i>Alopecurus bulbosus</i> and potentially Deptford Pink <i>Dianthus armeria</i>.</li> </ul>	Located approx. 883m north-east of the site.
St. Julian's Park LNR	<ul style="list-style-type: none"> <li>Mosaic of semi-natural broadleaved woodland, grassland, and scrub that runs adjacent to the River Usk.</li> <li>Grassland areas managed to promote wildflower diversity for pollinating insects.</li> <li>Supports Green Woodpecker <i>Picus viridis</i>, diverse fungi assemblages, and a range of invertebrates including Purple Hairstreak <i>Neozephyrus quercus</i> butterfly.</li> </ul>	Located approx. 887m north-east of the site.

3.4 The desk study also revealed a number of protected/priority species records within the local area. This included foraging and commuting bats recorded within a 2km radius of the site, including Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus*, Brown Long-eared Bat *Plecotus auritus*, Lesser Horseshoe Bat *Rhinolophus hipposideros*, unknown Pipistrelle *Pipistrellus sp.*, and unknown bat *Chiroptera*. Furthermore, during the bat activity (dusk emergence) survey conducted at the site by WWE in 2019, small numbers of Soprano Pipistrelle, Common Pipistrelle, and Noctule *Nyctalus noctula* were recorded foraging/commuting within the site. A record for a single confirmed bat roost is located within the search radius, belonging to a roost of Lesser Horseshoe Bat located approx. 1.8km from the site.

- 3.5 Other priority/protected mammal species found within the 1km search radius include 1no. record of Water Vole *Arvicola amphibius* (approx. 570m from the site), 2no. records of Otter *Lutra lutra* (approx. 1km from the site), 2no. records of Hazel Dormouse *Muscardinus avellanarius* (approx. 1km from the site), and 44no. records of Hedgehog *Erinaceus europaeus* (nearest record approx. 210m from the site).
- 3.6 Records for 2no. reptile species were returned via the 1km search undertaken, with 2no. records of Slow-worm *Anguis fragilis* and 1no. record of Common Lizard *Zootoca vivipara*, although none related to the site or immediately adjacent areas. In addition, a small number of records for amphibian species were returned, with 11no. records of Common Frog *Rana temporaria* (one of which was returned from within the site boundary), 1no. record of Common Toad *Bufo bufo*, 1no. record of Smooth Newt *Lissotriton vulgaris*, and 2no. records of Palmate Newt *Lissotriton helveticus* within 1km of the site boundary. No records of Great Crested Newt *Triturus cristatus* were returned within 2km of the site.
- 3.7 The desk study identified a number of bird species listed under Schedule 1 of the Wildlife & Countryside Act (1981) (as amended) found within 1km of the site, including Goldeneye *Bucephala clangula*, Cetti's Warbler *Cettia cetti*, Marsh Harrier *Circus aeruginosus*, Hen Harrier *Circus cyaneus*, Peregrine *Falco peregrinus*, Mediterranean Gull *Ichthyaetus melanocephalus*, Savi's Warbler *Locustella luscinioides*, Crossbill *Loxia curvirostra*, Red Kite *Milvus milvus*, Whimbrel *Numenius phaeopus*, Bearded Tit *Panurus biarmicus*, Black Redstart *Phoenicurus ochruros*, Redwing *Turdus iliacus*, and Fieldfare *Turdus pilaris*. The data search also included a moderate list of Priority bird species listed under Section 7 of the Environmental Act (Wales) 2016 within 1km of the site, including Skylark *Alauda arvensis*, Black-headed Gull *Chroicocephalus ridibundus*, Hen Harrier *Circus cyaneus*, Cuckoo *Cuculus canorus*, Reed Bunting *Emberiza schoeniclus*, Kestrel *Falco tinnunculus*, Pied Flycatcher *Ficedula hypoleuca*, Herring Gull *Larus argentatus*, Linnet *Linaria cannabina*, Grasshopper Warbler *Locustella naevia*, Yellow Wagtail *Motacilla flava*, Spotted Flycatcher *Muscicapa striata*, Curlew *Numenius arquata*, House Sparrow *Passer domesticus*, Willow Tit *Poecile montanus*, Dunnock *Prunella modularis*, Bullfinch *Pyrrhula pyrrhula*, Starling *Sturnus vulgaris*, and Song Thrush *Turdus philomelos*.
- 3.8 The desk study identified an extensive list of priority or protected invertebrate species within 1km of the site, comprising records for several species of butterfly, moth, and Hymenoptera that are listed as Priority insect species under Section 7 of the Environmental Act (Wales) 2016. Species of butterfly is limited to Small Blue *Cupido minimus*, with no records of Marsh Fritillary *Euphydryas aurinia* within 1km. Species of Moth include (but are not limited to) Garden Tiger *Arctia caja*, Goat Moth *Cossus*

*cossus*, Dusky Thorn *Ennomos fuscantaria*, and Beaded Chestnut *Agrochola lychnidis*. Species of Hymenoptera is limited to Brown-banded Carder Bee *Bombus humilis*.

- 3.9 A number of invasive species listed under Schedule 9 of the Wildlife and Countryside Act (1981) (as amended) have been recorded within 1km of the site, including Canada Goose *Branta canadensis*, Cotoneaster *Cotoneaster sp.*, Rockspray Cotoneaster *Cotoneaster horizontalis agg.*, Himalayan Cotoneaster *Cotoneaster simonsii*, Japanese Knotweed *Fallopia japonica*, Giant Hogweed *Heracleum mantegazzianum*, Ring-necked Parakeet *Psittacula kramera*, Japanese Rose *Rosa rugosa*, and Grey Squirrel *Sciurus carolinensis*. Records of Cotoneaster and Grey Squirrel were returned from within the site boundary.

#### *Previous Surveys (2017 - 2021)*

- 3.10 A Preliminary Roost Assessment (PRA) and bat activity (dusk emergence) survey undertaken at the site by WWE in 2017 found that the buildings at the site were likely not used by roosting bats at the time of the survey (WWE, 2019). A second bat activity (dusk emergence) survey was undertaken at the site by WWE in 2019 and also found no evidence of roosting bats within onsite buildings (WWE, 2019). However, low numbers of Common Pipistrelle, Soprano Pipistrelle, and Noctule were recorded foraging/commuting around the site.
- 3.11 An EcIA, consisting of an updated PRA and PEA, was undertaken at the site by WWE in 2019 (WWE, 2021). At time of the survey, the site was predominantly comprised of dense scrub, hardstanding, and buildings, with introduced shrub, semi-natural broadleaved woodland, and neutral grassland present to a lesser extent. The condition of the buildings at the site had declined since the previous surveys and were assessed as having Negligible Potential to support roosting bats. However, two mature trees (Oak and Ash) located at the south of the site, as well as a group of Ash trees located offsite adjacent to the western site boundary, were assessed as having low suitability to support roosting bats. Furthermore, a small pond considered suitable for common amphibian species was recorded at the south of the site. The habitats on site were determined to be suitable to support nesting birds, common amphibians (breeding and terrestrial-phase), hedgehog, and bats (foraging/commuting/roosting).

#### **Extended Phase 1 Habitat Survey**

- 3.11 The distribution and extent of habitats recorded at the proposed site in July 2025 are illustrated on the Extended Phase 1 Habitat Plan included within Appendix III. The Extended Phase 1 Habitat survey revealed that the site supports a limited range of habitats as described below. In the absence of any

form of management or maintenance at the site since the 2019 survey, natural vegetative succession has resulted in an increase in scrub habitats and reduction in grassland or bare ground.

#### *Semi-natural Broadleaved Woodland*

3.12 A strip of semi-natural broadleaved woodland runs parallel to the eastern site boundary. Species composition reflects a combination of naturally generating native species and non-native species, likely originating from historic ornamental planting at the site and encroachment of vegetation from adjacent residential gardens. Trees are predominantly mature and semi-mature, with few juvenile specimens present, and consist of Oak *Quercus robur*, Sycamore *Acer pseudoplatanus*, Holly *Ilex aquifolium*, Beech *Fagus sylvatica*, Ash *Fraxinus excelsior*, and Field Elm *Ulmus minor*, with smaller stands of Cherry Laurel *Prunus laurocerasus*, Hazel *Corylus avellana*, Bay *Laurus nobilis*, Hawthorn *Crataegus monogyna*, Goat Willow *Salix caprea*, and Japanese Laurel *Aucuba japonica* present. The ground layer is dominated by Common Ivy *Hedera helix* and Bramble *Rubus fruticosus*, with Common Dogwood *Cornus sanguine*, **Montbretia *Crocasmia x crocosmiiflora*<sup>2</sup>**, Cuckoo-pint *Arum maculatum*, **Small-leaved Cotoneaster *Cotoneaster microphyllus***, Bluebell *Hyacinthoides non-scripta*, Woodland Strawberry *Fragaria vesca*, Drooping Sedge *Carex pendula*, Solomon's Seal *Polygonatum sp.*, California Privet *Ligustrum ovalifolium*, Harts-tongue Fern *Asplenium scolopendrium*, Himalayan Honeysuckle *Leycesteria formosa*, Tutsan *Hypericum androsaemum*, and Laurustinus *Viburnum tinus* also present to a lesser extent. A brush pile providing suitable cover and hibernation habitat for herpetofauna (reptiles and amphibians) and small mammals is located within this habitat (TN 6 in Appendix III).

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<sup>2</sup> Invasive, non native species are shown in bold

**Plate 1 – Semi-natural broadleaved woodland at the site.**



#### *Dense Scrub*

3.13 The vast majority of the site consists of dense scrub. The scrub appears to be unmanaged and consists of a mixed of common native and non-native species, likely originating from historic ornamental planting at the site, encroachment of vegetation from adjacent residential gardens, and natural regeneration. Species composition includes Bramble (dominant), Hawthorn, Cherry Laurel, Goat Willow, Butterfly Bush *Buddleja davidii*, Common Ivy, Red Valerian *Valeriana rubra*, **Small-leaved Cotoneaster**, Holly, Turkey Oak *Quercus cerris* (saplings), Hedge Bindweed *Calystegia sepium*, Italian Cypress *Cupressus sempervirens*, Tutsan, Common Hibiscus *Hibiscus syriacus*, Scarlet Firethorn *Pyracantha coccinea*, Hemp Agrimony *Eupatorium cannabinum*, Thorny Olive *Elaeagnus pungens*, Cabbage Palm *Cordyline australis*, Box leaved Honeysuckle *Lonicera pileata*, Beech (saplings), Horse Chestnut *Aesculus hippocastanum* (saplings), Wood Avens *Geum urbanum*, Herb Robert *Geranium robertianum*, Ribwort Plantain *Iantago lanceolata*, Japanese Laurel, **Montbretia**, Small-leaved Alumroot *Heuchera micrantha*, Broadleaved Dock *Rumex obtusifolius*, Wood Dock *Rumex sanguineus*, Cock's-foot *Dactylis glomerata*, False Oat-grass *Arrhenatherum elatius*, and Tufted Hairgrass *Deschampsia cespitosa*. A brush pile providing suitable cover and hibernation habitat for herpetofauna (reptiles and amphibians) and small mammals is located within this habitat (TN 9 in Appendix III).

**Plate 2 – Dense scrub at the southern site boundary.**



*Scattered Broadleaved Trees*

3.14 A number of scattered broadleaved trees are located within dense scrub vegetation at the site. Trees are a combination of mature and semi-mature individuals, consisting of Beech, Turkey Oak, Whitebeam *Aria edulis*, Cherry Plum *Prunus cerasifera*, Wild Cherry *Prunus avium*, Holly, Ash *Fraxinus excelsior*, and Sycamore. 2no. trees were assessed as having suitability to support roosting bats, with a mature Wild Cherry with dense ivy cover (TN 10 in Appendix III) and a mature Beech with a shallow knothole (TN 15 in Appendix III) located at the south-east of the site. Both trees were assessed as suitable for individual roosting bats (PRF-I / low potential).

*Scattered Coniferous Trees*

3.15 2no. semi-mature Redwood *Sequoiadendron giganteum* trees are located within dense scrub vegetation at the north of the site.

*Buildings*

3.16 A total of 2no. buildings were located on site and have been described in the building inspection section on the following page.

### *Fence*

- 3.17 Solid timber fencing bordering residential gardens, approx. 2m in height, is located along the southern and eastern site boundaries, and metal security fencing is located along part of the western site boundary. Common Ivy, **Small-leaved Cotoneaster**, Hedge Bindweed, and Bramble can be found growing on some of the fences, particularly along the eastern boundary fence. Furthermore, **Rhododendron *Rhododendron ponticum*** and Bearberry Cotoneaster *Cotoneaster dammeri* originating from an adjacent property was noted growing over the eastern boundary fence (TN 8 in Appendix III).

### *Invasive Species*

- 3.18 Montbretia was recorded growing within areas of dense scrub at the south of the site (TN 13 & 14 in Appendix III) and within the strip of woodland along the eastern site boundary (TN 5 & 7 in Appendix III). This species is listed under Schedule 9, Section 14 of the Wildlife and Countryside Act (1981) (as amended), making it an offence to plant or otherwise encourage such species to grow in the wild.
- 3.19 Small-leaved Cotoneaster was recorded growing within areas of dense scrub adjacent to the western and eastern site boundaries (TN 4 & 16 in Appendix III), as well as within the strip of woodland along the eastern site boundary (TN 12 in Appendix III). This species is listed under Schedule 9, Section 14 of the Wildlife and Countryside Act (1981) (as amended), making it an offence to plant or otherwise encourage such species to grow in the wild.
- 3.20 Rhododendron, originating from an adjacent residential property, was observed encroaching over the eastern boundary fence (TN 8 in Appendix III). However, no individuals were recorded as rooted within the site. This species is listed under Schedule 9, Section 14 of the Wildlife and Countryside Act (1981) (as amended), making it an offence to plant or otherwise encourage such species to grow in the wild.

### **Building Inspection**

- 3.21 An external and internal building inspection was carried out on the 2no. buildings located on site. The findings are summarised in the following sections, with additional details available in Appendix IV.

### *Main Building*

- 3.22 A large, derelict, single-storey building with an enclosed courtyard is located near the centre of the site (TN 2 in Appendix III). The building is primarily constructed of brick with remnants of a slate roof. It is in poor condition and shows signs of fire damage in several areas. The majority of roof slates are

missing, and most doors and windows have been removed or are absent, potentially allowing access for wildlife. No features considered suitable for roosting bats were identified. The interior is well-lit and exposed, rendering it unsuitable for use as a day roost. Additionally, no enclosed voids or suitable crevices were identified. The internal courtyard area is overgrown with self-seeded Willow, Sycamore, and Bramble. No evidence of roosting bats or nesting birds was observed either internally or externally. Overall, the building is assessed as having **Negligible Potential** to support roosting bats.

- 3.23 A small outbuilding is present immediately north of the main building with the remains of louver door and sloping roof present. The structure is overgrown with Bramble and Ivy and roof covering is largely missing along with large section of the door. No internal or external evidence of use by birds or bats was noted and the structure considered of Negligible potential.

**Plate 3 – Main building located at the site centre.**



#### *Small Outbuilding*

- 3.24 A derelict single-storey outbuilding is located adjacent to the western site boundary (TN 1 in Appendix III). It is constructed of brick walls with remnants of a mono-pitched tiled roof present. The structure is heavily overgrown with Bramble and is in poor condition, with the majority of the roof missing. The internal area was light and airy, with no evidence of bats or nesting birds was identified externally or internally, and the building is assessed to have a **Negligible Potential** to support roosting bats.

**Plate 4 – Small outbuilding located adjacent to the western site boundary.**



## **Fauna**

3.25 During the course of the survey, a search of field signs for protected or notable species was undertaken and the potential of the habitats to support these species considered. In the context of this report, these species meet any of the following criteria:

- Species protected by British or international law;
- Priority species included on Section 7 (Environment Act, Wales);
- Nationally rare or nationally scarce species;
- Species of Conservation Concern (e.g. JNCC Red List, RSPB/BTO Red or Amber Lists);

## *Amphibians*

3.26 Although a small, plastic-lined garden pond was previously recorded at the southern end of the site in May 2020 (WWE, 2021), the area was found to be heavily overgrown with dense scrub during the current survey, and the pond could not be relocated. However, it is considered possible that the pond may still hold water during the winter/early spring and may still be of some limited suitability for common amphibians. The fact that it could not be found during the current survey confirms that it is heavily overgrown, thereby limiting its potential for use by amphibians.

3.27 There are no ponds or any other breeding habitats considered suitable for Great Crested Newt (GCN) within the site boundaries or within the immediately adjacent habitats. Furthermore, no records of

GCN were returned within 2km of the site during the desk study. Therefore, the likelihood of GCN being present onsite is considered to be negligible and the presence of this species is not considered further in this report.

- 3.28 The dense scrub and areas of semi-natural broadleaved woodland on site are considered suitable for amphibians during their terrestrial phase, offering potential foraging and commuting opportunities for common species such as the Common Toad. Furthermore, 2no. brash piles are located within woodland and dense scrub habitats at the site (TN 6 & 9 in Appendix III), providing appropriate cover habitat and hibernation opportunities for amphibians using the site. The site's dense scrub is physically connected to Woodland Park, which lies directly adjacent to the northern and eastern boundaries and supports a range of suitable terrestrial habitat, including woodland, grassland, and scrub. Furthermore, numerous mature residential gardens in the surrounding area offer additional terrestrial habitat and potential breeding opportunities through the presence of garden ponds. Therefore, common terrestrial phase amphibians may be present within the dense scrub, woodland, and brash piles at the site.

#### *Badger*

- 3.29 No evidence of Badger activity (including setts, latrines, or foraging signs) was recorded on site or within adjacent habitats during the survey. Furthermore, no records for Badger were returned within 1km of the site during the desk study. Although the dense scrub and semi-natural broadleaved woodland onsite, as well as the woodland within the adjacent Woodland Park, are considered suitable for Badger, the immediate surrounding area (i.e. residential housing with small gardens) generally lacks suitable habitat. Furthermore, the site is isolated from larger, continuous areas of habitat required to support a Badger sett, such as St Julian's Park, located approximately 950m to the north-east. Therefore, the likelihood of Badger using the site is considered very low and no specific measures will be required regarding this species.

#### *Bats*

- 3.30 The habitats located within the site were considered suitable to support a range of foraging and commuting bat species, with the adjacent Woodland Park and linear habitat features (i.e. woodland edges) considered likely to provide connectivity for bats in the local area. Suitable habitat features at the proposed site include semi-natural broadleaved woodland, dense scrub, and scattered trees.
- 3.31 During the survey, 2no. trees containing Potential Roost Features (PRFs) were identified within dense scrub vegetation at the southern end of the site. A mature Beech tree was recorded with a single

shallow, upward-facing knothole (TN 15 in Appendix III), and a mature Cherry Plum tree was noted with dense ivy cover along most of the main stem (TN 10 in Appendix III). These features are considered suitable for use by individual roosting bats, and both trees have therefore been assessed as PRF-I (suitable for individual bats).

- 3.32 The 2no. buildings located within the site boundary were assessed to have **Negligible Potential** to support roosting bats and are not considered further within this report.
- 3.33 The desk study identified at least 5no. different bat species previously recorded within a 1km radius of the site. The dense scrub, scattered trees, and semi-natural broadleaved woodland were considered suitable of supporting a range of foraging bat species. The scrub margins and treelines are considered likely to provide habitat connectivity for bats within the wider landscape. Furthermore, a bat activity (dusk emergence) survey undertaken at the site by WWE in 2019 confirmed the dense scrub and woodland edges at the site were used by low numbers of Common Pipistrelle, Soprano Pipistrelle, and Noctule as foraging and commuting habitat.

#### *Birds*

- 3.34 During the survey a small number of bird species were heard/seen on site or in the surrounding area, including Magpie *Pica pica*, Robin *Erithacus rubecula*, and Wood Pigeon *Columba palumbus*. The species present at the time of current survey would not be considered representative of the full range of species that the proposed site could potentially support (i.e., during the breeding season or overwintering). Although no nesting was identified at the time of the survey, the dense scrub, scattered trees, and semi-natural woodland were considered likely to support a variety of arboreal nesting bird species. Furthermore, the Main Building at the centre of the site was considered suitable for urban nesting bird species (e.g. Swallow and House Sparrow) although no current or historical evidence of nesting by these, or other bird species was noted during the current survey.

#### *Hazel Dormouse*

- 3.35 Although no evidence of Hazel Dormouse (e.g. Hazel nuts with characteristic signs of being gnawed by Dormouse) was identified at the time of the survey, there are 2no. records of Dormouse within 1km, with the nearest record located approx. 930m from the site. The dense scrub, semi-natural woodland, and scattered broadleaved trees both on-site and in the immediate surrounding area are limited in extent and are not considered capable of supporting a source population of Dormouse. In addition, the site is isolated from more suitable habitats, such as larger areas of structurally diverse woodland, due to surrounding roads and residential development. Therefore, this species is not considered of

relevance to the proposed works and is not considered further within this report.

#### *Otter & Water Vole*

- 3.36 The desk study returned 2no. records of Otter within 1km of the site, with the nearest record located approx. 970m from the site and associated with the River Usk (located 1km to the south-east of the site at its nearest point). Although the dense scrub and semi-natural woodland onsite and in the immediate surrounding area may offer suitable terrestrial habitat for Otter, the site is isolated from major waterbodies and watercourses by residential development and roads. Furthermore, the geographical positioning of the site makes it unlikely to be used for commuting between watercourses or as part of a foraging range. Therefore, Otter are not considered a constraint of the proposed development and no specific measures will be required regarding this species.
- 3.37 The desk study returned a single record for Water Vole within 1km of the site, located approx. 570m to the east of the site and associated with a minor artificial watercourse within Beechwood Park. There are no watercourses/waterbodies located on site or in the immediate area surrounding the site considered suitable for Water Vole. Furthermore, the site isolated from suitable habitats in the wider area (e.g. Beechwood Park) by residential development and roads, Therefore, the likelihood of Water Vole being present at the site is considered to be very low / negligible, and this species is not considered of ecological relevance to the proposed scheme.

#### *Reptiles*

- 3.38 The desk study revealed that only a small number of common reptiles have previously been recorded in the local area, with no records associated with the site or immediately adjacent habitats. Although the dense scrub and semi-natural woodland at the site is considered suitable for common reptiles, the site is generally isolated by residential development and roads, making the presence of anything more than small numbers of common reptiles unlikely. Therefore, the dense scrub and semi-natural woodland is considered to have the potential to support individual or low numbers of common reptiles.
- 3.39 2no. brash piles are located within woodland and dense scrub habitats at the site (TN 6 & 9 in Appendix III), providing appropriate cover habitat and hibernation opportunities for reptiles using the site.

### *Terrestrial Invertebrates*

3.40 Although the hardstanding and buildings at the site are considered to be unsuitable to support a wide range of invertebrate species, the areas of dense scrub and semi-natural woodland at the site is considered likely to support a greater diversity of invertebrates in the context of the site, containing foodplants for common butterfly and moth species. Furthermore, the 2no. brash piles located within woodland and dense scrub habitats at the site (TN 6 & 9 in Appendix III) offer appropriate habitat for a range of invertebrates, including deadwood obligate species.

### *Other Species*

3.41 The desk study revealed 44no. records of Hedgehog within the vicinity of the site, with the nearest record located 210m from the site. The dense scrub and semi-natural woodland at the site is considered suitable for use by hedgehog. Furthermore, the site is well connected to additional areas of semi-natural woodland and mature residential gardens in the immediate surrounding area. Hedgehog are considered likely to be present within dense scrub and woodland at the site, at least on an occasional basis.

## 4.0 POLICIES AND PLANS

4.1 The following local and national planning policy relating to nature conservation and biodiversity are considered of relevance to the site.

### Planning Policy Wales (2024)

4.2 This document set out the land use planning policies of the Welsh Government with Chapter 6 dealing with Distinctive and Natural Places which covers Biodiversity and Ecological Networks. The advice contained within PPW is supplemented for some subjects by Technical Advice Notes (TAN's), with TAN 5 addressing Nature Conservation & Planning.

4.3 TAN 5 identifies a number of key principles, which the town and country planning system in Wales should consider. Those relevant are detailed below:

- *Work to achieve nature conservation objectives through a partnership between local planning authorities, Natural Resources Wales (NRW), voluntary organisations, developers, landowners and other key stakeholders;*
- *Integrate nature conservation into all planning decisions looking for development to deliver social, economic and environmental objectives together over time;*
- *Ensure that the UK's international obligations for site, species and habitat protection are fully met in all planning decisions;*
- *Look for development to provide a net benefit for biodiversity conservation with no significant loss of habitats or populations of species, locally or nationally;*
- *Promoting approaches to development which create new opportunities to enhance biodiversity, prevent biodiversity losses, or compensate for losses where damage is unavoidable. Minimising or reversing the fragmentation of habitats and improving habitat connectivity through the promotion of wildlife corridors;*
- *Local planning authorities should seek to protect trees, groups of trees and areas of woodland where they have natural heritage value or contribute to the character or amenity of a particular locality;*
- *The presence of a species protected under European or UK legislation is a material consideration when a local planning authority is considering a development proposal which, if carried out, would be likely to result in disturbance or harm to the species or its habitat.*

## Updates to PPW Chapter 6: Distinctive and Natural Places (October 2023)

4.4 An updated version of PPW: Chapter 6 was published with immediate effect on 11th October 2023 in a published letter to Local Authorities from Julie James AS/MS – Minister for Climate Change<sup>3</sup>. These changes have now been incorporated as part of the latest edition (February 2024) of PPW. The new guidance provides an update on Net Benefit for Biodiversity and the Step-wise Approach, with extracts considered of relevance to the development site provided below:

### *Maintaining and Enhancing Biodiversity*

4.5 Planning authorities must follow a step- wise approach to maintain and enhance biodiversity, build resilient ecological networks and deliver net benefits for biodiversity by ensuring that any adverse environmental effects are firstly avoided, then minimized, mitigated, and as a last resort compensated for. Enhancement must be secured by delivering a biodiversity benefit primarily on site or immediately adjacent to the site, over and above that required to mitigate or compensate for any negative impact.

4.6 All development must deliver a net benefit for biodiversity and ecosystem resilience from the baseline state (proportionate to the scale and nature of the development proposed). Even if the biodiversity value has been maintained, there must still be a pro-active process to look for and secure enhancement through the design and implementation of the development.

### **Environment (Wales) Act, 2016**

4.7 Part 1 of the Environment Act Wales came into force in May 2016 and sets out the approach to planning and managing natural resources at a national and local level with a general purpose linked to statutory 'principles of sustainable management of natural resources' defined within the Act.

#### *Section 6 - Biodiversity and resilience of ecosystems duty*

4.8 *Section 6 of the Act places a duty on public authorities to 'seek to maintain and enhance biodiversity' so far as it is consistent with the proper exercise of those functions. In so doing, public authorities must also seek to 'promote the resilience of ecosystems'.*

#### *Section 7 - Biodiversity lists and duty to take steps to maintain and enhance biodiversity*

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<sup>3</sup> Published letter from Julie James AS/MS (Minister for Climate Change) to Local Authorities – Heads of Planning. Reference: MA/JJ/2512/23. Dated 11th October 2023.

4.9 *This section lists living organisms and types of habitat in Wales which are considered of key significance to maintaining and enhancing biodiversity in relation to Wales. The Welsh Ministers are required to take all reasonable steps to maintain and enhance the living organisms and types of habitat included in any list published under this section, and encourage others to take such steps.*

## **Local Planning Policy**

### **Newport Local Development Plan 2011 – 2026**

4.10 The Newport Local Development Plan (LDP) 2011-2026 provides the local planning policy framework for the Newport County area and was adopted by the Council in January 2015. The Plan sets out the vision, objectives, strategy and policies for managing development in Newport and contains a number of local planning policies and makes provision for the use of land for the purposes of housing, employment, retailing, recreation, transport, tourism, minerals, waste, and community uses. Policies within the current LDP relating to biodiversity, and considered of relevance to the site proposals, are listed below.

#### **Policy CE3 – Environmental Spaces and Corridors**

*In and adjoining the urban and village areas, and in areas identified for comprehensive development, sites having existing importance for their visual qualities, as wildlife habitats or for recreational or amenity purposes, will be safeguarded as “environmental spaces and corridors”. Development in these spaces will be permitted only where:*

- i) the existing or potential environmental qualities of the site will be improved or complemented;*
- ii) there is no adverse impact on international, European, national, regional or local nature conservation interest;*
- iii) there is not a loss, without appropriate replacement, of a recreational, open space, or amenity resource for the immediate locality unless it can be demonstrated that there is an excess of provision or facilities can be enhanced through development of a small part of the site.*

*Proposals to enhance or improve existing environmental space provision will be encouraged where practicable. Additional provision will be sought in areas where a deficit has been identified.*

#### **Policy CE7 – Conservation Areas**

*Development within or adjacent to conservation areas will be required to:*

- i) be designed to preserve or enhance the character or appearance of the conservation area, having regard to the conservation area appraisal where appropriate.*
- ii) avoid the removal of existing historic features, including traditional shopfronts and joinery.*

- iii) use materials which are traditional, or appropriate to their context.*
- iv) complement or reflect the architectural qualities of nearby buildings which make a positive contribution to the character of the area.*
- v) pay special attention to the settings of buildings, and avoid the loss of any existing domestic gardens and open spaces which contribute to the character of the area.*
- vi) avoid adverse impact on any significant views, within, towards and outwards from the conservation area.*

**POLICY CE8 – Locally Designated Nature Conservation and Geological Sites**

*Proposals affecting locally designated sites will only be permitted where:*

- i) there would be no overall loss of the nature conservation resource for which the site has been designated;*
- ii) there would be no significant adverse effect on the geological interest of the site;*
- iii) appropriate mitigation or compensatory measures can be achieved.*

## 5.0 CONCLUSIONS AND RECOMMENDATIONS

- 5.1 The combination of desk study and Extended Phase 1 Habitat survey undertaken at the site in July 2025 identified a limited range of habitats at the site. The site contains a small area of semi-natural broadleaved woodland along the western site boundary, which is listed as a priority habitat under Section 7 of the Environment (Wales) Act 2016. This feature is considered to be of most ecological value in the context of the site and is of local importance, capable of supporting a range of protected/priority listed species such as nesting birds, common herpetofauna (reptiles and amphibians) hedgehog, foraging/commuting bats, and other small mammals. Additional common habitat types were also present onsite, which are considered of some ecological value within the context of the site only, with a majority of the site comprised of dense scrub and occasional scattered trees capable of supporting a range of protected/priority species. Although the buildings on site were considered to be unsuitable to support roosting bats, 2no. mature trees at the south of the site (TN 10 & 15 in Appendix III) were assessed as containing features suitable for individual roosting bats (PRF-I).
- 5.2 The site is proposed for redevelopment into residential housing comprising 6no. plots within 4no. detached buildings, including associated landscaping, drainage infrastructure, access roads, and other supporting amenities (Appendix I). The proposed development will require the demolition of both buildings within the site boundaries (TN 1 & 2 in Appendix III), along with the removal of dense scrub and scattered broadleaved trees located near the site centre and towards the northern extent of the site. The area of semi-natural broadleaved woodland along the western site boundary is to be retained, although a new timber retaining wall is proposed to extend partially into this habitat. The area of dense scrub and scattered trees situated at the south of the site, containing the 2no. trees (TN 10 & 15 in Appendix III) identified as having potential to support roosting bats is also planned to be retained. No further surveys are recommended to inform the planning submission although mitigation and enhancement measures are recommended to ensure compliance with the Section 6 Duty of the Environment Act (Wales) 2016. The following avoidance, mitigation, and enhancement measures are considered appropriate to the construction and operational phases of the future development at the site:

### *Badger and Small Mammals*

- 5.3 Although the likelihood of Badger using the site is considered very low due to a lack of connectivity with larger areas of suitable habitat required to support this species, it is recommended that during the construction phase of any future development, any excavations with steep/near vertical sides are covered overnight, or a means of escape provided (e.g. rough sawn timber board of 300mm width

placed at an angle of  $\leq 45^\circ$ ) to minimise the risk to Badger and any other small mammals that may become trapped (e.g. Hedgehog). Construction materials should also be stored properly when not in use to prevent Badger (or other small mammal) access. Any boundary security fencing (if required) should include an appropriate access gap at the bottom to allow the continued free movement of Badgers (and other mammals) throughout the site.

### *Bats*

- 5.4 2no. trees onsite were assessed as suitable for roosting bats (TN 10 & 15 in Appendix III), with both trees containing features considered suitable for individual roosting bats (PRF-I). However, these trees are located at the south of the site outside of the proposed development footprint and are planned to be retained. Although both trees lie outside the scope of the proposed works, all bats and their roosts are fully protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and the Wildlife and Countryside Act 1981 (as amended). As such, any artificial lighting required as part of the proposed development should be carefully positioned to ensure that all PRFs within trees remain at current or lower levels of brightness, in line with best practice guidance. Mitigation/enhancements for roosting bats could be provided via bat boxes on new buildings or retained trees. In the event that either tree assessed as suitable for roosting bats requires removal or management on arboricultural grounds, reasonable avoidance measures should be adopted (BCT 2023) to include prior visual check (by arborist or ecologist), timing of works and immediate suspension of work if bats, or evidence of bats were discovered.
- 5.5 The linear habitat features at the site, including dense scrub margins and woodland edges, along with the woodland edges located immediately adjacent to the northern and eastern site boundaries, were considered likely to support a limited range of foraging and commuting bats species. Although a majority of dense scrub within the central and northern parts of the site are subject to proposed plans for removal to fulfil the proposed design, the semi-natural broadleaved woodland along the western boundary, as well as the dense scrub and scattered trees within the southern part of the site, are planned to be retained and therefore ecologically valuable linear habitat features at the site will be retained. Furthermore, the addition of native scrub and tree planting within any future soft landscaping plans will provide additional foraging and commuting opportunities for local bat populations.
- 5.6 It is recommended a Sensitive Lighting Scheme is implemented during both the construction and operational phases of the development. This should ensure that habitat features along western, eastern, and northern site boundaries are maintained as dark corridors (e.g. lux level increases

minimised to at or below 1.0 lux compared to existing) to support continued use by bats and other nocturnal wildlife. See lighting guidance note produced by BCT & ILP (2023) for advice on how to mitigate for impacts of artificial lighting on bats (Appendix IV).

### *Birds*

5.7 Although no nesting was identified at the site during the survey, the semi-natural broadleaved woodland, dense scrub, and scattered trees at the site, along with the Main Building near the site centre, have the potential to support breeding birds. All birds, their nests and young are protected from damage and destruction under the Wildlife and Countryside Act 1981 (as amended). Due to the high likelihood of nesting birds being present within suitable habitats, any future vegetation/building works that would affect the aforementioned habitats would be subject to seasonal constraints and should be undertaken outside of the nesting bird season (undertaken between September – February). If this is not possible an ecologist should be present to inspect habitats for the presence of nesting birds prior to removal and to supervise vegetation clearance. Mitigation/enhancements for tree and scrub nesting species could be provided via nest boxes on new buildings or retained trees.

### *Common Herpetofauna (Reptiles and Amphibians)*

5.8 The dense scrub and semi-natural broadleaved woodland at the site is considered to have the potential to support individual or low numbers of common reptiles and terrestrial phase amphibians. The following two-stage clearance methodology for vegetation removal should be adopted to safeguard herpetofauna and other wildlife (e.g., small mammals) during the initial groundworks associated with the proposed scheme:

- Vegetation will be cut to approx. 300mm above ground using handheld tools (e.g., chainsaws, brush cutters). This should be done in a directional manner, progressing from south to north, to facilitate the movement of wildlife to move towards suitable receptor habitats (i.e. dense scrub and other vegetation with good connectivity with Woodland Park to the north).
- A suitably qualified ecologist or experienced landscape contractor will then conduct a fingertip search of the remaining vegetation for the presence of wildlife, including under loose refuge features (e.g., logs and stones).
- Any wildlife found will be immediately transferred to an appropriate habitat away from the works.
- The vegetation can then be cut to ground level.

5.9 2no. brash piles are located adjacent to the eastern site boundary, with one located within the areas of semi-natural woodland (TN 6 in Appendix III) and one located within dense scrub at the south-east

of the site (TN 9 in Appendix III). These features are considered suitable for use by hibernating herpetofauna (reptiles and amphibians) and overwintering small mammals (e.g. Hedgehog). Therefore, if these features are subject to removal to facilitate the proposed scheme, the works should be subject to seasonal constraints and should be undertaken outside of the main hibernation season for herpetofauna (undertaken between mid-March – September). This will avoid disturbance to herpetofauna and small mammals that may use the feature for hibernation/overwintering, as they are more vulnerable to harm during this sensitive period. If this is not possible an ecologist should be present to inspect the feature for the presence of hibernating herpetofauna prior to removal and to supervise the works. Recreation of these features within retained habitats would be recommended if their removal is required

### *Priority Habitats*

5.10 The semi-natural broadleaved woodland located along the eastern site boundary is listed as a Priority Habitat under Section 7 of the Environmental Act (Wales) 2016 and as such should be retained and protected wherever possible and incorporated as part of a strategic green infrastructure (GI) network. Current plans indicate that minor loss of semi-natural woodland area may occur to facilitate the construction of the proposed timber retaining wall which will be partially positioned within this habitat. Root protection zones of mature trees within the woodland, as well as any scattered trees to be retained at the site, should be clearly demarked and avoided by any construction works where possible. Management of retained woodland within the current land ownership and of the retained trees/scrub to the south would be recommended.

### *Designated Sites*

5.11 The desk study identified that the proposed site falls within a section of the B-Lines, Cymru network. Although there are no habitats located onsite that qualify as wildflower-rich in line with B-Line criteria, any future soft landscaping plans could incorporate wildflower planting to offset the loss of dense scrub habitat for pollinating insects and contribute the B-Line network. Furthermore, any created areas of grassland (i.e. lawns within residential plots) could be seeded with a flowering lawn mix<sup>4</sup> to promote value to pollinating insects.

### *Other Consideration and Enhancements*

5.12 Other possible enhancement and mitigation measures could include the provision of hibernacula or brash/log piles and re-creation (or restoration) of the garden ponds within the retained area of dense

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<sup>4</sup> E.g. see Emorsgate seeds; <https://wildseed.co.uk/product/mixtures/complete-mixtures/special-habitat-mixtures/flowering-lawn-mixture/>  
 Townscape Homes Ltd  
**Kensington Court Day Care Centre, Newport**  
 Preliminary Ecological Appraisal  
 E25134801/DOC 01

scrub with scattered trees at the south of the site to improve habitat suitability for common herpetofauna species and invertebrates. Management of the area to the south of the site should aim to recreate a mosaic of trees, scrub and grassland habitats, as was noted at the site in 2017 & 2019. In practice, this would require selective removal of scrub and new grass seeding using an appropriate wildflower mix<sup>5</sup>, with on-going management as appropriate.

- 5.13 The positive management of retained and newly created habitats in order to encourage botanical diversity would further contribute to providing localised enhancement for biodiversity. Furthermore, the small garden pond previously recorded at the southern end of the site in May 2020 (WWE, 2021) could be recreated/reinstated and enhanced through the removal of encroached scrub vegetation from the pond and planting with native aquatic/riparian species.
- 5.14 Any future internal and boundary fencing within the site should incorporate provisions for Hedgehog access. Access points measuring at least 13 cm x 13 cm should be installed at approximately 15-metre intervals to facilitate the free movement of Hedgehogs across the site and prevent habitat fragmentation.
- 5.15 Both Montbretia (TN 5, 7, 13, & 14 in Appendix III) and Small Leaved Cotoneaster (TN 4, 12, & 16 in Appendix III) are present throughout the site. Furthermore, although not rooted within the site, Rhododendron was observed encroaching over the eastern boundary fence (TN 8 in Appendix III). These species are listed under Schedule 9, Section 14 of the Wildlife and Countryside Act (1981) (as amended) meaning it is an offence to plant or cause the spread of it in the wild. Development should seek to control the spread of invasive species and eradicate them from within the site boundary to prevent further spread. All invasive plants should be eradicated and disposed appropriately via professional invasive species specialist contractors.

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<sup>5</sup> e.g. Emorsgate basic meadow mix; <https://wildseed.co.uk/product/mixtures/complete-mixtures/general-purpose-meadow-mixtures/basic-general-purpose-meadow-mixture/>

## *Avoidance, Mitigation and Enhancements*

5.16 The avoidance, mitigation and enhancements described in the sections above are summarised below:

### **Avoidance**

- Retention of priority habitats as far as possible (i.e. semi-natural broadleaved woodland along eastern boundary);
- Retention of ecologically valuable mature trees and dense scrub at south of the site;
- Vegetation clearance (trees and scrub) and building demolition to avoid nesting bird season and be undertaken over the winter period (between September – February);
- Removal of brush pile features suitable for use by hibernating herpetofauna to avoid main hibernation season (to be undertaken between mid-March – September).

### **Mitigation**

- Two-stage vegetation clearance methodology to safeguard common herpetofauna and small mammals during vegetation removal;
- Design of site lighting to minimise artificial light spill onto boundary features and all retained PRFs within mature trees to limit impacts to bats (foraging/commuting/roosting) and other nocturnal wildlife. Any increase in lux level to be less than or equal to 1.0 lux compared to existing levels;
- Covering of any excavations overnight or means of escape provided during construction phase to minimise risks to Badger and any other small mammals that may become trapped;
- Any required security fencing to include an access gap at the bottom to allow continued connectivity for Badger and other small mammals post-development.
- Implementation of 13cm x 13cm hedgehog access points at 15m intervals into all permanent future fencing associated with the operational phase of the proposed scheme;

### **Enhancement**

- Inclusion of bat and bird boxes onto retained trees and/or new buildings;
- Use of native species or those with a known biodiversity benefit within any future soft landscape plan;
- Enhancement of created grassland areas with a species-rich meadow/lawn seed mixture to enhance the site for pollinators and other invertebrates;

- Reinstatement/enhancement of small garden pond previously recorded at the south of the site;
- Inclusion of wildflower planting into any future soft landscaping plans to improve habitat provision and connectivity for pollinating insects (contribution to B-Line network);
- Creation of hibernacula within retained habitats at the south of the site to enhance the site for common reptiles and amphibians;
- Management and control of invasive Montbretia, Small-leaved Cotoneaster, and Rhododendron within the site boundary;
- Implement Management Plan for retained (i.e. woodland at boundaries and scrub/trees to south) and proposed planting to maintain and enhance value to Biodiversity.

DRAFT

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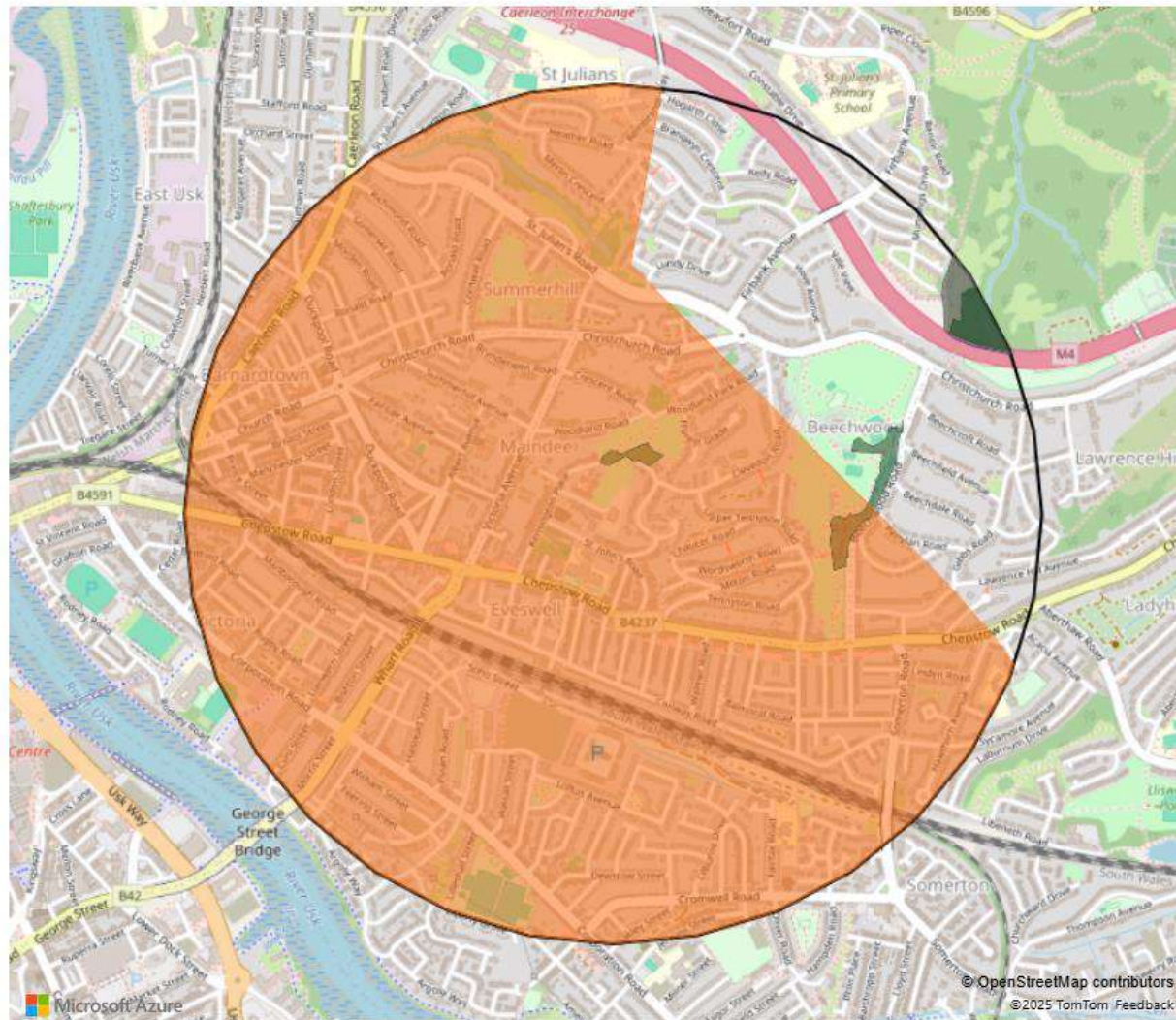
WWE (2019). *Kensington Court, Newport – Bat Activity Survey Report*. DOCUMENT REF: WWE19109 BAS REV A. July 2019.

WWE (2021). *Kensington Court, Newport – Ecological Impact Assessment Report*. DOCUMENT REF: WWE20172 ECIA REV C. February 2021.



APPENDIX II DESK STUDY INFORMATION RECEIVED FROM SEWBReC

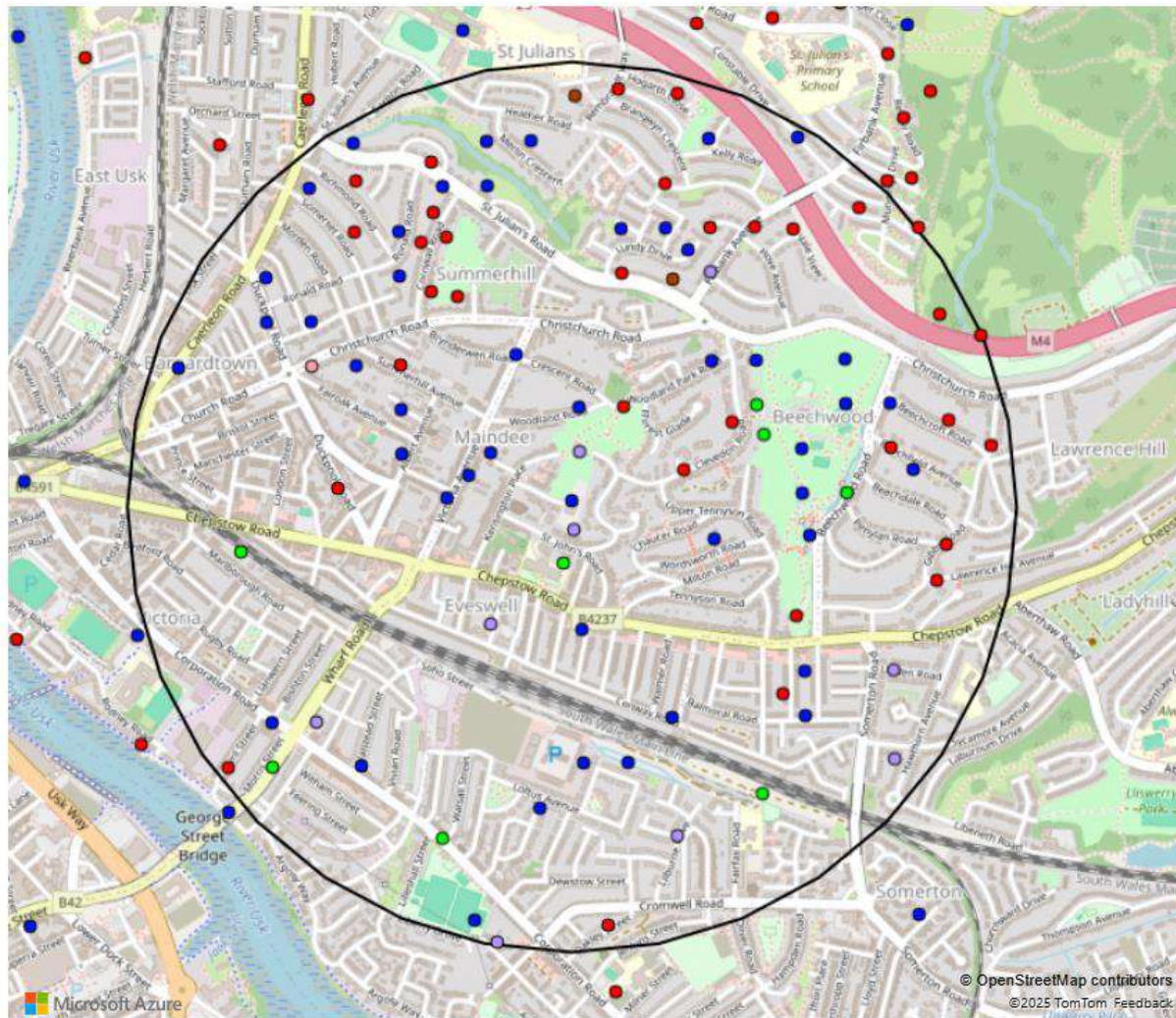
Designated Sites Map



Col.	Name
<span style="display:inline-block; width:15px; height:15px; background-color:yellow;"></span>	Local Nature Reserve (17,054m <sup>2</sup> )
<span style="display:inline-block; width:15px; height:15px; background-color:blue;"></span>	Wildlife Site / SINC (Adopted) (18,526m <sup>2</sup> )
<span style="display:inline-block; width:15px; height:15px; background-color:darkgreen;"></span>	Ancient Semi Natural Woodland (27,744m <sup>2</sup> )
<span style="display:inline-block; width:15px; height:15px; background-color:orange;"></span>	B-Lines (2,501,447m <sup>2</sup> )

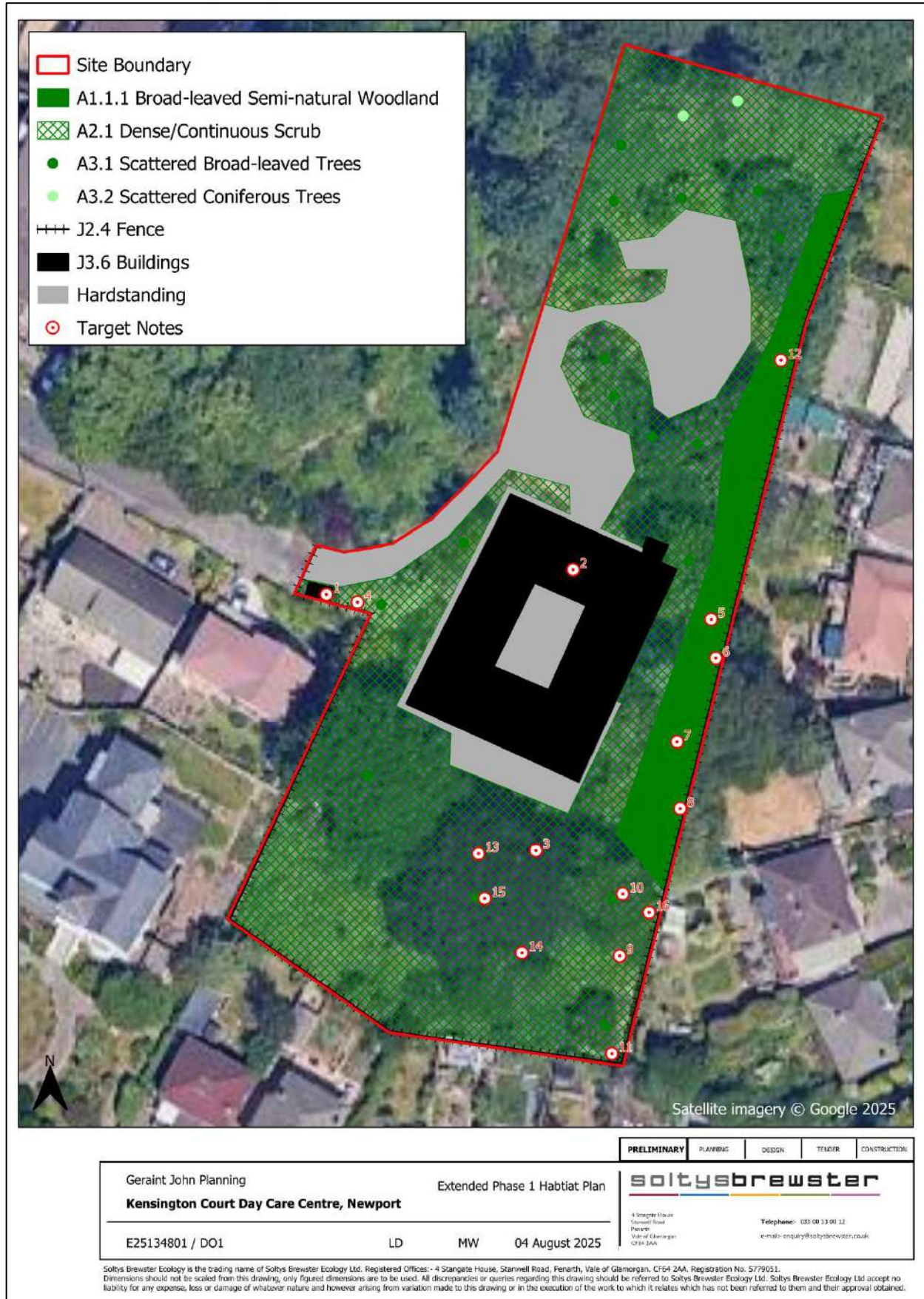
## Species Map




Species records are mapped below. Records are mapped as centred points (centre of grid reference polygon).











Icon	Name
●	Birds
●	Bryophytes
●	Fungi and Slime Moulds
●	Invertebrates (insect)
●	Invertebrates (other, marine or freshwater)
●	Mammals (marine)
●	Mammals (terrestrial)
●	Reptiles and Amphibians
●	Vascular Plants

APPENDIX III EXTENDED PHASE 1 HABITAT PLAN





Target note	Description/comment
<p><b>Birds seen/heard:</b> Magpie, Robin, and Wood Pigeon.  <b>Other sightings:</b> none.</p>	
1	Small, derelict outbuilding. Assessed to have Negligible Potential to support roosting bats and considered unsuitable to support nesting birds.
2	Main Building. Assessed to have Negligible Potential to support roosting bats but considered suitable for nesting birds (see Appendix IV for further detail). No evidence of active or historic bird nesting identified within the building.
3	Remnants of old garden pond. Overgrown and no longer holding water.
4	Small-leaved Cotoneaster. 
5	Montbretia. 
6	Brash pile. 
7	Montbretia.

	
8	<p>Rhododendron encroaching over boundary fence. Not currently rooted within site.</p> 
9	<p>Brash pile.</p> 
10	<p>Mature Wild Cherry tree with dense ivy cover. Assessed as suitable for individual roosting bats (PRF-I).</p> 

11	<p>Mammal path leading off-site. Most likely from cat and/or fox.</p> 
12	<p>Small-leaved Cotoneaster.</p>
13	<p>Montbretia.</p> 
14	<p>Montbretia.</p>
15	<p>Mature Beech tree with single shallow, upward facing knothole (see Appendix IV for further detail). Assessed as suitable for individual roosting bats (PRF-I).</p> 
16	<p>Small-leaved Cotoneaster.</p> 

APPENDIX IV BUILDING INSPECTION RECORD

RECORD OF SITE VISIT	
<b>SITE NAME</b>	Kensington Court, Newport
<b>DATE</b>	03 July 2025
<b>PURPOSE OF VISIT</b>	Day-time check of remaining buildings to establish bat or nesting bird potential. Survey in 2017 & 2019 found no evidence of use by bats.
<b>FINDINGS</b>	Current survey found both the main building and adjacent small outbuilding to be of <b>Negligible</b> potential for roosting bats.
<b>1 – North elevation</b>	<p>Roof collapsed due to fire damage to NE side and small area of remaining roof tiles to NW. All other areas with limited remaining roof covering and building is light/open and easily accessible by bats or birds.</p>  





Soffit boarding remains to North elevation but area above soffit is open due to missing roof covering – no enclosed cavity present. No external or internal evidence of bats or nesting birds noted.

**2 – Brick  
Outbuilding**

Brick outbuilding with remains of louver door and sloping roof present. Structure is overgrown with Bramble and Ivy and roof covering is largely missing along with large section of the door. No internal or external evidence of use by birds or bats noted.

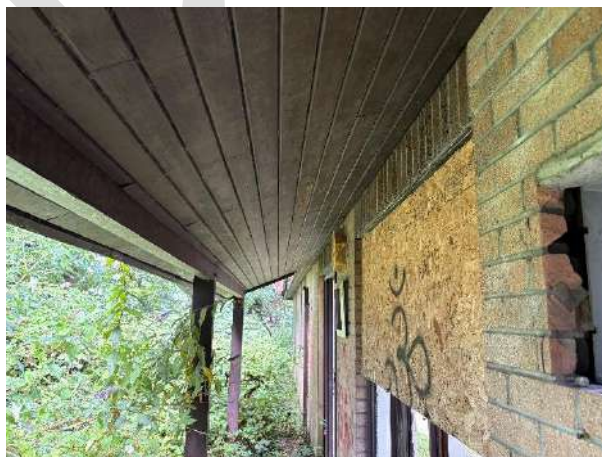


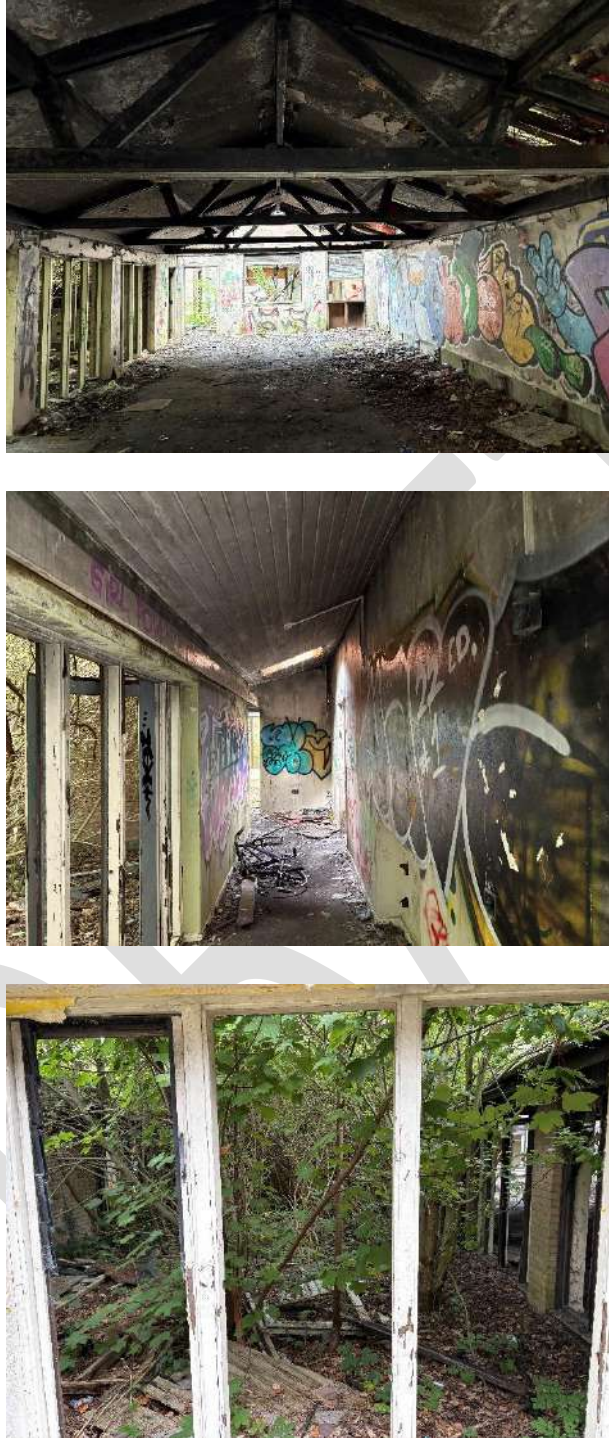
<p><b>3 – East elevation</b></p>	<p>Narrow walkway at base of vertical boundary/retaining wall. Door opening has been blocked up and metal louver allows possible access to interior – this light &amp; open. Roof covering largely absent or burned/collapsed. Soffit boarding remains as for Note 1 but open above with no enclosed cavity. No external evidence of birds or bats on brickwork below soffit.</p>  
<p><b>4 – Mature Beech</b></p>	<p>Mature Beech to south of building with knot hole (upward facing) to north side. Shallow cavity which does not lead into the trunk. PRF I.</p>



**5 – Southern elevation**

Roof to southern elevation largely as described for Note 1. No doors/windows remain and building interior is open to elements. Soffit boarding remains to covered walkway and roof covering above is largely intact – no gap between soffit and brickworks ( $\leq \frac{1}{2}$  inch) and no obvious bat features or evidence of use noted.



<p><b>6 – Interior</b></p>	<p>Interior is light and open and evidence of fire damage in several locations including the main hall area. Central courtyard area overgrown with self-seeded Willow, Sycamore and Bramble.</p> 
<p><b>7 – Western elevation</b></p>	<p>Western elevation and main entrance as for other areas. Soffit boarding remains in places but roof largely absent and no gap between soffit boarding and brickwork. No external evidence of birds or bats noted.</p>



**APPENDIX V BATS AND ARTIFICIAL LIGHTING IN THE UK GUIDANCE NOTE**

The following is an extract from the Bat Conservation Trust and Institution of Lighting Professionals (2023) guidance note on Bats, Lighting and the Mitigation Hierarchy. Section 4 contains advice on how to mitigate for the impacts of artificial lighting on bats. Full citation:

Bat Conservation Trust & Institution of Lighting Professionals (2023) *Bats and Artificial lighting at Night Guidelines. Guidance Note 08/23*. Bat Conservation Trust, London.

DRAFT

## 4. Bats, lighting and the mitigation hierarchy

### Introduction

- 4.1 This chapter provides a process for considering the impact on bats as part of a proposed lighting scheme or new development incorporating night-time lighting. It contains a toolkit of techniques which can be used on any site, whether a small domestic project or larger mixed-use, commercial or infrastructure development. It also provides best practice advice for the design of a lighting scheme, for both lighting professionals and other users who may be less familiar with the terminology and theory.
- 4.2 Under the Agent of Change principle within national planning policy, those seeking to introduce a new plan or project are also responsible for the management of its impact. Therefore, it is crucial that the impacts of obtrusive lighting are mitigated or avoided altogether. While this chapter focuses on how potential lighting impacts on bats can be identified, avoided and mitigated, opportunities for ecological betterment beyond maintaining the status quo should be pursued wherever possible. Doing so would not only fulfil our responsibilities under this principle but contribute to Biodiversity Net Gain in line with legislation. <sup>xlix</sup> Further information on Biodiversity Net Gain can be found here: <https://cieem.net/i-am/current-projects/biodiversity-net-gain/>
- 4.3 Effective avoidance and mitigation of lighting impacts on bats relies on close collaboration from the outset between multiple disciplines. Depending on the specific challenges this will almost certainly involve ecologists working alongside architects and/or engineers; however, lighting professionals and landscape architects should be approached when recommended by your ecologist. This should be done at as early a stage as possible, in order to ensure the proposed lighting strategy is acceptable to all disciplines, mitigation is effective and is not in breach of legislation. In this way, delays to approval/adoption and unforeseen costs or liability can be avoided.
- 4.4 The stepwise process and key follow-up actions are outlined in the flowchart overleaf see figure 3 and followed throughout the Chapter. The questions in the flowchart should be asked in good time to allow any necessary bat survey information to be gathered in advance of lighting design, or fixing a scheme design.
- 4.5 It should be noted that the measures discussed in this document relate only to the specific impacts of lighting upon retained or newly created bat habitat features, on or adjacent to the site. If loss or damage to roosting, foraging or commuting habitat is likely to be caused by other aspects of the development, separate ecological advice will likely be necessary in order to avoid, mitigate or compensate for this legally and/or in line with ecological planning policies.

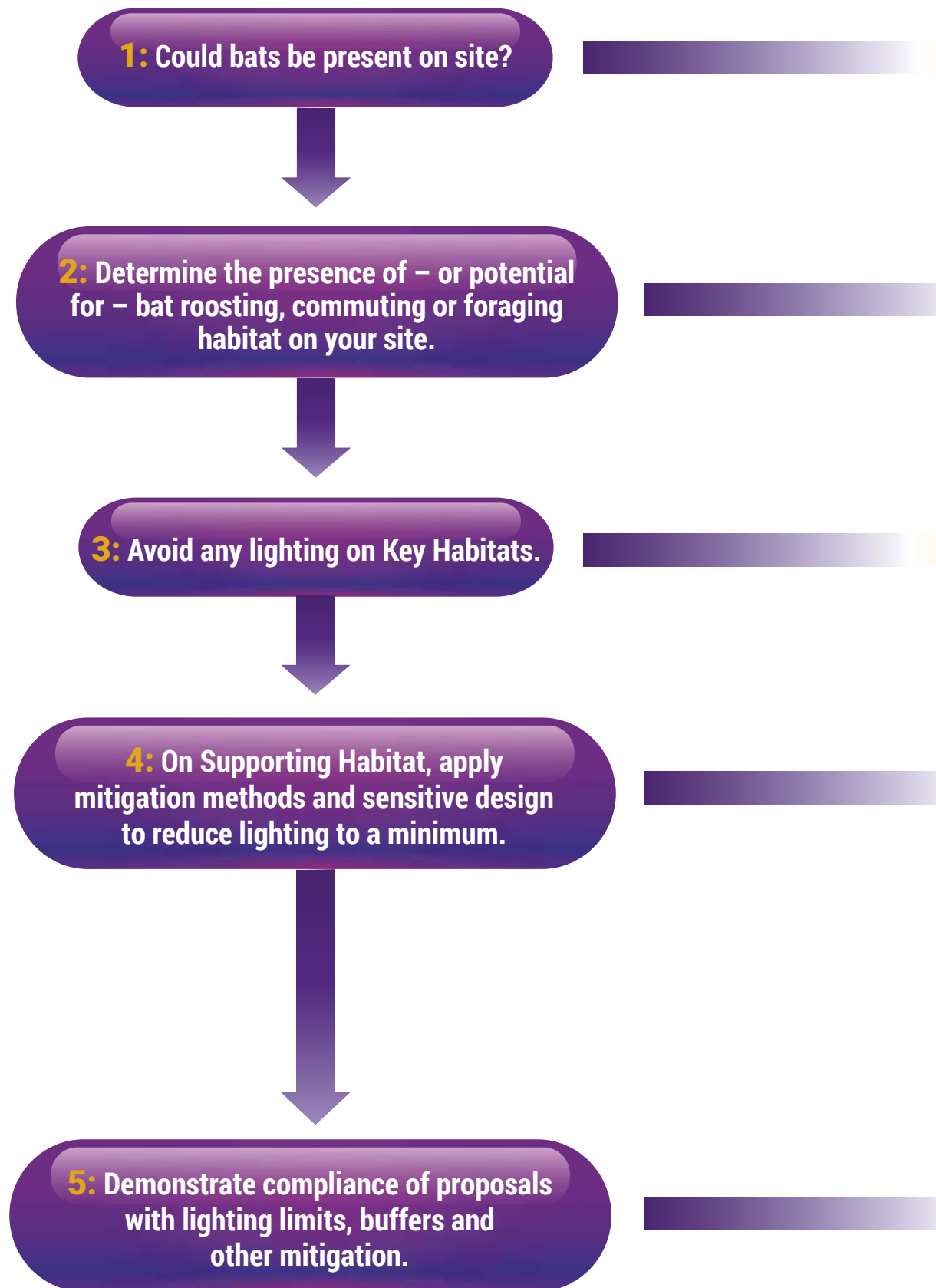




Figure 3. Ecology process for lighting.

## Step 1: Could bats be present on site?

- 4.6 If there is no ecological data for your site, an ecologist should be contacted at the earliest opportunity to advise on an initial survey and any potential follow-on surveys. This information should be collected as early as possible in the design process, and certainly before lighting is being specified, so as to avoid the need for costly revisions.
- 4.7 If any of the following habitats occur on site, and are adjacent to or connected with any of these habitats on or off site, it is possible that proposed lighting may impact local bat populations (please note this list is indicative and advice should be sought from an ecological consultant):
- Woodland, individual mature trees or lines of trees
  - Hedgerows and scrub
  - Ponds, lakes and other wetland
  - Ditches, streams, canals and rivers
  - Infrequently managed grassland, or parks, gardens and Public Open Space
  - Buildings - Especially, **but not limited to**, those in disrepair or built pre 1970s
  - Gravel pits, quarries, cliff faces, caves and rock outcrops
  - Any building or habitat known to support protected species
  - Any additional scenarios as advised by your Local Planning Authority (LPA)
- 4.8 If you are unsure about whether bats may be impacted by your project, and an ecologist has not yet been consulted, sources of information on the presence of bats within the vicinity of your site include the following.
- Local Environmental Records Centres (LERC) - Will provide third-party records of protected and notable species for a fee. Search <http://www.alerc.org.uk/> for more information
  - The Wildlife Assessment Check is a free online tool designed by the Partnership for Biodiversity in Planning to support small-to-medium scale developments by helping identify whether ecological advice should be sought prior to submitting a planning application. The WAC is available online at [www.biodiversityinplanning.org/wildlife-assessment-check/](http://www.biodiversityinplanning.org/wildlife-assessment-check/)
  - National Biodiversity Network Atlas - Provides a resource of third-party ecological records searchable online at <https://nbnatlas.org> - typically this is less complete than LERC data. Please note: Some datasets are only accessible on a non-commercial basis, while most can be used for any purpose, provided the original source is credited
  - Local Authority Planning Portal - Most local planning authorities have a searchable online facility detailing recent planning applications. These may have been accompanied by ecological survey reports containing information on bat roosts and habitats

- Defra's MAGIC map - Provides an online searchable GIS database including details of recent European Protected Species licences, and details of any protected sites designated for bat conservation
- 4.9 The professional directory at the website of the Chartered Institute of Ecology and Environmental Management ([www.cieem.net](http://www.cieem.net)) provides details of ecologists in your area with the relevant skills/experience. The early involvement of a professional ecologist can minimise the likelihood of delays at the planning stage (if applicable) and ensure your project is compliant with conservation and planning legislation and policy.

## **Step 2: Determine the presence of/potential for bat roosts or habitat and evaluate their importance**

- 4.10 Once a potential risk to bats has been identified, the ecologist will visit the site in order to record the habitats and features present, and evaluate their potential importance to bats. Additionally, they should consider the likelihood that bats could be affected by lighting both on and immediately off site. This survey may also include daytime building and tree inspections, and the deployment of automated bat detectors. On the basis of these inspections, further evening surveys may be recommended, either to determine the presence or likely absence of bats within buildings and/or trees, or to assess the use of the habitats by bats by means of a walked survey. Such surveys may be undertaken at different times during the active season (May - September) and should also involve the use of automated bat detectors left on site for a period of several days. The surveys should be carried out observing the recommendations within the Bat Conservation Trust's Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), and the Interim Guidance Note: Use of Night Vision Aids for Bat Emergence Surveys (BCT, May 2022), or as superseded.
- 4.11 The resulting report will detail the relative conservation importance of each habitat feature to bats, including the roost-supporting potential of any built structures or trees. The ecologist's evaluation of the individual features will depend on the specific combination of contributing factors about the site, including:
- The conservation status of species likely to be present
  - Geographic location
  - Type of bat activity likely (breeding, hibernating, night roosting, foraging etc.)
  - Habitat quality
  - Habitat connectivity off-site
  - The presence of nearby bat populations or protected sites for bats (usually identified in a desk study)

- 4.12 The evaluation will enable the ecologist to determine the presence of any Key Habitats or Supporting Habitats for bats. The whereabouts of these habitats should be set out on a plan of the site or as an Ecological Constraints and Opportunities Plan (ECOP), see Case Study 3. The bat habitat plan/ECOP and report can then be used to help guide the design of the lighting strategy (see next steps) as well as the wider project.
- 4.13 Key Habitats are those which are considered essential for the function and stability of local bat populations, while Supporting Habitats may be of lesser significance or usage. Habitats falling within neither category are considered to be of negligible or very low importance to bats.
- 4.14 Examples of Key Habitats include:
- Roosting and swarming sites for all species and their associated flightpaths and commuting habitat
  - Foraging or commuting habitat for highly light-averse species (greater and lesser horseshoe bats, some Myotis bats, barbastelle bats and all long-eared bats) or nationally/locally rare species
  - Foraging or commuting habitat supporting relatively large numbers of bats or high activity rates as assessed through survey
  - Any habitat otherwise assessed by the ecologist as being of elevated importance in maintaining the 'favourable conservation status' of the bat population using it

### **Step 3: Avoid lighting on any Key Habitats**

- 4.15 An adverse impact from illumination onto a Key Habitat feature is likely to have a significant effect on the bats using it. Therefore, an absence of artificial illumination and glare acting upon both the feature and an appropriately sized buffer zone is most often the only acceptable solution. An ecologist will be best placed to set the size of such a buffer zone according to the species present and the level of usage, and these can be tens of metres if unattenuated light spill or glare from local sources is predicted. The input of a lighting professional should be sought when determining the distances of light spill from new sources and likelihood of glare. It is recommended that proposals are communicated by them to the Principal Designer and the Highways Designer, (if applicable) as in some circumstances these decisions may influence highway function (e.g. visibility departures). Further information on demonstrating an absence of illumination within proposals via lux/illuminance contour plans is provided in Step 5.
- 4.16 As detailed in Section 2.1, there is no legal duty requiring any place to be lit. British Standards and other policy documents allow for deviation from their own guidance where there are significant ecological/environmental reasons for doing so. It is acknowledged that in certain situations lighting is critical in maintaining safety, such as some industrial sites with 24hr operation, or in high-risk security situations. Nevertheless, these are not exempt from

the statutory protection afforded to bats, their roosts and commuting routes directly associated with roosts, and good design principles recommended under industrial documents such as the Institution of Lighting Professionals' GN01: The Reduction of Obtrusive Light remain best practice. However, in the public realm, while lighting can increase the perception of safety and security, measurable, objective benefits on safety and security are less well established. Consequently, lighting design should be holistic, taking into consideration the relevant British Standards or local policies concerning lighting but, through a risk assessment-style process, be able to fully take into account the presence of protected species and the likely adoption of mitigation approaches through proper engagement with local communities (see Case Study 4).

- 4.17 Completely avoiding any lighting conflicts in the first place is advantageous, because proposals would be automatically compliant with the relevant wildlife legislation and planning policy, and costly, time-consuming additional surveys, mitigation and post-development monitoring would be avoided. Furthermore, LPAs are likely to favour applications where steps have been taken to avoid such conflicts.
- 4.18 Sources of lighting which can have the potential to disturb bats are not limited to roadside, footpath or security lighting, but can also include light spill via windows, permanent but sporadically operated lighting such as sports floodlighting, and in some cases car headlights. It is important to note that these situations often comprise many complex variables, and light emission is often difficult to predict or model accurately.
- 4.19 A competent lighting professional should be involved in the design of proposals as soon as potential impacts (including from glare) are identified by the ecologist, in order to avoid planning difficulties, or late-stage design revision. The lighting professional will be able to make recommendations about placement of luminaires tailored to the project.

## Glare

- 4.20 Glare (extremely high contrast between a source of light and the surrounding darkness - linked to the 'intensity' of a luminaire) may additionally affect bats over a greater distance than the area directly lit by a luminaire. Glare impacts on bats and other wildlife should be considered on the site alongside best practice advice on reducing obtrusive light (see ILP GN01).

## Highways

- 4.21 Where highways lighting schemes are to be designed by the LPA, the ecology officer (or planning officer) should be consulted on the presence of important bat constraints, determined in Step 2, which may impact the design of the lighting scheme in order to ensure compliance with wildlife legislation.

## **LPA-specific guidance**

- 4.22 Some LPAs have Supplementary Planning Documents (SPD) or other guidance concerning the management of potential development impacts on particular species of bats, or in relation to certain protected sites, such as Special Areas of Conservation (SACs). These should be consulted for particular advice concerning lighting. For example, the North Somerset and Mendip Bats SAC Guidance on Development SPD provides a methodology for calculating the specification of compensatory habitat required to off-set certain development impacts on the bat population of the SAC. In it, retained or created habitats that are subject to lighting above certain lux levels, are considered to be lost to development, with implications for compensation requirements<sup>1</sup>.

## **Environmental Impact Assessment (EIA)**

- 4.23 For plans and projects subject to the Environmental Impact Assessment (EIA) Regulations screening process, it is important for LPAs to understand the nature of mitigation measures at this relatively early stage. Under current EIA Regulations, schemes planning to avoid likely significant effects on the environment through either embedded design measures, such as sensitive site configuration or strategic land/building usage etc., or by other robust mitigation, may be exempt from EIA and therefore less costly. However, the over-reliance on conditions to effect environmental mitigation may be open to legal challenge.

## **Step 4: On Supporting Habitat, apply mitigation methods and sensitive design to reduce lighting to a minimum**

- 4.24 Supporting Habitats may be less frequently used by bats compared to Key Habitats, or support fewer, or more light-opportunistic species. Consequently, a balance between a reduced lighting level appropriate to the ecological importance of each feature and species, and the lighting objectives for that area will need to be achieved.
- 4.25 It is important to reiterate the legal protection from disturbance that bats receive under the Wildlife and Countryside Act 1981, as amended. Where the risk of offences originating from lighting is sufficiently high, it may be best to apply the avoidance approach in Step 3. (see Case Study 5).
- 4.26 Advice from an ecologist and lighting professional will be essential in finding the right approach for the site according to their evaluation. The following are techniques which have been successfully used on projects to limit lighting impacts on bats, and are often used in combination for best results.

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<sup>1</sup> <https://n-somerset.gov.uk/sites/default/files/2020-03/North%20Somerset%20and%20Mendip%20Bats%20SAC%20guidance%20supplementary%20planning%20document.pdf>

## Dark buffers and concentric zonation

- 4.27 A buffer zone subdivided to into smaller zones of increasing illuminance limit further away from the Supporting Habitat would ensure light levels (illuminance - measured in lux) do not exceed certain defined limits. This has the effect of a gradual decrease in lighting from the developed zone, rather than a distinct cut-off, which may provide useable area for the project which also limits lighting impacts on less sensitive species, or less well-used habitat.
- 4.28 The ecologist (in collaboration with a lighting professional) can help determine the most appropriate buffer widths and illuminance limits according to the value of that habitat to bats. Figure 4 gives an example of a multi-zoned approach which includes Key Habitat (Zone A) which would receive no ALAN, and Supporting Habitat (Zones B and C) which would act as a 'light attenuation zone', but remain within the public realm, and so receive reduced light levels.

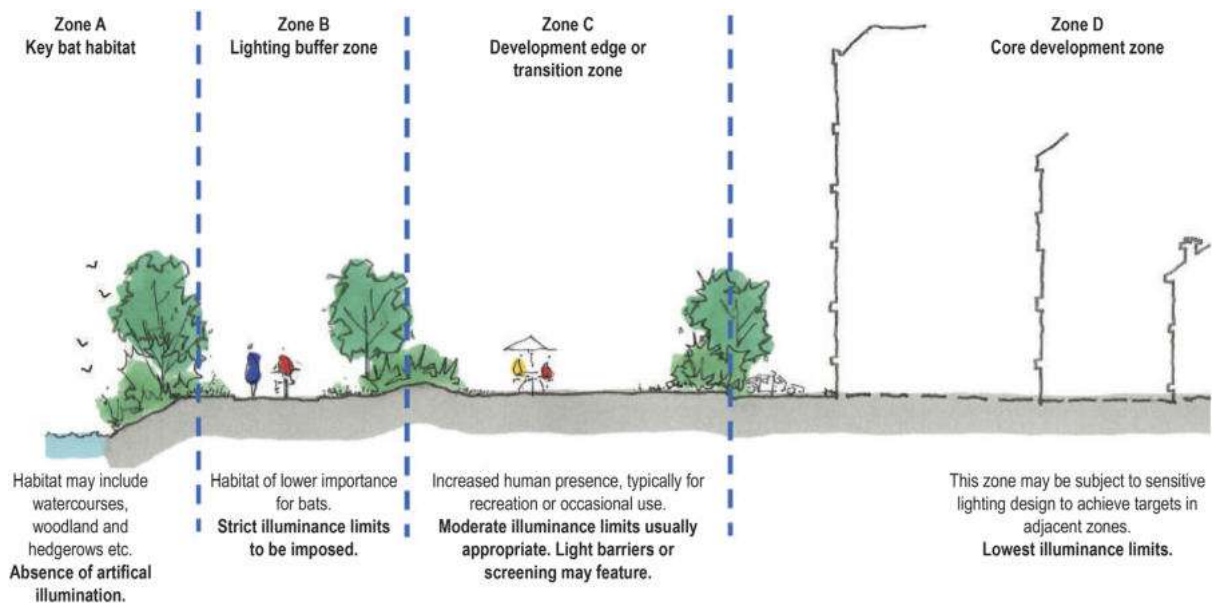


Figure 4. Example of illuminance limit zonation.

## Appropriate luminaire specifications

- 4.29 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 should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used
  - LED luminaires should 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) should be adopted to reduce blue light component

- Light sources should 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 Figure 5) 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 should 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 should always be mounted horizontally, with no light output above 90° and/or no upward tilt
- Where appropriate, external security lighting should 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

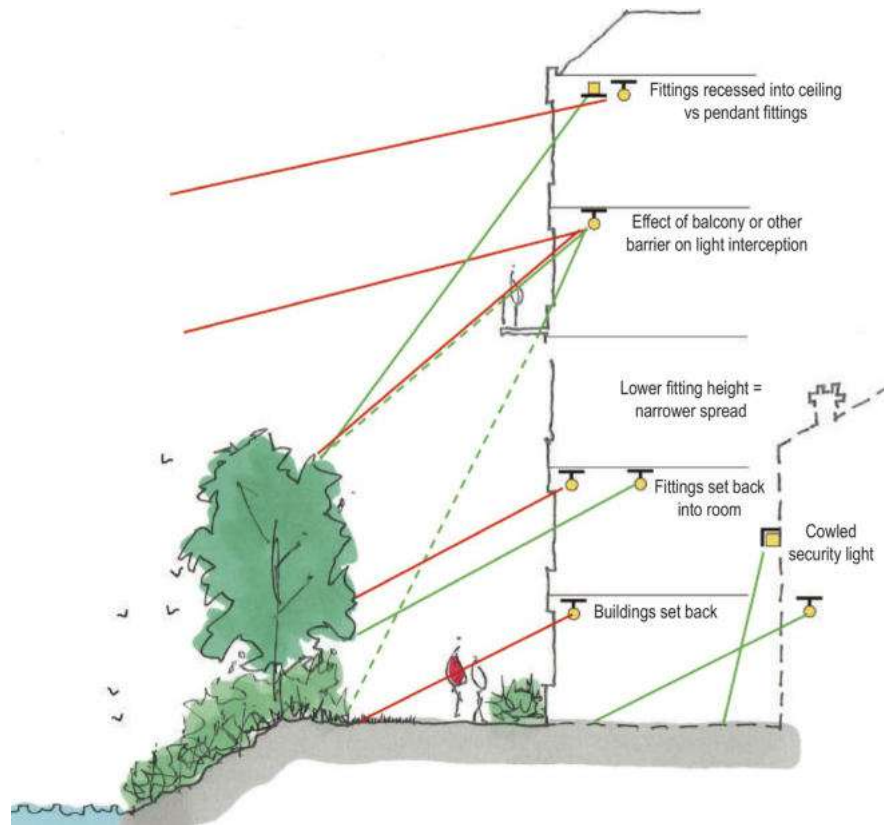


Figure 5. Internal lighting mitigation options.

### Sensitive site configuration

4.30 The location, orientation and height of newly built structures, and hard standing, relative to each other can have a considerable impact on light spill. Small changes in terms of the placement of footpaths, open space and windows can all help to achieve a better outcome in terms of minimising light spill onto Key Habitats and features.

- Key or Supporting Habitat is often located alongside, or to the rear of buildings, on new developments. In this case, the removal or reduction of windows can be the most effective way to permanently limit light spill, potentially alongside the internal reconfiguration of the building, to ensure high-use spaces are not as impacted by loss of natural light
- It may be possible to include Key or Supporting Habitat into unlit public open space such as parks. However, avoid including into residential gardens, as uncontrolled and inappropriate lighting may be introduced by residents following occupation
- It is often considered better for a residential scheme to specify good quality downward-directional external light fittings for security, and/or at the front entrance, on short PIR timers, rather than risk the imposition of poor quality and poorly controlled lighting at a later date
- Buildings, walls and hard landscaping may be sited and designed so as to block light spill from reaching habitats and features

- Paved surfaces should not be located within Key Habitat or buffer zones, unless they form part of unlit public open space
- Taller buildings may be best located toward the centre of the site, or sufficiently set back from Key Habitats, to minimise the effect of their light spill
- Column mounted luminaires can be located so that the rear shields are adjacent to habitats, or narrow optics selected that direct light into the task area where needed

### **Physical screening**

- 4.31 Light spill can be successfully screened through landscaping and the installation of walls and fences, or even banks and bunds (See Figure 6). In order to ensure that fencing makes a long-term contribution, it is recommended that it is supported on concrete or metal posts. Fencing can also be over planted with hedgerow species or climbing plants to soften its appearance and provide a vegetated feature which bats can use for navigation or foraging.
- 4.32 The planting of substantial landscape features integrated to the wider network of green corridors such as hedgerows, woodland and scrub would make a long-term positive contribution to the overall connectivity of bat habitat and light attenuation. It would also contribute to any local Nature Recovery and Green Infrastructure policies and help achieve obligatory Biodiversity Net Gain targets. A landscape architect can be appointed to collaborate with the ecologist on maximising these natural light screening opportunities.
- 4.33 It should be noted that newly planted vegetation (trees, shrubs and scrub) is unlikely to adequately contribute to light attenuation upon Key Habitats for a number of years, until it is well established. Sufficient maintenance to achieve this is also likely to be required. Consequently, this approach is best suited to the planting of dense, mature or translocated vegetation. In some cases, it is appropriate to install temporary fencing, or other barrier, to provide the desired physical screening effects until the vegetation is determined to be sufficiently established.
- 4.34 Given the fact that planting may be removed, die back or inadequately replaced over time, it should never be relied on as the sole means of attenuating light spill.

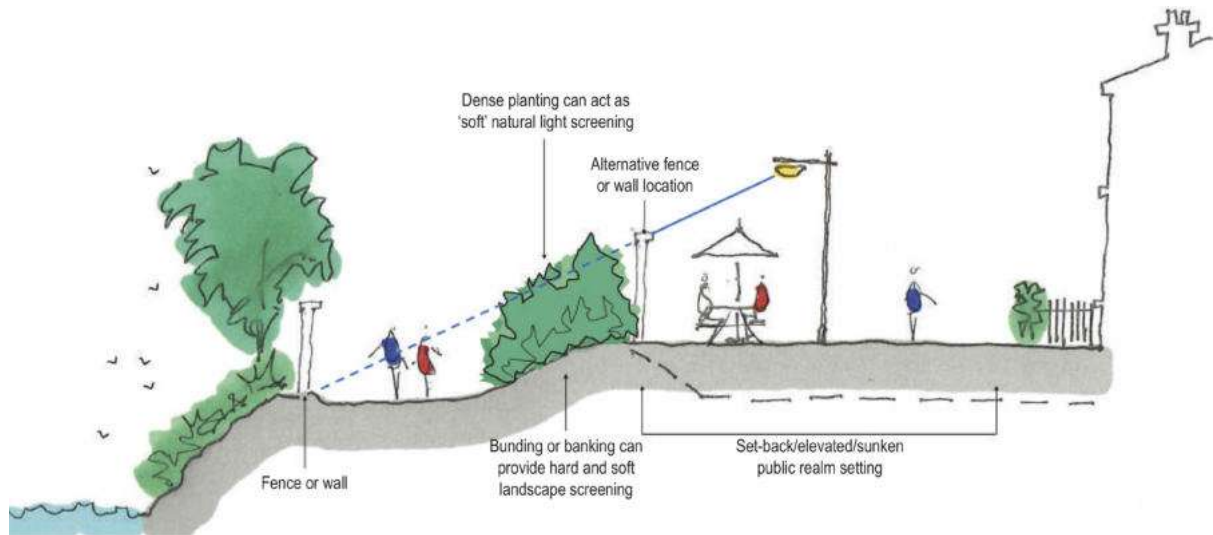


Figure 6. Examples of physical light screening options.

### Dimming and part-night lighting

- 4.35 Depending on the pattern of bat activity across the Supporting Habitat identified by the ecologist, it may be appropriate for an element of on-site lighting to be controlled by dimming or switching either diurnally, seasonally, or according to human activity (light on demand). This is known as Part-Night Lighting (PNL). It is important to state that PNL is not likely to be appropriate where Key Habitats are at risk, especially as PNL often results in lighting when bats are most active.
- 4.36 A Central Management System (CMS) can be specified by the lighting engineer to dim or turn off individual or groups of luminaires when not in use or during less busy times. Dimming can be precisely controlled, with dimming states often being as low as 10 or 20%. However, due to the electrical difficulties of maintaining a dimming state of under 10%, luminaires should be set to off below this point.
- 4.37 Lighting could be set to a low output state by default, to turn up to a pre-determined output in response to a trigger, and be combined with a timeclock or photocell to further add an element of seasonal or diurnal control. For example, Passive Infrared (PIR), Artificial Intelligence enabled cameras, on demand controls, or pressure sensors may be used to trigger lights to come on or dim in response to movements, either by vehicles (for example at car parks or industrial loading bays) or by pedestrians (for example a footpath leading from residential development through an area of Supporting Habitat). The timeclock or photocell could ensure that this response only occurs during a set window of hours after sunset and before sunrise, or during certain months.
- 4.38 Where some trigger is used to temporarily modify lighting states, it will be necessary to specify the timed trigger window during which the response is maintained beyond the last triggering activity. For most typical residential purposes, 1-2 minutes is likely to be sufficient, however risk assessments must

be performed in line with BS5489-1. The proposed system of lighting control will be determined by the outcome of the risk assessment. Where used in locations which receive distinct busy periods, such as cycle paths used by commuters, care will be needed to ensure lighting responds adequately to permit safe usage, but avoids both over-illumination and potentially disruptive dimming states of lighting groups.

- 4.39 Alternative lighting designed for subtle waymarking, rather than illumination, may be more appropriate, such as very low-wattage, ground-level luminaires (photo 4). This lighting option can have a number of additional benefits such as a reduced risk of vandalism, lower carbon footprint during manufacture and fitting and no requirement for cabling. However, it should be noted that these systems depend on regular maintenance and a long-term



*Photo 4: Waymarkers installed on a multi-user path in Worcester. Image credit: Cody Levine.*

commitment for them to be successful, as well as a clear view of the sky for solar-powered options. Due to this, proposals and potential planning conditions should be considered in liaison with maintenance teams, to ensure success (and any handover of assets) post install. See Case Study 1 for further information.

- 4.40 Part-Night Lighting should be designed with input from an ecologist as it may still produce unacceptably high light levels when active or dimmed. Part-Night Lighting is not usually appropriate where lights are undimmed during key bat activity times, as derived from bat survey data or within riparian habitats (see research chapter 1.27). Research has indicated that impacts upon commuting bats are still prevalent where lighting is dimmed during the middle of the night at a time when illumination for humans' use is less necessary (Azam et. al., 2015) thus this approach should not always be seen as a solution, unless backed up by robust ecological survey and assessment of nightly bat activity. In this case, designing areas to be lit to avoid retained Key Habitat, or the provision of sufficient alternative dark corridors, may be the only solution.

## Glazing treatments on buildings

- 4.41 As mentioned, glazing should be restricted and reduced wherever the ecologist and lighting professional determine there to be a likely significant effect upon bats' Key Habitat and associated features.
- 4.42 Where Supporting Habitat is present, glazing treatments such as tinted, frosted or low transmission glazing treatments are not generally considered suitable ways of fully mitigating light spill. In the case of frosted or 'frit' glazing, windows typically remain luminous surfaces in their own right, defeating the objective of reducing lighting impacts. Although promisingly named, low-transmission glazing (glazing with a lower visible light transmittance) often makes only a very small difference to light spill in practice - a window's fundamental objective is to transmit light!
- 4.43 Automatic blinds should be discouraged as their longevity depends on regular maintenance and successful routine operation by the occupant. Such blinds are generally only suited to commercial situations where maintenance can be incorporated into the long-term regime routine for the building.
- 4.44 Depending on the height of the building and windows, and therefore predicted light spill, glazing treatments or window design restrictions may not be required on all storeys. This effect can be more accurately determined by a lighting professional.

## Creation of alternative valuable bat habitat on site

- 4.45 The provision of new, additional or alternative bat flightpaths, commuting or foraging habitat is encouraged and could result in appropriate compensation for any such habitat being lost to the development. The ecologist will be able to suggest and design such alternative habitats, although particular consideration should be given as to its connectivity to other features, the species to be used, the lag time required for a habitat to sufficiently establish and the provision for its ongoing protection and maintenance.
- 4.46 As almost all new development will be required to result in at least 10% Biodiversity Net Gain (BNG), opportunities to improve habitat connectivity for bats should always be considered. Further to the 10 principles at the core of BNG, the implementation of sensitively sited habitat features for bats would be a clear contribution to 'additionality'. Particularly when considering achieving BNG off-site, assessment should be made of the impacts of altering the type and proportion of bat-suitable habitats, both within and beyond the site, upon the potential Core Sustenance Zone of any maternity roosts which use them.<sup>2</sup>

<sup>2</sup> <https://cdn.bats.org.uk/uploads/pdf/Bat-Species-Core-Sustenance-Zones-and-Habitats-for-Biodiversity-Net-Gain.pdf>

## **Step 5: Demonstrate compliance with illuminance (lux) limits and buffers within proposals and, where appropriate, the operational scheme**

- 4.47 Once it has been determined through the above process how Key and Supporting Habitats will be protected, or impacts on them mitigated or compensated for, it will be necessary to demonstrate how this will be achieved. For a planning application, this information is increasingly required prior to determination in order for the LPA to make an informed decision and discharge statutory duties towards protected species legislation and policies. This is most likely to be the case for 'Full' planning applications. For 'Outline', phased or complex applications, this information is, at times, deemed a 'Reserved Matter', for which detail will normally follow at a later date before final consent is granted, or in the discharging of reserved matters. Incidences include EIAs and should be made prior to determination. It is appropriate for a pre-commencement planning condition to be imposed on a consented application which would require that an ecologically sensitive lighting plan is prepared, or is achievable.
- 4.48 In all cases where impacts from lighting on bats are possible, the LPA will require some form of documentation to be produced by the lighting engineer, either in collaboration with the ecologist, or working to the constraints set out within the bat habitat plan/ECOP (see Step 2), in order to demonstrate compliance. Usually, this will take the form of a 'Lighting Strategy', 'Lighting Design' or 'Lighting Impact Assessment', depending on the level of detail in the application. A Lighting Strategy may simply set out the agreed lighting parameters, objectives and likely mitigation requirements (e.g. unlit zones and any other bat mitigation), together with a plan. A Lighting Design/Impact Assessment would provide finalised details, consisting of a plan to show modelled illuminance from all proposed (and existing, where necessary) light sources, taking into account all site configuration, physical screening and glazing measures adopted. It would usually be accompanied by an explanatory document detailing the specification of each luminaire, as well as all assessment assumptions made and any other rationale for lighting mitigation, such as recessed light fittings or part-night lighting.
- 4.49 In the case of Outline or phased applications, the precise detail of architectural materials, glazing, landscaping etc. might not be known at the time of submission, therefore a Lighting Strategy may be the most appropriate document to provide. As described above, the bat mitigation objectives derived from the ecologist's bat habitat plan/ECOP should be referenced. It is worth being aware of the potential for matters such as highways (incorporating highways-specific lighting needs) to be fixed at Outline consent stage, which can make the resolution of bat mitigation requirements at a later stage challenging. This highlights the importance of inter-discipline collaboration and early communication of ecological constraints.
- 4.50 In the case of small or simple planning applications, where significant impacts upon bats from lighting are of a low likelihood, the production of a full Lighting Design package may be disproportionately costly and time-consuming. It may therefore be appropriate to provide a simplified document produced between

the ecologist and lighting engineer, setting out design decisions undertaken and the likely achievability of the recommendations within the ECOP according to the lighting engineer's professional judgment.

### Lighting contour plans

- 4.51 A horizontal illuminance contour plan can be prepared by a suitably experienced and competent lighting professional (Member of the Institution of Lighting Professionals (ILP), Chartered Institution of Building Services Engineers (CIBSE), Society of Light and Lighting (SLL) or similar to ensure competency) using an appropriate software package to model 'Day 1', extent of light spill from the proposed, retained and, possibly, existing luminaires. The various buffer zone widths and illuminance limits which may have been agreed can then be overlaid to determine if any further mitigation is necessary. In some circumstances, a vertical illuminance contour plot may be necessary to demonstrate the light in sensitive areas, such as entrances to roosts or the Key Habitat associated with it (see Appendix).
- 4.52 Such calculations and documentation would enable the LPA ecologist to fully assess impacts and compliance.
- 4.53 Because illuminance contour plots and plans may need to be understood and examined by non-lighting professionals, such as architects and local planning authority ecologists, the following should be observed when producing or assessing illuminance contour plans, to ensure the correct information is displayed.
- A calculation showing output of luminaires to be expected at 'Day 1' of operation should be included, where the luminaire and/or scheme Maintenance Factor is set to 1. Schemes using Constant Light Output (CLO) luminaires should also be calculated using 'Day 1' output
  - Where deemed necessary by a lighting professional, models should be issued so that all luminaires (i.e. internal and external, or between different phases/plots) can be assessed and each should be set to the maximum output anticipated to be used in normal operation on site (i.e. no dimming where dimming is not anticipated during normal operation)
  - Where dimming, PIR, or variable illuminance states are to be used, an individual set of calculation results should accompany each of these states
  - A horizontal calculation plane representing levels of illuminance at ground level should always be used
  - Vertical calculation planes should be used wherever appropriate, for example along the site-facing aspects of a hedgerow or façade of buildings containing roosts, to show the illumination directly upon the vertical faces of the feature. Vertical planes can also show a cross-sectional view within open space (however, they will only face one direction.) Vertical planes will enable a visualisation of the effects of illumination at the various heights at which different bat species fly. An ecologist can

advise on the most appropriate dimensions to use according to the likely locations of bat flight around the site's habitats

- The contours (and/or coloured numbers) for 0.2, 0.5, 1, 5, and 10 lux must be clearly shown, as well as appropriate contours for values above these
  - Each illuminance/lux contour plan should be accompanied by a table showing their minimum and maximum illuminance/lux values
  - Where buildings are proposed in proximity to key features or habitats, plots should also model the contribution of light spill through nearby windows, making assumptions as to internal luminaire specification, internal lighting levels, and visible light transmittance of windows. It should be assumed that blinds or curtains are absent or fully open. Assumptions will need to be made as to the internal luminaire specification and levels of illuminance likely to occur on 'Day 1' of operation. These assumptions should be clearly stated and guided by the building/room type and discussions between architect, client and lighting professional. Consideration may also need to be given to the site topography, and differences in ground levels between key features and lit areas or buildings. It is acknowledged that in many circumstances, only a 'best effort' can be made in terms of accuracy of these calculations as it is often not possible to account for all 'real world' conditions and variables which influence light. Note that evidence-based professional judgement is needed to assess whether light from windows should undergo a full assessment, dependent on factors such as the distance between light source and critical habitats
  - Modelled plots should not include any light attenuation factor from new or existing planting, due to the lag time between planting and establishment and the risk of damage, removal or failure of vegetation. This may result in difficulties in the long-term achievement of the screening effect and hamper any post-construction compliance surveys
  - The illuminance contour plots should be accompanied by an explanatory note from the lighting professional to list where, in their opinion, sources of glare acting upon the key habitats and features may occur, and what has been done/can be done to reduce their impacts
- 4.54 **N.B.** It is acknowledged that, especially for vertical calculation planes, very low levels of light (<0.5 lux) may occur even at considerable distances from the source if there is little intervening attenuation. It is therefore very difficult to demonstrate 'complete darkness' or a 'complete absence of illumination' on vertical planes where some form of lighting is proposed on site, despite efforts to reduce them as far as possible and where horizontal plane illuminance levels are zero. Consequently, where 'complete darkness' on a feature or buffer is required, it may be appropriate to consider this to be where illuminance is at or below 0.2 lux on the horizontal plane, and at or below 0.4 lux on the vertical plane. These figures are still lower than what may be expected on a moonlit night and are in line with research findings for the illuminance found at hedgerows used by lesser horseshoe bats, a species well known for its light averse behaviour. <sup>xvi</sup>

## Baseline and post-completion light monitoring surveys

- 4.55 Baseline, pre-development lighting surveys may be useful where existing on or off-site lighting is suspected to be acting on Key and Supporting Habitats and features, and so may prevent the agreed or modelled illuminance limits being achieved. This data can then be used to help isolate which luminaires might need to be removed, or where screening should be implemented, or establish a new illuminance limit reduced below existing levels. For example, where baseline surveys establish that on or off-site lighting illuminates potential Key Habitat, improvements could be made by installing a tall perimeter fence adjacent to the habitat, and alterations to the siting and specification of new lighting, to avoid further illumination.
- 4.56 Baseline lighting surveys must be carried out by a suitably qualified competent person with the correct equipment. As a minimum, readings should be taken at ground level on the horizontal plane (to give illuminance hitting the ground), and in at least one direction on the vertical plane at between either 1.5m or 2m above ground (to replicate the likely location of bats using the feature or site). The orientation should be perpendicular to the dominant light sources, or perpendicular to the surface/edge of the feature in question (such as a wall or hedgerow), in order to produce a 'worst case' reading. Further measurements at other orientations may prove beneficial in capturing influence of all luminaires in proximity to the feature, or principal directions of flight used by bats. This should be discussed with the ecologist.
- 4.57 Baseline measurements should be taken systematically across the site or features in question, with time, date and time of sunset also recorded. They will need to be repeated at intervals to sample across the site or feature, either in a grid or linear transect, as appropriate. The lighting professional will be able to recommend the most appropriate grid spacing.
- 4.58 Measurements should always be taken in the absence of moonlight, either on nights of a new moon or heavy cloud, to avoid artificially raising the baseline. As an alternative, moonlight can be measured at a place where no artificial light is likely to affect the reading.
- 4.59 As all illuminance level contours will be produced from modelled luminaires at 100% output, baseline measurements should, wherever practicable, be taken with all lights on and undimmed, and with blinds or screens over windows removed. Cowls and other fittings on luminaires can remain in place.
- 4.60 Where possible, measurements should be taken during the spring and summer, when vegetation is mostly in leaf, in order to accurately represent the baseline during the principal active season for bats, and to avoid artificially raising the baseline.
- 4.61 The topography of the immediate surrounding landscape should be considered in order to determine the potential for increased or decreased light spill beyond the site.

### Post-construction/operational phase compliance-checking

- 4.62 Post-completion lighting surveys are often required where planning permission has been obtained on the condition that the proposed lighting levels are checked to confirm they are in fact achieved on site, and test that the lighting specification (including luminaire heights, design and presence of shielding etc.) is as proposed.
- 4.63 All lighting surveys should be conducted by a suitably qualified competent person. They should be conducted using the same measurement criteria and lighting states used in the preparation of the illuminance contour plots and/or baseline surveys, as discussed above. It may be necessary to conduct multiple repeats over different illumination states, or other conditions specific to the project.
- 4.64 Depending on the potential for residual impacts on bats, and the scale of the proposed scheme, it is often appropriate to factor in bat monitoring surveys. These should have the aim of confirming an absence of significant changes in bat presence, species assemblage or behaviour between lit and unlit areas, compared to baseline results. Results should always be reported to the LPA as per any such planning condition. A 'Statement of Conformity' or similar report should be prepared in order to provide an assessment of compliance by the lighting professional, and a discussion of any remedial measures which are likely to be required in order to achieve compliance. Any limitations or notable conditions such as deviation from the desired lighting state, or use of blinds/barriers should be clearly reported. Ongoing monitoring schedules can also be set, especially where compliance is contingent on automated lighting and dimming systems, or on physical screening solutions.

### Conclusion

- 4.65 **In summary**, the importance of integrating avoidance measures (as per the first step of the mitigation hierarchy) into developmental design, cannot be overemphasised. Retaining ecologically functional 'dark corridors' and Key Habitats for bats within schemes (in preference to seeking lighting mitigation strategies), avoids costly and time-consuming additional surveys, mitigation and post-development monitoring. Furthermore, LPAs are likely to favour applications where steps have been taken to avoid such conflicts. This master-planning work needs to be informed by robust ecological survey data and lighting assessments, carried out by the relevant experts at the earliest opportunity in the project. Ultimately, light levels should always be designed to minimise potential environmental impact, and maximise the potential of habitat and species enhancement work, through multidisciplinary working and evidence-based new, or retrofit, scheme design.