Barnes Hospital (West), Richmond

Ecological Appraisal

July 2021

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Contact Details

Aspect Ecology Ltd
Hardwick Business Park I Noral Way I Banbury I Oxfordshire OX16 2AF
t 01295 276066 f 01295 265072 e info@aspect-ecology.com
w www.aspect-ecology.com

Contents

Text:

Plans:

Appendices:

Executive Summary

i) **Introduction.** Aspect Ecology has been commissioned by Star Land Realty UK Ltd. to undertake an ecological appraisal in respect of proposed redevelopment at Barnes Hospital (West), Richmond, London.

1.1.1 **Proposals.** On 14 September 2020, Outline Planning Permission (`OPP') was granted for the redevelopment of the whole Barnes Hospital campus (ref. 18/3642/OUT), which comprised three development plots: (1) the residential plot, (2) the Special Educational Needs (SEN) School and (3) the health centre. Whilst all three parts are still being delivered, it is now proposed that these will be brought forward on an individual site basis rather than through one outline permission and subsequent reserved matters. This planning application therefore relates only to the residential plot of the wider campus. The revised proposals are for the demolition and redevelopment of the site, consisting of 109 new build residential units, the conversion of two of the retained buildings for use for up 3no. residential units (Use Class C3), car parking, bicycle storage and landscaping (see Appendix 5222-05/1 for proposal plan).

ii) **Survey.** The site was initially surveyed by Aspect Ecology in August 2017, with an updated survey in July 2018, based on standard extended Phase 1 methodology. A third party consultancy also completed an Ecological Appraisal in August 2019. In June 2021 Aspect Ecology were appointed to carry out an update Phase 1 Habitat Survey with a and further specific surveys for bats and Badger.

iii) **Ecological Designations.** The site itself is not subject to any ecological designations. The nearest statutory designation is Barnes Common Local Nature Reserve (LNR) located approximately 500m east of the site. The nearest non-statutory designation is Old Mortlake Burial Ground Local Site of Importance for Nature Conservation (SINC L), located immediately to the west. Subject to safeguards detailed within this report, this designation will not be detrimentally affected by the proposals. All other ecological designations in the surrounding area are well separated from the site.

iv) **Habitats.** The site comprises buildings and hard-standing surrounding by areas of amenity grassland, ornamental planting, scrub and trees. The ecological baseline for the site has not changed significantly since the previous ecological surveys carried out in 2018 and 2019. The buildings and hard-standing are considered to be of negligible ecological value. The amenity grassland, ornamental planting, trees and scrub are considered to be of no more than low ecological value at the local level.

v) **Protected Species.** The previous Phase 2 faunal surveys concluded that the site had limited potential for faunal species. Both previous and updated bat surveys completed to date have not identified any roosting bats, with foraging activity confined to small numbers of Common and Soprano Pipistrelle bats. Survey work undertaken with respect of Badger is detailed in a separate Confidential Appendix. Appropriate mitigation measures are set out, including precautionary measures which will be implemented to safeguard wildlife during relevant site clearance works.

vi) **Enhancements.** An opportunity exists to secure a number of net gains in biodiversity, including additional native tree planting, new roosting opportunities for bats, and more diverse nesting habitats for birds.

vii) **Summary.** In summary, the proposals have sought to minimise impacts on biodiversity and subject to the implementation of appropriate avoidance, mitigation and compensation measures, it is considered unlikely that the proposals will result in significant harm.

2 Introduction

2.1 Background & Proposals

2.1.1 Aspect Ecology has been commissioned by Star Land Realty UK Ltd. to undertake an ecological appraisal in respect of proposed redevelopment at Barnes Hospital (West), Richmond, London, centred at grid reference TQ 21210 75702 (see Plan 5222-05/ECO1).

2.1.2 On 14 September 2020, Outline Planning Permission (`OPP') was granted for the redevelopment of the whole Barnes Hospital campus (ref. 18/3642/OUT), which comprised three development plots: (1) the residential plot, (2) the Special Educational Needs (SEN) School and (3) the health centre. Whilst all three parts are still being delivered, it is now proposed that these will be brought forward on an individual site basis rather than through one outline permission and subsequent reserved matters. This planning application therefore relates only to the residential plot of the wider campus. The revised proposals are for the demolition and redevelopment of the site, consisting of 109 new build residential units, the conversion of two of the retained buildings for use for up 3no. residential units (Use Class C3), car parking, bicycle storage and landscaping (see Appendix 5222-05/1 for proposal plan).

2.1.3 The current application applies to the western half of the Barnes Hospital site, and it is understood that a separate application will be made by another developer for the adjoining eastern part of the site. The dividing line between the two sites crosses one of the existing buildings.

2.2 Site Overview

2.2.1 The site is located in west London, within the Borough of Richmond upon Thames, situated within an urban context. The site is bound by South Worple Way, to the north, beyond which lies the railway line, by South Worple Way to the east, by existing NHS buildings (forming the remaining eastern part of the hospital site) to the south and by Old Mortlake Burial Ground to the west. Beyond this there is extensive residential urban development on all sides.

2.2.2 The site itself contains a number of former hospital buildings which are now disused, along with associated hardstanding, ornamental planting, scrub and amenity grassland. In total there are approximately 6no. buildings within the site of which will 4no are proposed to be demolished under the proposals, while a further 2no. buildings will be retained and converted to residential accommodation. In one case, a former hospital building will be part demolished under the current proposals.

2.3 Purpose of the Report

2.3.1 This report documents the methods and findings of the baseline ecology surveys and desktop study carried out in order to establish the existing ecological interest of the site, and subsequently provides an appraisal of the likely ecological effects of the proposals. The importance of the habitats and species present is evaluated. Where necessary, avoidance, mitigation and compensation measures are recommended so as to safeguard any significant existing ecological interest within the site and where appropriate, opportunities for ecological enhancement are proposed with reference to national conservation priorities and local Biodiversity Action Plans (BAPs).

3 Methodology

3.1 Desktop Study

3.1.1 In order to compile background information on the site and its immediate surroundings Greenspace Information for Greater London (GiGL) was contacted, with data requested on the basis of a search radius of 2km. Where information has been received from the above organisation, this is reproduced at Plan 5222-05/ECO2, where appropriate.

3.1.2 Information on statutory designations was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC) database, which utilises data provided by Natural England, with an extended search radius (15km). This information is reproduced at Appendix 5222-05/2 and where appropriate on Plan 5222-05/ECO2.

3.1.3 In addition, the Woodland Trust database was searched for any records of veteran or notable trees within or adjacent to the site.

3.2 Habitat Survey

3.2.1 The site was surveyed initially in August 2017 with a further updated survey in July 2018 by Aspect Ecology and a further site walkover conducted by a third party ecological consultancy in August 2019.

3.2.2 Aspect Ecology conducted an update Phase 1 Habitat Survey in June 2021 in order to ascertain the general ecological value of the land contained within the boundaries of the site and to identify any significant changes to the ecological baseline and to assess the main habitats and ecological features present. An assessment was made as to whether the current baseline had changed from the baseline in 2019. The site was surveyed based on standard Phase 1 Habitat Survey methodology[1], whereby the habitat types are identified and examined in detail focusing on areas of greater potential which require further survey. Any such areas identified can then be examined in more detail through Phase 2 surveys. This method was extended, in line with the Guidelines for Preliminary Ecological Appraisal[2] to record details on the actual or potential presence of any notable or protected species or habitats.

3.2.3 Using the above method, the site was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified. The nomenclature used for plant species is based on the Botanical Society for the British Isles (BSBI) Checklist.

3.3 Faunal Surveys

3.3.1 General faunal activity, such as mammals or birds observed visually or by call during the course of the surveys was recorded. Specific attention was also paid to the potential presence of any protected, rare or notable species, and specific consideration was given to bats and Badger, as described below.

1 Joint Nature Conservation Committee (2010) *'Handbook for Phase 1 habitat survey: A technique for environmental audit.'*

2 Chartered Institute for Ecology and Environmental Management (CIEEM) (2013) '*Guidelines for Preliminary Ecological Appraisal.*'

Bats[3]

Visual Inspection Surveys

3.3.2 **Buildings.** Buildings within the site were subject to specific internal and external inspection surveys using ladders, torches and binoculars where necessary in August 2017. The buildings were externally assessed in August 2019 by a third party consultancy however internal voids were not accessed. An updated internal and external inspection was carried out by Aspect Ecology in June 2021 to ascertain any changes to the building structure or general condition.

3.3.3 During the external inspections, particular attention was given to any potential roost features or access points, such as broken or lifted roof tiles, lifted lead flashing, soffit boxes, weatherboarding, hanging tiles, etc. and for any external signs of use by bats such as accumulations of bat droppings or staining. Binoculars were used to inspect any inaccessible areas more closely where appropriate.

3.3.4 During the internal inspections, evidence for the presence of bats was searched for with particular attention paid to any loft voids and relevant potential roost features and locations, such as ridge boards, rafters, purlins, gable walls, and mortise joints. Specific searches were made for bat droppings that can indicate present or past use and extent of use, whilst other signs that can indicate the possible presence of bats were also searched for, e.g. presence of stained areas, feeding remains, corpses, etc. Any droppings collected during the course of the surveys were visually assessed and attributed to a species where possible on the basis of size/shape/texture[4]. Where appropriate, samples of similar droppings were collected with gloved hands and put into labelled eppendorfs and forwarded to the University of Warwick for DNA analysis.

3.3.5 **Trees**. Trees were assessed for their suitability to support roosting bats based on the presence of features such as holes, cracks, splits or loose bark. Suitability for roosting bats was rated based on relevant guidance[5] as:

- Negligible;
- Low;
- Moderate; or
- High.

3.3.6 Any potential roost features identified were also inspected for any signs indicating possible use by bats, e.g. staining, scratch marks, bat droppings, etc.

Dusk Emergence/ Dawn Re-entry Survey

3.3.7 Previous dusk emergence and dawn re-entry surveys were carried out in September 2017 with further update surveys conducted on 12th July 2021 and 26th July 2021. The emergence surveys were carried out in order to identify any bats roosting in the buildings highlighted to have potential to support roosting bats. The collection of

[3] Surveys based on: English Nature (2004) '*Bat Mitigation Guidelines*' and Collins, J. (ed.) (2016) '*Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn).' Bat Conservation Trust

[4] Stebbings, RE, Yalden DW and Herman, JS (2007). '*Which bat is it? A guide to bat identification in Great Britain and Ireland.*' The Mammal Society

[5] Collins, J. (ed.) (2016) '*Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn).' Bat Conservation Trust

highlighted buildings were subject to survey of two occasions, comprising either a dusk or a dawn survey.

3.3.8 Surveyors employed Anabat Scout and Bat Box Duet hand-held electronic detectors to aid identification of any bats observed alongside setting up an Infrared (IR) camera, comprising Sony FDR-AX53 with two Uniquefire T75 IR lights and a 1080p IR sensitive camera deployed at dusk and dawn on building B7. At dusk, surveyors were in position 15 minutes prior to sunset, remaining in place for approximately 1.5 hours. At dawn, surveyors were in place approximately 1.5 hours before sunrise and remained in place until 15 minutes after sunrise. Surveyor positions are shown at Plan 5222-05/ECO4. This survey method aims to identify any roosting bats emerging from or returning to potential roost sites.

3.3.9 This survey work was carried out during suitable weather conditions, as set out in Tables 2.1 below.

Table 2.1. Emergence/re-entry survey details. BF0 = calm, BF12 = hurricane force.

Date	Start & end times & time of sunset	Structure reference / location	Equipment used	Weather
12/07/2021 (Dusk)	Start time: 20:59 End time: 22:47 Sunset: 21:14	B1, B7, B8 and B10	Anabat Scout and Bat Box Duets.	Light rain, 100% cloud, BF1, 18°C
26/07/2021 (Dusk)	Start time: 20:43 End time: 22:33 Sunset: 20:58	B2 and B9	Anabat Scout and Bat Box Duets.	Dry, 10% cloud, BF1, 22°C

3.3.10 A reduced level of survey effort (comprising a single further survey of each of the buildings) was considered appropriate given that none of the previous emergence/re-entry surveys in 2017 and 2019 recorded any evidence of roosting bats, and that internal inspections of the buildings also did not identify any roosting bats.

Analysis of Bat Survey Recordings

3.3.11 All bat calls were analysed using BatSound v.3.30© and Analook W v3.7 to verify the species recorded during the survey work. Where overlaps between otherwise distinguishable species occur (such as in Pipistrelle bat calls around 40kHz or 50kHz) calls were identified to genus level; in the case of calls which could not be distinguished between Nyctalus sp. and Serotine, these have been labelled as 'big bat' species.

Badger (*Meles meles*)[6]

3.3.12 Survey methodology for this species is detailed within the separate Confidential Badger Appendix.

3.4 Survey Constraints/Limitations

3.4.1 All of the species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent at different seasons. However, the Phase 1 habitat survey was undertaken

[6] Based on: Mammal Society (1989) '*Occasional Publication No. 9 – Surveying Badgers*'

during the optimal seasonal period for botanical work, therefore allowing a robust assessment of the intrinsic ecological interest of the site to be made.

3.4.2 The specific Phase 2 surveys were undertaken at the appropriate time of year and during suitable weather conditions and to an appropriate level of survey effort. Any specific limitations are noted in the relevant sections above or discussed in the results section, although no significant constraints were experienced.

3.4.3 Attention was paid to the presence of any invasive species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). However, the detectability of such species varies due to a number of factors, e.g. time of year, site management, etc., and hence the absence of invasive species should not be assumed even if no such species were detected during the Phase 1 survey.

3.5 Ecological Evaluation Methodology

3.5.1 The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018)[7], which involves identifying 'important ecological features' within a defined geographical context (i.e. international, national, regional, county, district, local or site importance). For full details refer to Appendix 5222-05/4.

3.6 National Policy Approach to Biodiversity in the Planning System

3.6.1 The National Planning Policy Framework (NPPF)[8] describes the Government's national policies on 'conserving and enhancing the natural environment' (Chapter 15). NPPF is accompanied by Planning Practice Guidance on 'Biodiversity, ecosystems and green infrastructure' and ODPM Circular 06/2005[9].

3.6.2 NPPF takes forward the Government's strategic objective to halt overall biodiversity loss[10], as set out at Paragraph 174, which states that planning policies and decisions should contribute to and enhance the natural and local environment by:

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

3.6.3 The approach to dealing with biodiversity in the context of planning applications is set out at Paragraph 180:

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

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts),

[7] CIEEM (2018) '*Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*', ver. 1.1, Chartered Institute of Ecology and Environmental Management, Winchester
[8] Ministry of Housing, Communities & Local Government (2021) '*National Planning Policy Framework*'
[9] ODPM (2006) '*Circular 06/2005: Planning for Biodiversity and Geological Conservation – A Guide to Good Practice*'
[10] DEFRA (2011) '*Biodiversity 2020: A strategy for England's wildlife and ecosystem services*'

adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

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

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

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

3.6.4 The above approach encapsulates the 'mitigation hierarchy' described in British Standard BS 42020:2019[11], which involves the following step-wise process:

- **Avoidance –** avoiding adverse effects through good design;
- **Mitigation –** where it is unavoidable, mitigation measures should be employed to minimise adverse effects;
- **Compensation –** where residual effects remain after mitigation it may be necessary to provide compensation to offset any harm; and
- **Enhancement –** planning decisions often present the opportunity to deliver benefits for biodiversity, which can also be explored alongside the above measures to resolve potential adverse effects.

3.6.5 The measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development (BS 42020:2019, section 5.5).

3.7 Local Policy

The London Plan (2021)

3.7.1 The London Plan was adopted in March 2021 including overarching policies governing spatial development across Greater London and its 32 boroughs is set out within the Greater London Authorities 'Spatial Development Strategy,' known as 'the London Plan.'

3.7.2 '*Policy G1 Green Infrastructure*' – This policy covers green links within the city including street trees, stating they 'should incorporate appropriate elements of green infrastructure that are integrated into London's wider green infrastructure network.'

[11] British Standards Institution (2013) '*Biodiversity – Code of practice for planning and development*', BS 42020:2019

3.7.3 '*Policy G5 Urban Greening'* – This policy states that 'major development should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.'

3.7.4 *'Policy G6 Biodiversity and Access to Nature'* – This policy largely considers non-statutory designations, whilst it also states 'Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain'.

3.7.5 *'Policy G7 Trees and Woodlands'* – This policy relates to the protection of veteran trees and ancient woodlands, and sets out that existing trees of value should be retained and where appropriate, the planting of additional trees, particularly large canopied species, should be included into development proposals.

3.7.6 *'Policy G8 Food Growing'* – This policy states that where possible development should encourage community gardening and food growing within their proposals.

London Borough of Richmond upon Thames, Local Plan, adopted July 2018

3.7.7 Policy LP12 related to green infrastructure and states that the contribution to the wider green infrastructure network will be taken into account when assessing proposals.

3.7.8 Policy LP15 relates to biodiversity and encourages development to include enhancements for biodiversity, including trees and other soft landscaping.

3.7.9 Policy LP16 relates to trees, woodlands and landscape. This policy requires a proportion of existing trees within proposed sites to be retained, or for new tree planting to be provided.

3.7.10 Policy LP17 relates to green and brown roofs and walls, stating that "*green roofs and/or brown roofs should be incorporated into new major developments with roof plate areas of 100sqm or more where technically feasible and subject to considerations of visual impact. The aim should be to use at least 70% of any potential roof plate area as a green / brown roof*".

4 Ecological Designations

4.1 Statutory Designations

Description

4.1.1 The statutory designations of ecological importance that occur within the local area are shown on Plan 5222-05/ECO2. The nearest statutory designation is Barnes Common Local Nature Reserve (LNR), located approximately 500m to the east of the site. This LNR is designated on the basis of supporting acid grassland and woodland. The next nearest statutory designation is Duke's Hollow LNR located approximately 550m to the north of the site. This LNR is designated on the basis of supporting natural tidal foreshore, featuring a variety of waterside plants and associated fauna.

4.1.2 The nearest Site of Special Scientific Interest (SSSI) to the site is Richmond Common SSSI, located approximately 1.2km to the south, also subject to international designation as a Special Area of Conservation (SAC). The SSSI is designated for its dry acid grassland and diverse deadwood beetle fauna associated with ancient trees, whilst the SAC is designated on the basis of supporting populations of the Annex II species Stag Beetle *Lucanus cervus*. The next nearest international designation to the site is Wimbledon Common SAC, located approximately 2.9km to the south east and also designated on the basis of supporting populations of Stag Beetle, whilst this SAC also supports the Annex I habitat types Northern Atlantic wet heaths with *Erica tetralix* and European dry heaths.

Evaluation

4.1.3 The site itself is not subject to any statutory ecological designations. All statutory ecological designations in the surrounding area are well separated from the site by existing development and given the nature and scale of the proposals, these designations are considered unlikely to be affected. In terms of the international designations in the vicinity of the site, given that the site is not included within a SSSI Impact Risk Zone which highlights any potential effect from proposals such as these, the distance between the site and any international designations, and the highly urbanised context of the land between the site and any such designations, it is considered that internationally designated sites do not represent a constraint to the proposals.

4.1.4 This conclusion is supported by the Habitats Regulations Assessment of the London Borough of Richmond upon Thames Local Plan, dated December 2016, which has concluded that development proposed under the local plan is unlikely to have a significant detrimental effect on any international designations.

4.2 Non-statutory Designations

Description

4.2.1 The non-statutory designations of nature conservation interest that occur within the local area are shown on Plan 5222-05/ECO2. The nearest non-statutory designation is Old Mortlake Burial Ground Local Site of Importance for Nature Conservation (SINC L) (ref: RiL09), located adjacent to the western site boundary. The SINC supports grassland with a moderate diversity of herbs, along with a number of mature trees.

The next nearest non-statutory designation to the site is Beverley Brook from Richmond Park to the River Thames Borough Grade I Site of Importance for Nature Conservation (SINC BI) (ref: WaBI06), located approximately 200m south east of the site at its nearest point. This site is designated on the basis of supporting a watercourse with wooded banks, forming a habitat corridor within the urban context of London.

Evaluation

4.2.2 The site itself is not subject to any non-statutory nature conservation designations. Old Mortlake Burial Ground SINC L is located adjacent to the western site boundary, although as stated within the citation of this designation, the habitat is intensively managed, and presumably subject to regular use by people given the use of the site as an active burial ground. Furthermore, given the urban nature of the surroundings, it is considered that the proposals for the site are unlikely to cause any detrimental impact on this designation. Nonetheless, precautionary safeguards are detailed at Section 6. All other non-statutory designations in the surrounding area are well separated from the site by existing development and given the nature and scale of the proposals, these designations are considered unlikely to be affected.

4.3 Ancient Woodland, Notable Trees, Priority Ponds

Description

4.3.1 There are no areas of ancient woodland or notable trees within or adjacent to the site.

Evaluation

4.3.2 It is unlikely that any ancient woodland or other notable habitats will be affected by the proposals.

4.4 Summary

4.4.1 In summary, the site itself is not subject to any statutory or non-statutory ecological designations and it is considered unlikely that any such designations in the surrounding area will be significantly affected by the proposals.

5 Habitats and Ecological Features

5.1 Background Records

5.1.1 Information returned from GiGL does not include any specific records of protected, rare or notable plant species from within or immediately adjacent to the site. A number of records of priority species were returned from GiGL including Tower Mustard *Arabis glabra,* Chamomile *Chamaemelum nobile*, Cornflower *Centaurea cyanus*, Deptford Pink *Dianthus armeria* and Small-flowered Catchfly *Silene gallica* dating between 1951 and 2009, none of which were recorded within or adjacent to the site. No evidence for the presence of any of these species within the site was recorded during the survey work undertaken.

5.2 Overview

5.2.1 The site was surveyed initially in August 2017 by Aspect Ecology with a further site walkover conducted by a third party ecological consultancy in August 2019 for the purpose of the outline planning permission (ref. 18/3642/OUT).

5.2.2 Aspect Ecology carried out an updated survey in April 2021 in order to assess whether the current baseline had changed from the baseline recorded in 2019. The survey assessed the general ecological value of the land contained within the boundaries of the site and to identify the main habitats and ecological features present.

5.2.3 The habitats and ecological features present within the site are described below and evaluated in terms of intrinsic ecological value, such as in relation to the presence of rare plant communities or individual plant species of elevated interest. The likely effects of the proposals on the habitats and ecological features are then assessed. The value of habitats for the fauna they may support is considered separately in section 5 below.

5.2.4 The following habitats/ecological features were identified within/adjacent to the site:

- Amenity Grassland;
- Ornamental Planting;
- Trees;
- Scrub;
- Buildings, Hardstanding and Bare Ground; and
- Invasive Species.

5.2.5 The locations of these habitat types and features are illustrated on Plan 5222-05/ECO3 and described in detail below.

5.3 Priority Habitats

5.3.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the

exercise of their normal functions. In particular, Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats which are of principal importance for conservation in England. This list is largely derived from the 'Priority Habitats' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority habitats under the subsequent country-level biodiversity strategies.

5.3.2 Of the habitats within the site, none are considered to qualify as Priority Habitats.

5.4 Amenity Grassland

Description

5.4.1 A number of amenity grass lawns are associated with the buildings and car parks at the site, as shown on Plan 5222-05/ECO3. The main areas are well managed with a uniformly short sward measuring approximately 2cm in height with some slightly outgrown sections in the south of the site. The grassland is dominated by amenity grass species such as Perennial Rye-grass *Lolium perenne*, Yorkshire Fog *Holcus lanatus*, False Oat-grass *Arrhenatherum elatius*, with few herbs present, limited to common amenity herbs such as Crane's-bill *Geranium* sp., Ribwort Plantain *Plantago lanceolata*, Red Dead-nettle *Lamium purpureum*, Green Alkanet *Pentaglottis sempervirens,* White Clover *Trifolium repens*, Selfheal *Prunella vulgaris*, Black Medick *Medicago lupulina*, Yarrow *Achillea millefolium,* Daisy *Bellis perennis* and Creeping Buttercup *Ranunculus repens*.

Evaluation

5.4.2 The amenity grassland at the site is largely unchanged since 2019 with the majority of areas still intensively managed with smaller sections to the south which have become outgrown and weedy, all of which form habitats of relatively uniform characteristics, supporting common and widespread species. As such these areas are considered to be of no more than low ecological value at the site level and do not form a constraint to the proposals.

5.5 Ornamental Planting

Description

5.5.1 Areas of ornamental planting are associated with the amenity grassland and surrounding buildings B7, B8 and to the south of B2 (see Plan 5222-05/ECO3). The planting comprise moderately well managed sections within the centre of the site and largely unmanaged towards the south western section of the site. The baseline and species composition is the same as previously reported in 2019 and 2017 with small trees and shrub species such as Cherry *Prunus* avium, Staghorn Sumac *Rhus typhina*, Holly *Ilex aquifolium*, Buddleja *Buddleja davidii*, Rose *Rosa* sp., Lavender *Lavandula* sp., ornamental Wood Sorrel *Oxalis* sp., Cherry Laurel *Prunus laurocerasus*, Hazel *Corylus avellana*, Pine *Pinus* sp., False-acacia *Robinia pseudoacacia* and Laburnum *Laburnum anagyroides*, along with other non-native ornamental species such as Japanese Aucuba *Aucuba japonica*, Bear's Breeches *Acanthus mollis* and Japanese Aralia *Fatsia japonica*. In places native scrub species (as described below) are starting to colonise these areas.

Evaluation

5.5.2 Areas of ornamental planting are small in extent and largely dominated by non-native species. As such, these areas are considered to be of ecological value at no more than site level and do not form a constraint to the proposals.

5.6 Trees

Description

5.6.1 A small number of trees were recorded within the site, associated with the amenity grassland and car parks (see Plan 5222-05/ECO3). Trees within the application area were recorded to be largely young to semi-mature in age, with few mature specimens noted. Species include Lime *Tilia* sp., Poplar *Populus* sp., Cherry *Prunus avium*, Pine, Oak *Quercus* sp., London Plane *Platanus hispanica*, False Acacia and Willow *Salix* sp. The trees appear to be in similar condition as previously reported. One semi-mature tree along the western boundary appears to have been pruned since the previous survey.

Evaluation

5.6.2 Standard trees recorded at the site, particularly those recorded to be semi-mature and mature in nature are considered to be of some ecological interest in their own right, albeit the dominance of non-native species and the small number of large mature specimens limits this. The trees at the site are considered to be of ecological value at the local level, and loss of trees under the proposals is considered to be of minor ecological significance. The majority of trees within the site are to be retained, with the removal of a single young Cherry tree centre of this site and a collection of Holly, Poplar and Pine trees, which are likely to be removed to accommodate construction, in the north eastern section of the site. However, the loss of four trees within the site will be compensated for through the replacement of an additional 68 trees planted within the proposed orchard community area and further planting through the surrounding landscaping and open space areas within the site.

5.7 Native Scrub

Description

5.7.1 Native scrub is present at the site, largely located at the south west and southern site boundaries where it partly takes the form of overgrown areas of ornamental planting, along with other areas of scattered scrub colonising unmanaged habitats (see Plan 5222-05/ECO3). As previously described, and largely unchanged, the scrub within the site was recorded to comprise young Elder *Sambucus nigra*, Ash *Fraxinus excelsior*, Holly, Buddleja, Silver Birch *Betula pendula* and Horse-chestnut *Aesculus hippocastanum* growing together with Bramble *Rubus fruticosus agg.,* Ivy *Hedera helix* and associated ruderal species including Annual Mercury *Mercurialis annua*, Spurge *Euphorbia* sp., Willowherb *Epilobium* sp., Knotgrass *Polygonum aviculare*, Dandelion *Taraxacum officinale* agg., Woody Nightshade *Solanum dulcamara* , Speedwell *Veronica* sp., Sow Thistle *Sonchus* sp., Common Ragwort *Jacobaea vulgaris* and Groundsel *Senecio vulgaris*.

Evaluation

5.7.2 The scrub at the site comprises common and widespread species, and is limited in extent. As such, this habitat is considered to be of no more than ecological value at the local level. As such, loss of scrub habitats are considered to be of low ecological significance.

5.8 Buildings, Hardstanding and Bare Ground

Description

5.8.1 A number of buildings are present within the site, identified as buildings **B1, B2, B7, B8, B9 and B10** on Plan 5222-05/ECO3. These buildings largely comprise the large former hospital building (**B2**), former laundry building, a disused chapel and morgue, together with a former residential property near the entrance to the site. Details regarding the structure of the buildings and their potential to support roosting bats is discussed at Section 5 below and at Appendix 5222-05/3.

5.8.2 The buildings are surrounded by areas of hardstanding, including car parking and access roads. The hardstanding is largely devoid of vegetation, aside from occasional cracks with some encroaching White Clover, Stinging Nettle, Selfheal, Daisy and Yarrow recorded.

5.8.3 Areas of bare ground are present at the north west of the site (see Plan 5222-05/ECO3), and comprise bare earth at the building margins with some gravel and colonising weeds.

Evaluation

5.8.4 The buildings, hardstanding and bare ground support a limited range of common and widespread floral species and are inherently of negligible ecological value. Potential for the buildings to support faunal species such as roosting bats is discussed below in section 5.

5.9 Invasive Species

Description

5.9.1 A number of Buddleja, and Cherry Laurel bushes along with False Acacia trees and small sections of Green Alkanet *Pentaglottis sempervirens* were recorded within the amenity planting as well as colonising elsewhere within the site.

Evaluation

5.9.2 Whilst Buddleja, Green Alkanet, Cherry Laurel and False Acacia are not listed on Schedule 9 of the Wildlife and Countryside Act, these species are listed under the London Invasive Species Initiative, with Buddleja and Cherry Laurel included on Category 3 and False Acacia on Category 4. Recommendations for safe removal of these species are included at Section 6.

5.10 Habitat Evaluation Summary

5.10.1 A summary of the evaluation of the habitats present at the site is set out at Table 4.1 below which is largely unchanged from the baseline habitats and conditions reported in 2017 by Aspect Ecology and 2019 by the third-party consultancy.

Table 4.1. Summary of habitat evaluation.

Habitat	Level
Amenity Grassland	Site
Ornamental Planting	Site
Trees	Local
Scrub	Local
Tall Ruderal Vegetation	Site
Buildings and Hardstanding	Site
Invasive Species	Site

6 Faunal Use Of The Site

6.1 Overview

6.1.1 During the update survey work, general observations were made of any faunal use of the site with specific attention paid to the potential presence of protected or notable species. Specific survey work was undertaken in respect of bats and Badger, with the results described below.

6.2 Priority Species

6.2.1 Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006 places duties on public bodies to have regard to the conservation of biodiversity in the exercise of their normal functions. In particular, Sections 41 and 42 of the NERC Act require the Secretary of State to publish a list of species which are of principal importance for conservation in England and Wales, respectively. This list is largely derived from the 'Priority Species' listed under the former UK Biodiversity Action Plan (BAP), which continue to be regarded as priority species under the subsequent country-level biodiversity strategies.

6.2.2 During the survey work undertaken, the UK Priority Species Soprano Pipistrelle *Pipistrellus pygmaeus* was recorded within the site. This is discussed further below.

6.3 Bats

6.3.1 **Legislation.** All British Bats are classed as European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended) and are also listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). As such, both Bats and their roosts (breeding sites and resting places) receive full protection under the legislation (see Appendix 5222-05/5 for detailed provisions). If proposed development work is likely to result in an offence a licence may need to be obtained from Natural England which would be subject to appropriate measures to safeguard Bats. Given all Bats are protected species, they are considered to represent important ecological features. A number of bat species are also considered S41 Priority Species.

6.3.2 **Background Records.** No specific records of bats from within or adjacent to the site were returned from the desktop study. Information received from GiGL returned records of Natterer's Bat *Myotis nattereri*, Daubenton's Bat *Myotis daubentonii*, unidentified *Myotis* sp., Serotine *Eptesicus serotinus*, unidentified *Nyctalus* sp., Noctule *Nyctalus noctula*, Nathusius' Pipistrelle *Pipistrellus nathusii*, Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle, Brown Long-eared Bat *Plecotus auritus*, unidentified pipistrelle bat species *Pipistrellus* sp. and unidentified bat species from within 2km of the site. The closest record is for a Soprano Pipistrelle, recorded in 2009 and located approximately 158m north west of the site.

6.3.3 Survey Results

Visual Inspection Surveys

Buildings

6.3.4 During the surveys conducted in 2017, 2019 and June 2021 a detailed visual external inspection was undertaken of all the buildings within the site. Further internal surveys were conducted by Aspect Ecology in 2017 and during the update survey in June 2021, inspecting and assessing the majority of the loft voids present, where access was available, the results of which are detailed at Appendix 5222-05/3, and summarised below. The inspection involved assessing any significant changes to the building structure and condition.

6.3.5 During the update survey in June 2021, none of the buildings supported evidence for the presence of bats within any internal spaces including loft voids.

- Buildings **B7** and **B8** supported a number of external features of potential value for crevice-dwelling bats (such as lifted roof tiles or gaps within the soffit boxes), and as such are considered to support moderate bat roosting potential.

- Buildings **B1**, **B2**, **B9** and **B10** supported fewer external features, albeit a number of such features were nevertheless recorded to be present, and are therefore considered to support low-moderate bat roosting potential. The baseline condition of the building structures remain largely unchanged and no significant changes were noted during the inspections.

- The above assessment does not take into account the level of survey effort completed over the past five years, of which no emerging bats were recorded throughout this time (i.e. the buildings have been assessed at face value, based on the presence of potential roost features). However, once the previous survey effort and results are factored into the overall assessment, it is considered reasonable that there the bat roost potential of all buildings can effectively be downgraded to 'Low'. Therefore all buildings were subject to a single survey visit with an appropriate level of surveyors covering all aspects of each building on site.

Emergence / re-entry surveys (buildings)

6.3.6 The results of the previous dusk emergence and dawn re-entry surveys completed by Aspect Ecology in September 2017 are summarised in Table 5.1 below with the updated dusk emergence and dawn re-entry survey results for July 2021 included within table 5.2 below.

Table 5.1: Emergence / re-entry survey results recorded during September 2017.

Building	Date	Sunset/ sunrise	Emergence/ re-entry	Summary of other activity
B1, B2, and B9	7 Sept 2017 (dusk)	Sunset: 19.33	None	Frequent Common Pipistrelle foraging activity by a small number of individual bats, associated with trees at the southern and western site boundaries. Some limited Soprano Pipistrelle foraging activity was also recorded associated with these site boundaries.
	20 Sept 2017 (dawn)	Sunrise: 06.44	None	No bats were recorded.
B7, B8 and B10	8 Sept 2017 (dawn)	Sunrise: 06.24	None	Common and Soprano Pipistrelle foraging by a small number of bats recorded in the vicinity of building B10, associated with boundary vegetation. No bats were recorded across the remainder of the site.
	19 Sept 2017 (dusk)	Sunset: 19.05	None	Frequent Common Pipistrelle foraging by a small number of bats recorded at the western site boundary in the vicinity of buildings B10 and B8. Infrequent activity was recorded across the remainder of the site, largely limited to Common and Soprano Pipistrelle, although a small number of big bat registrations were also recorded.

Table 5.2: Emergence / re-entry results from the updated surveys conducted in July 2021.

Building	Date	Sunset/ sunrise	Emergence/ re-entry	Summary of other activity
B1, B7, B8 and B10	12th July 2021 (dusk)	Sunset: 21:14	None	Infrequent commuting passes occurring along the western site boundary and foraging within the open space between B9 and B10 and between B2 and B9. Minimal activity recorded across the remainder of the site limited to Common and Soprano Pipistrelle with a small number of big bat registrations.
B2 and B9	26th July 2021 (dusk)	Sunset: 20:56	None	Frequent Common Pipistrelle foraging between B2 and B9 within the open space located to the north west. Frequent Common and Soprano Pipistrelle foraging along the south western aspect of B2.

6.3.7 **Evaluation and Assessment of Likely Effects**

Roosting

Buildings

6.3.8 No evidence of roosting bats have been previously recorded during the bat surveys conducted in 2017 and 2019. Additionally, no evidence of roosting bats was recorded associated with the buildings at the site during the update survey visits undertaken in June 2021.

6.3.9 Based upon the current evidence gathered from the previous bat surveys and the recent update surveys it is considered that specific mitigation or licensing for bats is not required. Nonetheless, bats are dynamic animals and as such it remains possible that individuals could colonise the site in the future. Natural England guidance in respect of European Protected Species[12] such as bats advises that, even where proposals are reasonably unlikely to result in any offence, such that licensing is not required, reasonable precautions should be taken to minimise the risk to protected species in the unlikely event that they should be found during the course of the activity. Accordingly, recommended precautionary mitigation measures are set out at section 6 below and subject to their implementation it is considered that bats will be fully safeguarded under the proposals.

Foraging and Commuting

6.3.10 The majority of the site is unlikely to provide particular foraging or commuting opportunities for bats due to the lack of semi-natural vegetation, being dominated by buildings and hardstanding. Furthermore, the site is well lit which is likely to discourage most bat species (with the exception of Common Pipistrelle and Soprano Pipistrelle which are known to feed in association with street lights). Features such as the trees, scrub and outgrown ornamental planting, largely associated with the southern and western site boundaries were recorded to support foraging Common and Soprano Pipistrelle bats. However this foraging and commuting was likely to comprise only a small number of individual bats, whilst these species are common and widespread and are known to readily use urban areas such as this site. It is further considered that alternative areas of habitat are present in the surrounds of the site, whilst new planting under the proposals will likely be of a similar character and value to the current status of the site. As such, it is considered that the proposals for the site are unlikely to have a significant effect on foraging and commuting bats.

6.4 Badger

6.4.1 Due to the sensitivity of information relating to Badger, survey results and evaluation in respect of this species at the site are set out in a separate Confidential Appendix to accompany this report.

6.5 Other Mammals

6.5.1 **Legislation.** A number of other UK mammal species do not receive direct legislative protection relevant to development activities but may receive protection against acts

[12] Natural England (2013) *'European Protected Species: Mitigation Licensing - How to get a licence (WML-G12)'*

of cruelty (e.g. under the Wild Mammals (Protection) Act 1996). In addition, a number of these mammal species are S41 Priority Species.

6.5.2 **Background Records.** No specific records of other mammals from within or adjacent to the site were returned from the desktop study. A number of records of Water Vole *Arvicola amphibius* and Hedgehog *Erinaceus europaeus* (Priority Species) and Common Shrew *Sorex araneus* were returned from within the search area around the site, with the closest relating to Hedgehog located approximately 100m to the west of the site and dated 2020.

6.5.3 **Survey Results and Evaluation.** The presence of other protected mammal species such as Dormouse *Muscardinus avellanarius*, Water Vole *Arvicola terrestris* and Otter *Lutra lutra* were considered, however given the absence of suitable habitat within the site and its surrounds for any of these species, they are considered not to represent a constraint to the proposals.

6.5.4 No evidence of any other protected, rare or notable mammal species was recorded within the site. During the camera trapping surveys multiple records of Fox *Vulpes vulpes* were noted during surveys, however this species remains common in both a local and national context, and as mentioned above do not receive specific legislative protection in a development context. As such, these species are not a material planning consideration and the loss of potential opportunities for these species to the proposals is of low significance.

6.5.5 The desktop study returned background records of Hedgehog within the surrounding area. Hedgehog is a Priority Species, albeit this species remains common and widespread in England. The site offers potential opportunities for this species, particularly in the form of areas at the site boundaries which support scrub, grassland, outgrown ornamental planting, trees and tall ruderal vegetation. In any event, abundant similar opportunities are present within the local area and there is no evidence to suggest the proposals will significantly affect local populations of this species. However, it is recommended that precautionary safeguards are put in place to minimise the risk of harm to Hedgehog in the event this species is present, as detailed in section 6 below.

6.6 Amphibians

6.6.1 **Legislation.** All British amphibian species receive a degree of protection under the Wildlife and Countryside Act 1981 (as amended). Great Crested Newt *Triturus cristatus* is protected under the Act and is also classed as a European Protected Species under the Conservation of Habitats and Species Regulations 2017 (as amended). As such, both Great Crested Newt and habitats utilised by this species are afforded protection (see Appendix 5222-05/5 for detailed provisions). Great Crested Newt is also a S41 Priority Species, as are Common Toad *Bufo bufo*, Natterjack Toad *Epidalea calamita*, and Pool Frog *Pelophylax lessonae*.

6.6.2 **Background Records.** No specific records of Great Crested Newt from within site or its surroundings were returned from the desktop study. A number of records of Common Frog *Rana temporaria* and Common Toad were returned from the search area surrounding the site, with the closest record relating to Common Frog and located approximately 70m to the south west of the site and dated from 2019.

6.6.3 **Survey Results and Evaluation.** No waterbodies are present within the site such that the site offers no breeding opportunities for amphibians, whilst a review of the 1:25,000 scale OS map of the site and surrounding area, identifies no ponds within a 250m radius of the site. As such, given the lack of suitable breeding habitat within the site and its surrounds and the lack of terrestrial habitat of elevated value to amphibians, it is considered that this group does not represent a constraint to the proposals.

6.7 Reptiles

6.7.1 **Legislation**. All six species of British reptile are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), which protects individuals against intentional killing or injury. Sand Lizard *Lacerta agilis* and Smooth Snake *Coronella austriaca* receive additional protection under the Conservation of Habitats and Species Regulations 2017 (as amended); refer to Appendix 5222-05/5 for detailed provisions. All six reptile species are also S41 Priority Species.

6.7.2 **Background Records.** Information returned from GiGL returned records of Grass Snake *Natrix natrix*, Common Lizard *Zootoca vivipara* and Slow Worm *Anguis fragilis*, the closest of which relates to Slow Worm and was recorded approximately 212m to the south east of the site and dated 2016.

6.7.3 **Survey Results and Evaluation.** The site is dominated by buildings and hardstanding, with the vegetation present largely comprising short mown amenity grassland and ornamental planting with some scrub. These habitats do not provide suitable habitat for reptiles, and it is therefore considered very unlikely that reptiles are present. As such, this species group is therefore not considered to form a constraint to the proposals.

6.8 Birds

6.8.1 **Legislation.** All wild birds and their nests receive protection under Section 1 of the Wildlife and Countryside Act 1981 (as amended) in respect of killing and injury, and their nests, whilst being built or in use, cannot be taken, damaged or destroyed. Species included on Schedule 1 of the Act receive greater protection and are subject to special penalties (see Appendix 5222-05/5 for detailed provisions).

6.8.2 **Conservation Status.** The conservation importance of British bird species is categorised based on a number of criteria including the level of threat to a species' population status[13]. Species are listed as Green, Amber or Red. Red Listed species are considered to be of the highest conservation concern being either globally threatened and or experiencing a high/rapid level of population decline (>50% over the past 25 years). A number of birds are also S41 Priority Species. Red and Amber listed species and priority species should be assessed as important ecological features.

6.8.3 **Background Records.** Information returned from GiGL returned records for several bird species in the vicinity of the site, including the priority species Lesser Redpoll *Carduelis cabaret*, Skylark *Alauda arvensis,* Tree Pipit *Anthus trivialis*, Scaup *Aythya marila*, Cuckoo *Cuculus canorus*, Reed Bunting *Emberiza schoeniclus*, Grasshopper

[13] Eaton MA, Aebischer NJ, Brown AF, Hearn RD, Lock L, Musgrove AJ, Noble DG, Stroud DA and Gregory RD (2015) *'Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man'* British Birds *108*, pp.708-746

Warbler *Locustella naevia*, Spotted Flycatcher *Muscicapa striata*, Curlew *Numenius arquata*, House Sparrow *Passer domesticus,* Tree Sparrow *P. montanus*, Grey Partridge *Perdix perdix*, Turtle Dove *Streptopelia turtur*, Song Thrush, Bullfinch *Pyrrhula pyrrhula*, Starling *Sturnus vulgaris* and Lapwing *Vanellus vanellus,* which are also all included on the red list, apart from Reed Bunting and Bullfinch which are on the amber list. Of these records, House Sparrow and Song Thrush were located 70m north and north east of the site, and respectively dated from 1981 to 2017.

6.8.4 **Survey Results and Evaluation.** Several species of bird were observed within the site during the update Phase 1 survey and bat surveys including Feral Pigeon *Columba livia* and Ring-necked Parakeet *Psittacula krameri.*

6.8.5 All of the birds recorded at the site are not listed as having any special conservation status, and the habitats present are not considered to be of any specific value to breeding birds aside from common and widespread urban species. The proposals will result in the loss of potential nesting habitat in the form of buildings, trees, scrub and ornamental planting. According, a number of safeguards in respect of nesting birds are proposed, as detailed in section 6 below. In the long-term, new nesting opportunities will be available for birds as described in section 6 below.

6.9 Invertebrates

6.9.1 **Legislation.** A number of invertebrate species are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). In addition, Large Blue Butterfly *Maculinea arion*, Fisher's Estuarine Moth *Gortyna borelii lunata* and Lesser Whirlpool Ram's-horn Snail *Anisus vorticulus* receive protection under the Conservation of Habitats and Species Regulations 2017 (as amended); refer to Appendix 5222-05/ for detailed provisions. A number of invertebrates are also S41 Priority Species.

6.9.2 **Background Records.** No specific records of invertebrates were returned from within or adjacent to the site. A number of records of the priority species Stag Beetle, Small Heath *Coenonympha pamphilus*, White Admiral *Limenitis Camilla*, White-letter Hairstreak *Satyruym w-album*, Ear Moth *Amphipoea oculea*, Mottled Rustic *Caradrina morpheus*, Broom Moth *Ceramica pisi*, September Thorn *Ennomos erosaria*, August Thorn *E. quercinaria*, Rustic Moth *Hoplodrina blanda*, Rosy Rustic *Hydraecia micacea*, Shoulder-striped Wainscot *Leucania comma*, Buff Ermine *Spilosoma lutea*, Feathered Gothic *Tholera decimalis*, Cinnabar *Tyria jacobaeae* and Oak Hook-tip Moth *Watsonalla* were returned within information received from GiGL, with the closest relating to Stag Beetle, dated 2020 and located approximately 70m north east of the site. All other records were further separated from the site by existing development.

6.9.3 **Survey Results and Evaluation.** No evidence for the presence of any protected, rare or notable invertebrate species was recorded within the site. The site is dominated by buildings, hardstanding, and regularly managed amenity planting, which are likely to support only a limited assemblage of common and widespread invertebrates. The site supports some trees and areas of scrub, but otherwise contains relatively few micro-habitats that would typically indicate elevated potential for invertebrates[14], such as a variable topography with areas of vertical exposed soil, areas of species-rich semi-natural vegetation; variable vegetation structure with frequent patches of tussocks combined with short turf; free-draining light soils; walls with friable mortar or fibrous

[14] Natural England (2010) 'Higher Level Stewardship – Farm Environment Plan (FEP) Manual', 3rd Edition

dung. Accordingly, given the habitat composition of the site and lack of adjacent sites designated for significant invertebrate interest, it is considered unlikely that the proposals will result in significant harm to any protected, rare or notable invertebrate populations.

6.10 Summary

6.10.1 A summary of the evaluation of faunal species associated with the site is set out at Table 5.3 below.

Table 5.3: Evaluation summary of fauna forming important ecological features

Species / Group	Supported by or associated with the site	Level of Importance
Bats – Roosting (buildings)	No evidence of roosting bats within the buildings on site	Local
Bats – Roosting (trees)	Negligible	Local
Bats – Foraging / Commuting	Minimal habitat within site	Local
Badger	See Confidential Appendix	-
Other Mammals	Confirmed Presence on Site	Local
Birds	Confirmed Presence on Site	Local
Amphibians	Lack of suitable habitat within site	Local
Reptiles	Lack of suitable habitat within site	Local
Invertebrates	Lack of suitable habitat within site	Local

7 Mitigation Measures and Ecological Enhancements

7.1 Mitigation

7.1.1 Based on the habitats, ecological features and associated fauna identified within / adjacent to the site, it is recommended that the following mitigation measures (**MM1 – 9**) are implemented under the proposals. Further, detailed mitigation strategies or method statements can be secured via suitably-worded planning conditions, as recommended by relevant best practice guidance (BS 42020:2013).

Old Mortlake Burial Ground SINC L

7.1.2 **MM1 – Safeguards.** Old Mortlake Burial Ground SINC L is present adjacent to the western site boundary. This non-statutory designation is located entirely offsite, whilst the designation is currently surrounded by urban land and furthermore is noted to be intensively managed, forming a habitat which is not vulnerable to urbanisation of the surrounds. Nevertheless, the following safeguards are recommended:

- Damping down of dust sources and covering of loose materials to minimise any potential dust deposition within adjacent habitats; and
- Implementation of engineering safeguards as part of construction works to control surface water run-off and avoid contamination of watercourses. This could include measures such as the use of a temporary silt trap in order to form an intercept for silt and other potential pollutants.

Trees

7.1.3 **MM2 – Tree Protection.** All trees to be retained within the proposed development shall be protected during construction in line with standard arboriculturalist best practice (BS5837:2012) or as otherwise directed by a suitably competent arboriculturalist. This will involve the use of protective fencing or other methods appropriate to safeguard the root protection areas of retained trees.

Exotic Plant Species

7.1.4 **MM3 – Removal of exotic plant species.** Numerous Buddleja, Green Alkanet, False Acacia and Cherry Laurel plants were recorded within the site. Buddleja and Cherry Laurel are listed on Category 3 of the London Invasive Species Initiative which states *'Species of high impact or concern which are widespread in London and require concerted, coordinated and extensive action to control/eradicate.'* whilst False Acacia is listed under Category 4 of the London Invasive Species Initiative, which states '*Species which are widespread for which eradication is not feasible but where avoiding spread to other sites may be required*'. As such, all relevant precautions should be taken during works at the site in order to prevent the potential spread of these species including uprooting such plants and disposing of appropriately (e.g. burning) prior to any clearance works.

Bats

7.1.5 **MM4 – Update Survey.** Should any considerable time (e.g. >12 months) elapse between the 2021 survey work detailed above and any development works, a further

survey of the buildings with potential to support roosting bats should be undertaken prior to the commencement of works to confirm the continued absence of bats.

7.1.6 **MM5 – Removal of Roofs.** Removal of any tiled roofs or other structures in relation to the buildings which are proposed for demolition (B2, B8, B9 and B10) with potential to support or conceal roosting bats should be undertaken with care during favourable weather conditions (e.g. not during heavy rain, high winds or unseasonable low temperatures) under an appropriate ecological watching brief. Should any bats be encountered, works would need to stop and Aspect Ecology contacted so that suitable mitigation can be agreed prior to works re-commencing. This may potentially involve discussion with Natural England and acquisition of a development licence for works to resume.

Other Mammals (including Badger)

7.1.7 **MM6 – Construction Safeguards.** In order to safeguard other mammals (including Badger) should they enter the site during construction works, the following measures will be implemented:

- Any trenches or deep pits within the site that are to be left open overnight will be provided with a means of escape should a Badger or other mammal enter. This could simply be in the form of a roughened plank of wood placed in the trench as a ramp to the surface. This is particularly important if the trench fills with water;
- Any temporarily exposed open pipes (>150mm outside diameter) should be blanked off at the end of each working day so as to prevent Badgers or other mammals gaining access as may happen when contractors are off-site;
- Any trenches/pits will be inspected each morning to ensure no Badgers or other mammals have become trapped overnight. Should a Badger become trapped in a trench it will likely attempt to dig itself into the side of the trench, forming a temporary sett. Should a trapped Badger be encountered a suitably qualified ecologist will be contacted immediately for further advice;
- The storage of topsoil or other 'soft' building materials in the site will be given careful consideration. Badgers will readily adopt such mounds as setts. So as to avoid the adoption of any mounds, these will be kept to a minimum and any essential mounds subject to daily inspections with consideration given to temporarily fencing any such mounds to exclude Badgers;
- The storage of any chemicals at the site will be contained in such a way that they cannot be accessed or knocked over by any roaming Badgers or other mammals;
- Fires will only be lit in secure compounds away from areas of Badger and other mammal activity and not allowed to remain lit during the night; and
- Unsecured food and litter will not be left within the working area overnight.

7.1.8 **MM7 – Badger Update Survey and associated mitigation/considerations.** (see separate Confidential Appendix for further details).

7.1.9 **MM8 – Hedgehog Construction Safeguards.** A number of habitats within the site provide potential opportunities for Hedgehog, largely in the form of scrub and overgrown ornamental planting. Where such habitats are to be affected, it is

recommended that precautionary safeguards are put in place in the event that Hedgehog is present with clearance of suitable habitat carried out under a watching brief maintained by site contractors. It is recommended that any tall vegetation is reduced in height, through staged strimming with any arisings removed outside of extreme weather, where possible. Care should be taken when dismantling / removing any brash piles, rubble piles or areas of strimmed vegetation from the survey area, before any ground works commence, to ensure that any species utilising the survey area have safely dispersed to offsite habitats. In the unlikely event that a Hedgehog is encountered during works, it should be carefully moved to an area of retained, suitable habitat (preferably within an area of cover). In the event that an injured animal is encountered, this should be taken to a vet or animal hospital for treatment.

Nesting Birds

7.1.10 **MM9** – **Timing of Works.** To avoid a potential offence under the Wildlife & Countryside Act, no clearance of suitable nesting vegetation or building demolition should be undertaken during the bird-nesting season (1st March to 31st August inclusive). If this is not practicable, any potential nesting habitat to be removed should first be checked by a competent ecologist in order to determine the location of any active nests. Any active nests identified would then need to be cordoned off (minimum 5m buffer) and protected until the end of the nesting season or until the birds have fledged. These checking surveys would need to be carried out no more than three days in advance of vegetation clearance.

7.2 Ecological Enhancements

7.2.1 The National Planning Policy Framework (NPPF) encourages new developments to maximise the opportunities for biodiversity through incorporation of enhancement measures. The proposals present the opportunity to deliver ecological enhancements at the site for the benefit of local biodiversity, thereby making a positive contribution towards the broad objectives of national conservation priorities and the local Biodiversity Action Plan (BAP). The recommendations and enhancements summarised below are considered appropriate given the context of the site and the scale and nature of the proposals. Through implementation of the following ecological enhancements (**EE1 – EE5**), the opportunity exists for the proposals to deliver a number of net gains for biodiversity at the site.

Habitat Creation

7.2.2 **EE1 – New Planting.** It is recommended that where practicable, new planting within the site comprise native species of local provenance, including trees and shrubs appropriate to the local area. Suitable species for inclusion within the planting could include native trees such as Oak *Quercus Robur* sp., Ash, Birch and Field Maple *Acer campestre*, whilst native shrub species of particular benefit would likely include fruit and nut bearing species which would provide additional food for wildlife, such as Blackthorn *Prunus spinosa,* Hawthorn *Crataegus monogyna,* Crab Apple *Malus sylvestris*, Hazel and Elder. Plants should also be chosen for their value to pollinating insects such as bees, with species chosen where possible from the RHS Perfect for Pollinators list.

7.2.3 **EE2 – Community Orchard.** It is proposed that an area of new fruit tree planting is to be incorporated into the proposal, to create a small community orchard within central

section and adjacent to the eastern boundary. This would make a positive contribution towards the NPPF (Paragraph 131) and policy G8 noted within the London Plan (2021), which encourages local community food growing. The fruit trees will comprise of native species which appropriately match the local provenance and character of historic orchards within the area. The fruit trees will provide a nectar source for bees and other pollinating insects.

Bats

7.2.4 **EE3 - Bat Boxes.** A number of bat boxes, such as Schwegler 2F or 1FF (see Appendix 5222-05/6 for specifications), are recommended to be incorporated along the western and southern boundary of the site. The provision of bat boxes will provide new roosting opportunities for bats in the area, such as Soprano Pipistrelle, a national Priority Species. So as to maximise their potential use, the bat boxes should ideally be situated on suitable retained trees, erected as high up as possible and sited in sheltered wind-free areas that are exposed to the sun for part of the day, facing a south-east, south or south-westerly direction. In addition, where architectural design allows, a number of integrated bat boxes / roost features should be incorporated into a proportion of the new build, such as Weinerberger bat boxes (see Appendix 5222-05/6 for specifications).

Birds

7.2.5 **EE4 - Bird Boxes**. A number of bird nesting boxes, should be incorporated within the retained trees to the south of the site of the proposed development, thereby increasing nesting opportunities for birds at the site. Ideally, the bird boxes will have greater potential for use if sited on suitable, retained trees, situated as high up as possible or should be incorporated into new buildings. Boxes should be chosen to benefit urban bird species, such as Swift *Apus apus*, House Sparrow and House Martin *Delichon urbica* (see specifications at Appendix 5222-05/6). The precise number and locations of boxes should be determined by a competent ecologist, post-planning once the relevant final development design details have been approved.

Invertebrates

7.2.6 **EE5 – Habitat Piles.** A proportion of any deadwood arising from vegetation clearance works should be retained within the site in a number of wood piles located within areas of new planting and open space towards the southern section of the site in order to provide potential habitat opportunities for invertebrate species, which in turn could provide a prey source for a range of other wildlife. In addition, the provision and management of new native landscape planting will likely provide additional opportunities for invertebrates at the site in the long term.

8 Conclusions

8.1 Aspect Ecology has carried out an ecological appraisal of the proposed development, based on the results of a desktop study, Phase 1 habitat survey and a number of detailed protected species surveys.

8.2 The available information confirms that no statutory or non-statutory nature conservation designations are present within the site, and none of the designations within the surrounding area are likely to be adversely affected by the proposals, subject to safeguards detailed within this report.

8.3 The Phase 1 habitat survey has established that the site is dominated by habitats of negligible to low ecological value such that habitat losses under the proposals would be of low ecological significance.

8.4 The habitats within the site support a small number of foraging/commuting bats and a small number of common and widespread mammals, birds and invertebrates. Accordingly, a number of mitigation measures have been proposed to minimise the risk of harm to protected species, where appropriate, in order to maintain the conservation status of local populations. A number of enhancements are also proposed, benefiting species such as bats and birds.

8.5 In conclusion, the proposals have sought to minimise impacts and subject to the implementation of appropriate avoidance, mitigation and compensation measures, it is considered unlikely that the proposals will result in significant harm to biodiversity. On the contrary, the opportunity exists to provide a number of net gains in biodiversity as part of the proposals.

Plan 5222-05/ECO1:

Site Location

Key:

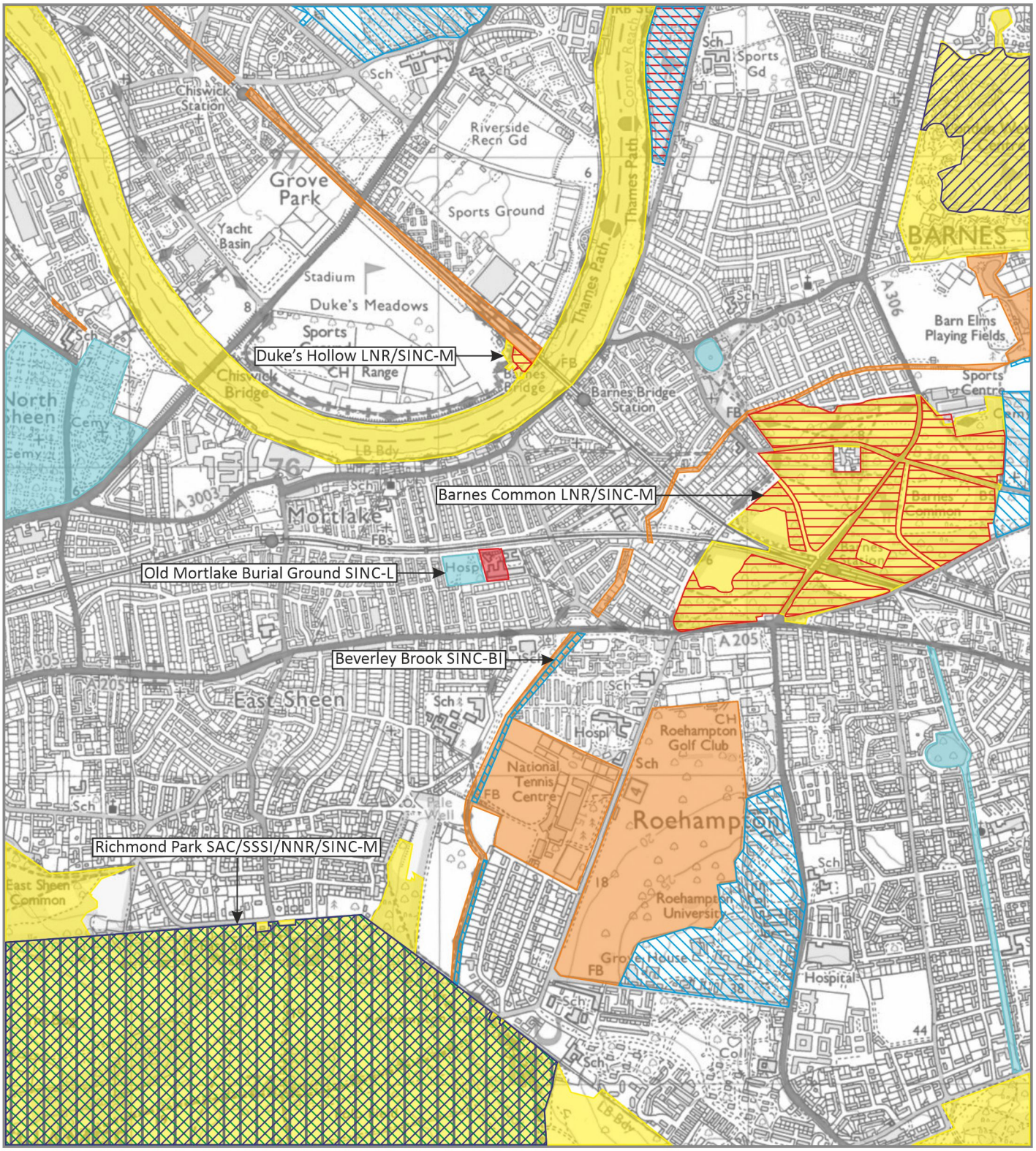
Site Location

Aspect Ecology Limited - West Court - Hardwick Business Park
Noral Way - Banbury - Oxfordshire - OX16 2AF
01295 276066 - info@aspect-ecology.com - www.aspect-ecology.com

Barnes Hospital (West), London	PROJECT
Site Location	TITLE
5222-05/ECO1	DRAWING NO.
A/JP	REV.
November 2021	DATE

Plan 5222-05/ECO2:

Ecological Designations



Key:

- Site Location
- Special Area of Conservation (SAC)
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Local Nature Reserve (LNR)
- Metropolitan Site of Importance for Nature Conservation (SINC-M)
- Borough (Grade I) Site of Importance for Nature Conservation (SINC-BI)
- Borough (Grade II) Site of Importance for Nature Conservation (SINC-BII)
- Local Site of Importance for Nature Conservation (SINC-L)

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Aspect Ecology Limited - West Court - Hardwick Business Park
Noral Way - Banbury - Oxfordshire - OX16 2AF
01295 276066 - info@aspect-ecology.com - www.aspect-ecology.com

Barnes Hospital (West), London	PROJECT
Ecological Designations	TITLE
5222-05/ECO2	DRAWING NO.
A/JP	REV.
November 2021	DATE

Plan 5222-05/ECO3:

Habitats & Ecological Features

Key:

- Site Boundary
- Amenity Grassland
- Ornamental Planting
- Tree
- Scattered Scrub
- Bare Ground
- Building
- Hardstanding
- Active Outlier Badger Sett
- Inactive Outlier Badger Sett
- Photograph Location

aspect ecology

Aspect Ecology Limited - West Court - Hardwick Business Park
Noral Way - Banbury - Oxfordshire - OX16 2AF
01295 276066 - info@aspect-ecology.com - www.aspect-ecology.com

Barnes Hospital (West), London	PROJECT
Habitats, Ecological Features and Photographs	TITLE
5222-05/ECO3	DRAWING NO.
A/JP	REV.
November 2021	DATE

Plan 5222-05/ECO4:

Bat Survey Results

No roosting activity was recorded at the site.

Frequent Common Pipistrelle activity surrounding the western boundary in the vicinity of building B10 during the dusk survey on 12th July 2021 with infrequent activity recorded at the northern section of building B10 and B8 comprising commuting passes from Common and Soprano Pipistrelle.

A total of two Common Pipistrelle a were recorded in the vicinity of building B1 during the dusk survey on 12th July 2021.

Activity at dusk on 12th July 2021 comprised Common Pipistrelle, recorded in the vicinity of buildings B2 and B9, with continuous foraging for 2 minutes concentrated between the two buildings comprising of two individual bats. Frequent foraging activity recorded during the 26th July 2021, surrounding building B2 and B9 on the east and west side, continuing for an hour.

Frequent Common Pipistrelle and Soprano Pipistrelle foraging activity recorded during the 26th July 2021 surrounding the southern aspect of B2. Infrequent passes recorded for Soprano Pipistrelle commuting along the southern boundary.

Key:

- Development Site Boundary

Bat Survey Results

- Building with 'Negligible' bat roosting potential
- Building with 'Low' bat roosting potential
- Surveyor Location for the 12th July 2021
- Surveyor Location for the 26th July 2021
- Common Pipistrelle Pass
- Sustained foraging activity - Common Pipistrelle
- Soprano Pipistrelle Pass
- Sustained foraging activity - Soprano Pipistrelle

aspect ecology

Aspect Ecology Limited - West Court - Hardwick Business Park
Noral Way - Banbury - Oxfordshire - OX16 2AF
01295 276066 - info@aspect-ecology.com - www.aspect-ecology.com

Barnes Hospital, (West) Richmond	PROJECT
Emergence/ Re-entry Survey Results	TITLE
5222-05/ECO4	DRAWING NO.
A/JP	REV.
November 2021	DATE

Appendix 5222-05/1:

Proposals Plan

metres 5 10 15 20 25

SCALE BAR: 1:250

Revision	Description	Date	Drawn	Checked
16	For Planning Submission	12/11/2021	FS	OM
15	For Planning Submission	17/08/2021	FS	OM
14	For Planning Submission	13/08/2021	FS	OM
13	For Planning Submission	12/08/2021	FS	OM
12	Update Desing Freeze	23/07/2021	FS	OM
11	Draft Planning Submission	09/07/2021	FS	OM
10	For Information	05/07/2021	FS	OM
9	For Information	23/06/2021	FS	OM
8	For Information	04/06/2021	FS	OM
7	For information	12/05/2021	FS	OM
6	For Information	10/05/2021	FS	OM
5	For Information	25/03/2021	FS	OM
4	Pre-App 2 Issue	25/02/2021	FS	OM
3	Building position update	08/02/2021	FS	OM
2	For Information	28/01/2021	FS	OM
1	For Information	14/01/2021	FS	OM

SCOTT BROWNRIGG

77 Endell Street
London WC2H 9DZ
T +44 (0)20 7240 7766
W scottbrownrigg.com

Client's Name

Star Land Realty UK Ltd.

Job Title

Barnes Hospital Site

Drawing Title

Proposed Site Plan

Scale

1 : 250 @A1

SBR Project No.

18387

SBR Project No. Originator Volume Level Type Role Number

18387-SBR-ZZ-00-DR-A-80101

Suitability Code Status Rev

S4 - FOR STAGE APPROVAL **16**

Appendix 5222-05/2:

Desktop Study Data

MAGiC

Barnes Hospital Designations

Legend

- Local Nature Reserves (England)
- National Nature Reserves (England)
- Ramsar Sites (England)
- Sites of Special Scientific Interest (England)
- Special Areas of Conservation (England)
- Special Protection Areas (England)

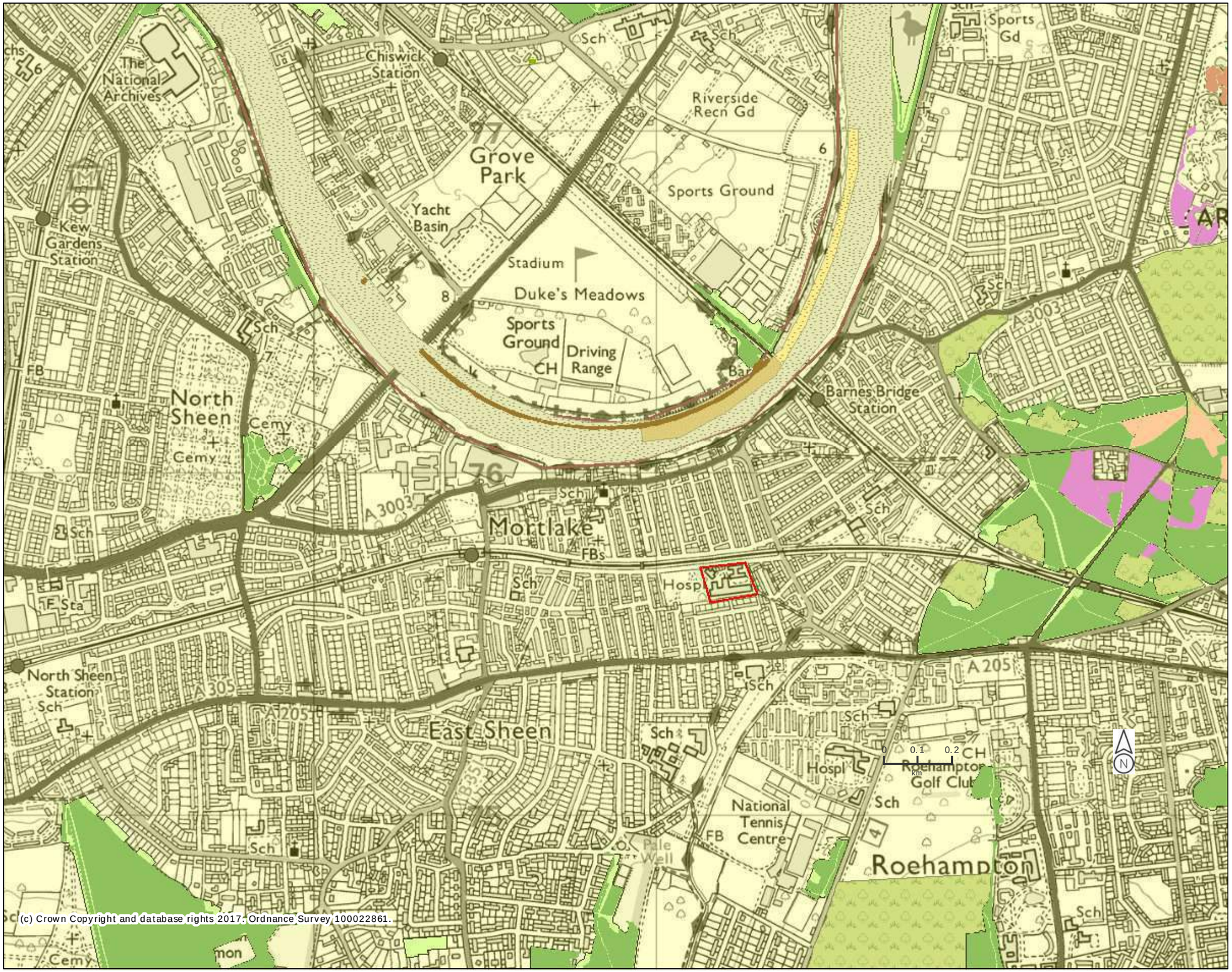
Ancient Woodland (England)

- Ancient and Semi-Natural Woodland
- Ancient Replanted Woodland

Projection = OSGB36
xmin = 511600
ymin = 170200
xmax = 531400
ymax = 181400

Map produced by MAGIC on 25 September, 2017.

Barnes Hospital Priority Habitats



Legend

- Priority Habitat Inventory - Mudflats (England)
- Priority Habitat Inventory - Good quality semi-improved grassland (Non Priority) (England)
- Priority Habitat Inventory - Lowland Dry Acid Grassland (England)
- Priority Habitat Inventory - Purple Moor Grass and Rush Pasture (England)
- Priority Habitat Inventory - Lowland Heathland (England)

Intertidal Substrate Foreshore (England and Scotland)

- Boulders/Loose Rock
- Gravel
- Made Ground (Man Made)
- Mud
- Mud and Gravel
- Not Present
- Rock Platform
- Rock Platform with Bank of Gravel
- Rock Platform with Boulders/Loose Rock
- Sand
- Sand and Gravel
- Sand and Mud
- Unspecified

Projection = OSGB36
xmin = 518400
ymin = 174600
xmax = 523400
ymax = 177300

0 0.2 0.4 km

Map produced by MAGIC on 25 September, 2017.

Appendix 5222-05/3:

Building Description Table

Appendix 5222/3: Buildings descriptions

Building Number	Photo	Building Description	Overall Bat Roosting Potential	Previous Results from 2018 Surveys	Updated Results from 2021 Surveys
B1		A disused, two storey brick built listed building supporting a pitched roof with slate tiles, metal flashing and a chimney at each gable end. The eastern face of the building supported a single storey extension with a sloping, tiled roof. Wooden soffit boxes are present. The loft void supports timber rafters and wood sarking with few gaps recorded. A water tank was recorded in the void, although the remainder of the structure was recorded to form an open, uncluttered space.	**Low bat roosting potential.**	No evidence for the presence of bats was recorded, although a number of external features of roosting potential were recorded including lifted tiles and gaps between the soffit boxes and the wall. Internally, some points that may allow for access to the void were identified, however these were all recorded to be cobwebbed. Similarly, cobwebs were recorded across the whole void including at the central ridge beam.	No evidence for the presence of bats were recorded with a similar condition previously report in regards to the external features of the soffit boxes and lifted tiles. Internally the void was in a similar condition as previously reported with no evidence of bats and the void was still heavily co-webbed around the sarkings, rafters and ridge beam.

Appendix 5222/3: Buildings descriptions

Building Number	Photo	Building Description	Overall Bat Roosting Potential	Previous Results from 2018 Surveys	Updated Results from 2021 Surveys
B2	 	B2 forms the main hospital building, which is now disused, and was recorded to comprise brick construction with steel beams and a complex roof structure forming largely pitched roofs supporting slate tiles. A number of chimneys were recorded along with metal flashing. Wood soffit boxes and some wooden bargeboards are present at the eaves. The building was recorded to be in a largely good condition. A number of voids are present within this building. The main void forms a large open space, formed by steel beams, which appears to have been in regular use in the recent past, with the electric lighting recorded to be on prior to the survey, and contains a number of structures associated with the hospital. A plant room is present in a void at the east of the building, and is of a similar description to the void above, albeit much smaller.	**Low bat roosting potential.**	The building was recorded to be in a largely good condition with few cracks and crevices noted, and most of those present which were accessible to survey were not recorded to offer any particular roosting potential. No evidence of roosting bats was recorded in any of the loft voids, which were largely recorded to be lit by electric lighting, whilst evidence for mouse and rat was recorded.	During the internal inspections no evidence of roosting bats was recorded within the any of the loft voids. B2 was recorded to be in the same condition as previously reported with well-sealed internal voids providing minimal accessible gaps and features suitable for roosting bats. A single bat emergence survey is yet to be completed and will be reported within the finalised report.

Appendix 5222/3: Buildings descriptions

Building Number	Photo	Building Description	Overall Bat Roosting Potential	Previous Results from 2018 Surveys	Updated Results from 2021 Surveys
		The remainder of the voids from a series of smaller, interconnected structures formed by wood rafters with wood sarking, behind which is felt insulation. Again, the voids were lit with electric lighting which appears to be turned on much of the time.			

Appendix 5222/3: Buildings descriptions

Building Number	Photo	Building Description	Overall Bat Roosting Potential	Previous Results from 2018 Surveys	Updated Results from 2021 Surveys
B7		A disused, one storey brick building supporting a U-shaped pitched, slate tiled roof, with two chimneys and associated metal flashing. Internally three voids are present at the south, west and north, and are largely of the same description. The voids are formed by wood beams, with felt lining, recorded to be in largely good condition. Circular vents are present at the gable ends of the south and north voids, which were lined with wire. The voids were recorded to be damp in places. An additional, connected structure is present at the south east, largely of the same description as the main building, with a cupola.	**Low bat roosting potential.**	No signs of bats were recorded within the voids, although evidence of mouse and rat was recorded, whilst the wire mesh at the ventilation panels at the eastern gable ends was recorded to be in good condition, prohibiting any access to bats. Furthermore, the voids were recorded to be moderately heavily cobwebbed. The cupola associated with the south eastern structure was recorded to let in significant amounts of light and was also recorded to create draughty conditions.	During the internal inspections no evidence of bats were recorded. The building were reported to be in a similar condition as previously reported. Similarly the cupola located to the south eastern structure provided a significantly large opening which was observed during the emergence/re-entry surveys. No bats were recorded emerging from this feature and no further evidence of roosting bats were recorded during surveys.

Appendix 5222/3: Buildings descriptions

Building Number	Photo	Building Description	Overall Bat Roosting Potential	Previous Results from 2018 Surveys	Updated Results from 2021 Surveys
B8		A disused brick structure comprising 4 main sections, the first of which is a two storey building, with one storey structures to the north, south and east. The three main sections support hipped roofs, whilst the remaining section to the east supports a pitched roof. The roofs support slate tiles, metal capping at the ridges, chimneys and associated metal flashing. Wood soffits are present in moderate condition. The two main voids were accessible at the north and south, along with a further two voids at the far northern and southern ends of the building. The central and eastern voids were inaccessible however. The voids were recorded to be formed by wood beams with sarking, forming large, open spaces.	**Low bat roosting potential.**	No evidence for bats was recorded, however previous evidence of bird nesting was recorded, along with evidence for the presence of Rats.	During the internal inspection no evidence of bats were recorded. The building is in similar condition as previously reported. No bats were recorded emerging from the building during the emergence/re-entry surveys.

Appendix 5222/3: Buildings descriptions

Building Number	Photo	Building Description	Overall Bat Roosting Potential	Previous Results from 2018 Surveys	Updated Results from 2021 Surveys
B9		A disused, one storey brick structure supporting hipped, slate tiled roof structures and wood soffit boxes. A small flat roofed section is present at the north west, with wooden bargeboards and metal capping at the edge. Again, the voids within this building are formed by wood beams with sarking. Voids were recorded be cluttered and dirty and in moderate to good condition. In some areas the roof appeared to have been recently renovated with fresh sarking.	**Low bat roosting potential.**	No evidence for the presence of bats was recorded, although a number of external features of roosting potential were recorded including lifted tiles and gaps between the soffit boxes and the wall.	The building is yet to be inspected internally and a single emergence re-entry is to be completed. The results of which will be reported in the finalised report.

Appendix 5222/3: Buildings descriptions

Building Number	Photo	Building Description	Overall Bat Roosting Potential	Previous Results from 2018 Surveys	Updated Results from 2021 Surveys
B10		B10 forms the disused mortuary of the hospital. The building forms a one storey structure connected to a garage and plant room. The main building supports a pitched roof, whilst the garage and plant rooms support a sloping roof with no voids. The roof is formed by interlocking tiles with two glass sections at the south. Wood bargeboards are present at the eaves. Three voids are present within the pitched roof, forming a small central storage area located between the two skylights, of wood construction, recorded to be cluttered, well-lit and dirty. The two sloping voids were formed by wood rafters with felt lining and recorded to be narrow spaces and very dirty.	**Low bat roosting potential.**	The voids supported no signs of bats, although abundant evidence for the presence of Rats was recorded. Minor potential is present associated with external features on the building, largely limited to the few slipped tiles.	During the internal inspection no evidence of bats were recorded. The building is in similar condition as previously reported. No bats were recorded emerging from the building during the emergence/re-entry surveys.

Appendix 5222-05/4:

Evaluation Methodology

Evaluation Methodology

1. The evaluation of ecological features and resources is based on professional judgement whilst also drawing on the latest available industry guidance and research. The approach taken in this report is based on that described by the Chartered Institute of Ecology and Environmental Management (CIEEM) 'Guidelines for Ecological Impact Assessment in the UK and Ireland' (2018)[1].

Importance of Ecological Features

2. Ecological features within the site/study area have been evaluated in terms of whether they qualify as 'important ecological features'. In this regard, CIEEM guidance states that *"it is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable".*

3. Various characteristics contribute to the importance of ecological features, including:

- Naturalness;
- Animal or plant species, sub-species or varieties that are rare or uncommon, either internationally, nationally or more locally, including those that may be seasonally transient;
- Ecosystems and their component parts, which provide the habitats required by important species, populations and/or assemblages;
- Endemic species or locally distinct sub-populations of a species;
- Habitat diversity;
- Habitat connectivity and/or synergistic associations;
- Habitats and species in decline;
- Rich assemblages of plants and animals;
- Large populations of species or concentrations of species considered uncommon or threatened in a wider context;
- Plant communities (and their associated animals) that are considered to be typical of valued natural/semi-natural vegetation types, including examples of naturally species-poor communities; and
- Species on the edge of their range, particularly where their distribution is changing as a result of global trends and climate change.

4. As an objective starting point for identifying important ecological features, European, national and local governments have identified sites, habitats and species which form a key focus for biodiversity conservation in the UK, supported by policy and legislation. These are summarised by CIEEM guidance as follows:

Designated Sites

- Statutory sites designated or classified under international conventions or European legislation, for example World Heritage Sites, Biosphere Reserves, Wetlands of International Importance (Ramsar sites), Special Areas of Conservation (SAC), Special Protection Areas (SPA);

[1] CIEEM (2018) '*Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*', Chartered Institute of Ecology and Environmental Management, Winchester

- Statutory sites designated under national legislation, for example Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR);
- Locally designated wildlife sites, e.g. Local Wildlife Sites (LWS).

Biodiversity Lists

- Habitats and species of principal importance for the conservation of biodiversity in England and Wales (largely drawn from UK BAP priority habitats and priority species), often referred to simply as Priority Habitats / Species;
- Local BAP priority species and habitats.

Red Listed, Rare, Legally Protected Species

- Species of conservation concern, Red Data Book (RDB) species;
- Birds of Conservation Concern;
- Nationally rare and nationally scarce species;
- Legally protected species.

5. In addition to this list, other features may be considered to be of importance on the basis of local rarity, where they enable effective conservation of other important features, or play a key functional role in the landscape.

<u>Assigning Level of Importance</u>

6. The importance of an ecological feature should then be considered within a defined geographical context. Based on CIEEM guidance, the following frame of reference is used:

- International (European);
- National;
- Regional;
- County;
- District;
- Local (e.g. Parish or Neighbourhood);
- Site (not of importance beyond the immediate context of the site).

7. Features of 'local' importance are those considered to be below a district level of importance, but are considered to appreciably enrich the nature conservation resource or are of elevated importance beyond the context of the site.

8. Where features are identified as 'important' based on the list of key sites, habitats and species set out above, but are very limited in extent or quality (in terms of habitat resource or species population) and do not appreciably contribute to the biodiversity interest beyond the context of the site, they are considered to be of 'site' importance.

9. In terms of assigning the level of importance, the following considerations are relevant:

Designated Sites

10. For designated sites, importance should reflect the geographical context of the designation (e.g. SAC/SPA/Ramsar sites are designated at the international level whereas SSSIs are designated at the national level). Consideration should be given to multiple designations as appropriate (where an area is subject to differing levels of nature conservation designations).

Habitats

11. In certain cases, the value of a habitat can be measured against known selection criteria, e.g. SAC selection criteria, 'Guidelines for the selection of biological SSSIs' and the Hedgerows Regulations 1997. However, for the majority of commonly encountered sites, the most relevant habitat evaluation will be at a more localised level and based on relevant factors such as antiquity, size, species-diversity, potential, naturalness, rarity, fragility and typicalness (Ratcliffe, 1977). The ability to restore or re-create the habitat is also an important consideration, for example in the case of ancient woodland.

12. Whether habitats are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Habitats of Principal Importance' or 'Priority Habitats', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular habitat under a BAP does not in itself imply any specific level of importance.

13. Habitat inventories (such as habitat mapping on the MAGIC database) or information relating to the status of particular habitats within a district, county or region can also assist in determining the appropriate scale at which a habitat is of importance.

Species

14. Deciding the importance of species populations should make use of existing criteria where available. For example, there are established criteria for defining nationally and internationally important populations of waterfowl. The scale within which importance is determined could also relate to a particular population, e.g. the breeding population of common toads within a suite of ponds or an otter population within a catchment.

15. When determining the importance of a species population, contextual information about distribution and abundance is fundamental, including trends based on historical records. For example, a species could be considered particularly important if it is rare and its population is in decline. With respect to rarity, this can apply across the geographic frame of reference and particular regard is given to populations where the UK holds a large or significant proportion of the international population of a species.

16. Whether species are listed as priorities for conservation at a national level in accordance with Sections 41 and 42 of the Natural Environment and Rural Communities Act (NERC) 2006, so called 'Species of Principal Importance' or 'Priority Species', or within regional or local Biodiversity Action Plans (BAPs) is also relevant, albeit the listing of a particular species under a BAP does not in itself imply any specific level of importance.

17. Species populations should also be considered in terms of the potential zone of influence of the proposals, i.e. if the entire species population within the site and surrounding area were to be affected by the proposed development, would this be of significance at a local, district, county or wider scale? This should also consider the foraging and territory ranges of individual species (e.g. bats roosting some distance from site may forage within site whereas other species such as invertebrates may be more sedentary).

Appendix 5222-05/5:

Legislation

LEGISLATION SUMMARY

1. In England and Wales primary legislation is made by the UK Parliament, and in Scotland by the Scottish Parliament, in the form of Acts. The main piece of legislation relating to nature conservation in the UK is the Wildlife and Countryside Act 1981 (as amended).

2. Acts of Parliament confer powers on Ministers to make more detailed orders, rules or regulations by means of secondary legislation in the form of statutory instruments. Statutory instruments are used to provide the necessary detail that would be too complex to include in an Act itself[1]. The provisions of an Act of Parliament can also be enforced, amended or updated by secondary legislation.

3. In summary, the key pieces of legislation relating to nature conservation in the UK are:

    - Wildlife and Countryside Act 1981 (as amended)
    - Protection of Badgers Act 1992
    - Hedgerows Regulations 1997
    - Countryside and Rights of Way (CRoW) Act for England and Wales 2000
    - Natural Environment and Rural Communities Act 2006
    - Conservation of Habitats and Species Regulations 2017

4. A brief summary of the relevant legislation is provided below. The original Acts and instruments should be referred to for the full and most up to date text of the legislation.

5. **Wildlife and Countryside Act 1981 (as amended)**. The WCA Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs) identified for their flora, fauna, geological or physiographical features. The Act contains strict measures for the protection and management of SSSIs.

6. The Act also refers to the treatment of UK wildlife including protected species listed under Schedules 1 (birds), 5 (mammals, herpetofauna, fish, invertebrates) and 8 (plants).

7. Under Section 1(1) of the Act, all wild birds are protected such that is an offence to intentionally:

    - Kill, injure or take any wild bird;
    - Take, damage or destroy the nest of any wild bird whilst in use* or being built;
    - Take or destroy an egg of any wild bird.

    * The nests of birds that re-use their nests as listed under Schedule ZA1, e.g. Golden Eagle, are protected against taking, damage or destruction irrespective of whether they are in use or not.

8. Offences in respect of Schedule 1 birds are subject to special, i.e. higher, penalties. Schedule 1 birds also receive greater protection such that it is an offence to intentionally or recklessly:

    - Disturb any wild bird included in Schedule 1 while it is building a nest or while it is in, on or near a nest containing eggs or young;
    - Disturb dependent young of such a bird.

[1] http://www.parliament.uk/business/bills-and-legislation/secondary-legislation/statutory-instruments/

9. Under Section 9(1) of the Act, it is an offence to:

- Intentionally kill, injure or take any wild animal included in Schedule 5.

10. In addition, under Section 9(4) it is an offence to intentionally or recklessly:

- Obstruct access to, any structure or place which any wild animal included in Schedule 5 uses for shelter or protection; or
- Disturb any wild animal included in Schedule 5 while occupying a structure or place which it uses for that purpose.

11. Under Section 13(1) it is an offence:

- To intentionally pick, uproot or destroy any wild plant listed in Schedule 8; or
- Unless the authorised person, to intentionally uproot any wild plant not included in Schedule 8.

12. The Act also contains measures (S.14) for preventing the establishment of non-native species that may be detrimental to native wildlife, prohibiting the introduction into the wild of animals (releases or allows to escape) and plants (plants or causes to grow) listed under Schedule 9.

13. **Protection of Badgers Act 1992.** The Act aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain. It should be noted that the legislation is not intended to prevent properly authorised development. Under the Act it is an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat* a Badger, or attempt to do so;
- To intentionally or recklessly interfere with a sett# (this includes disturbing Badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it).

* the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence

\# A sett is defined as "*any structure or place which displays signs indicating current use by a Badger*". Natural England advice (June 2009) is that a sett is protected so long as such signs remain present, which in practice could potentially be for some time after the last actual occupation by Badger. Interference with a sett includes blocking tunnels or damaging the sett in any way

14. Licences can be obtained from the Statutory Nature Conservation Organisation (SNCO) for development activities that would otherwise be unlawful under the legislation, provided there is suitable justification. The SNCO for England is Natural England.

15. **Hedgerows Regulations 1997**. 'Important' hedgerows (as defined by the Regulations) are protected from removal (up-rooting or otherwise destroying). Various criteria specified in the Regulations are employed to identify 'important' hedgerows for wildlife, landscape or historical reasons.

16. **Countryside and Rights of Way (CRoW) Act for England and Wales 2000.** The CRoW Act provides increased measures for the management and protection of SSSIs and strengthens wildlife enforcement legislation. Schedule 12 of the Act amends the species provisions of the WCA 1981, strengthening the legal protection for threatened species. The Act also introduced a duty on Government to have regard to the conservation of biodiversity and maintain lists of species and habitats for which conservation steps should be taken or promoted, in accordance with the Convention on Biological Diversity.

17. **Natural Environment and Rural Communities Act 2006.** Section 41 of the NERC Act requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as local planning authorities, in implementing their duty under Section 40 of the Act, to have regard to the conservation of biodiversity in England, when exercising their normal functions. 56 habitats and 943 species of principal importance are included on the S41 list. These are all the habitats and species in England that were identified as requiring action in the UK Biodiversity Action Plan (BAP).

18. **Conservation of Habitats and Species Regulations 2017 (as amended).** The Regulations enact the European Union's Habitats Directive (92/43/EEC) in the UK. The Habitats Directive was designed to contribute to the maintenance of biodiversity within member states through the conservation of sites, known in the UK as Special Areas of Conservation (SACs), containing habitats and species selected as being of EC importance (as listed in Annexes I and II of the Habitats Directive respectively). Member states are required to take measures to maintain or restore these natural and semi-natural habitats and wild species at a favourable conservation status.

19. The Regulations also require the compilation and maintenance of a register of European sites, to include SACs and Special Protection Areas (SPAs)[2] classified under Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). These sites constitute the Natura 2000 network. The Regulations impose restrictions on planning decisions likely to significantly affect SPAs or SACs.

20. The Regulations also provide protection to European Protected Species of animals that largely overlaps with the WCA 1981, albeit the provisions are generally stricter. Under Regulation 43 it is an offence, *inter alia*, to:

- Deliberately capture, injure or kill any wild animal of a European Protected Species;
- Deliberately disturb any wild animals of any such species, including in particular any disturbance likely to impair their ability to survive, to breed or reproduce, to rear or nurture their young, to hibernate or migrate, or which is likely to affect significantly their local distribution or abundance;
- Deliberately take or destroy the eggs of such an animal;
- Damage or destroy a breeding site or resting place of such an animal.

21. Similar protection is afforded to European Protected Species of plants, as detailed under Regulation 47.

22. The Regulations do provide a licensing system that permits otherwise illegal activities in relation to European Protected Species, subject to certain tests being fulfilled.

[2] Special Protection Areas (SPAs) are protected sites classified in accordance with Article 4 of the EC Directive on the Conservation of Wild Birds (79/409/EEC) (aka the Birds Directive), which came into force in April 1979. SPAs are classified for rare and vulnerable birds (as listed on Annex I of the Directive), and for regularly occurring migratory species.

Appendix 5222-05/5:

Habitat Creation Sheets

Swift Boxes

Schwegler Boxes

Schwegler boxes are designed to mimic natural nest sites and provide a stable environment with the right thermal properties for chick rearing and winter roosting. The No 16 and 18 boxes are made from 'Woodcrete', a 75% wood sawdust, clay and concrete mixture which is breathable and very durable, making these bird boxes extremely long lasting.

Schwegler No 16 Swift Box

The design of this box mimics bell tower louvres. It has a removable panel for easy inspection of the nest chamber. The entrance hole should be positioned at least 5m above the ground. Ensure unobstructed access for birds entering or leaving the box. Designed for fixing on or within walls.

Dimensions: 240H x 430W x 220D mm. Weight 11kg

Schwegler No 18 Swift Box

This nest box is suitable for fixing high under the eaves or under the guttering of a building.

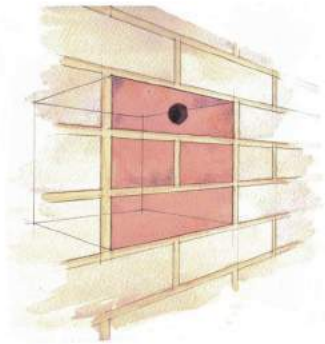
Interior dimensions 14 x 34 x 15 cm.
Exterior dimensions 19 x 50 x 22 cm

Schwegler No 17 Triple Cavity Swift Box

This box is constructed from plant-fibre based material. It can accommodate 3 pairs of swifts assisting the rapid formation of colonies. It should be sited 6-7m above the ground, near the roof of a building.

Dimensions: 150H x 900W x 150D mm. Weight 7kg

Bird Brick Box



The Swift Brick Box is a large, solid box made of insulating concrete with an internal nesting space, which can be incorporated into the fabric of a building as it is built or renovated. The box is designed to be both unobtrusive and aesthetically pleasing.
Entrance dimensions: 33 x 65 mm

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Bat Boxes

Schwegler bat boxes are made from 'woodcrete' and have the highest rates of occupation of all types of box.

The 75% wood sawdust, clay and concrete mixture is ideal, being durable whilst allowing natural respiration and temperature stability. These boxes are rot and predator proof and extremely long lasting.

Boxes can be hung from a branch near the tree trunk or fixed using 'tree-friendly' aluminum nails.

Schwegler 2F Bat Box

The 2F from Schwegler is the most popular general purpose bat box. It is particularly attractive to the smaller British bats. A simple design made from strong, natural WoodcretePLUS material, with a narrow entrance slit on the front. Hang from a tree branch near the trunk, or fix to a trunk with the supplied 'tree-friendly' aluminium nail.

Woodcrete construction, 16cm diameter, 33cm height, 4kg weight.

1FF Bat Box

The rectangular shape makes the 1FF suitable for attaching to the sides of buildings or in sites such as bridges, though it may also be used on trees. It has a narrow crevice-like internal space to attract Pipistrelle and Noctule bats.

Woodcrete (75% wood sawdust, concrete and clay mixture)
Width: 27cm
Height: 43cm
Weight: 7.3kg

1FW Bat Hibernation Box

This huge box is designed to provide a protected environment which is particularly important through the cold winter months when bats are hibernating. Three wooden panels within the box imitate crevices for roosting.

Woodcrete construction, 38cm diameter, height 50cm, weight 30kg.

This heavy box requires secure mounting if placed above the ground and should be sited away from public areas.

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House Martin Nests

Schwegler bird boxes are designed to mimic natural nest sites and provide a stable environment with the right thermal properties for chick rearing and winter roosting. Boxes are made from 'Woodcrete'. This 75% wood sawdust, clay and concrete mixture is breathable and very durable making these bird boxes extremely long lasting.

Schwegler No 11 House Martin Nest

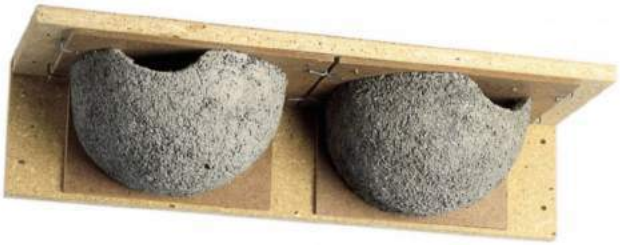
This nest has been developed to enable House Martins to breed successfully on external facades without overhanging eaves and has proved highly successful. Position on unobstructed walls without eaves or directly beneath eaves at a height of 2m or above.

Dimensions: 175H x 430W x 175D mm. Weight 5.5kg

Schwegler 9A House Martin Nests

These woodcrete nests are durable and ready for immediate use when birds return each summer. Easily fixed under the eaves on the outside walls of buildings, at least 2 metres from the ground. The backing board may be painted to match the building.

Model 9A is a double unit with two nests mounted side by side on a backing board, as shown.



Droppings Board

To avoid problems with bird droppings from house martin nests, this board can be installed where necessary, for example over a window or door.

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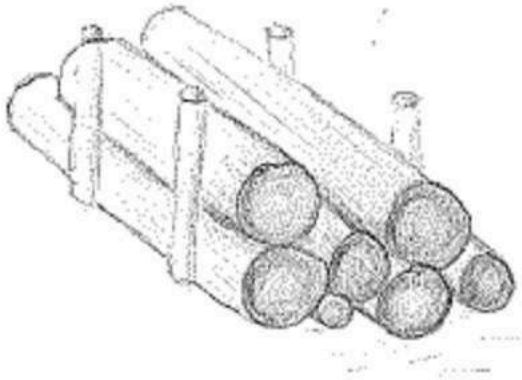
Wood Piles for invertebrates

Dead and decaying wood is an important wildlife habitat, used by many species of beetle and other invertebrate.



These creatures then become a foraging resource for species higher up the food chain, including birds, bats and terrestrial mammals.

Create a wood pile by sinking 4 posts approximately 8-10cm in diameter, at least 20cm into the ground as shown above.

Logs with bark, of any diameter should be cut into consistent lengths of 1.5 - 2m, and then tightly and neatly stacked into the space between the uprights.

Avoid making log piles too high, or the timber will dry out.

Wood from any broad-leaved tree can be used, but oak, beech or fruit trees are best, as these support the richest insect communities.

A buffer zone should be created around the logs so that the soils and vegetation are protected as much as possible from disturbance, and ideally the surrounding vegetation should not be cut between May-September.

Allowing plants to grow over the log pile both retains moisture and provides shade for the invertebrates.

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Aspect Ecology Ltd
West Court
Hardwick Business Park
Noral Way
Banbury
Oxfordshire OX16 2AF

T: 01295 279721
E: info@aspect-ecology.com
W: www.aspect-ecology.com