



Warrender Primary School, Ruislip

Ecological Appraisal

Final Report

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Warrender Primary School, Ruislip

Ecological Appraisal

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Warrender Primary School, Ruislip

Ecological Appraisal

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Warrender Primary School, Ruislip

Ecological Appraisal

EXECUTIVE SUMMARY

This report has been prepared by Ecological Planning & Research Ltd (EPR) for London Borough of Hillingdon (LBH). EPR was commissioned by LBH to undertake an ecological appraisal to supply ecological information for the preliminary stages of a feasibility study to aid in establishing design parameters for proposed works to Warrender Primary School off Old Hatch Manor in Ruislip. At the time of the survey, specific proposals for the site were not known. A Phase 1 habitat survey of Warrender Primary School site was undertaken on 26 May 2015 by an experienced EPR ecologist. This report contains the results of the Phase 1 survey.

The site measures approximately 1.18ha and comprised of primarily amenity grassland, buildings and hard standing. There are also a number of scattered trees and planted areas throughout the school with a range of exotic shrubs and trees.

There are three national statutory designated sites within 5km of the site: Ruislip Woods Site of Special Scientific Interest and National Nature Reserve (SSSI and NNR; 790m north); Fray's Farm Meadows SSSI (approx. 4.2km south-west); Denham Lock Wood SSSI (approx. 4.6km south-west). There are also eleven local statutory designated sites within 5km of the site, with Ruislip Local Nature Reserve (LNR) the nearest and lies 420m to the east. There are four non-statutory designated Sites of Metropolitan, Borough and Local Importance within 1 km of the site: King's College Playing Fields Site of Importance for Nature Conservation (SINC; approx. 350m north-west); High Grove SINC (approx. 410m to the north-east); River Pinn near Eastcote SINC (approx. 610m north-east); Ruislip Woods and Poor's Field SINC (approx. 800m north). For the reasons given in this report, it is considered unlikely that these designated sites would be impacted as a result of any works to the site. However, local planning policy may require a contribution to be made to help enhance SINC's in close proximity to development.

A building on site was found to have features suitable to potentially support roosting bats. Habitats on site were also considered to have potential to provide a network of commuting routes and foraging resources for bats in the locality. Should any of these features be affected by the proposed development, then recommendations for further surveys have been made.

The scattered trees and introduced shrub are likely to provide important local resources for nesting birds. The buildings on site may also have the potential to be used by nesting birds. Should any areas suitable for nesting birds be affected by the proposed development, then recommendations for appropriate mitigation have been made.

Recommendations for appropriate mitigation have been made for European Hedgehog and Common Toad if the area of tall ruderal vegetation is affected as part of the proposed development as they are Species of Principal Importance.

To comply with local planning policy, it is recommended that the scattered trees on site are retained and protected.

Enhancement recommendations to benefit local wildlife on site have also been provided such as a sustainable urban drainage system, woodland planting, and bat and bird box installation.

The presence of protected species is a material consideration in the decision making process for the local planning authority with regards to planning applications. Therefore, the recommendations made within this report in relation to protected species should be adhered to before submitting a planning application.

Warrender Primary School, Ruislip

Ecological Appraisal

1. INTRODUCTION

Background

- 1.1 Ecological Planning & Research Ltd (EPR) was commissioned by London Borough of Hillingdon in May 2015 to undertake an ecological appraisal of Warrender Primary School site. The ecological survey is required to supply information for the preliminary stages of a feasibility study to aid in establishing design parameters for proposed works to the school.
- 1.2 This report contains the results of the ecological appraisal that involved a Phase 1 habitat survey to identify habitats and features with the potential to support protected species, species of conservation concern, and/or ecological features of importance within the site. A desk study search was also conducted to identify designated sites of known wildlife value within, or near to the site, as well as protected species records within the area. The information gathered from the Phase 1 habitat survey and desk study was used to assess the importance of the site for wildlife.

Site Location and Description

- 1.3 Warrender Primary School is located north of Old Hatch Manor in Ruislip, Greater London at Ordnance Survey grid reference TQ 09966 87711 (see **Map 1**). The assessment site encompassed the entirety of Warrender Primary School and is hereafter referred to as the 'site'.
- 1.4 The site measures approximately 1.18ha and comprises buildings, hard standing, trees, tall ruderal vegetation, ornamental planting, managed gardens and a sports field. The site is surrounded by a residential landscape.

Outline of the Scheme

- 1.5 Warrender Primary School site is in the preliminary stages of a feasibility study to assess if additional classroom spaces or related facilities can be accommodated within the existing curtilage. The ecological surveys are required to help the design team establish design parameters and formulate planning proposals for the school. It is understood that at present there are no detailed design plans available for Warrender Primary School.

Applicable Nature Conservation Related Legislation and Planning Policy

- 1.6 The key legislative provisions and policies of relevance to this report with respect to the redevelopment proposals and their potential effects on ecological features of value are set out in **Appendix 1**.

2. METHODOLOGY

Introduction

- 2.1 The ecological appraisal is based on information gathered following a desk study and fieldwork carried out in order to identify potential ecological opportunities and constraints likely to arise in respect of any development of this land. Where necessary, recommendations are made for further ecological survey work that will need to be agreed in consultation with the Local Planning Authority.

Assessment Methodology

- 2.2 The assessment methodology and general approach adopted in this report is in line with guidance in The Chartered Institute of Ecology and Environmental Management (CIEEM) *Guidelines for Ecological Impact Assessment in the United Kingdom* (26 June 2006).
- 2.3 These guidelines are endorsed by the main stakeholders in the UK planning system that have a specific responsibility for wildlife and nature conservation, including English Nature (now Natural England), the Environment Agency and the Wildlife Trusts.

Defining the Zone of Influence

- 2.4 In order to define the spatial scope of the ecological appraisal it was necessary to predict the likely Zone of Influence (ZOI) of any development of Warrender Primary School. The ZOI of a proposed development is defined in CIEEM's ecological impact assessment (EclA) guidelines as '*...the areas/(ecological) resources that may be affected by the biophysical changes caused by activities associated with a project*'.
- 2.5 The ZOI will be further refined as the project progresses, but initially has been based on a desk study and a Phase 1 habitat survey, undertaken to identify the areas and ecological resources that are likely to be affected by a scheme, with consideration of the type of activities that may occur.
- 2.6 It is considered that in most cases the ZOI of the redevelopment proposals for Warrender Primary School is unlikely to extend beyond the site boundary and immediately adjacent habitats. The following specific exceptions could apply:
- Where changes to habitats and environmental conditions on site may impact upon bat roosts within the local area due to increased lighting or loss of commuting/foraging habitat on site, upon which local roost(s) may be dependant.

Desk Study

- 2.7 A desk study was carried out in order to gather and refer to existing species records both within the site and in the surrounding area. Information concerning the location of designated conservation sites in relation to the site was also gathered. This involved interrogation of internet resources, including the National Biodiversity Network (NBN) website and Multi-Agency Geographic Information for the Countryside (MAGIC).
- 2.8 The Greenspace Information for Greater London (GiGL) was commissioned to provide records of European protected species within a 5km radius and UK protected and other notable species within a 2km radius. Information on local wildlife sites within a 2km radius was also requested. These records are discussed, where relevant, within this report.

Field Survey Methodology

- 2.9 An ecological appraisal of Warrender Primary School was undertaken on 26 May 2015 by Daniel O'Sullivan of EPR. As part of this, a Phase 1 habitat survey was undertaken in accordance with the Joint Nature Conservation Committee Phase 1 Habitat Survey methodology (JNCC, 2010).
- 2.10 The different habitats and ecological features present within the survey area were mapped and classified, and the dominant plant species identified. In addition, any evidence of, or potential for, protected species on the site was noted (see **Appendix 2** for a summary of survey methods). Where relevant, habitat immediately adjacent to the site was also assessed, as this can have a bearing on the possible presence of protected species on the site.

Survey Limitations and Constraints

- 2.11 The Phase 1 habitat survey was undertaken in May, during good weather conditions, which is considered an optimal period for this type of survey.

3. RESULTS AND RECOMMENDATIONS

Geographic and Historic Context

- 3.1 The application site is located within the town of Ruislip. The landscape is generally lacking in prominent features due to its urban setting.
- 3.2 With reference to the 2" to the mile map of 1807, it is apparent that the landscape in the local area was formerly part of an agricultural landscape of fields and hedgerows.

Designated Nature Conservation Sites

Statutory Nature Conservation Sites

- 3.3 There are three nationally designated sites within 5km of the site (see **Map 1**). Ruislip Woods Site of Special Scientific Interest (SSSI) and National Nature Reserve (NNR) lies approximately 1.4km to the south-west of the site. The SSSI is designated as it forms an extensive example of ancient semi-natural woodland, including some of the largest unbroken blocks that remain in Greater London. The woodland and also the other semi-natural habitats within the SSSI support a number of plant and insect species that are rare or scarce in a national or local context. Fray's Farm Meadows SSSI lies approximately 4.2km to the south-west of the site. The SSSI is designated as it is one of the last remaining examples of relatively unimproved wet alluvial grassland in Greater London and the Colne Valley. Denham Lock Wood SSSI lies approximately 4.6km to the south-west of the site and is designated for its diverse area of open mire and wet woodland habitat.
- 3.4 There are also eleven locally designated sites within 5km of the site, with Ruislip Local Nature Reserve (LNR) the nearest and lies approximately 420m to the east (see **Map 1**).
- 3.5 Local planning policy (see **Appendix 1**) requires areas of International, National and County importance and ancient woodland to be retained and protected. The proposals are unlikely to have an effect on these statutory designated sites and their important attributes for the following reasons:
- Any planned expansion to the school will attract pupils from existing dwellings in the area and will not contribute to an increase in the local residential population that could lead to increased recreational pressures on the designated sites mentioned;
 - The development will be separated from statutory sites by existing roads and urban infrastructure; and
 - The development will be restricted to within the site boundary.
- 3.6 The statutory designated sites are therefore not considered further within this assessment.

Non-statutory Local Wildlife Sites

- 3.7 There are four non-statutory designated Sites of Metropolitan, Borough and Local Importance within 1km of the site. The nearest is King's College Playing Fields Site of Importance for

Nature Conservation (SINC) which is located approximately 350m to the north-west. This SINC is an area of the River Pinn flanked on both sides by dense belts of native scrub and trees, interspersed with rough grassland, hedgerow and wetland features. This site is freely accessible to the public. High Grove SINC is approximately 410m to the north-east of the site, River Pinn near Eastcote SINC is approximately 610m north-east and Ruislip Woods and Poor's Field SINC is approximately 800m north.

- 3.8 Local planning policy (see **Appendix 1**) requires areas of Metropolitan, Borough and Local importance to be retained and protected. For the same reasons as outlined in Section 3.6 it is considered unlikely that the proposed development would have an effect on these non-statutory designated sites. However, local planning policy states that '*appropriate contributions from developers to help enhance Sites of Importance for Nature Conservation in close proximity to development and to deliver/assist in the delivery of actions within the Biodiversity Action Plan*' should be made (see **Appendix 1**). Therefore, as part of the proposed development a contribution may be required to satisfy local planning policy.

Habitats and Vegetation

Introduction

- 3.9 The Phase 1 Habitat survey recorded the different habitat types present within the application site and a preliminary assessment of their relative ecological value has been made. The habitats and ecological features identified within the study area are discussed below and illustrated on **Map 2**. Where appropriate, features discussed in the text are indicated by **Target Notes (TN)** on the map. Relevant photographs are given in **Appendix 3**.
- 3.10 The school grounds are meticulously maintained. The majority of the site comprised amenity grassland, buildings and hard standing. There are also a number of scattered trees and planted areas throughout the school with a range of exotic shrubs and trees. The site boundary was a combination of palisade and chain link fencing. The following Phase 1 habitats were recorded as being present on site at the time of the survey:

- Mixed scattered trees;
- Tall ruderal;
- Amenity grassland;
- Introduced shrub;
- Vegetable patch;
- Buildings; and
- Hard standing.

Mixed Scattered Trees

- 3.11 A number of scattered trees are present throughout the site. The majority of trees were mature with a non-native Maple species being frequent and Bird Cherry *Prunus padus*, Horse Chestnut *Aesculus hippocastanum*, Norway Maple *Acer platanoides*, Sycamore *Acer*

pseudoplatanus, Ash *Fraxinus excelsior*, Elder *Sambucus nigra* and Grey Poplar *Populus x canescens* also occasionally recorded.

- 3.12 The scattered trees at Warrender Primary School are considered to be of value at the local level. Local planning policy (see **Appendix 1**) requires trees to be retained and protected to prevent damage by implementing a suitable buffer zone to protect the rooting area adjacent to each tree during construction. In accordance with British Standard BS5837:2012 *Trees in relation to design, demolition and construction – recommendations*, this ‘root protection area’ is calculated in relation to the circumference of the tree trunk. The protection of this habitat during construction should be set out in the Construction Environmental Management Plan (CEMP). No further survey is required.

Tall Ruderal

- 3.13 Along the south-east boundary of the site is a small area of tall ruderal vegetation. This area was relatively species-poor with Cow Parsley *Anthriscus sylvestris* being abundant.

- 3.14 The tall ruderal habitat at Warrender Primary School is considered to be of limited value at the ZOI level and is unlikely to present a significant constraint to the proposed development. No further survey is required.

Amenity Grassland

- 3.15 Amenity grassland constitutes the majority of habitats at Warrender Primary School. These grasslands are generally species-poor and are characterised by Perennial Rye-grass *Lolium perenne* and White Clover *Trifolium repens* being abundant. The largest area of amenity grassland on site is used as a sports field for recreational purposes and, as with the other areas of this habitat, they are very closely mown, resulting in a poor structure.

- 3.16 The amenity grassland at Warrender Primary School is considered to be of limited value at the ZOI level and is unlikely to present a significant constraint to the proposed development. No further survey is required.

Introduced Shrub

- 3.17 There are small areas of introduced shrub habitat within the site. These areas are planted with non-native species that included Cherry Laurel *Prunus laurocerasus*.

- 3.18 The introduced shrub at Warrender Primary School is considered to be of limited value at the ZOI level and is unlikely to present a significant constraint to the proposed development. No further survey is required.

Vegetable Patch

- 3.19 There is a small vegetable patch in the east of the site that is currently being used to grow a variety of garden vegetables. This area is a mixture of concrete paving slabs interspersed with areas of bare soil planted with vegetables.

- 3.20 The vegetable patch at Warrender Primary School is considered to be of limited value at the ZOI level and is unlikely to present a significant constraint to the proposed development. No further survey is required.

Buildings and Hard Standing

- 3.21 The southern half of the site contains predominantly buildings, areas of hard standing and associated pathways. The main buildings on site are a mixture of both old and more recent construction, ranging from between 10 and 60 years old. The buildings are a range of designs, with some being of brick construction while others of a more modern concrete, wood cladding and prefabricated design. One of the buildings (**B2**) on site has a pitched roof that is covered in slate tiles. The other main buildings have flat roofs covered with felt. A number of storage sheds constructed of wood and metal and a concrete garage with a corrugated asbestos roof are present within the site. All buildings on site are well maintained and in good condition.

Protected and Valued Species

Introduction

- 3.22 The zone of influence includes habitats with the potential to support a number of species protected under both UK and European legislation. The advice for Planning Authorities at paragraph 99 of Government Circular *Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System* is that they must establish the presence of such protected species, and the extent that they may be affected by proposed development, before planning permission is granted. In the case of species protected by European legislation, the possible consequences for development is so great that it is necessary to understand them at the land-use planning stage, so that appropriate impact avoidance measure can be taken into account.
- 3.23 Government guidance in NPPF also indicates that Planning Authorities must also take steps to further the conservation of *Habitats and Species of Principal Importance* (NERC Act 2006) not just those protected by law.

Bats

- 3.24 The ZOI has the potential to support bat roosts in the existing buildings. If these buildings have roof voids present, then they have the potential to support roosting bats. Building B2 (**TN1**) was noted as having a small number of gaps underneath the roof ridge tiles which have the potential to support roosting bats. In addition, the scattered trees are likely to provide a network of commuting routes and foraging resources for bats in the locality. The data request from GiGL returned records for a number of bat species within a 5km radius of Warrender Primary School, with eight species of bat Common Pipistrelle *Pipistrellus pipistrellus* (787m south-west in 2006), Soprano Pipistrelle *Pipistrellus pygmaeus* (712m north in 2004), Brown Long-eared Bat *Plecotus auritus* (985m north in 2005), Noctule *Nyctalus noctula* (approximately 1.1km north-west in 2001 and 1.8km north-west in 2006), Natterer's bat *Myotis nattereri* (approximately 1.7km north-west in 2002), Daubenton's *Myotis daubentonii* (approximately 1.7km north-west in 2000 and 1.8km north-west in 2006), Serotine *Eptesicus serotinus* (approximately 1.8km north-west in 2006) and Leisler's bat *Nyctalus leisleri* (approximately 1.8km north-west in 2006) recorded within 2km of the site. The closest record

is from 2002 where an unidentified bat species was recorded 567m to the south-west of the site boundary, with the most recent closest record again being an unidentified bat 601m west in 2006.

- 3.25 All species of bat native to the UK are protected under the Conservation of Habitats and Species Regulations 2010 (as amended) and the Wildlife and Countryside Act 1981 (as amended), as outlined in **Appendix 1**. All bat species are of varying degrees of conservation importance. If the proposed works affect the features or areas identified as being suitable to support bats, then this could result in negative impacts on bats.
- 3.26 If any of the features or areas suitable for bats is affected as part of the proposed development, then in order to assess the likely impact on bats and ensure compliance with legislation it is recommended that potential use of the site for bats be thoroughly investigated through further survey. This will inform any necessary mitigation measures or management methods and licence requirements. The presence of some species can have very significant consequences for land use choices. It is therefore recommended that these surveys are undertaken at the land use planning stage.
- 3.27 Initially, a scoping survey would be conducted by an experienced bat ecologist to make a preliminary assessment of bat roost potential in buildings and trees and to identify potential bat commuting routes and foraging resources. Some initial activity surveys may then be required during the active bat season (May to September inclusive). For example, fixed point and transect surveys at optimum locations across the area would provide some information on the use of the site by bats, and would allow additional surveys to be planned as necessary. Surveys would be carried out in accordance with Bat Conservation Trust's Bat Surveys Good Practice Guidelines (2012). Should bats be confirmed roosting within the site and a roost is likely to be lost and/or disturbed due to the proposals, to allow works to proceed without contravening legislation and planning policy a European Protected Species Licence would need to be obtained from Natural England.
- 3.28 As a general recommendation, any development proposals should not impede the use of the site by bats. It is also recommended that measures incorporating sensitive lighting into the development design are implemented as part of the development designs.

Breeding Birds

- 3.29 The areas of scattered trees and introduced shrub are likely to provide important local resources for nesting birds. The buildings on site may also have the potential to be used by nesting birds. A number of common bird species were recorded during the survey and included Robin *Erithacus rubecula*, Magpie *Pica pica*, Wren *Troglodytes troglodytes* and Ring-necked Parakeet *Psittacula krameri*. The data request from GiGL returned records for the previous 10 year period for three species of bird listed as a Species of Principal Importance within a 1km radius of Warrender Primary School which were Cuckoo *Cuculus canorus* (871m south-west in 2005), Starling *Sturnus vulgaris* (650m west in 2005) and House Sparrow *Passer domesticus* (601m west in 2006). Cuckoo, Starling and House Sparrow are local Biodiversity Action Plan (BAP) species, with other local BAP species Lesser Spotted

Woodpecker *Dendrocopos minor* (601m west in 2006) and Bullfinch *Pyrrhula pyrrhula* (871m south-west in 2005) also recorded. The data request also returned records for one species listed under Annex I of the Birds Directive that was Red Kite *Milvus milvus* (871m south-west in 2006). Red Kite is also listed as a Schedule I bird under the Wildlife and Countryside Act 1981 (as amended).

- 3.30 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended), as outlined in **Appendix 1**. It is illegal to damage, take, or destroy a wild bird's nest whilst it is being built or is in use, or to take or destroy its eggs. Therefore, if the areas suitable for nesting birds is affected as part of the proposed development, then mitigation will be required to avoid an adverse effect upon breeding birds, particularly damage caused to eggs and nestlings. Any clearance of buildings, trees or shrubs above 50cm in height should be undertaken between September and February inclusive, outside of the nesting season. If this is not possible, works should be preceded by a check for nests by a suitably qualified ecologist not longer than 24 hours before commencement of works. If nesting birds are discovered during this check, then a suitable buffer area will need to be retained around nests to ensure their protection until any young have fledged.
- 3.31 It is recommended that the habitat potentially used by nesting birds is retained or compensate for the loss of habitat by replacing on a like-for-like basis or greater extent using native plants species of local provenance. This will benefit not only those species recorded on site but also Species of Principal Importance and local BAP species which may be present in the local area.

Other Protected Species

- 3.32 Taking into consideration the site is surrounded by busy roads set in an urban environment acting as a barrier to movement, the limited suitable terrestrial habitat within the site which is restricted to a small area of tall ruderal habitat containing wooden pallets and boarding (**TN2**), there are no known ponds within 250m (reduced from 500m following Natural England's Great Crested Newt (GCN) *Triturus cristatus* Method Statement guidance note, April 2013) and the nearest known record from the GiGL data request being approximately 567m north of the site in 2012, it is considered unlikely that GCN would be encountered during development. Therefore, no further surveys or mitigation are recommended.
- 3.33 If GCN are found during the proposed development, then all works should stop immediately and a suitably qualified ecologist notified. GCN are protected under the Conservation of Habitats and Species Regulations 2010 (as amended) and the Wildlife and Countryside Act 1981 (as amended), as outlined in **Appendix 1**.
- 3.34 It is considered unlikely that reptiles will be encountered due to the limited extent of suitable habitat being confined to the small area of tall ruderal vegetation that is isolated in nature and lacking commuting corridors to the wider countryside as a result of the surrounding roads and urban dwellings. The data request from GiGL returned records for Common Lizard *Zootoca vivipara* 864m north in 2011, Grass Snake *Natrix natrix* 864m north in 2011 and Slow-worm *Anguis fragilis* approximately 1.7km south-west of the site in 2006 further highlighting the

unlikely of reptiles being present on the site. Therefore, no further surveys or mitigation are recommended.

- 3.35 If reptiles are found during the proposed development, then all works should stop immediately and a suitably qualified ecologist notified. All reptile species are protected from intentional or reckless killing or injury under the Wildlife & Countryside Act 1981 (as amended), as outlined in **Appendix 1**.
- 3.36 No signs of any other protected species or habitats considered suitable to potentially support other protected species were recorded during the survey. Therefore, no further surveys or mitigation are recommended.

Other Species of Principal Importance

- 3.37 The tall ruderal habitat on site provides suitable foraging habitat for European Hedgehog *Erinacaus europaeus*. This species is protected under the Wildlife and Countryside Act 1981 (as amended) and the Mammals Act 1996. The species is also listed as a Species of Principal Importance under the NERC Act 2006 and a local BAP species. The nearest known record returned from the GiGL data request of European Hedgehog is 352m west of the site in 1999, with the most recent record being 601m west in 2006.
- 3.38 If any of the areas suitable for Hedgehogs is affected as part of the proposed development, then it is recommended that mitigation measures are incorporated as part of the proposed development to ensure their protection. Any suitable areas to be cleared will be checked first and if a Hedgehog is found then it will be moved to suitable habitat nearby.
- 3.39 The area of tall ruderal habitat within the site has been identified as being suitable to support certain amphibian species. This may include Common Toad *Bufo Bufo* which is listed as a Species of Principal Importance under the NERC Act 2006 and is a local BAP species. The nearest known record returned from the GiGL data request for this species is 601m west of the site in 2006. If any of these areas are to be impacted by the proposed development it is recommended that Common Toad be considered in any proposed mitigation measures.

4. ENHANCEMENTS

- 4.1 The National Planning Policy Framework (NPPF, 2012; **Appendix 1**) advises that biodiversity enhancements should be an integral part of development proposals, and opportunities to provide enhancements should be delivered wherever possible. At the local level, this principle is supported by The London Plan and London Borough of Hillingdon Local Plan (see **Appendix 1**).
- 4.2 Until designs become available outlining the proposed plans for development, detailed recommendations for enhancement measures cannot be provided for the site. However, general recommendations have been made that could be considered for inclusion in the designs for the site that will benefit local wildlife.
- 4.3 The site presents opportunities for ecological enhancements. Areas of grassland at the edge of the sports fields could be managed to provide a variation in grassland habitats with management examples including: allow grass to grow long and remain unmanaged (i.e. not mown); scarify areas and allow naturally regenerating; or, enhancing through sowing an appropriate wildflower seed mixture and using a prescribed mowing regime to create wildflower meadow areas. Providing a variety of grassland habitats would benefit a more diverse range of wildlife on the site.
- 4.4 A sustainable urban drainage system (SUDS) in the form of a pond could be included in the designs, with a potential location being within the existing sports field. It is recommended that a reed bed is incorporated into the designs that will create habitat for wildlife. This area could be used as a wildlife education resource for the school. It is also recommended that an extension to the existing network of trees permeable to animal movement is implemented throughout the site to create foraging and commuting corridors for wildlife such as bats. Native species of local provenance should be used during the landscaping phase of the development.
- 4.5 Bat and bird boxes could be installed on the outside of new and existing buildings. For example, House Sparrow and Starling boxes could be attached to buildings. Hedgehog friendly features such as a log pile and hibernation boxes could be included in any proposed designs for the site.
- 4.6 The use of native trees and shrubs should be included in any landscape designs such as Hornbeam *Carpinus betulus*, Hazel *Corylus avellana*, Hawthorn *Crataegus monogyna* and Blackthorn *Prunus spinosa*. Green roofs or living walls could also be incorporated into the development designs that would benefit biodiversity. Incorporating green roofs, living walls or SUDS into designs would fulfil local planning policy.

5. CONCLUSIONS

- 5.1 To comply with local planning policy, it is recommended that the scattered trees on site are retained and protected. It should be possible for development of the site to take place without contravening the nature conservation related legislation and policy set out in **Appendix 1**. This could be achieved through sensitive design and by carrying out further surveys to inform robust mitigation measures, as described throughout this report.
- 5.2 Development should be restricted to existing areas of hard standing or, if necessary, amenity grassland that are considered of limited ecological value. Considering the current layout of the site this should be easily achieved with the large area of hard standing and amenity grassland present within the site. Developing within these areas where the trees are not present will ensure those important habitats highlighted for retention will not be impacted upon.
- 5.3 If any habitat identified as being suitable for bats is likely to be affected by the proposals, further surveys will be required to fully assess the likely impacts and to design suitable mitigation strategies.
- 5.4 There are also opportunities to deliver biodiversity enhancements on site which would support local and national biodiversity policy. Early consultation with the local planning authority in order to agree upon the scope of the surveys required is recommended.

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