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Preliminary Ecological Appraisal Incorporating Bat Survey Inspection

Oldfield House

John Lyon School

Middle Road

Harrow-on-the-Hill

HA2 0HN

Prepared for:

John Lyon School

November 2019

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Report Reference MH917 V3A-Dated 10/12/19

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1. Survey Finding and Recommendations Summary

In summary, the wider John Lyon School (and proposed development area) is an operational school situated in a predominately sub-urban, developed location, and is therefore subject to management and disturbance as would be typically expected in such a land-use context. The development area is dominated by the existing Oldfield House building, hardstanding and short sward, managed amenity lawn.

The statutory designation search undertaken as part of the desk study identified that the site is not situated within nor bounding any statutory or non-statutory designated locations. It is not considered that the proposal would have any adverse impact upon statutory and non-statutory designated locations.

The Oldfield House building is considered to present a negligible level of bat roosting potential. Further surveys are considered to be neither necessary nor appropriate in respect of this building.

A ground up Preliminary Roost Appraisal identified that all the trees proposed for removal offer 'no potential' for bat roosting, with the exception of tree T27. This tree was identified as presenting 'low potential' as a result of a small cavity in a branch fork at approximately 2.5m. It is concluded that appropriate precautionary actions during tree works (identified in section 5.2) would be a proportionate action.

No further bat surveys are considered to be necessary nor appropriate. It is advised that a bat considerate lighting strategy be utilised during the implementation and operational phases of the project. Appropriate, proportionate ecological enhancements have also been identified in section 5.2.

It is not considered reasonably likely that reptile or great crested newt species would be adversely affected by the development proposals.

No active or inactive badger setts were found, with no evidence of badger activity identified. No surveys have been advised. However, general appropriate precautionary measures for the demo/construction phases have been advised in section 5.2.

Appropriate recommendations in respect of due diligence relating to nesting birds and ecological enhancements have been made in section 5.2 of the report.

It is considered and concluded that the proposal can proceed without adverse impacts upon legally protected/priority species and habitats provided the specific mitigatory guidance and enhancement recommendations identified within section 5.2 are fully adhered to. Where necessary, appropriately worded conditions should be placed upon any consent granted in order to ensure appropriate measures are followed.

Contents

2. Introduction

2.1. Phase 1 Brief

T4 Ecology Ltd was commissioned by The John Lyon School to undertake an ecological assessment of land including and located adjacent to Oldfield House, John Lyon School, Harrow-on-the-Hill.

This report contains the findings of a Preliminary Ecological Appraisal-PEA. The Purpose of a PEA is to identify the potential for presence of protected species on a site, in line with European legislation, UK law and the requirements of The National Planning Policy Framework (NPPF)(2019). The brief of the ecological survey was to assess the habitats found on site and identify the potential for presence on site of protected species.

The site-based element is supported by a desktop study undertaken to identify presence of Statutory/National/Local designations or protected species within the vicinity (up to a 5KM radius) of the site. The final part of the project brief was to identify and make recommendations as appropriate for any further surveys required to determine presence/absence of protected species on site if the survey determined that presence of a protected species on site was considered to be reasonably likely.

2.2. Bat Survey Brief

In addition, this report also contains the results of a Preliminary Roost Assessment (PRA) undertaken at the same time as the PEA, comprising an internal/external inspection of the existing building/s and a 'ground up' assessment of trees to be removed as part of the proposal. Bats are a strictly protected species under European Legislation. In this regard, given presence of buildings where demolition/alteration works are proposed, the inspection was undertaken in order to meet the specific requirements of the legislation to inform design, mitigation and if appropriate, European Protected Species License Applications.

2.3. Development Proposals & Planning Context

Proposals are for the construction of a new classroom block and demolition of the existing Oldfield House building.

The following proposal plans/reports have been viewed:

- Proposed Layout Plans-PL2068-03-SK-100-Masterplan – Plantit Solutions
- Tree Strategy-Design Principles Document
- Landscape Softworks & Hardworks Plan – Plantit I.E Ltd.
- Landscape Masterplan/Design & Access Statement - Plantit I.E Ltd.
- Proposed Below Ground Drainage Layout-Elliottwood

Given availability of proposal plans and associated documentation, it was possible to undertake an assessment of any potential impacts resultant from the specific proposal

and recommend further works/appropriate mitigation as appropriate in section 5.2 of this report.

2.4. Scope of Survey

The purpose of this report is to provide an independent opinion of the likely presence of protected species on a site to inform the client of their obligations, and to assist the Local Planning Authority (LPA) in their determination of a planning application.

It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no investigation could ensure the complete characterisation and prediction of the natural environment. This PEA does not constitute a full botanical survey or a Phase 2 preconstruction survey for Japanese Knotweed. In this regard, this survey provides a preliminary view of the likelihood of protected species occurring on site, based on the suitability of the habitat and any direct evidence on site. Additional surveys may be required if it is considered reasonably likely a protected species may be present.

The survey presents a snapshot in time, and therefore makes an assessment purely of what was seen at the time the survey was undertaken. The PEA does not therefore make any retrospective analyses.

3. Methodology

3.1. Survey

Habitats on site were recorded in accordance with the general principles and methods provided in the Handbook for Phase 1 Habitat Survey, JNCC 1993. The survey methodology involves undertaking a site visit to gain an understanding of the site ecology and surrounding characteristics. During the site visit the recording and mapping of habitat types and ecological features present on site is undertaken, including the identification of the main species present. The potential for presence of protected species is assessed as part of the overall methodology, and further advice/surveys recommended as considered appropriate based on the evidence obtained.

The survey works were undertaken in accordance with Guidelines for Preliminary Ecological Appraisal produced by the Chartered Institute of Ecology and Environmental Management (CIEEM) in December 2017.

Methods are also in accordance to the general principles contained within British Standards Institute (BSI) BS42020 – Biodiversity-Code of Practice for Planning & Development.

A habitat plan is included as Annex 3. Photographs are included within Annex 2.

3.1.1. Survey Timings and Conditions

The survey of the site was first undertaken by Consultant Ecologist Peter Harris BSc (hons) MCIEEM on the 19th November 2018. Weather conditions were rain showers and 100% cloud cover and an ambient air temperature of 9^{O}C. Given time elapsed and design layout alteration since the first visit, a follow up site visit was undertaken by the same surveyor on the 31st October 2019. Weather conditions were dry and calm with 20% cloud cover and an ambient air temperature of 7 ^{O}C.

Peter Harris is a full member of the Chartered Institute of Ecology & Environmental Management (CIEEM). The surveyor is licenced by Natural England for surveying great crested newts. The surveyor is an ecologist with over 12 years of experience, and has been involved in a wide range of projects from single dwelling developments to large strategic urban renewal schemes subject to full Environmental Impact Assessment (EIA).

As an ecologist for over 12 years, Peter has obtained significant experience in respect of a wide range of protected and priority species. Species worked with include reptiles (surveys/mitigation), great crested newt (surveys/mitigation), badger (surveys/mitigation/licencing), dormouse (surveys) and bat, encompassing a wide range of survey and monitoring techniques. These include internal/external inspections/Preliminary Roost Assessment (PRA), in addition to involvement with successful bat mitigation license applications working in conjunction with specialist organisations.

3.2. Desktop Study & Records Search

To gain an understanding of any designations on/around the site in addition to the historical presence of protected species, desktop data has been obtained from the following sources:

3.2.1. Historical Protected Species Data

Records were requested from Greenspace Information for Greater London (GIGL) for records of protected/priority species within a 2km radius of the site.

GIGL also provided information in respect of non-statutory designated locations within the search radius.

Use of data is in accordance with CIEEM Guidelines for Accessing & Using Biodiversity Data, March 2016.

3.2.2. Designations

A desktop study was undertaken through MAGIC (Multi-Agency Geographic Information System for Countryside). The search looked to identify the presence of statutory designated sites within a 5km radius (e.g. Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR).

3.2.3 Additional Information

Freely available on-line mapping information and Ordnance Survey Maps were consulted as part of the background assessment.

3.3. Bat Survey Methodology

The PRA was undertaken employing methods based on the guidance described in the Bat Workers' Manual, English Nature's Bat Mitigation Guidelines and updated Bat Conservation Trust Bat Surveys Guidelines for Professional Ecologists (2016).

However, the first page of all three editions includes the following: *The guidelines should be interpreted and adapted on a case-by-case basis according to site-specific factors and the professional judgement of an experienced ecologist. Where examples are used in the guidelines, they are descriptive rather than prescriptive.*

Surveyors are expected to make judgements in respect of methodology appropriate to the survey conditions/evidence noted, and make conclusions based upon experience.

3.3.1 External/Internal Inspection

The first section of the survey involved an external inspection of the external surfaces of the buildings to identify any features that could be potentially be utilised by bats for roosting purposes. Such features may include small gaps and openings in brick work/roof structure, broken or missing tiles, or gaps in the soffits. During the external inspection, the buildings were also examined for key indicators of bat activity, such as

droppings/staining in areas such as window ledges, walls other suitable external structural features.

The second section of the survey involved an inspection of internal areas of the buildings where safe access was possible. The purpose of the inspections was to identify whether there is any evidence of bat activity/roosting. Again, indicators of evidence such as droppings, fur deposits, scratching and staining were searched for, in addition to features such as insect remains that may have been brought into a building by a bat. In addition, issues such as structural integrity of the buildings, and whether the building has structural features such as enclosed/hidden roof spaces are taken into account.

3.3.2 Vegetation Assessment

The Preliminary Roosting Assessment (PRA) from ground level was made of trees/ vegetation likely to be subject to removal/works as part of the proposal in accordance with the methods described within the Bat Conservation Trust Guidelines (2016), section 6.2:

> *A preliminary ground level roost assessment of a tree comprises a detailed inspection of the exterior of the tree from ground level to look for features that bats could use for roosting. The aim of this survey is to determine the actual or potential presence of bats and the need for further survey and/or mitigation. As part of the inspection, trees are graded in terms of their roosting suitable (High, Moderate and Low/No potential).*
>
> *Where suitable roosting habitat (moderate or high suitability) or evidence of bats is found during a preliminary ground level roost assessment then further surveys (such as further inspection surveys, presence/absence surveys or roost characterisation surveys are likely to be necessary if impacts on the roosting habitat or the bats using it are predicted.*
>
> *If no or low suitability for bats are found then further surveys are not necessary. Where there is low suitability, precautionary measures may be appropriate during felling or pruning activities.*

Equipment utilised comprised close focus binoculars. No intrusive methods (i.e. Torch/Endoscope) were used nor considered appropriate in the survey. A preliminary ground level roost assessment of trees is unlikely to result in disturbance to bats unless the ecologist intends to investigate with a torch or endoscope. If disturbance to bats is a possibility, then a survey licence is required.

4. Results

4.1. Desk study Results.

Record searches are by no means exhaustive, and certain species including reptiles and great crested newt are under recorded nationally. In addition, many of the records can be considered too old or may be unverified. However, the records provide an indication of the species of note historically found.

Site Details

- The site is located at Central Grid Reference: TQ 14940 87130
- Postcode: HA2 0HN

4.1.1. Magic-Statutory Designations

The search identified that the site is not directly located within nor bounding a statutory designation. The following statutory designated locations are situated within a 5km radius of the site:

- Grove Farm Local Nature Reserve (LNR) – Approx. 2km south.
- Perivale LNR – Approx. 3.8km south west.
- Litten Nature Reserve LNR – Approx. 4.3km south.
- Northolt Manor LNR – Approx. 3.5km south west.
- Islip Manor LNR – Approx. 4.0km south west.
- Ruislip LNR – Approx. 4.9km west.
- Masons Field LNR – Approx. 4.5km east.

4.1.2. Local Wildlife Sites-Non-Statutory Designations

Sites of Interest for Nature Conservation (SINC) are used in the planning system to protect areas that have substantive nature conservation value at a local level.

The site is neither situated within, nor bounding any SINC locations. The closest SINC location comprises:

- Harrow-on-the-Hill – Borough Grade I SINC – 0.4km north / 0.5km east.

Impact Assessment

The proposed development is wholly situated within an active, operational school subject to land use, disturbance and management as would be expected in such a location (see section 4.2). Consequently, it is not considered reasonably likely that the proposal would result in adverse impacts upon the above listed statutory and non-statutory designated locations.

4.1.3. Biological Records

The records have been analysed as part of the desk research and considered as part of the conclusions and subsequent recommendations of this report. A summary of records pertinent to the site is provided below:

Great Crested Newt/Amphibian

No records were available in respect of great crested newt.

The search identified 3 records for common toad and 15 records for common frog. All of the records date from 2007 and are in respect of a location situated 207m southwest of site.

Reptile

The search identified 14 records for slow worm, 3 records for grass snake and 2 records in respect of common lizard. All of the records date from 2007 and are in respect of a location situated 207m southwest of site.

Bats

The search identified the following records in respect of bat species:

Species	No. Records	Date	Closest to site
Daubenton's	1x Record	2011	427m east
Pipistrelle sp.	1x Record	2000	587m north east
C. Pipistrelle	3x Records	2017	163m north east
Bat species.	1x Record	2000	587m north east

4.2. Survey Results & Analysis

4.2.1 Site & Surroundings Description & Habitats

The John Lyon School is situated in a developed, suburban area of Harrow-on-the-Hill.

To the north, the wider school site is bounded by Lower Road, with managed, maintained sports pitches situated on the opposing side of the road. A mixture of residential development bounds the wider school site to the east, west and south, with Middle Road running along the southern perimeter of the main school site.

The John Lyon School is an operational school situated in a predominately sub-urban developed location, and is therefore subject to management and disturbance as would be typically expected in such a land-use context.

Broadly, the main school buildings are situated in the south of the site, with the northern section of the school comprising short sward, maintained amenity grass sports and playing field. The areas around the school building comprise a mixture of hard standing surfaces (road/path/parking) with occasional trees and planting beds scattered around a predominately managed landscape.

The proposed development area (and main survey area) is situated to the east of the main school building. The topography of the development area slopes downwards from south to north west and has been subject to significant engineering and levelling in the past. The development area is entered from the south east, leading to a barrier controlled hard standing parking area. The parking area is located to the south west of Oldfield House which is a two-storey building of 1981 construction situated in the south east of the development site. The building is described further in section 4.3.1.

To the south east of Oldfield House is a landscape garden area situated on a bank. The bank is dominated by short sward, managed lawn grass, interspersed with managed shrubs including privet and cherry laurel.

To the north and east of the building, the proposed development area comprises tarmac hard standing and short sward, managed amenity grass.

Trees are situated on the boundaries of development area, with species noted including cypress, weeping willow, yew, sycamore and lime, many of which appear to be subject to ongoing and maintenance works as would be expected in a school setting. Main boundaries are formed by a brick wall to the south and by a combination of metal post and mesh fencing.

4.3. Potential for Protected Species Impact with Proposals

The site was assessed for the potential presence of protected species that may have a material impact upon the development proposals.

The ecological value of the site in respect of the potential presence of and impact upon protected species is considered further in the following sections:

4.3.1. Bats & Internal/External Inspections

All bat species are strictly protected under the Wildlife and Countryside Act 1981 and the Conservation Regulations (Habitat Regulations).

The locations of buildings described are illustrated on the plan contained within Annex 3.

Oldfield House

Oldfield House comprises a brick built two storey building constructed in 1981. The building is situated in a south west to north east delineation with a main tiled apex roof, with a skylighted section in the north eastern corner of the roof which provides daylight to the second-floor lobby on the eastern side.

The external inspection identified that the building is in a good state of repair, with intact brickwork and with no gaps or openings around the metal window and door frames. In addition, tiles were present and intact forming a tight seal on the roof/between brickwork and roof. The soffit, associated metal guttering and row of slate tiles along the north western and south eastern elevations were also found to be present. In summary, from external inspection, the building presented as a tightly sealed, maintained structure without roosting opportunities.

The north eastern end of the building does not have a roof void given the skylight glazed section. The south western section of the building has a small void accessible via hatch from an office. The void was found to measure approx. 5m in length to a maximum of 2m in height with a sloping roof. The void was found to be clean, sealed and with no evidence of any bat activity.

Given the construction methodology of the building and associated lack of opportunity, the tightly sealed condition of the building in addition to absence of any evidence, it is considered that Oldfield House present a negligible level of roosting potential. Further surveys are considered to be neither necessary nor appropriate.

Vegetation/Foraging/Commuting

Preliminary Roosting Assessment (PRA) from ground level was made of vegetation/trees likely to be subject to removal or tree works as part of the proposal in accordance with the methods described within the Bat Conservation Trust Guidelines (2016), section 6.2. The trees identified for assessment were those listed for removal in the Tree Strategy, referred to as a review document in section 2.3. Trees are listed below in Table 1:

For ease of cross reference, the tree numbers used in the Tree Strategy are referenced in the same way in this report when trees numbers are referred to.

Table 1:

Tree No / Species	Bat Roosting Potential
T1 Yew	No Potential
T31 Sycamore	No Potential
G3 Cherry	No Potential
T27 Hawthorn	Low Potential - Exposed cavity at approx. 2.5m-Standard Due Diligence during tree works advised as appropriate precautionary action.
T28 Sycamore	No Potential
T29 Hawthorn	No Potential
G2 Cypress – 2 trees in group removed for services installation.	No Potential

T16 willow was identified as containing some exposed deadwood cavities (likely as a result of previous works) and a woodpecker hole located at approximately 4m high on the south western side of the stem. However, this tree is situated away from the proposed development and would be retained. Whilst no further surveys are required, it is advised that a low impact lighting solution be employed during the construction and completed phase as identified in section 5.2. as an appropriate precautionary action.

Photographs are included as Annex 2.

Impact Assessment

The Oldfield House building is considered to present a negligible level of bat roosting potential. Further surveys are considered to be neither necessary nor appropriate in respect of this building.

The inspection identified that all the trees proposed for removal offer 'no potential' for bat roosting, with the exception of T27, Hawthorn. This tree was identified as presenting 'low potential' as a result of a small cavity in a branch fork at approximately 2.5m. However, the cavity is 'facing upwards' and as a result is exposed to both daylight and the elements and appears to be wet. Consequently, it presents, at most, very low potential roosting suitability, and no evidence that would suggest any roosting activity was noted. It is concluded that appropriate basic precautionary actions during tree works (identified in section 5.2) would be a proportionate level of action.

No further surveys are considered to be necessary nor appropriate.

However, as an appropriate precautionary and enhancement recommendation, it is advised that a bat considerate lighting strategy be utilised during the implementation

and operational phases of the project. Appropriate, proportionate ecological enhancements including installation of bat boxes has been summarised in section 5.2.

4.3.2. Badgers

Badgers and active setts are afforded protection under the Protection of Badgers Act 1992.

No evidence of badger activity including active or inactive setts, latrines or footprints was identified in the proposed development area, or wider areas bounding site.

Impact Assessment

No active or inactive setts were found, with no evidence of badger activity identified in any location.

No further surveys are considered necessary or appropriate. However, general best practice precautions in respect of the demolition and construction phases have been provided in section 5.2 given the possibility of transitory presence of the species/transitory mammal species such as urban fox in the wider area.

4.3.3. Nesting Birds

Nesting birds and their eggs are protected under the Wildlife & Countryside Act 1981.

The Oldfield House building offers negligible nesting potential. Whilst 5 trees, 1 group and 2x trees within 1 group are being removed as identified in section 4.3.1, 23 replacements are to be planted according to the Tree Strategy and landscaping proposals listed in Section 2.3.

As general guidance prior to future works/maintenance, the bird breeding season is from March to September. If works to buildings/vegetation is proposed during the season, a check should be made for nests prior to works commencing. If nests are present, they should be left intact and undisturbed until the young have fledged.

Impact Assessment

Provided works are undertaken during appropriate seasonality/due diligence as recommended above, the proposals would not have any impact upon nesting birds.

According to the Tree Strategy and the landscaping proposals listed in Section 2.3, 23 trees are being planted as part of the proposal, which will include creation of woodland cover planting and short rotation coppice native tree management on the south eastern banking of the site, utilising species including hazel, chestnut and willow. Wild grass and wild flower meadow is also proposed for the northern and eastern sections of the site, as identified in the landscaping proposals. Inclusion of such enhancements will provide improved nesting and forage opportunities for birdlife and wider biodiversity. In addition, the installation of bird boxes (tree mounted) have been specified as part of the development, presenting an enhancement over and above the existing conditions on site.

Further recommendations in respect of enhancements have been made in section 5.2 and Annex 4.

4.3.4. Reptiles

Reptiles are afforded protection under the Wildlife & Countryside Act 1981, with smooth snake and sand lizard afforded full protection under the same act and the Conservation Regulations (Habitat Regulations).

The proposed development area comprises hard standing, short sward managed lawn grass and does not provide potentially suitable habitat. In addition, given the wider context of the site as a managed, operational school, in addition to wider offsite land uses (suburban residential and sports pitches), it is not considered reasonably likely that the development area would provide, nor have connectivity to habitat, and it is not considered reasonably likely that the proposal would result in any adverse impacts upon reptile species.

Impact Assessment

Based upon the evidence above, it is not considered reasonably likely that reptile species are present on site given lack connectivity to suitable offsite habitats and lack of suitable habitat on site. Therefore, the risk of potential impact of the proposals upon the conservation status of reptile is negligible. The risk of potential impact of the proposals upon individual reptiles is also considered to be low. No further surveys are necessary in respect of reptile species.

4.3.5. Great Crested Newt

Great crested newt is strictly protected under the Wildlife and Countryside Act 1981 and the Conservation Regulations (Habitat Regulations).

Given the land use of the site as an active school and ongoing management /disturbance as a result of that land use, it is not considered that the development area nor wider school offers potentially suitable habitat for the species.

Distance from a potentially suitable water body and intervening land use is a critical factor in determining suitability for the species. As such, a search using mapping data was undertaken to identify ponds within a 500m radius. No water bodies with any potential for terrestrial connectivity were identified.

Whilst it is acknowledged that small numbers of GCN have been known to range significant distances (1km) to colonise new ponds, sometimes over a number of years if connective habitat is suitable, research undertaken by English Nature[1] (now Natural England) indicates that it is most common to encounter them within 50m of a breeding pond, with few moving further than 100m unless significant linear features or suitable terrestrial habitat is involved, when great rested newts can be encountered at distances of between150m – 200m. At distances greater than 200-250m great crested newts are hardly ever encountered. This valuation of habitats according to distance from great crested newt breeding ponds has also been adopted as part of

Natural England's European Protected Species application form, with specific reference to the guidance provided by Natural England in WMLa14-2.

It is acknowledged that there is no way of identifying whether there are other small ponds that may be hidden within any nearby dwellings/field margins and not shown on maps. None were immediately visible from site/analysis of mapping data. Identification of such ponds located on private property and not shown on maps cannot be reasonably expected as part of this survey/desk study.

Impact Assessment

Based upon the evidence above, it is not considered reasonably likely that great crested newt would be affected by or at risk from the development proposals. Risk of harm to the species is not considered a reasonable likelihood.

Consequently, it is considered that the risk of potential impact of the proposals upon the conservation status of great crested newt is negligible. The risk of potential impact of the proposals upon great crested newt is also negligible. No further surveys are considered necessary or appropriate in respect of this species at this site.

4.3.6 Hazel Dormouse

Hazel dormouse is strictly protected under the European Habitat Regulations and the Wildlife and Countryside Act 1981.

No potentially suitable habitats would be lost/impacted as a result of the proposal. The does not contain potentially suitable habitat.

Impact Assessment

It is not considered reasonably likely that the proposal of such small scale would result in adverse impact upon the species. No further surveys are considered necessary or appropriate and the proposal would not have any impact upon the species.

4.3.7 Invertebrates/Plant life

Given the precedent of existing land use as a managed, operational school and limited vegetative diversity, the site is unlikely to support significant assemblages of invertebrates. No further surveys are considered to be necessary or appropriate.

Installation of new landscaping within any future proposal would provide invertebrate habitat on the site post-development. Night scented plant species such as evening primrose, honeysuckle and jasmine would also attract moths in the evening, which would in turn attract foraging bats.

As identified within the Tree Strategy and landscaping proposals, 23 trees are being planted as part of the proposal, which will include creation of woodland cover planting and short rotation coppice native tree management on the south eastern banking of the site, utilising species including hazel, chestnut and willow. Wild grass and wild flower meadow is also proposed for the northern and eastern sections of the

site, as identified in the landscaping proposals. Inclusion of such enhancements will provide improved nesting and forage opportunities for birdlife and wider biodiversity. In addition, the installation of bird boxes (integral and tree mounted) have been specified as part of the development, presenting an enhancement over and above the existing conditions on site.

Recommended enhancements are identified in section 5.2.

4.3.8 Other Species

The site is not situated in a location, nor provides potentially suitable habitat where other protected species such as, water vole and otter would be considered at risk. No further surveys/precautions are considered necessary or appropriate.

4.3.9 General Wildlife & Biodiversity

It is acknowledged that the wider site and development area may be utilised by a range of transitory wildlife species including urban fox, hedgehog etc.

Impact Assessment

As part of appropriate due diligence, it is advised that the full range of recommendations identified in section 5.2 be fully implemented, and all reasonable enhancements incorporated into a development proposal such that biodiversity is maximised as part of the development. Appropriate, proportionate ecological enhancements have been identified in section 5.2.

In addition, to enable wildlife to continue using the development area post development, it is advised that boundaries remain relatively open as per the current situation such that wildlife can continue to radiate in the area. This includes the use of permeable boundaries such as tree lines and hedgerows, in addition to leaving hedgehog gaps in any new fencing proposals.

5. Conclusion & Recommendations

5.1 Conclusion

In summary, the wider John Lyon School (and proposed development area) is an operational school situated in a predominately sub-urban, developed location, and is therefore subject to management and disturbance as would be typically expected in such a land-use context. The development area is dominated by the existing Oldfield House building, hardstanding and short sward, managed amenity lawn.

The statutory designation search undertaken as part of the desk study identified that the site is not situated within nor bounding any statutory or non-statutory designated locations. It is not considered that the proposal would have any adverse impact upon statutory and non-statutory designated locations.

The Oldfield House building is considered to present a negligible level of bat roosting potential. Further surveys are considered to be neither necessary nor appropriate in respect of this building.

A ground up Preliminary Roost Appraisal identified that all the trees proposed for removal offer 'no potential' for bat roosting, with the exception of tree T27. This tree was identified as presenting 'low potential' as a result of a small cavity in a branch fork at approximately 2.5m. It is concluded that appropriate precautionary actions during tree works (identified in section 5.2) would be a proportionate action.

No further bat surveys are considered to be necessary nor appropriate. It is advised that a bat considerate lighting strategy be utilised during the implementation and operational phases of the project. Appropriate, proportionate ecological enhancements have also been identified in section 5.2.

It is not considered reasonably likely that reptile or great crested newt species would be adversely affected by the development proposals.

No active or inactive badger setts were found, with no evidence of badger activity identified. No surveys have been advised. However, general appropriate precautionary measures for the demo/construction phases have been advised in section 5.2.

Appropriate recommendations in respect of due diligence relating to nesting birds and ecological enhancements have been made in section 5.2 of the report.

It is considered and concluded that the proposal can proceed without adverse impacts upon legally protected/priority species and habitats provided the specific mitigatory guidance and enhancement recommendations identified within section 5.2 are fully adhered to. Where necessary, appropriately worded conditions should be placed upon any consent granted in order to ensure appropriate measures are followed.

5.2 Recommendations and Further Action

Following the survey, the following recommendations have been made to ensure obligations in respect of protected species are met/the site is enhanced for the benefit of biodiversity if developed. The recommendations are considered to be appropriate and in context with the size of the proposals, and based upon the findings of the impact assessment section of the report (4.3.1 – 4.3.9).

Bats & Lighting

- In order to minimise risk of disturbance to potential features that may provide bat commuting and foraging habitat during the construction phase and as part of the completed development, a low impact lighting scheme is advised:

  a) Brightness of lights should be as low as possible, and in accordance with British Standard Institute (BSI) and Bat Conservation Trust (BCT) guidance. Where possible, low pressure sodium lights are advised.

  b) Lighting should not be directed at features that may be utilised by bats such as tree lines, hedgerows and water bodies/water courses.

  c) Directional lighting and/or fittings with hoods and cowls should be utilised.

  d) Where possible, security lighting should be motion sensitive and timers to minimise the amount of time that lights are on.

  e) Where possible, directional low impact solar bollard lighting should be used to illuminate roads, paths and parking areas.

Demolition/Construction Phase & General Precautions

- To protect any radiating mammals, it is recommended that any trenches be covered over with wooden sheeting at night and fencing off the demolition/construction zone and associated compounds would be advisable during the demolition/construction phase.

- In respect of tree works, operatives should be aware of the level of protection afforded to bat species. If, during tree works, evidence of bat roosting activity is identified/suspected, works should cease and an ecologist contacted to advise upon appropriate further actions as may be necessary.

Nesting Birds

- As general guidance, the bird breeding season is from March to September. If works to buildings/vegetation are proposed during the season, a check should be made for nests prior to works commencing. If nests are present, they should be left intact and undisturbed until the young have fledged.

Enhancements

- The following ecological enhancements will be included:

    - Installation of 10 Schwegler 1B Tree Mounted Bird Boxes;
    - Installation of 10 Schwegler 2F Tree Mounted Bat Boxes;
    - Creation of woodland ground cover & coppice trees on south eastern banking as per landscaping proposal;
    - Creation of wild grass and wild flower meadow on northern and eastern section of site as per landscaping proposal;
    - Tree and shrub planting within site as per landscaping proposal and;
    - Low impact lighting solution - no lighting of boundary tree lines.

- To enable wildlife to continue using the development area post development, it is advised that boundaries remain relatively open such that wildlife can continue to radiate in the area. This includes the use of permeable boundaries such as tree lines and hedgerows, in addition to leaving hedgehog gaps in any new fencing proposals.

1. Annex 1 – Legislation & Planning Policy

1.1. Habitat Regulations

The Conservation of Habitats and Species Regulations transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) into English law, making it an offence to deliberately capture, kill or disturb wild animals listed under Schedule 2 of the Regulations. It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time).

1.2. Wildlife & Countryside Act

The Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act (CRoW) 2000 and the Natural Environment and Rural Communities Act (NERC) 2006, consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive), making it an offence to:

- Intentionally kill, injure or take any wild bird or their eggs or nests (with certain exceptions) and disturb any bird species listed under Schedule 1to the Act, (which includes Cirl Bunting) or its dependent young while it is nesting;
- Intentionally kill, injure or take any wild animal listed under Schedule 5 to the Act; intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act; intentionally or recklessly disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection;
- Pick or uproot any wild plant listed under Schedule 8 of the Act.

Sites of Special Scientific Interest (SSSI) are designated under this Act.

Special Protection Areas (SPA) are strictly protected sites, designated under the Birds Directive, for rare and vulnerable birds and for regularly occurring migratory species.

1.3. Natural Environment & Rural Communities Act

The NERC 2006 places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.

1.4. National Planning Policy Framework (NPPF)

The NPPF February 2019 (Paragraphs 170-183) are specific in respect of conservation and biodiversity. ODPM 06/2005 remains in place. NPPF places a duty on planners to make material consideration to the effect of a development on legally protected species when considering planning applications, with a focus upon sustainable development and biodiversity net-gain.

1.5. Biodiversity Action Plans

The UK Biodiversity Action Plan (UKBAP) (Anon, 1995) was organised to fulfil the Rio Convention on Biological Diversity in 1992, to which the UK is a signatory. A list of

national priority species and habitats has been produced with all listed species/habitats having specific action plans defining the measures required to ensure their conservation. Regional and local BAPs have also been organised to develop plans for species/habitats of nature conservation importance at regional and local levels.

1.6. Local Development Plans

County, District and Local Councils have Development Plans and other policy documents that include targets and policies which aim to maintain and enhance biodiversity. These are used by Planning Authorities to inform planning decisions.

1.7. Natural England Standing Advice

Natural England has adopted national standing advice for protected species. It provides a consistent level of basic advice which can be applied to any planning application that could affect protected species. It replaces some of the individual comments that Natural England has provided in the past to local authorities.

1.8. Bats

All species of bat found in the UK are protected by law and are designated as a protected species. Paragraph 98 of Circular 06/2005 states that '*the presence of a protected species is a* ***material consideration*** *when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat.'*

Bats are protected under UK legislation under The Wildlife and Countryside Act 1981 through inclusion on Schedule 5 -Protected bat species in Britain. On a European basis, bats are subject to protection under the Conservation (Natural Habitats &c.) Regulations.

The November 2017 the Conservation (Natural Habitats &c.) Regulations make it an offence to:

- Intentionally or deliberately kill, injure or capture (take) bats.
- Intentionally or recklessly damage or destroy bat roosts or disturb bats.

A bat roost is defined as 'any structure or place which is used for shelter or protection', whether or not the bats are utilising the roost at the time. European protected animal species and their breeding sites or resting places are protected by the Habitat Regulations.

In this regard, it is an offence for anyone to deliberately capture, injure or kill any such animal or to deliberately take or destroy their young/eggs as applicable. It is also an offence to damage or destroy a breeding or resting place of a European Protected Species and it is an offence to possess a European Protected Species.

The threshold above which a person will commit the offence of deliberately disturbing a wild animal of a European protected species has been raised. A person will commit

an offence only if he deliberately disturbs such animals in a way as to be likely to significantly affect:

- The ability of any significant groups of animals of that species to survive, breed, or rear or nurture their young, or;
- The local distribution of abundance of that species.

The existing offences such as obstruction of a bat roost, low-level disturbance, and sale which cover European Protected Species under the Wildlife and Countryside Act (1981) continue to apply.

2. Annex 2 – Photographs

Entrance into development area of school

South western elevation of Oldfield House

North eastern elevation of Oldfield House

North western elevation of Oldfield House

South eastern elevation of Oldfield House

Tightly sealed, intact tiles on roof

Soffit, gutter and tiles forming a tight, intact seal around the building

Tight sealed concrete undercroft at building entrance

Glazed lobby interior – second floor

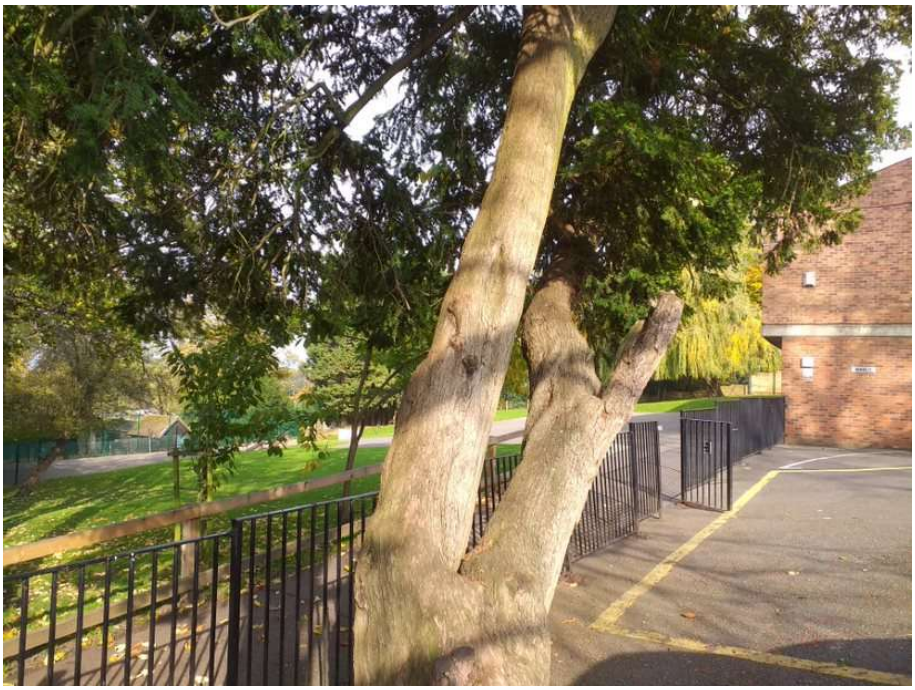
Roof void in south west of the building. Sealed and no evidence of bats

Roof void in south west of the building. Sealed and no evidence of bats

View towards northern section of site

Northern section of site

T1 Yew



T1 Yew

T31 Sycamore

G3 Cherry group

T28 Sycamore & T29 Hawthorn

T28 Sycamore

T27 Hawthorn

Exposed cavity T27

3. Annex 3 – Habitat Plan


A
A
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KEY
Survey boundary
Broad-leaved tree
Conlferous tree
A
Amenity grassland
Introduced shrub
Concrete / gravel hardstanding
Building
Extended Phase 1 Habitat Survey
John Lyon School
MH917-01
NTS
@A4
Dec 2018
T4 ECOLOGY LTD

4. Annex 4 – Recommended Enhancements

The following hedgerows/shrub and smaller tree species could be utilised accordingly:

- Hawthorn *Crataegus monogyna*
- Ash *Fraxinus excelsior*
- English Elm *Ulmus procera*
- Field Maple *Acer campestre*
- Hazel *Corylus avellana*
- Dog Rose *Rosa canina*
- Elderberry *Sambucus nigra*
- Holly *Illex aquifolium*
- Blackthorn *Prunus spinosa*
- Rowan Sorbus *aucuparia*
- Guelder Rose *Viburnum opulus*
- Silver Birch *Betula pendula*
- Alder *Alnus glutinosa*
- Cotoneaster *spp.*
- Spindle *Euonymous europaeus*

The following species could also be considered within the landscaping scheme as appropriate, given their wildlife friendly/native characteristics:

- Viburnum *sp.*
- Californian Lilac *Ceanothus sp.*
- Lavander *Lavandula angustifolia*
- Hebe *Sp.*
- Privet *Ligustrum vulgare*
- Dogwood *Cornus sanguinea*

In addition, vertical areas on sides of buildings and/or boundary fences could be utilised to provide additional habitat. Suitable species to grow on vertical habitats could include:

- Ivy *Hedera helix*
- Clematis *vetalba*
- Honeysuckle *Lonicera periclymenum*

Bulbs and small, wildlife friendly annuals and biennials can also be utilised within wildlife friendly and garden planting where considered appropriate by the landscape architect. Suitable species could include:

- Hypericum *perforatum*

- Wood Anemone *nemorosa*
- Tustan *Hypericum androsaemum*
- Foxglove *Digitalis grandiflora*
- Bluebell *Hyacinthoides non-scripta*

Dependant on soil condition, British Seed House RE1 mix (or similar product) is recommended for installation of the species rich grass areas where required. Alternatively, turf already seeded with wild flower seed could be utilised.

Recommend species are likely to include:

- Slender Creeping Red *Fescue Festuca rubra ssp litoralis*
- Crested Dogs Tail *Cynosurus cristatus*
- Common Bent *Agrostis capillaris*
- Cocksfoot *Dactylis glomerata*
- Meadow Fescue *Festuca pratensis*
- Golden Oat Grass *Trisetum Flavascence*
- Sweet Vernal Grass *Anthoxanthum odoratum*
- Ribwort Plantain *Plantago lanceolata*
- Yarrow *Achillea millefolium*
- Common Knapweed *Centaurea nigra*
- Meadow Sweet *Filipendula ulmaria*
- Lady's Bedstraw *Galium verum*
- Ox eye daisy *Leucanthemum vulgare*
- Self Heal *Prunella vulgaris*
- Meadow Buttercup *Ranunculus acris*
- Bulbous Buttercup *Ranunculus bulbosus*
- Agrimony *Agrimona eupatorium*
- Rough Hawkbit *Leontodon hispidus*
- Yellow Rattle *Rhinanthus minor*
- Common Birdsfoot Trefoil *Lotus corniculatus*
- Salad Burnett *Sanguisorba minor*
- Harebell *Campanula rotundifolia*
- Cowslip *Primula deorum*
- Field Poppy *Papaver Rhoeas*
- Wild Thyme *Thymus Serpyllum*
- Quaking Grass *Brizia Media*
- Pignut *Conopdium majus*

Using Seeds

Seed Bed Preparation

Whilst seeds can be sown at any time, the best time to prepare the meadow bed is summer. The top grass, and top inch of top soil should be removed if possible. The most important factor is to ensure that the seed bed is weed free, and level using roller/rake. Also, remove stones in areas of seedbed, Wildflower meadows from seed are most successful when soil fertility is low and weeds can be less vigorous.

Sowing Seed

The best time to sow the seeds is in spring or early autumn. Spread seeds in a sand mix using a spreader for even distribution at a density of approx. 4 grams per sq. metre.

Using Plugs

Use of wildflower plugs is generally more reliable, and gives quicker results than using seed. However, over large areas, density of plugs can be reduced, with 1 or 2 plugs per square metre. Generally, plugs can be installed at any time but spring/autumn are optimum months.

Using Turf Impregnated with seeds

Use of turf less dependent on soil conditions as the seed are already in place. This enables more variety of species. However, to be successful, it should be installed in free draining areas that do not become water logged.

Wildflower Plugs and seeds are available from a number of online suppliers:

www.wigglywigglers.co.uk

www.bostonseeds.co.uk

www.wildflowershop.co.uk

www.reallywildflowers.co.uk

www.wildflower.org.uk

www.meadowmania.co.uk

Sections of turf already seeded are also available from the following suppliers:

www.meadowmat.co.uk

www.wildflowerturf.co.uk

www.wigglywigglers.co.uk

Habitat Boxes.

The use of bird and bat boxes has been recommended. Suitable products include:

Schwegler 1B Bird box.

Schwegler 2F Bat box. Suitable for attachment to trees.

Installation

The following should be taken into account in consideration during the installation of bird boxes suitable for a wide variety of common garden species.

- These should be placed away from cats, and at least 2m from ground level.
- These should where possible be located away from direct sunlight, ideally facing between north and east (not south), away from cats, and at 2-5m height.
- They should also be out of reach of windows when placed upon buildings.

Bat Box Aftercare

Bats are a protected species, and any object they utilise for roosting is therefore also protected. Therefore, following installation the bat boxes should not be disturbed, as disturbance may result in an offence under the Wildlife and Countryside Act (1981) and the European Habitat Regulations. Bat boxes are very robust and will not require maintenance, and therefore are at their most effective if left undisturbed.