

PRELIMINARY ECOLOGICAL ASSESSMENT

LAND TO THE REAR OF 7-8 BRUCE GROVE,
LONDON N17 6RA



Commissioned by: **Baumarkt Ltd t/a United Properties London Ltd**

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EXECUTIVE SUMMARY

1. The main protected species potential present at the Land to the Rear of 7-8 Bruce Grove, as identified during this ecological investigation, was for: breeding birds only.
2. Bird nesting habitat is present within the entire site, as would be expected within any similar site, with breeding bird structure within the trees and numerous shrubs.
3. There was no bat roosting potential at the existing trees, due to a lack of features that offer such roosting niches within the tree species present.
4. There were no other protected species issues at the overall application site, mainly due to the complete colonisation of the site due to invasive plant species and due to the site being located in a highly urbanised environment.
5. In regards to non-native invasive plant species at this site, three species are present including buddleia, false acacia and notably, Japanese knotweed.
6. These stated non-native plant species are being very invasive currently, due to the lack of control and habitat management at this former warehouse site.
7. The existing Site of Importance for Nature Conservation (SINC) and Open Space at the application site has in effect been completely ruined by Japanese knotweed and the other stated non-native invasive plants.
8. Clearly, leaving this site in neglect, is not an option any longer, with the non-native invasive plant species such as Japanese knotweed, now threatening, if not the case already, to spread outside of the site and into neighbouring land and gardens.
9. Various key recommendations are set out later in this report, including vegetation management at this site, the control and removal of invasive non-native plant species from the property; and relevant best practice guidance being followed at all times by contractors.
10. A number of ecological enhancement options have also been put forward for the client, so that there is a post-development biodiversity gain for wildlife at the site.
11. By following these recommendations, the impact on wildlife will be minimised during all proposed future clearance and building works and all legal obligations will be adhered to by both the client and the contractors.

1. INTRODUCTION

- A Preliminary Ecological Assessment was undertaken at the Land to the Rear of 7-8 Bruce Grove, Tottenham, London N17 6RA, during October/November 2022, for the client: Baumarkt Ltd t/a United Properties London Ltd.
- The grid reference for this site is: TQ336901.
- This assessment was required due to the proposal to clear the current derelict site for redevelopment.
- The main method used for this assessment, as well as the full results and the final recommendations can be found within this report.
- Both this assessment and the report were undertaken and compiled by Mr Andrew S. Waller, Consultant Ecologist, ASW Ecology Ltd, with the help from an assistant ecologist.
- Mr Andrew S. Waller MSc BSc (Hons) MCIEEM, Director of ASW Ecology Ltd - has been a Consultant Ecologist since 1997, and has very extensive experience and knowledge of protected wildlife species/issues including bats, for which he is fully licensed to survey throughout England by Natural England for consultancy purposes (Bat Class 2 Licence Registration Number: 2015-15703-CLS-CLS). He also has Natural England survey licences for great crested newts and barn owls. He has been studying bats for 29 years and wildlife in general for 40 years. He is a Full Member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and meets the requirements of being a Suitably Qualified Ecologist.

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2. METHODOLOGY

2.1 Ecological assessment method

- A daytime based Preliminary Ecological Assessment was undertaken at the application site, on 4/10/2022 and on 9/11/2022. The method used for assessing the current habitat types followed that outlined by the Nature Conservancy Council Phase 1 survey methodology (JNCC, 1993). Please see Section 3.8 for the habitats/features listed from the site and the relevant codes given to these.
- Weather conditions were very good eg dry, with a light breeze, very mild and cloudy, plus visibility was excellent on the visits. During the visit, the application site was assessed for its suitability for various protected wildlife species and habitats.
- The focus on habitats and protected species potential included on bats, breeding birds, reptiles, amphibians, badgers and any notable flora, in particular. The key methods used for specific protected species in general are listed below:
- **Bats:** Buildings and structures would be assessed for any bat roosting evidence and potential, especially for any crevices under external features such as flat roofs, roof tiles, ridge tiles, slates, fascias and lead flashing. Any trees were also assessed for features that offer bat roosting opportunities such as presence of woodpecker holes, frost cracks, hazard beams, bark plates, crevices and knot holes, amongst others.
- **Badgers:** The presence of badgers at the existing site was assessed by finding potential evidence such as setts, latrines, feeding remains, badger paths and for badger hair on any fences
- **Breeding birds:** the presence of occupied bird territories as well as active bird nests was investigated within the sites, especially in existing vegetation and buildings. Many bird species would have only recently finished breeding before the assessment visit.
- **Reptiles/Great Crested Newts:** The presence of both groups was assessed by habitat types present and if suitable for species such as great crested newts in their terrestrial phase and for reptiles such as slow-worm and common lizard.

2.2 Constraints

- The main constraint to this daytime based assessment was the timing of this study, where it was only possible to survey during the Autumn period, for example, due to the commissioning of this study. However, given the actual assessment results, and with wildlife very active still, this is seen as a minor constraint only, since it is not possible to survey any site all year round.
- As always though, without taking into account any further active surveying or monitoring, this study can only provide a “snapshot” of the potential presence of protected wildlife species at the site during the time of the assessment visit.

3. ECOLOGICAL ASSESSMENT RESULTS

3.1 Birds

- No bird nests could be found within the application site during the assessment visit. Although there was the potential for former hidden bird nests to be present in the vegetation.
- The trees and shrubs within this site, all provide nesting bird structure, as would be expected at any similar site.
- Bird species present at or over the development footprint during the survey visit included black-headed gull, woodpigeon, feral pigeon and magpie.
- It is highly unlikely therefore that any rare breeding species would be nesting at the application site itself.
- There will only be a genuine negative impact on birds from this development, if vegetation such as trees and shrubs especially, are to be removed during the breeding bird season and without any breeding bird watching brief.

3.2 Bats

- In regards to the trees that could be assessed from the site boundaries, there were two trees with obvious features that would offer bat roosting opportunities.
- One tree within the interior had two rot holes, whilst a tree on the NW boundary had a woodpecker hole.
- The occasional bat such as common pipistrelle would be expected to forage and commute over the site at night.

3.3 Badger

- During the site visit there were no setts, latrines, badger hair, feeding remains or footprints present.
- Badgers are not known though to be present in the wider area, as shown from our desk study, and it is very unlikely badgers could reach this highly urban site due to a lack of connectivity. Especially due to very busy roads, a railway line and conurbations being present.
- Badgers should therefore not be an issue in regards to the development proposal for this site, based on the evidence of this assessment visit.

3.4 Reptiles

- There is no reptile potential within the application site, based on the results of this ecological investigation, although access was limited to the site boundaries.
- There is mainly dense shrubs and some trees within the site, with some scattered bramble scrub with patches of tall herbs.
- There are reptile records known within 2km of the application site, as shown in our desk study results eg grass snake and common lizard, for example. No reptiles would be expected though within this site due to a lack of connectivity. The busy roads, railway line and conurbations would prevent colonisation of this highly urban site by these species.
- Reptiles will not be impacted therefore by the development proposal, based on the survey results.

3.5 Great crested newts

- There is no great crested newt potential within the application site, based on the results of this ecological investigation, although access was limited to the site boundaries.
- There are no known waterbodies within the site, either those with water still or that they have dried up.
- There are no great crested newt records known within 2km of the application site, as shown in our desk study results. No newts would be expected within this site due to a lack of connectivity. The busy roads, railway line and conurbations would prevent colonisation of this very urban site by this species.
- It is considered that great crested newts will not be impacted by the proposed development.

3.6 Hedgehogs

- Hedgehogs are known to be present in the wider area, as shown in our desk study but no field signs were present.
- However, due to this being a highly urban area with very busy roads and a railway line closeby, it is unlikely hedgehogs could reach this site due to a lack of connectivity.
- Hedgehogs are a Priority Species in England within the UK Biodiversity Action Plan. Therefore, as a precaution only, it is still vital that hedgehogs are not impacted during the proposed development related works. This should include no uncovered hole during the works and the restoration of any valuable habitat lost by new habitat creation.

3.7 Invasive plant species

- The following non-native invasive plant species were noted at the overall application site during this assessment visit:
 - Buddleia – this shrub is colonising the site and was seen at the northern half especially.
 - False acacia – this tree species is clearly colonising the site and can be seen at the boundaries especially but also within the interior.
 - Japanese knotweed – this very invasive shrub is at least present at the south-eastern site boundary and is clearly colonising this site fast. It is at the road edge now and could spread to other properties if not eradicated.

3.8 Habitats present

- The main habitat types present within the proposed overall application site, are the following, with the relevant JNCC habitat codes included:
 - (a) Scattered scrub – A2.2 – Include areas of bramble scrub, with some tall herbs such as common nettles, creeping thistle and greater bindweed within the scrub. Small amount of ivy noted too.
 - (b) Introduced shrubs – J1.4 – Includes various shrubs now growing at the site including Japanese knotweed and buddleia. This is the main habitat present due to a lack of control and management. Trees at the site boundaries include false acacia, sycamore, Norway maple, elder, ash and a monkey puzzle tree.

3.9 Desk study

- A 2km radius online ecological data search was undertaken by us for the application site. This does not replace a full biological records search by the county biological records centre, which was not selected by the client, but does contain some of the same information and helps support this report.
- The NBN Gateway (with strict permission) and the MAGIC website were all used. The ASW Ecology database was also utilised for a data trawl for wildlife records as this has collated records in the UK for 40 years.
- The key summary findings, in no particular order, are listed below in relation to species and habitat records most relevant to the proposed development:

Protected Species Licences	Magic lists 1x <u>Protected Species Licence</u>: • Bat EPSM Licence – Common pipistrelle, noctule – Near Downhills Park – 2018 to 2023
Statutory Sites	• Lee Valley Ramsar site • Lee Valley Special Protection Area • Walthamstow Reservoirs SSSI
Non-Statutory Sites	• Within Source Protection Zone Merged (England) • Within Drinking Water Safeguard Zone (surface water) • Within Drinking Water Protected Area (surface water) • Green Belt
Protected Species Records	Amphibians: • Smooth newt • Common toad • Common frog

	Reptiles: • Grass snake • Common lizard • Red-eared terrapin Terrestrial mammals: • Hedgehog • Water vole • American mink Bats: • Daubenton's bat • Common pipistrelle
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4. CONCLUSIONS

4.1 Significance of the ecological assessment results

- In summary, the main protected species potential present at the Land to the Rear of 7-8 Bruce Grove, was for: breeding birds only.
- There is bird nesting habitat present within this site, as would be expected within any similar land, with breeding bird structure within the trees and numerous shrubs.
- There was no bat roosting potential at the existing trees, due to a lack of features that offer such roosting niches within the tree species present.
- There were no other protected species issues at the overall application site, mainly due to the complete colonisation of the site due to invasive plant species and due to the site being located in a highly urbanised environment.
- In regards to non-native invasive plant species at this site, three species are present including buddleia, false acacia and notably, Japanese knotweed. These stated species are being very invasive currently, due to the lack of control and habitat management at this former warehouse site.
- The existing Site of Importance for Nature Conservation and Open Space at this property has been in essence completely ruined by the complete colonisation by non-native invasive shrub and tree species. The existing mature boundary trees, apart from any false acacia, must be retained as these may have wildlife interest still.
- Due to the complete habitat loss by these three non-native invasive plant species, it is recommended on this occasion only, that this piece of land is eradicated of such invasive species then developed with biodiversity enhancements installed by the client.
- If such ecological enhancements includes suitable native plantings, including native trees and shrubs, so to replace all non-native invasive plant species, then this would be seen as a biodiversity gain, including for adjacent sites.
- Since the Japanese knotweed especially has spread to the site fenceline and road edge along the south-eastern boundary. Such uncontrolled colonisation of nearby properties and gardens will not be potentially illegal but also highly undesirable for local biodiversity.
- In this case, the only way to prevent further colonisation of invasive species of this part of Tottenham from within the application site, is to redevelop this land but with the ecological enhancements within this report all followed and enacted.
- It is an immense shame that this site has been neglected and the non-native invasive species now fully colonised here so it is hoped this situation will not happen again in the future, especially if all invasive plant species can be successfully eradicated, due to their threat to local biodiversity.
- Please see the next chapter of this report for the key recommendations and actions that now need to be followed by the client.

4.2 Impact assessment

In the absence of any mitigation measures, the following potential impact status identified from the proposed development related works at the application site, based on current information, are considered to be:

- **Reptiles:** Without any mitigation, there is no risk of reptiles being injured or killed, during the future site clearance works. **Potential impact level: Nil**
- **Great crested newts:** With no mitigation, there would be no risk of great crested newts being impacted by the future site works. **Potential impact level: Nil**
- **Bats:** Without any mitigation, bats would not be impacted by the proposed clearance works at this site. **Potential: Nil**
- **Badgers:** Without any mitigation, no badgers would be disturbed by the proposed works. There is no risk of badger tunnels being collapsed or setts being damaged and destroyed. **Potential impact level: Nil**
- **Nesting birds:** Without any mitigation, there is a risk of potential nesting bird species being impacted during the vegetation clearance, with hidden nests being damaged or destroyed within the site. **Potential impact level: Moderate/High**

4.3 Summary of the legal protection of relevant wildlife in the UK (Simplified summary only of the legislation – please see other texts for full details)

4.3.1 THE LEGAL PROTECTION OF REPTILES IN ENGLAND AND WALES

In the UK, reptiles are legally protected from intentional killing and injuring, as well as against sale too under the Wildlife and Countryside Act 1981 (as amended). The offences stated may be absolute, intentional, deliberate or reckless (English Nature, 2004).

This means that reasonable steps must always be taken to avoid killing or injuring all reptiles if they are known to be present within the development footprint. A criminal conviction for injuring or killing reptiles could result in large fines being imposed, imprisonment and/or seizure of the equipment involved.

4.3.2 THE LEGAL PROTECTION OF BATS IN ENGLAND AND WALES

Introduction

All species of bats in England and Wales are protected by law. Their legal protection derives from two sources:

- the strict species protection provisions of the EU Habitats Directive as implemented in England and Wales by Part 3 of the Conservation of Habitats and Species Regulations 2017 (the “**2017 Regulations, amended by the 2019 Regulations due to Britain leaving the EU**”); and
- Part 1 of the Wildlife and Countryside Act 1981 (as amended).

Conservation of Habitats and Species Regulations 2017 (“2017 Regulations”, as amended by the 2019 Regulations)

The 2017 Regulations came into force on 30th November 2017, amended by the 2019 Regulations. They replace the previously applicable regulations (Conservation (Natural Habitats, &c) Regulations 1994 and the 2010 Regulations) in relation to England and Wales. The 2017 Regulations are the principal means by which the EU Habitats Directive is transposed in England and Wales.

The Regulations contain a number of Parts which set out the protection to be afforded to “European Protected Species” (“EPS”), which includes all species of British bats. The list also includes other species which are rare on a European scale, such as great crested newts, otters and dormice.

Under the 2017 Regulations both bats themselves and their “breeding sites and resting places” (most commonly their roosts) are protected.

It is a criminal offence to do the following (note that this is not an exhaustive list of all offences but rather a list of offences which will be of most relevance to developers):

- a. to damage or destroy a breeding site or resting place of a bat (even if bats are not present at the time);
- b. to deliberately capture, injure or kill a wild bat;
- c. to intentionally or recklessly disturb a bat in its roost or to deliberately disturb a group of bats, in particular:
 - i. any disturbance of bats which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young; or
 - ii. any disturbance of bats which is likely to impair their ability to hibernate or migrate; or
 - iii. any disturbance of bats which is likely to affect significantly the local distribution or abundance of the species to which they belong;
- d. to have in one's possession or to control or to transport or to sell or exchange or offer to sell or exchange any live or dead bat or part of a bat which has been taken from the wild; or any part of, or anything derived from, a bat or any part of a bat; and
- e. to intentionally or recklessly obstruct access to a bat roost.

The maximum penalty that can be imposed for the above offences is (as at May 2010) a fine of up to £5,000, and/or up to six months imprisonment. The offences can be committed by individuals or by bodies corporate. Where a body corporate has committed the offence, the directors or officers of the company may also be prosecuted if the offence has been committed with their consent or connivance, or is attributable to their neglect.

Wildlife and Countryside Act 1981 ("WCA 1981")

The WCA 1981 protects a wide range of animals, plants and habitats in the UK. All British bat species are afforded protection under Part 1 of the WCA 1981, in addition to the protection they have under the 2019 Regulations.

As regards England and Wales the following offences apply to protect bats under the W&CA 1981:

- a. to intentionally or recklessly disturb any bat while it is occupying a structure of place which it uses for shelter or protection (s9(4)(b) WCA 1981);
- b. to intentionally or recklessly obstruct access to any structure or place which any bat uses for shelter or protection (s9(4)© WCA 1981);
- c. attempting either of the above (s18(1) WCA 1981).

The maximum penalty that can be imposed for the above offences is (as at May 2010) a fine of up to £5,000, and/or up to six months imprisonment. The offences can be committed by individuals or by bodies corporate. Where a body corporate has committed the offence, the directors or officers of that company may also be prosecuted if the offence has been committed with their consent or connivance or is attributable to their neglect (s69(1) WCA 1981).

4.3.3 THE LEGAL PROTECTION OF BIRDS IN ENGLAND AND WALES

All birds have the following legal protection (although there are exceptions for game birds, some waterfowl and designated pest species). This is listed below.

All birds, their eggs and nests are protected by law under the Wildlife and Countryside Act 1981 (as amended). It is an offence to kill, injure or take any wild bird, or to take or destroy their eggs. It is also illegal to take, damage or destroy the nest of any wild bird while it is in use or being built (RSPB, 2001). No provisions can be made for the destruction of occupied bird nests, eggs, or young for development purposes, and no licences are available for this purpose.

Certain rare and/or vulnerable bird species such as black redstart, barn owl, red kite, peregrine and hobby are specially protected under Schedule 1, and have the following additional legal protection:

- It is an offence to intentionally (or recklessly, in England and Wales only) disturb any wild bird listed on Schedule 1 whilst it is nest building or is at (or near) a nest with eggs or young; or disturb the dependent young of such a bird.

4.3.4 THE LEGAL PROTECTION OF GREAT CRESTED NEWTS IN ENGLAND AND WALES

Great crested newts have strong legal protection under both British and European legislation. This is briefly summarised below:

Great crested newts are legally protected under provisions within the Wildlife and Countryside Act 1981 (as amended), the 2019 Regulations and the Countryside and Rights of Way Act 2000. Taken together, it is illegal to:

- **Intentionally or deliberately capture or kill, or intentionally injure great crested newts.**
- **Deliberately disturb great crested newts or intentionally or recklessly disturb them in a place used for shelter or protection.**
- **Damage or destroy a breeding site or resting place.**
- **Intentionally or recklessly damage, destroy or obstruct access to a place used for shelter or protection.**
- **Possess a great crested newt, or any part of it, unless acquired lawfully.**
- **Sell, barter, exchange or transport or offer for sale great crested newts or parts of them.**

The maximum penalty that can be imposed for the above offences is (as at May 2010) a fine of up to £5,000, and/or up to six months imprisonment. The offences can be committed by individuals or by bodies corporate.

4.3.5 THE LEGAL PROTECTION OF BADGERS IN ENGLAND AND WALES

In the UK, the Protection of Badgers Act 1992, is the most relevant to this mammal species. Under this legislation, it is illegal to injure, kill or take any badger or attempt to do so without a special licence. It is also illegal to dig for a badger, and to damage, destroy or obstruct access

to any part of a badger sett, or to allow a dog to enter the sett, or to disturb a badger whilst it is occupying a sett.

Certain offences can be caused by reckless, intentional or wilful behaviour, and the Act should always be read in detail for the exact wording.

Penalties for such offences can be severe, and can include fines of up to £5,000 per offence eg per badger sett or per badger, and/or up to six months imprisonment.

5. RECOMMENDATIONS

5.1 Site vegetation management

- It is important that the ground vegetation is managed as short mown/strimmed at all times on a regular basis by specialist Japanese knotweed contractors, when viable to do this.
- This site must be managed regularly so they do not ever become overgrown again, as was the case previously as management has taken place before.
- This would remove any remote possibility of the occasional reptile using any potential new habitat for genuine shelter or foraging.
- This is a reasonable step to avoid any possible impact on any reptile species in the much wider area.
- This pro-active approach should continue as per usual and certainly until the development has been completed.

5.2 Removal and control of invasive non-native plant species

- The following best practice methods are put forward for the removal and control of the invasive plant species identified at the site, of which both the Japanese knotweed removal should be the priority. Further advice can be provided by the ecologist if needed on best practice guidance and which contractors to contact for help with control and removal:
 - Buddleia – Buddleia – The standard method to remove buddleia is to directly inject herbicide into the stand, which the plant has been cut back to ground level. Small plants like seedlings can be pulled or dug out. A specialist contractor should be used to apply any herbicide treatment and to ensure any chemicals are environmentally friendly in regards to the rest of the site.
 - False acacia – Herbicide treatment is the most effective control measure for this very invasive species but must be applied by specialist contractors only.
 - Japanese knotweed – Web link with formal advice and information on the law and Japanese knotweed, of which **this established specialist company should be contacted direct for advice and assistance with control and removal of this highly invasive plant species** (JKC). It will be critical that all underground rhizomes are successfully removed with the contaminated soil, as this species can grow again for a tiny segment of rhizome. All stems and branches must be removed of knotweed as this species can also grow from any broken stems with two nodes present. Chemical control is possible but takes time to be successful so mechanical excavation is also possible for this site. But a large amount of contaminated soil and knotweed plants will need to be taken to a licensed landfill site for this species including all rhizomes underneath the fence and road:
<https://www.japaneseknotweedcontrol.com/eradication/>

5.3 Best practice guidelines – breeding birds and development

- As per any development related site, the general advice is that no vegetation eg trees, bushes, shrubs, hedges, bramble scrub or dense ivy cover should be removed during the bird nesting season as all bird nests are fully protected by law, and this includes whilst a nest is being built by the adult birds.
- This includes both buildings and bird boxes, where nesting birds have been shown to be present.
- If any nests are present within the boundaries of the proposed development footprint during the clearance phase, then these must be left alone until the young birds have fully fledged from the nest and no further breeding attempts are to take place.
- The main bird nesting season in the UK, currently runs mainly from mid-January to September, but sometimes birds can start breeding before or after this period eg birds have been found by us nesting in the first half of January at other sites due to milder winters.
- Therefore, September to early January can be the best months for such vegetation clearance works, if this is to occur.
- Although it is possible for a consultant ecologist to physically search any trees, hedges, bushes and shrubs at a site to ensure no hidden nests are present beforehand.

5.4 Ecological enhancements for the development scheme

The following measures are for the client to strongly consider, so that there are genuine biodiversity enhancements in place, post-development:

5.4.1 Bat boxes

- It will be recommended to install at least 6-7 bat boxes, on the mature boundary trees, within the new development scheme for local bats to use.
- The bat box model proposed would be the 2F Schwegler Bat Box and this is a high quality bat box which will be used by a number of different bat species, including for the bat species recorded here. This box is made of woodcrete and is a long lasting box.
- Bat boxes should be installed at least 6 metres above ground level, facing mainly SE or SW but with 2 of the bat boxes facing West or North, so different microclimates are available and with enough space for bats to fly under the box easily. No artificial lighting must illuminate any of the installed bat boxes as this would deter bats from using the boxes.
- The NHBS is a good ecological equipment supplier and this bat box model can be purchased from them. The web link for this bat box is:

<http://www.nhbs.com/title/158629/2f-schwegler-bat-box-general-purpose>

5.4.2 Wildlife friendly planting

- It will also be important that bat and wildlife friendly plantings will be introduced to any new landscaping scheme, by the use of night scented plants, which will attract insects which bats prey on.
- Native plants should always be chosen ideally since these species will have the most benefits to wildlife. But the occasional non-invasive hybrid or exotic would be fine.
- Suitable border plant species can include corn flower, field poppies, mallow, evening primrose, cherry pie, soapwort, sweet rocket, bladder campion, Nottingham catchfly, night-scented catchfly, ox-eye daisy, primrose and yarrow.
- Herbs can also be very good for insects and include borage, coriander, fennel, lavender, rosemary, chives and thyme.
- Trees, shrubs and climbers suitable for insects, so to benefit bats, include dog rose, elder, gorse, guelder rose, English oak, goat willow, silver birch, blackthorn, hawthorn, hazel, honeysuckle, ivy and jasmine.

5.4.3 Bats and lighting

- It will be important that dark corridors are allowed for bats at night along the wider site boundaries. This will mean that bats, can use nearby gardens and local greenspaces, especially whilst commuting between sites. This can be ensured by the use of dark buffer zones.
- Artificial lighting can cause a vacuum effect at greenspaces and at other sites, where such artificial light will pull flying insects at night away from areas where bats feed. So adjacent darker areas will have less insects for bats to survive on and that negatively affects the life cycles of the insect species present (BCT, 2018).
- The future lighting scheme must be bat friendly and adhere to best practice on this aspect. There must be no UV elements to the new lighting and no metal halide or fluorescent sources used (BCT, 2018).
- Additionally, a warm white spectrum should be used, with no blue light components. LED luminaires should also be used, as this has a reduced impact on bats.
- In regards to any future lighting, it would be beneficial for both insect populations and for bats, any new security lighting is set on motion sensors and with short timers (1 minute).
- Light spillage must also be curtailed, with reduced glare and light spillage with lighting near to windows.
- Such lighting within dwellings can be recessed. Lighting must be directed to where it is required only and baffles or hoods should be used to achieve this.
- Screening by vegetation such as new trees, bushes and shrubs can also be used to mitigate the effects of any new lighting scheme.

- The following latest best practice guidance note must be read and followed, in regards to how lighting affects bats and how to mitigate this at a site:

5.4.4 Bird nest boxes

- Bird boxes can be installed at the site and three suitable models can be found below:
- The 1B Schwegler Nest Box would be a good model to have installed at the site, since a range of birds are present already. This model would benefit blue and great tits especially.
- New bird nesting boxes should be installed as widely spaced apart as possible. The exact number of boxes will need to be appropriate for the size of the application site as nest boxes should not be located close together. But at least 1-2 nest boxes would be suitable.
- The NHBS is a good ecological equipment supplier and this nest box model can be purchased from them. The web link for this bat box is:

<http://www.nhbs.com/1b-schwegler-nest-box>

- In general, bird boxes should be spaced widely apart, away from any bird feeders, quite high up a tree (ideally at least five to six metres up from ground level but higher in urban areas ideally), facing North to East only and away from cats.
- Further boxes to be installed include both swift and house sparrow nest boxes. These can be installed as one per new building. Please see the links below for these nest boxes:

House Sparrow Terrace: <https://www.nhbs.com/1sp-schwegler-sparrow-terrace>

Swift triple cavity nest box: <https://www.nhbs.com/no-17a-schwegler-swift-nest-box-triple-cavity>

5.4.5 Insect nest boxes

- Finally, invertebrate nesting boxes will also be provided in the new landscape scheme. Such bug boxes should be installed in a warm and dry place at the site, near to vegetation. Such boxes will benefit lacewings, solitary wasps, ladybirds and other species.
- Suitable models from the NHBS include the following, with 1 of each box being appropriate:
 - Schwegler Clay and Reed Insect Nest –

https://www.nhbs.com/equipment/nest-boxes-habitats-and-feeders?hPP=30&idx=titles&p=0&hFR%5Bsubjects_equipments.lv1%5D%5B0%5D=Nest%20Boxes%2C%20Habitats%20and%20Feeders%20%3E%20Insect%20Boxes&is_v=1&qview=181090

- Solitary beehive –

https://www.nhbs.com/equipment/nest-boxes-habitats-and-feeders?hPP=30&idx=titles&p=0&hFR%5Bsubjects_equipments.lv1%5D%5B0%5D=Nest%20Boxes%2C%20Habitats%20and%20Feeders%20%3E%20Insect%20Boxes&is_v=1&qview=181090

5.4.6 Hedgehog doorways in fence panels

- It is also proposed that pre-fabricated holes in boundary fence panels are permitted at regular intervals at the new development scheme, so that hedgehogs are able to commute within the local landscape, without any blockages in their pathways.
- The new doorway should measure 13cms x 13cms in terms of width and length so hedgehogs can fit through.
- The following web link from the Wildlife Trusts provides very useful information on creating new hedgehog doorways:

<https://www.wildlifetrusts.org/actions/how-create-hedgehog-hole>

5.5 Best practice guidance – bats and tree management

- As general advice, during any tree related works, great care is needed in regards to any crown reduction, felling and removal of branches on the existing trees. Best practice guidelines will always need to be followed at all times without exception, so to comply with current bat related legislation.
- It is recommended that a precautionary approach be taken when undertaking any works on higher graded trees. **Contractors undertaking work on the trees should undertake a new climbing inspection using the endoscope provided by the consultant (as they will be able to examine the highest niches on the trees using harnesses and ropes since they are trained and qualified to do so)** and look for bats and their field signs such as black streaks below a hole, crack or split in the tree; droppings in the entrance of any hole or crack; urine stains; smooth edged entrance holes with dark fur staining as well as actual scratch marks on entrance holes.
- The bat consultant could be present as part of a bat watch brief during the future most sensitive works on specific trees and can liaise with the tree surgeon throughout. A toolbox talk by the bat consultant should be undertaken with the tree surgeon before the tree works begin.
- The tree contractors must avoid cutting through any cavities in a trunk section or in a tree branch, and instead cut well above and below the cavity.
- Wherever possible and where relevant, branches and trunk sections with any cavities or splits, as well as dense ivy covered trees should be lowered carefully to the ground, so to avoid injuring or killing any hidden bats. These trees should then be left for 24 hours and most certainly overnight, so any potentially hidden bats can leave.
- Bark plates on any parts of the trees to be reduced or felled, especially large sized plates, should be removed by hand where this is possible. This will allow the inspection for any bats hiding behind these plates. This is especially important in regards to some rare bat species in the UK which do show a preference for roosting behind large bark plates.

- If there is ever any future evidence that there are tree based bat roosts in any of the trees to be felled or managed, then a Bats European Protected Species (EPS) Licence in respect to “development” will be required to avoid triggering various offences. So if bats or bat evidence are found unexpectedly during any future tree check by tree surgeons, then work should stop immediately, and a licensed bat consultant urgently sought.

6. REFERENCES

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- (5) English Nature (2004) *Reptiles: guidelines for developers*. English Nature, Peterborough.
- (6) Entwistle, A.C. et al (2001) *Habitat Management for Bats*. JNCC, UK.
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APPENDIX 1:

PHOTOGRAPHS A-M

(Photos A-J are dated 4/10/2022, K-M are dated 9/11/2022)



Photograph A

Japanese knotweed thicket at south-eastern site boundary, along the fence line



Photograph B
Close-up of Japanese knotweed leaves and flowers



Photograph C

Buddleia present at the south-eastern site boundary and within the site too



Photograph D

False acacia trees along the south-eastern site boundary



Photograph E

The mature sycamore trees at the southern end of the site can be seen in the background



Photograph F

Japanese knotweed stems within the site boundary area, showing the density of this thicket



Photograph G

The north-western site boundary with dense tree line present



Photograph H

Further example of the extent of the Japanese knotweed colonisation of the south-eastern site boundary, with further knotweed within the site too



Photograph I

Japanese knotweed spreading out onto the road edge, which is an immense concern as this may well spread into adjacent gardens



Photograph J

Further example of false acacia colonisation of the site, with a group present adjacent to the south-eastern boundary



Photograph K

Tree within site with two large rot holes. These may have some bat roosting potential



Photograph L

Japanese knotweed and bramble scrub within the site interior



Photograph M

Further Japanese knotweed within the site, with trees and bramble scrub

APPENDIX 2:

MAP A – PHASE 1 HABITAT MAP WITH TARGET NOTES

