Parcel N
Arborfield Green
Wokingham

BAT MITIGATION STRATEGY

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QUALITY ASSURANCE

This report has been prepared in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing (2nd Edition, December 2017).

The facts stated in this report are true to the best of our knowledge and belief, and any opinions expressed are held genuinely and in accordance with the accepted standards of the profession. ACD Environmental Ltd is a CIEEM Registered Practice.

Client:	Crest Nicolson
Site/job:	Parcel N, Arborfield Green, Wokingham
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CONTENTS

1.	EXECUTIVE SUMMARY	4
2.	INTRODUCTION	7
3.	METHODOLOGY	9
4.	RESULTS AND EVALUATION	13
5.	MITIGATION STRATEGY	15
6.	ENHANCEMENT AND MANAGEMENT	17
7.	POST DEVELOPMENT MONITORING	20
8.	CONCLUSIONS	21
9.	REFERENCES	22
APPENDIX 1: BAT MITIGATION PLAN		23
APPENDIX 2: SOFT LANDSCAPE PLANS		25

1. EXECUTIVE SUMMARY

1.1. ACD Environmental Ltd have been commissioned to produce a Bat Mitigation Strategy for Parcel N, Arborfield Green, Wokingham to address **Condition 20** of the outline planning consent for the Reserved Matters Application (RMA) report at Arborfield. Parcel N is undergoing an RMA under the outline planning consent for Arborfield Green (O/2014/2280, Wokingham Borough Council).

1.2. Previous bat survey work was originally conduced in 2006 and 2008 by AMEC (AMEC, 2012 and AMEC 2012) and GVA Grimley/WSP Environmental during 2006 (GVA Grimley/WSP Environmental, 2006). The previous surveys were comprised of the key components shown in **Table 1.**

Table 1. Previous bat surveys

Methodology / Type of Surveys	Year	Month/NO. of Surveys visits	Company
Unknown – likely building assessment and dusk/dawn building and transect surveys	2006	Unknown	GVA Grimley/ WSP Environmental
Initial building assessment	2008	1 visit May	Entec
Bat detector transects and emergence/re-entry surveys	2008	12 visits (July to September)	Entec
Initial internal building inspections (buildings with roof voids where accessible)	2008	Not specified	Entec
Update internal building inspections (buildings with roof voids where accessible)	2012	Not specifies	Amec (now includes Entec)

1.3. AECOM was appointed in 2014 by Crest Nicolson to undertake a Bat Mitigation Strategy[1] for Arborfield Garrison, that consists of multiple parcels of land, including Parcel N see **Table 2** for additional surveys conducted by AECOM in 2014.

[1]Bat Mitigation Strategy (ES Appendix 13.4, AECOM 2014)

Table 2. AECOM 2014 Bat surveys

Methodology / Type of Surveys	**Timings**
Data Search - records of bats from a 5km radius of Site from both TVERC and Hampshire Biological Information Centre (HBIC).	May to June 2014
Extended Phase 1 Habitat Survey – Initial recording of potential roosts and commuting and foraging habitats.	April 2014
Building Reassessment for Roosting Bats – updated building reassessment taking into account previous survey results .	May 2014
Building Dusk and Dawn (Emergence / Re-Entry Surveys) – surveys to determine the presence of roosting bats within key buildings and to collect data on bat species and activity across the Site.	June to August 2014
Transect and Automatic Detector Surveys – additional activity surveys to identify additional roost locations and collect further data on bat species and activity across the Site.	June to August 2014

1.4. In order to avoid any significant impacts on bats It was recommended that additional bats surveys are required on all buildings or trees to be lost or impacted as part of the scheme. The surveys proposed will meet the requirements and standards specified within the Bat Mitigation Guidelines[2]. The additional surveys will either define the characteristics of a roost or provide evidence of a negative roost results to inform an application of a Natural England development licence. Where necessary, an endoscope survey or use of tree climbing will be sort.

1.5. Where buildings or trees are to be removed without a known bat roost being present, removal will be carried out as part of a method statement which will stipulate the requirement for soft stripping or soft felling under ecological supervision, to mitigate against any discovered roosting bats.

[2]Reason, P.F. and Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Version 1.1.* Chartered Institute of Ecology and Environmental Management, Ampfield.

1.6. As most commuting corridors are to be retained and to be enhanced by hedgerow and a sustainable urban drainage system (SUDS) this will further strengthen commuting corridors through provision of additional and improved hedgerows, ponds and drainage ditches as well as accompanying marshy grassland to be created in association with the SUDS. A number of habitat corridors linking the Approved Application Site will be improved through the incorporation of these features in order to avoid any significant impacts on bats.

1.7. A detailed lighting strategy will be required at the detailed design stage to ensure that lighting recommendations are met and that bats can utilise the proposed dark corridor network.

1.8. This document contains details of a methodology to minimise the impacts the development will have on bats and measures to prevent harm during the construction areas prior to and during development.

1.9. This document also contains ongoing management prescriptions for the site, to ensure that the measures and habitats are protected and maintained in perpetuity.

1.10. Implementing all of the practices, techniques, and prescriptions in this document will help to ensure that there will be no significant impacts upon the population of bats and the development will be in conformity with relevant legislation and planning policy.

2. INTRODUCTION

2.1. ACD Environmental Ltd was instructed by Crest Nicolson in February 2025 to produce a Bat Mitigation Strategy for Parcel N, Arborfield, Wokingham. This land is hereafter referred to as the 'Approved Development Site'.

2.2. Outline permission for: Demolition of buildings and phased redevelopment of Arborfield Garrison and adjoining land for: Up to 2,000 new dwellings (including up to 80 units of extra care housing). District centre comprising a food store up to 4,000 sq m gross with up to a further 3,500 sq m (gross) floor space within Classes A1, A2, A3, A4, A5, B1, D1 and D2 (with residential above - Class C3), and transport interchange, village square, car parking, servicing and drop off area. Up to a further 1,500sq m (gross) floor space within Classes D1 and D2. Neighbourhood centre to provide up to 300 sq m (gross) floor space within Classes A1, A2, A3, A4, A5, B1, D1 and D2, with parking/servicing area. Secondary school for up to 1,500 pupils (Class D1) including sports pitches, floodlit all-weather pitch, and indoor swimming pool and parking areas. Up to three-form primary school (Class D1) with sports pitch and parking areas. Associated phased provision of: car parking; public open space including sports pitches, informal/incidental open space, children's play areas including multi-use games area (MUGA), skate park, community gardens/allotments; landscaping/buffer areas; boundary treatments; new roads, footpaths, cycleways and bridleways; sustainable urban drainage systems, including flood alleviation works.

2.3. PART 2 - FULL PERMISSION FOR phased development of: Creation of two new areas of Suitable Alternative Natural Greenspace (SANGS) (In the north-eastern part of the application site ("Northern SANGS") and at West Court ("West Court SANGS") including car parking areas, path/walkways, fencing and associated landscaping; re-use of existing MoD gymnasium for sports/community uses/centre (Classes D1/D2; new roundabout junction to A327 Reading Road; junction improvements to Langley Common Road, Baird Road and Biggs Lane; junction improvements and new access at Biggs Lane/Princess Marina Drive; re-use and improvements to existing site accesses from Biggs Lane was granted by Wokingham Borough Council on 1st April 2015 (planning ref: O/2014/2280).

2.4. This report has been produced to address **Condition 20** of the planning permission. **Condition 20** states:

"Prior to The reserved matters for any sub phase of the development shall include a

detailed bat mitigation strategy. Each detailed bat mitigation strategy shall

include an appropriate detailed lighting scheme that maintains the dark corridors

as set out in Figure B: Key Bat Mitigation Areas (Replacement Roosts and

Retained/Enhanced Foraging and Commuting Corridors of the suitable bat foraging and commuting, of the submitted Arborfield Garrison – Bat Mitigation Strategy (AECOM Environment, Sept 2014) and should be in accordance with the submitted Arborfield Garrison – Bat Mitigation Strategy (AECOM Environment, Sept 2014). The mitigation, contingency and enhancement measures contained within the submitted Arborfield Garrison – Bat Mitigation Strategy (AECOM Environment, Sept 2014) shall be implemented in accordance with the approved plan unless otherwise approved in writing by the local planning authority.

Reason: To ensure appropriate mitigation for the biodiversity impact of the development in accordance with Wokingham Borough Core Strategy Policy CP7."

Competence

2.5. This report has been written by Jake Cranston, Assistant Ecologist at ACD Environmental Ltd and Qualifying member of the Chartered Institute of Ecology and Environmental Management (CIEEM). Jake has undertaken various surveys, ranging from Habitat Surveys to Phase 2 surveys for protected species, including bats, badgers and dormice. Jake has written various reports, including Badger Technical Notes, and Landscape and Ecological Management Plans.

2.6. A Technical Review of this report has been carried out in line with ACD Environmental Ltd's Quality Assurance procedures. The Technical Review was carried out by John Constable, ACD Environmental Ltd.

3. METHODOLOGY

3.1. The Approved Development Site comprises approximately 2.4 hectares of land. The Ordnance Survey Grid Reference for the approximate centre of the site is: SU770653.

3.2. The Approved Development Site is situated in a suburban location surrounded by semi-improved neutral grassland and to the north and the west there is a line of trees. The Approved Development Site is 4.85 km to Wokingham train station **Image 1**.

Image 1: Approximate boundary of the Approved Development Site. Source: QGIS 2025.

Bat surveys

3.3. A range of bat surveys were conducted across the Arborfield Garrison that includes multiple parcels of land and the Approved Application Site, between 2006 and 2014 to inform the 2014 environmental statement[3]. The surveys included potential roost assessments, bat activity and emergence surveys. Full details of these surveys are provided within the Bat Mitigation Strategy covering the Arborfield Garrison strategic development location (SDL).

[3]AECOM (2014). Arborfield Garrison Strategic Development Location. Arborfield Environmental Statement

3.4. The best practice as recommended by the Chartered Institute of Ecology and Environmental Management (CIEEM), is that bat surveys are carried out prior to any works taking place, to determine the presence/absence of bats within suitable habitat in the Approved Development Site. This survey would also informed roosting, commuting and foraging opportunities on site. Mitigation will be applied to prevent the loss of suitable habitats and avoid displacement of bats as they may be disturbed and/or harmed during commencement of works.

Suitable bat habitat and features

3.5. Within the Approved Application Site there are no known bat roosts however the site is surrounded by established bat roosts, these were recorded during previous bat surveys during 2006-2012 and 2014. The closest known bat roost is located west of the Approved Application Site and is located within former stables (building reference number 47). In addition to the known roosts, due to the mobile nature of bats, the line of trees surrounding the Approved Application site to the north could also contain bat roosts within trees. These trees include two large oak trees, with knot holes, cracked branches and other features that could be used by roosting bats[4].

3.6. As the trees to the north fall within a dark corridor protection zone as set out by AECOM bat mitigation strategy[5] this habitat and its trees are protected. If trees do need to be felled and if they have bat roost potential they will require a pre-felling inspection and potentially supervised section felling under an ecological Method Statement. This may require the use of a Mobile Elevated Working Platform (MWEP) or specialised tree climbers.

3.7. The habitat within the Approved Application Site is part of a connected chain of habitats that connect to other parcels with suitable commuting and foraging habitats. The Site also connects to the dark corridors, and as such the lighting on site should aim to achieve as close to 1 lux as possible, as described in the Bat Mitigation Strategy.

3.8. The on-site habitats primarily consist of poor semi-improved grassland, scrub and a line of trees with a ditch and SuDS ponds located off-site, south of the Approved Application Site. These habitats are suitable for foraging bats and will be retained were possible. There will also be habitats created and enhanced both on and off-site therefore this will not have an impact on the value of the Approved Application Site for foraging.

Ecological constraints Parcel N Arborfield Green, Wokingham RSP (2024)
[4]AECOM (2014). Bat Mitigation Strategy. Arborfield Garrison Strategic Development Location. Environmental Statement Appendix13.4)[4]Ecological constraints Parcel N Arborfield Green, Wokingham RSP (2024)
[5]AECOM (2014). Bat Mitigation Strategy. Arborfield Garrison Strategic Development Location. Environmental Statement Appendix13.4)

3.9. Due to their decline all bats are protected under the Wildlife and Countryside Act 1981[6] and the Conservation of Habitats and Species Regulations 2017[7] against harm and makes it an offence to intentionally kill, sell, interfere or disturb a roost and injure any of these species.

3.10. There are 18 species of bat in Britain which belong to one of two families: the Vesper family of bats (*Vespertilionidae*) and the Horseshoe family of bats (*Rhinolophidae).* The Vesper bats are found throughout Britain and are one of the most widespread mammalian groups in the world after man. The Horseshoe bats are generally found in south west England and throughout Wales. Bats are nocturnal and, in Britain, all species are insectivorous. Bats gather to feed wherever there are lots of insects, so the best places for them include traditional pasture, woodland, marshes, ponds and slow moving rivers. Surveys are conducted prior to, during and after dusk, and prior to, during and after dawn. Bats use a variety of roosts throughout the year in which to breed, hibernate, feed and give birth. Bats do not build nests; they hang from or creep into cracks and crevices. It is not common for bats to use the same roost throughout the year as they require different roost conditions for breeding and hibernating. The different types of roost are described below:

- Maternity, where young are born and raised to independence;.
- Hibernation, where bats may be found during the winter;
- Mating, where males and females gather during the autumn;
- Feeding, where bats rest between feeding bouts during the night; they are rarely used by day;
- Transitional, where bats may gather during the spring or autumn; and
- Summer roosts, used by males and non-breeding females.

3.11. Bats follow linear features such as lines of trees, hedges, buildings and waterways to commute between roosts to their feeding areas. Good commuting routes and foraging areas are essential to the survival of a roost type. The commuting routes are linear corridors used by bats as flight paths. These routes are important in maintaining the conservation status of bats by, allowing safe movement between roosts and feeding areas. Foraging areas are used by bats for feeding; however it is important to note that bats will also forage while commuting.

Suitable bat habitat

Semi-improved grassland

[6] *Wildlife and Countryside Act* (1981)
[7] *Conservation of Habitats and Species Regulations* (2017)

3.12. The semi-improved tussocky grassland habitat within the Approved Development Site was identified as having foraging potential for bats and mainly consists of meadow brome, barren brome, Yorkshire fog, cock's-foot, with locally abundant meadow foxtail; frequent cow parsley *Anthriscus sylvestris,* cleavers *Galium aparine*, nettles and creeping thistle, field speedwell *Veronica persica* and common vetch *Vicia sativa*.

Tussock grassland

3.13. A line of dense scrub was located to the north of the site, possibly comprising a remnant hedgerow. This was dominated by bramble *Rubus fruticosus* with occasional semi mature oak *Quercus robur*, hawthorn *Crataegus monogyna*, hazel *Corylus avellana* and ash *Fraxinus excelsior*.

Line of trees

3.14. The northern boundary of the site was dominated by a line of mature trees with dense bramble scrub beneath. Tree species present included oak, sycamore *Acer pseudoplatanus*, ash, hawthorn, crack willow *Salix fragilis* and hazel. A line of mature trees occurred along Tope Crescent along the site's north west boundary. These included two large oak trees, with knot holes, cracked branches and other features that could be used by roosting bats.

4. RESULTS AND EVALUATION

Bat surveys

4.1. The Approved Development Site has had bat surveys as part of work completed by AECOM and it was assesses that the semi-improved grassland has potential to support foraging bats, mainly noctules around the stables buildings but also that the mature trees to the north of the site is important as a commuting path way, and as such should be preserved within a dark corridor and protected. As these trees are proposed to be retained and protected as they make up a dark corridor on site connecting roosting and foraging opportunities it would also be beneficial to install bat boxes to ensure roosts presence.

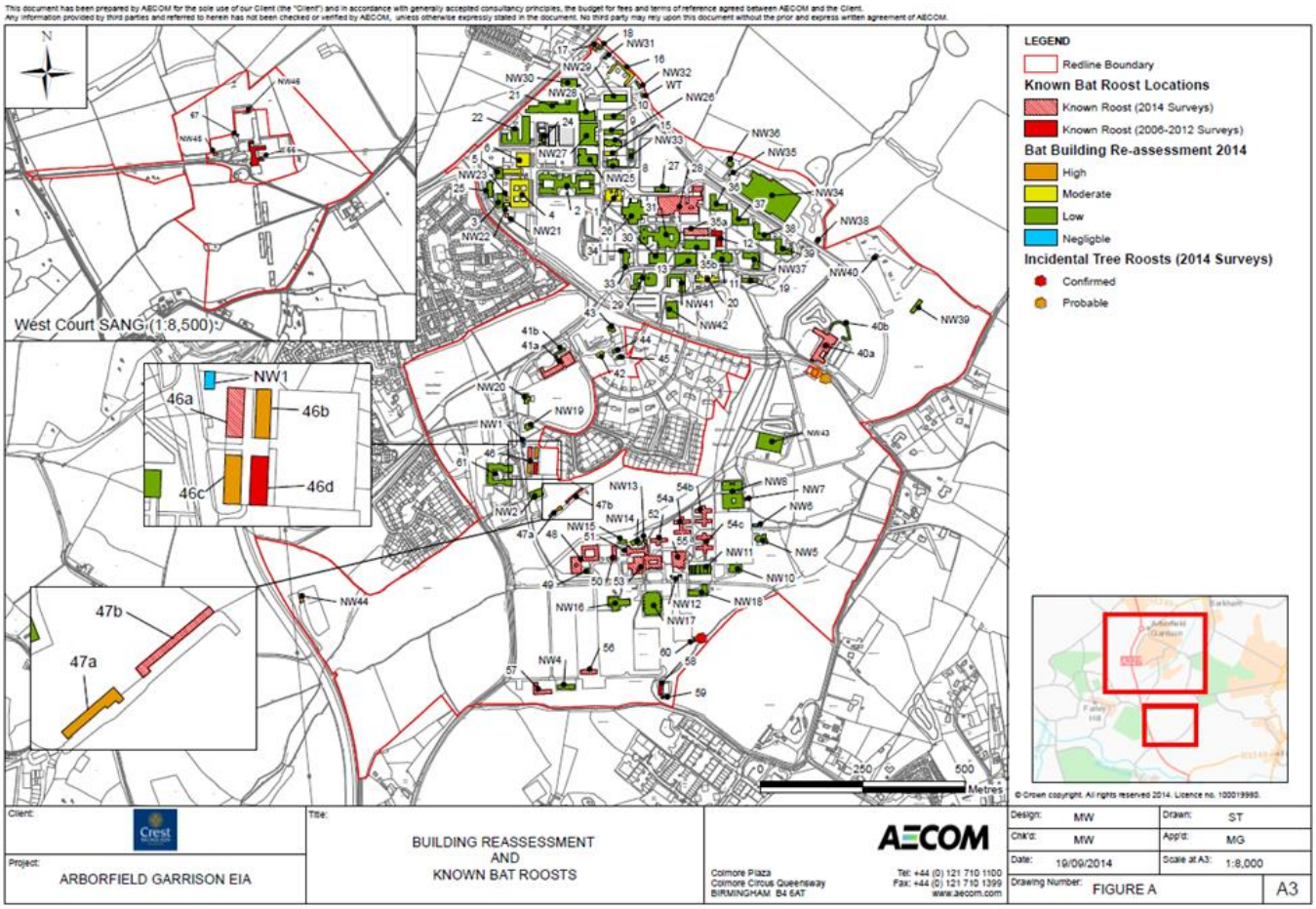
4.2. The Approved Development Site was found to contain commuting routes for a wide assemblage of bat species, many utilising the mature tree lines connecting the Approved Development Site to the wider landscape and other important habitats. The retention of the boundary tree lines, important mature tree lines and hedgerows will result in the preservation of the majority of the important commuting routes. This will be joined with recommendations for hedgerow and tree line enhancement, the creation of a waterbody habitat (through SUDS) and recommendations for the control of lighting levels through dark corridors to ensure commuting routes to be used by light sensitive bat species.

4.3. The retention and ecological enhancement of the SANG through habitat creation and the incorporation of a planting palette suitable for bats will greatly increase the quality of SANG habitats for foraging bats. Just south of the Approved Application Site will include created and enhanced grassland and scrub as part of a SANG[8].

4.4. The addition of a waterbody network (as part of a SUDS) throughout the surrounding area, will create additional foraging habitat, much of this along known commuting routes. This will also include a large pond within the centre of the proposed linear park, south of building 47, the stables. This will help ensure foraging habitat lost will be accounted for.

[8] *AECOM (2014). SANG habitat Creation and Ecological Management Plan Arborfield Garrison Strategic Development Location. Environmental Statement Appendix 13.6*

Figure 1: Showing roost locations both historical and current.



Suitable bat habitat

4.5. The areas of semi-improved grassland that provide suitable foraging habits within the Approved Development Site will be lost due to make way for developed land. This will result in a loss of semi-improved grassland, scrub, and tussock grassland. Ecology enhancement measures will be included for the benefit of bats and other wildlife. This plan can be seen in **Appendix 1**.

4.6. There are opportunities for enhancement for bats including the installation of bat roosts and dark corridors on site within the Approved Application Site and also off-site SANG. Full details of enhancement necessary for bats have been derived from AECOM's Bat Mitigation Strategy.

5. MITIGATION STRATEGY

5.1. No confirmed roost have been found within the Approved Application Site but four bat species have been found roosting within buildings and trees (common pipistrelle, soprano pipistrelle, brown long-eared and Natterer's bat) off-site with the closest confirmed roost being within the stables. Building 47.

5.2. The approach to enhance and mitigation for loss of roosts is the provision of alternative roosts for these species as part of Natural England development licences which will also detail suitable timings and methods for building and tree removal, to be confirmed within any successfully granted licence.

5.3. Further inspections and ecological supervision will be required in order to avoid individual bat mortalities during works.

5.4. Additional roost provision have also been recommended within the Approved Application Site, to include several different forms (bat boxes and bat bricks) in order to ensure the continued provision of potential roost locations for a wide range of species.

5.5. The Approved Application Site is in close proximity to commuting routes for a wide assemblage of bat species, many utilising the mature tree lines connecting the site to the wider landscape and other important habitats.

5.6. The retention of the boundary tree lines to the north and the east consist of important mature tree lines and hedgerows will result in the preservation of the majority of the important commuting routes. This will be joined with recommendations for hedgerow and tree line enhancement, the provision of additional off-site waterbody habitat (through SUDS) and recommendations for the control of lighting levels through dark corridors to ensure commuting routes can continue to be used by light sensitive bat species.

5.7. The retention and ecological enhancement of the off-site SANG through habitat creation and the incorporation of a planting palette suitable for bats will greatly increase the quality of SANG habitats for foraging bats. This will include created and enhanced grassland and scrub and at the creation of at least nine ponds.

5.8. The addition of a waterbody network (as part of a SUDS) located south of the Approved Application Site will create additional foraging habitat, much of this along known commuting routes. This will also include a large pond south of building 47 the stables.

5.9. Additional enhancement in the form of ponds, swales, marshy grassland and rain garden habitats will further enhance its value for bats.

5.10. The conversion of improved grassland fields with SANG to habitats of greater wildlife value will represent significant mitigation for the areas of grassland (including large areas of amenity and improved grassland of low value for wildlife) to be lost as part of the scheme. The line of trees and hedgerow habitat within the Approved Application Site is to be retained.

5.11. Further habitat enhancement within the green corridors and SANG includes hedgerow creation and enhancement; detailed within the Hedgerow Survey and Strategy[9].

[9] *AECOM (2014). Hedgerow Survey and Strategy. Arborfield Garrison Strategic Development Location. Environmental Statement Appendix 13.6*

6. ENHANCEMENT AND MANAGEMENT

6.1. All mitigation areas and features are to be maintained and protected in perpetuity. The responsibility for this will be held by the developer, unless transferred to the council or other suitable body as proposed for SANG management.

6.2. Bat bricks incorporated into the fabric of buildings will require no maintenance. Bat bricks to be installed in newly built buildings (as part of construction) at a minimum density of one per twenty new buildings, see **Image 2**. Bat bricks / boxes should be positioned as high as possible, at least three to four meters above ground level, to protect any resident bats from disturbance or predation by domestic pets;

- More than one bat brick / box should be installed per building or tree as grouped boxes are more commonly used than single ones;

- Each brick / box should be positioned with a different orientation, ideally south, south-east and south-west;

- The bricks / boxes should also be exposed to sunlight for part of the day;

- The entrance to the bricks / boxes and a space of two meters below them should be clear of branches, vegetation or ledges to allow bats to safely exit the boxes; and

- Bat boxes should not be placed below or close to windows, or close to any external lighting.

6.3. Bat boxes must be erected on trees prior to the demolition of the existing roosts. These boxes will be subject to monitoring every two years after they have been erected until four years post completion of the development. Routine maintenance checks will be undertaken at the time of monitoring to ensure all fixtures and fittings are secure for any use by bats. This will be conducted during the autumn months to minimise disturbance to the bats.

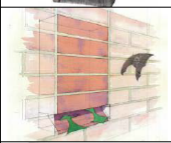
Bat Bricks Within New Buildings	Replacement for building roosting features to be lost; primarily for crevice dwelling, urban tolerant species such as pipistrelle bat.	At a minimum of density of 1 in 20 newly constructed buildings. The combined bat / swift boxes can also used to meet both the required bat and swift densities; but at least 50% of bat provision should be using bat bricks. Within the newly constructed buildings across site preferably including each large public building at a minimum number of 3 per building. Multiple boxes can be placed on a single building to meet the required density, but each area (i.e. development parcel) should have	**Schwegler 1FR Bat Tube (Example)**	**Material** • Woodcrete (75% wood sawdust, concrete and clay mixture) **Dimensions:** • Width: 20cm, Height: 47.5cm, Depth: 12.5cm, Weight: 13kg **Description:** • *"Brick boxes are designed for buildings, or underneath bridges, arches or tunnels, where conditions are relatively humid. They are particularly useful for new buildings or bridges to attract bats, or to provide new roost sites where existing buildings with bats are being renovated. This long box can be installed within brick masonry, beneath plasterwork or wood panelling, or incorporated into concrete structures such as factory buildings or bridges. Inside it contains a woodcrete surface, a roughened wood board, and a metal mesh, providing a choice of roosting areas depending on the weather conditions and the bats' habits. This box is maintenance-free as the entrance slit is at the bottom"*	
			Habibat Range (Example)	**Material:** • "The box is constructed of a rough aggregate block with clay or stone angle plinth. The Habibat can be unfaced for render or have a common block work effect." **Dimensions:** • Width: 21.5cm, Length: 44.0cm, Depth: 10.3cm **Description:** • *"Habibat can be supplied with a number of faced products to match the current or new development needs.* • *"Habibat can be faced in numerous products to create a feature within the building (example Terracotta Tudor rose or bat logo)".* • *"Habibat can also personalise the box to include your name, or the name of a sponsor."*	
			Schwegler 1WQ Summer and Winter Bat Roost	**Material:** • Woodcrete (75% wood sawdust, concrete and clay mixture) **Dimensions:** • Width: 38.0cm, Height: 58.0cm, Depth: 11.5cm,Weight: 22kg **Description:** • *"A sophisticated bat box designed for the safe hibernation of bats in winter as well as for roosting, forming colonies and raising their young during summer. It has an attractive design and is easy and convenient to install on the wall of a building. The combination of several well-insulating materials in a layer structure ensures outstanding insulation properties but still guaranties sufficient air-convection and permeability. The extremely durable material will last for many decades providing shelter for the bats. The insulation not only protects the bats in winter but also prevents overheating during summer. This box is self-cleaning and thus completely maintenance-free"* □	

Image 2: Artificial bat roosts guidance.

6.4. The habitats, including those created for foraging bats must be maintained in perpetuity. This will involve specific maintenance for each habitat, which will be outlined primarily in the off-site SANG habitat Creation and Ecological Management Plan[10].

6.5. This section of the report outlines the approach to maintaining appropriate light levels within key bat habitats across the Approved Application Site to enable their continued use by bats as roosting, commuting and foraging habitats. Note that generic recommendations have been made which should be incorporated into a lighting strategy to be produced with the input of an ecologist and a lighting engineer at the detailed design stage following planning determination.

6.6. The dark corridors illustrated within **Figure 2** shown key bat habitats in which specific measures for lighting minimisation should be employed.

6.7. The Approved Application Site has a dark corridor running along the southern boundary and this corridor is an important commuting path. The line of tree to the north is also an important feature that should maintain intact and part of a dark corridor. The corridors are summarised as follows;

6.8. Primary dark corridors are key commuting and foraging pathways that should be unlit as they are more likely to be used by rarer species and passes through the southern boundary of the Approved Application Site. This dark corridor is an important commuting route for the largest numbers of common bats to locally important habitats such as Hogwood Shaw LNR and Garrison Lake. These are to be retained at as low a light level as possible for light sensitive species.

6.9. Secondary dark corridors are commuting and forging habitats within generally more lit and urbanised areas but still with numbers of light sensitive bats commuting through. To be maintained at low light levels but with acceptance of some appropriate urban lighting.

[10] *AECOM (2014). SANG habitat Creation and Ecological Management Plan Arborfield Garrison Strategic Development Location. Environmental Statement Appendix 13.6*

6.10. Tertiary dark corridors are new potential commuting routes to key habitats to be created as part of the Scheme, in particular to Garrison Lake. Currently lit within urban areas but with potential for increased use by bats with suitable design. To be maintained at low light levels but with acceptance of some appropriate urban lighting.

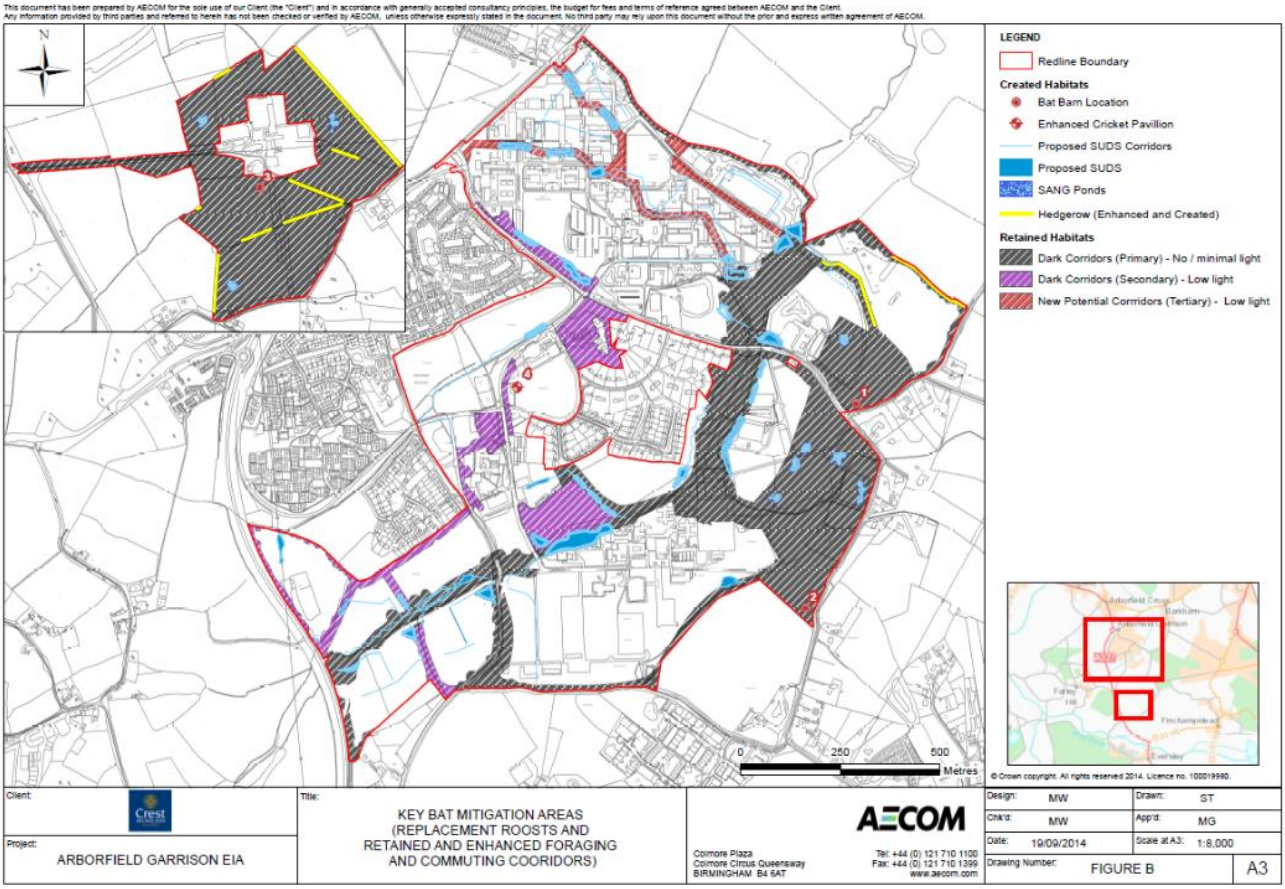


Figure 2: Key Bat Mitigation Areas (Replacement Roosts and Retained /Enhanced Foraging and Commuting Corridors)

7. POST DEVELOPMENT MONITORING

7.1. Long-term monitoring of the bat populations on site will be on-going throughout the construction of the development and the installation of the bat mitigation, and will likely continue for four years post construction. The bat monitoring must be designed to assess the status of the bat populations on Site.

7.2. The monitoring will include emergence and re-entry surveys and internal inspections of the bat boxes and activity surveys to assess if the retained hedgerows and tree lines which were identified as important foraging and commuting routes prior to development are still in use. Any changes in use or behaviour during the development phase will be interpreted and assist in 'fine tuning' the appropriate mitigation. Attempts will be made to establish the reasons behind the change in behaviour, for example lighting, lack of cover from vegetation or lack of suitable foraging habitat.

7.3. Where possible, measures will be implemented to rectify any issues that become apparent, for example, if lighting on site is spilling onto a bat roost access point. If there is a major change in the use of the site by bats during the development Natural England as the appropriate body will be contacted and consulted.

7.4. The internal inspections of the bat box checks will be undertaken by licensed bat surveyors or accredited agents in the autumn months, in order to avoid the sensitive maternity and hibernation periods. This will include endoscope, visual and internal inspections where appropriate. If bats are present within in a bat box, it will be accessed and the bat species will be identified.

8. CONCLUSIONS

8.1. This Bat Mitigation Strategy has been produced to fulfil **Condition 20** of the planning consent for the Approved Development Site (Wokingham Borough Council (planning ref**: O/2014/2280**).

8.2. Bats will be protected alongside with their commuting routes, roosts and foraging habitats as outlined in this mitigation strategy. With the proposed habitat creation and maintenance scheme it is likely that the impact of the development on bats will be minimum.

8.3. With implementation of the measures outlined within this report, it is considered that there will be no further significant impacts upon bat populations, and the Approved Development Site will be in conformity with relevant legislation and policy.

9. REFERENCES

9.1. Bat Mitigation Strategy (ES Appendix 13.4, AECOM 2014)

9.2. Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Version 1.1. Chartered Institute of Ecology and Environmental Management, Ampfield.

9.3. AECOM (2014). Arborfield Garrison Strategic Development Location. Arborfield Environmental Statement

9.4. Ecological constraints Parcel N Arborfield Green, Wokingham RSP (2024)

9.5. AECOM (2014). Bat Mitigation Strategy. Arborfield Garrison Strategic Development Location. Environmental Statement Appendix13.

9.6. *Wildlife and Countryside Act* (1981)

9.7. *Conservation of Habitats and Species Regulations* (2017)

9.8. *AECOM (2014). Hedgerow Survey and Strategy. Arborfield Garrison Strategic Development Location. Environmental Statement Appendix 13.6*

9.9. *AECOM (2014). SANG habitat Creation and Ecological Management Plan Arborfield Garrison Strategic Development Location. Environmental Statement Appendix 13.6*

APPENDIX 1: BAT MITIGATION PLAN

LEGEND

- Dark corridor- Are key commuting and foraging pathways that should be unlit.
- Bat boxes on trees- Schwegler 2FN Bat Box For woodland species such as noctule and other woodland bats requiring a larger cavity. Installed facing SW or SE at least 5 meters above ground level.
- Schwegler 1FR Bat Tube- A summer roost for bat species that inhabit buildings. Fit at least 3 meteres above ground level to the SW or SE.

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CREST NICHOLSON

scheme: Parcel N, Arborfield, Wokingham.
client: Crest Nicholson
drawing: Bat Mitigation Plan
date: 01.07.2025
scale: NTS@A3
drawing No: CREST24802
drawn: JC

LEGEND

- SANG Boundary
- Bat Barn Location
- Brash Pile/ Egg Laying Site
- Hibernacula
- Log Pile
- South Facing Mound

Phase 1 Habitat

- Broadleaved Semi-natural Woodland (not reptile habitat)
- Broadleaved Plantation Woodland (not reptile habitat)
- Scrub
- Semi-improved Neutral Grassland
- Standing Water - Pond (not reptile habitat)

The area of additional broadleaved plantation woodland and dense scrub cover within the SANG is indicative and actual areas and volumes will depend on "on the ground" conditions and liaison with relevant stakeholders, while maximising the multifunctional benefits to biodiversity and recreational value. There will be no net loss of woodland.

Individual Trees to be retained are presented within the Tree Report and associated figures (ES Appendix 13.7), trees to be planted are indicated within the Green Infrastructure Strategy.

Detail on the Hedgerows to be retained are presented within the Hedgerow Survey Report and Strategy and associated figures (ES Appendix 13.6).

Client: Crest

Project: ARBORFIELD GARRISON EIA

Title: HABITAT CREATION - NORTHERN SANG

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Design:	BM	Drawn:	ST
Chk'd:	BM	App'd:	MG
Date:	02/10/2014	Scale at A3:	NTS
Drawing Number:	FIGURE C		A3

APPENDIX 2: SOFT LANDSCAPE PLANS

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