AGAR GROVE

ECOLOGY SURVEY

DECEMBER 2013

MKA ECOLOGY

Agar Grove, Camden

Phase 1 habitat survey and protected species scoping survey report

MKA Ecology Limited

The Holt,
5 The Sidings,
Shepreth,
Hertfordshire, SG8 6PZ
Tel: 01763-262211
Fax: 01763-261001
e-mail: info@mkaecology.co.uk
VAT Registration No 825137440
Registered in England no.

5858121Registered office as above

www.mkaecology.co.uk

Submission Date:	Author:	Checked by:
24th May 2013	Oliver Richings	Will O'Connor

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1. EXECUTIVE SUMMARY

MKA Ecology Ltd was commissioned to undertake a Phase 1 Habitat and Protected Species Scoping Survey of Agar Grove, Camden. The survey was undertaken on 3 May 2013.

The habitats identified on the site included scattered broad-leaved trees, scattered scrub, amenity grassland, introduced shrub, fences, walls, buildings and hard standing.

In general, the site was considered to be of low ecological value. However, some features with the potential to support protected species were identified on site and consideration must be given to these features during the development process.

Suitable nesting habitat for breeding birds (in the form of scattered broad-leaved trees, scattered scrub and introduced shrub) was identified on site. It is recommended that any vegetation clearance works affecting these habitats are scheduled between the months of September and February inclusive in order to avoid the need for nesting bird checks.

It has also been suggested that habitat enhancements are incorporated into the final design to promote biodiversity at the site. These include the installation of a minimum of ten bird boxes and ten bat boxes on site, a bird and bat box scheme to be developed during the master planning process, and the inclusion of native plant species within the final landscaping scheme for the development. The inclusion of green or brown roofs on suitable flat-roofed structures is also recommended for consideration within the master planning for the development.

2. INTRODUCTION

2.1 Aims and scope of the report

MKA Ecology Ltd was commissioned by Grant Associates to undertake a Phase 1 Habitat and Protected Species Scoping Survey of Agar Grove, Camden. The survey was carried out on the 3 May 2013, with the aims being to:

- Prepare a Phase 1 habitat map for the site;
- Undertake a desk study to identify any habitats or species of conservation significance within close proximity to the site;
- Identify evidence of protected species/species of conservation concern on the site;
- Detail recommendations for further survey effort where required; and
- Detail recommendations for biodiversity enhancements.

2.2 Site description

The parcel of land is located to the south of Agar Grove, Camden (centred on grid reference TQ 296 842) and is hereafter referred to as 'the site'. The site is bounded by urban development comprising residential and commercial buildings to the east and west, a minor road (Agar Grove) to the north, and a railway line to the south.

The wider landscape is dominated by urban habitats associated with central London, including residential, commercial and industrial buildings interspersed with small areas of public green spaces.

2.3 Proposed development

The proposals for the site include the demolition of the majority of the residential buildings, the erection of a number of replacement residential properties and improved private and public green spaces, and are hereafter referred to as 'the development'. It is understood that Lulworth Tower (building B7 on Figure 1) and Agar Children's Centre (building B8 on Figure 1) will be retained on site.

3. METHODS

3.1 Desk study

A data search was conducted for the site and the surrounding area within 2km of the site boundary. The organisations listed in Table 1 were contacted with regards to biodiversity data.

Table 1: Organisations providing historical biodiversity data.

Organisation	Data collected	Date collected
Multi-agency Geographic Information for the Countryside (MAGIC) www.magic.gov.uk	Information on local, national and international statutory protected areas.	18 May 2013
Greenspace Information for Greater London (GiGL).	Biological records of protected and notable species within 2km of the site (TQ 296 842) and information on non-statutory designated sites	14 May 2013

3.2 Phase 1 habitat survey

The habitat at the site was surveyed using the standardised Joint Nature Conservation Committee (JNCC) Phase 1 classification and mapping methodology (JNCC, 2010). Data were recorded onto field maps and then transferred onto a Geographic Information System (GIS) following the JNCC Colour Mapping Pallet for ArcGIS. Dominant plant species were observed and recorded within each habitat type. The plant species nomenclature follows that of Stace (1997). Each habitat parcel was subjected to a condition assessment using the standardised guidelines set out in the Higher Level Stewardship Farm Environment Plan Manual (Natural England, 2010).

3.3 Protected species and species of conservation concern

The following list indicates additional species that were targeted during this survey:

- Reptiles: Adder *Vipera berus*, Common Lizard *Zootoca vivipara*, Slow-worm *Anguis fragilis*, Grass Snake *Natrix natrix*.
- Amphibians: Great Crested Newt (GCN) *Triturus cristatus.*
- Mammals: Badger *Meles meles*, bats (all species), Water Vole *Arvicola amphibius*, Brown Hare *Lepus europaeus*, Otter *Lutra lutra*.

- Birds: All species, with special reference to species listed under Schedule 1 of the Wildlife and Countryside Act (1981) as amended, UK BAP (UKBAP) Priority Species and Red and Amber list Birds of Conservation Concern (BoCC; Eaton *et al*., 2009). The bird species nomenclature follows that of BOU (2012).

3.4 Surveyors

The survey was undertaken by Oliver Richings AIEEM (Consultant Ecologist, MKA Ecology Ltd).

3.5 Survey constraints

It should be noted that a single visit cannot categorically ascertain the presence or absence of many protected species. However, an assessment is made of the likelihood for protected species to occur based on habitat characteristics and the ecology of each species. Where there is potential for protected species additional survey work may be required to ascertain their presence or absence.

4. RESULTS

4.1 Desk study

An ecological desk study was completed for the site and the surrounding 2km. The biological data records search provided by GiGL identified numerous protected (UK and European), UK Biodiversity Action Plan (BAP) and species of conservation concern within 2km of the site. It should be noted that this is not a comprehensive list of the distribution or extent of the local flora and fauna of conservation importance. These species records are discussed in greater detail in the relevant sections below. The list of relevant protected species records is provided in Appendix 1.

Two statutory designated sites were identified within 2km of the site, both of which are designated as Local Nature Reserves (LNRs). Barnsbury Wood LNR comprises semi-natural broad-leaved woodland with a semi-improved neutral grassland glade covering 0.32ha noted for its' diversity of fungi, invertebrates and birds, and is located approximately 1.1km east of the site. Barnsbury Wood LNR is also designated as a Site of Importance for Nature Conservation (SINC).

Camley Street Nature Park LNR comprises an urban wildlife site covering 0.82 ha primarily utilised as an educational resource, and is located approximately 0.7km south of the site. Camley Street LNR is also designated as a SINC.

The site falls within 2km of 35 non-statutory designated sites, all of which are designated as SINCs. Details of these sites are summarised in Table 2 below.

Table 2: Non-statutory designated sites located within 2km of the site.

Site:	Grid Ref:	Area (ha):	Distance:	Description:
London's Canals SINC	TQ202833	177.92	1.0km SE	Network of man-made waterbodies noted for their diverse aquatic flora.
Hampstead Heath SINC	TQ273866	317.63	1.9km NW	A habitat mosaic including ancient woodland and acid grassland with notable floristic, invertebrate and ornithological diversity.
Regent's Park SINC	TQ280829	131.64	1.4km SW	A habitat mosaic noted for its ornithological diversity.

Site:	Grid Ref:	Area (ha):	Distance:	Description:
Kentish Town City Farm, Gospel Oak Railsides and Mortimer Terrace Nature Reserve SINC	TQ286853	6.72	1.2km NW	Comprises a mosaic of habitats noted for its floristic diversity and Common Frog populations.
Chalk Farm Embankment and Adelaide Nature Reserve SINC	TQ276843	0.9	2.0km W	A mosaic of dense woodland, neutral grassland and scrub habitats.
Caledonian Park SINC	TQ302847	4.06	0.4km NE	A mosaic of amenity habitats with a diverse bird community.
Junction Road Railway Cutting SINC	TQ291860	0.5	1.9km NW	Secondary woodland and scrub habitats with notable populations of birds, mammals and invertebrates.
Isledon Road Railsides SINC	TQ312862	2.52	1.9km NE	Rough land, tall grassland and Buddleja scrub habitats with notable populations of birds, mammals and invertebrates.
Drayton Park Railsides and Olden Garden SINC	TQ313858	5.77	2.0km N	Rough land, ruderal and scrub habitats with notable populations of birds, mammals and invertebrates.
Holloway Road to Caledonian Road Railsides SINC	TQ305849	2.43	0.8km NE	Ruderal and rough land habitats with notable populations of birds and butterflies.
Copenhagen Junction SINC	TQ303841	2.94	0.2km SE	Ruderal and rough land habitats with notable populations of birds, mammals and invertebrates.
North London Line in Islington (east) SINC	TQ321849	4.15	2.0km NE	Ruderal, rough land, scrub and woodland habitats with notable populations of birds, mammals and invertebrates.
North London Line in Islington (west) SINC	TQ307844	1.49	0.8km E	Ruderal, rough land, scrub and woodland habitats with notable populations of birds, mammals and invertebrates.
London Zoo SINC	TQ280834	15.31	1.7km SW	Amenity habitats with notable populations of birds and bats.
Primrose Hill SINC	TQ276838	25.19	1.8km W	Amenity grassland with scattered mature trees noted for its bird community.

Site:	Grid Ref:	Area (ha):	Distance:	Description:
North London Line SINC	TQ299841	0.88	0.3km S	Scrub habitats with scattered trees noted for its invertebrate populations.
St Pancras Gardens SINC	TQ297835	2.11	0.9km S	An old churchyard with scattered mature trees.
Market Road Garden SINC	TQ304847	1.1	0.5km NE	Parkland with mature trees.
Freightiners Farm SINC	TQ310848	0.47	1.5km NE	A city farm utilised as an educational resource.
Claremont Square Reservoir SINC	TQ311830	0.68	1.9km SE	A covered reservoir bounded by floristically-diverse grassland.
Culpeper Community Garden SINC	TQ312834	0.42	1.7km SE	A decorative garden managed for wildlife, with three ponds.
Calthorpe Community Garden SINC	TQ306825	0.44	2.0km SE	Amenity habitats with scattered mature trees.
St George's Gardens SINC	TQ304824	1.06	2.0km S	An old churchyard with scattered mature trees.
St James's Garden SINC	TQ293827	1.07	1.6km S	An old churchyard with scattered mature trees.
Rochester Terrace Gardens SINC	TQ291845	0.45	0.3km W	Amenity habitats with scattered mature trees.
Foxham Gardens SINC	TQ296861	0.61	1.9km N	Amenity habitats with scattered mature trees.
Tufnell Park Primary School Gardens SINC	TQ298856	0.22	1.2km N	Amenity habitats with one pond.
Bingfield Park SINC	TQ304839	1.21	0.5km SE	Amenity habitats.
St Mary Magdalene Garden SINC	TQ312849	1.71	1.6km NE	Amenity habitats with scattered mature trees.
Highbury Fields SINC	TQ317852	10.09	1.9km NE	Amenity habitats with some scattered mature trees.
Thornhill Square SINC	TQ308840	1.13	0.9km E	Amenity habitats with scattered mature trees.

Site:	Grid Ref:	Area (ha):	Distance:	Description:
Barnsbury Square SINC	TQ311842	0.5	1.1km E	Amenity habitats with scattered mature trees.
Winton Primary School Gardens SINC	TQ306832	0.03	1.6km SE	Amenity habitats with one pond.

4.2 Phase 1 Habitat Survey

The survey site comprises of a number of habitats including scattered broad-leaved trees scattered scrub, amenity grassland, introduced shrub, fences, walls, buildings and hard standing. The Phase 1 habitat map is provided in Figure 1 in Appendix 2. Descriptions of the habitat types and dominant plant species found are provided below. Incidental species lists, including systematic species names, for all habitat parcels are provided in Appendix 3. Photographs of the site are provided in Appendix 4.

Scattered broad-leaved trees

A number of scattered broad-leaved trees were identified across the site. These included abundant London Plane and Lime, with frequent Silver Birch and occasional Ash, Sycamore and Horse Chestnut. The majority of the trees, in particular the London Plane, showed signs of historical and recent pollarding, and were therefore considered to be in moderate condition.

Scattered scrub

A small area of scattered scrub covering 451m^2 was located in the south-east corner of the site. The plant community included abundant Butterfly-bush and Bramble, with frequent Common Nettle. The habitat contained low floristic diversity with no signs of management activities, and was therefore considered to be in moderate condition.

Amenity grassland

Several areas of amenity grassland, in total covering 7331m^2, were located across the site. The plant community included dominant Perennial Rye-grass, frequent Red Fescue and Daisy, and occasional Dandelion, White Clover and Lesser Celandine. The habitat contained low floristic diversity with signs of regular management activities (mowing), and was therefore considered to be in poor condition.

Introduced shrub

A number of small areas of introduced shrub, in total covering 464m^2, were located throughout the site. The plant community included frequent ornamental *Viburnum* and occasional Butterfly-bush and Oregon-grape. The habitat contained low floristic diversity with signs of regular management activities (pruning and weeding), and was therefore considered to be in poor condition.

Fence

Several metal, wire and wooden fences were located across the site.

Wall

Brick walls were identified along the eastern and southern boundaries of the site, with some low brick walls located in the centre of the site.

Buildings

A number of buildings covering approximately 6248m^2 were identified across the site. Brief descriptions of these buildings are provided below.

Building B1 (see Figure 1) comprised a four-storey brick-walled block of flats with a flat roof. The roof material could not be viewed from the ground. The building was in a good state of repair.

Building B2 (see Figure 1) comprised a two-storey brick-walled residential property with a pitched slate roof. The building was in a good state of repair.

Building B3 (see Figure 1) comprised a four-storey brick-walled block of flats with a pitched slate roof. The building was in a good state of repair.

Building B4 (see Figure 1) comprised a single-storey brick-walled storage block with a sloped corrugated metal roof. The building was in a good state of repair.

Building B5 (see Figure 1) comprised a three-storey brick-walled block of flats with a shallowly-pitched roof. The roof material could not be viewed from the ground. The building was in a good state of repair.

Building B6 (see Figure 1) comprised a four-storey brick-walled block of flats with a shallowly-pitched roof. The roof material could not be viewed from the ground. The building was in a good state of repair.

Building B7 (see Figure 1) comprised an eighteen-storey brick-walled residential tower block with a flat roof (see Photograph 1 in Appendix 4). The roof material could not be viewed from the ground. The building was in a good state of repair.

Building B8 (see Figure 1) comprised a single-storey brick walled community building with a sedum roof and roof solar panels (see Photograph 2 in Appendix 4). The building was in a good state of repair.

Building B9 (see Figure 1) comprised a two-storey brick-walled block of flats with a flat roof. The roof material could not be viewed from the ground. The building was in a good state of repair.

Building B10 (see Figure 1) comprised a single-storey brick walled storage block with a flat roof. The roof material could not be viewed from the ground. The building was in a good state of repair.

Building B11 (see Figure 1) comprised a four-storey brick-walled block of flats with a shallowly-pitched roof. The roof material could not be viewed from the ground. The building was in a good state of repair.

Building B12 (see Figure 1) comprised a two-storey brick-walled block of flats with a sloping corrugated metal roof. The building was in a good state of repair.

Building B13 (see Figure 1) comprised a single-storey brick-walled commercial building with a flat roof. The roof material could not be viewed from the ground. The building was in a good state of repair.

Building B1`4 (see Figure 1) comprised a single-storey brick-walled residential property with a sloping corrugated metal roof. The building was in a good state of repair.

Hard standing

Numerous areas of hard standing, in total covering approximately 15,331m^2, were located across the site. These comprised of tarmac roads and parking areas, and paved footpaths.

4.3 Protected species and species of conservation concern

4.3.1 Birds

Eleven species of bird were recorded at the site. These species are shown in Table 3 with their conservation status. It is important to note that this is not a full inventory of species for the site.

Table 3: Species of birds recorded during site visit

Common Name	Systematic name	Status
Lesser Black-backed Gull	*Larus fuscus*	Amber List.
Feral Pigeon	*Columba livia*	
Woodpigeon	*Columba palumbus*	
Blue Tit	*Cyanistes caeruleus*	London BAP.
Great Tit	*Parus major*	London BAP.
Wren	*Troglodytes troglodytes*	London BAP.
Starling	*Sturnus vulgaris*	UK BAP, Red List.
Blackbird	*Turdus merula*	London BAP.
Robin	*Erithacus rubecula*	London BAP.
Chaffinch	*Fringilla coelebs*	
Goldfinch	*Carduelis carduelis*	

One UK Biodiversity Action Plan (BAP) and Birds of Conservation Concern (BoCC) Red List species (Starling), five London BAP species (Blue Tit, Great Tit, Wren, Blackbird and Robin) and one BoCC Amber List species (Lesser Black-backed Gull) were recorded during the survey. Limited areas of suitable nesting habitat for five of these species (Blue Tit, Great Tit, Wren, Starling, Blackbird and Robin) were recorded on site.

In addition to those species recorded on site during the survey visit, it should be noted that a number of records of protected species (those listed on one or more of Annex 1 of the EU Birds Directive, Schedule 1 of the Wildlife and Countryside Act 1981, UK BAP, Local BAP or BoCC) were identified within 2km of the site, including Dunnock, Black Redstart, Song Thrush, House Sparrow and Peregrine (see Appendix 1). Limited areas of suitable nesting habitat for Dunnock, Song Thrush and House Sparrow were recorded on site. There is scope for including enhancements within the development proposals to provide suitable nesting habitat for Peregrine and Black Redstart post-development.

Furthermore, suitable nesting habitats for common bird species (in the form of scattered broad-leaved trees, scattered scrub and introduced shrub) were identified on site during the survey.

4.3.2 Reptiles

No reptiles were recorded on site during the survey. Whilst a limited area of suitable reptile habitat (in the form of scattered scrub) was identified in the south of the site, this was considered to be completely isolated from suitable habitats in the wider landscape by dense urban developments surrounding the site.

4.3.3 Amphibians

No amphibians were recorded on site during the survey, no suitable waterbodies were identified on site and no suitable terrestrial habitats for Great Crested Newt were located during the survey. No records of Great Crested Newt were identified within 2km of the site during the biological data search.

4.3.4 Mammals

Bats

None of the buildings identified on site during the survey were found to contain features with the potential to support roosting bats. The biological data search identified several records of bats within 2km of the site, including Daubenton's, Leisler's, Noctule, Kuhl's Pipistrelle, Nathusius's Pipistrelle, Common Pipistrelle, Soprano Pipistrelle and Serotine bats (see Appendix 1). The closest record to the site related to Common Pipistrelle recorded 524m to the south-west of the site.

Other mammals

The habitats present on site were considered to be unsuitable for other protected species, including Badger, Brown Hare, Otter and Water Vole.

5. EVALUATION AND RECOMMENDATIONS

The following evaluations and recommendations are based upon the evidence provided in the Phase 1 and Ecological Scoping Survey carried out on 3 May 2013.

5.1 Habitat and boundary features

The majority of the habitats identified on the site were considered to be of low ecological value. However, some features suitable to support protected species were identified on site and should be taken into consideration.

5.2 Designated sites

Given that the development proposals will not significantly alter the current use of the site, no significant adverse impacts are anticipated upon the two statutory designated and 35 non-statutory designated sites located within 2km of the site.

5.3 Breeding birds

Suitable nesting habitats for birds (scattered broad-leaved trees, scattered scrub and introduced shrub) were identified on site.

All wild birds, their active nests and eggs are protected under the Wildlife and Countryside Act (1981), as amended, which makes it an offense to wilfully or recklessly kill or injure any wild bird or damage or destroy any active birds' nest or eggs. In addition, those species listed on Schedule 1 of the Act (such as Peregrine, Barn Owl or Black Redstart) are afforded additional protection from wilful or reckless disturbance at an active nest site or whilst adults are with dependant young.

Where vegetation clearance works are required during the breeding bird season (between the months of March and August inclusive), such works can only proceed following the completion of a nesting bird check undertaken by an experienced ornithologist. Any active birds' nest identified during this check must be protected from harm until the nesting attempt is complete. This will require a buffer of vegetation to be left around the nest, the size of which will depend upon the species involved (as a general rule, this will be 10m of vegetation in all directions around the nest). Any vegetation buffers established as a result of the initial nesting bird check must be subjected to a second check after the original nesting attempt is completed before such areas can be removed during the breeding bird season (between the months of March and August inclusive).

It should be noted that scheduling such removal works outside of the breeding bird season (i.e. between the months of September and February inclusive) would avoid the need for a nesting bird check.

Recommendation 1: It is recommended that vegetation clearance works are undertaken outside of the nesting bird season (i.e. works should be undertaken between September and February inclusive). Where such timing is not feasible, a nesting bird check undertaken by an experienced ornithologist must be completed immediately prior to the commencement of any vegetation clearance works to be undertaken during the breeding bird season (i.e. between the months of March and August inclusive).

5.3 Biodiversity enhancements

Following the issue of the National Planning Policy Framework (NPPF; see Appendix 5), all planning decisions should aim to maintain and enhance, restore or add to biodiversity and geological conservation interests.

In order to enhance the value of the site for breeding birds and bats, a minimum of ten bird boxes and ten bat boxes should be installed on suitable trees or structures across the site. Bird boxes designed for use by Peregrine, Black Redstart, Starling, House Sparrow and generalist species should be considered for inclusion. Suitable designs for bird and bat boxes can be found in Appendix 6.

Recommendation 2: A minimum of ten bird boxes suitable for Starling, House Sparrow and generalist species should be installed on suitable trees and structures across the site. Ten bat boxes should also be incorporated into the design. A bird and bat box scheme should be developed for the site during the master planning process.

In order to enhance the overall value of the site for biodiversity, native plant species should be incorporated within the landscaping scheme for the development as far as possible. To increase the area available for planting, the inclusion of green or brown roofs on suitable flat-roofed new buildings should be included.

Recommendation 4: It is recommended that native British species are incorporated within the planting scheme for the final landscaping design in order to enhance the overall value of the site for biodiversity, in line with the requirements of the NPFF.

Recommendation 5: It is recommended that green roofs on suitable flat-roofed buildings within the development are included within the master planning for the site. Alternatively the provision of brown roofs in combination with suitable nest boxes would provide habitat for Black Redstarts which is species of significant conservation importance within London. Brown roofs will also add considerable invertebrate diversity and help to contribute towards the targets set out within the NPPF.

6. CONCLUSION

MKA Ecology Ltd undertook a Phase 1 Habitat and Protected Species Scoping Survey at Agar Grove, Camden on 3 May 2013. Overall it was considered that the site is of low ecological importance. However, some features of ecological interest with the potential to support protected species were identified and these should be taken into consideration.

A range of habitats were identified on site, including scattered broad-leaved trees, scattered scrub, amenity grassland, introduced shrub, fences, walls, buildings and hard standing.

Suitable nesting habitat for breeding birds (in the form of scattered broad-leaved trees, scattered scrub and introduced shrub) was identified on site. It is recommended that any vegetation clearance works affecting these habitats are scheduled outside of the breeding bird season in order to avoid the need for nesting bird checks.

In addition, a number of biodiversity enhancements are recommended for inclusion within the final landscaping designs for the development in order to meet the requirements of the NPPF.

7. REFERENCES

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APPENDIX 1: Results of ecological desk study

Summary of relevant protected species records within 2km of the site boundary provided by GiGL

Taxon Group	Common Name	Systematic Name	Location	Date
birds	Dunnock	*Prunella modularis*	964m S of site	10/01/2008
birds	Black Redstart	*Phoenicurus ochruros*	withheld	01/07/2010
birds	Song Thrush	*Turdus philomelos*	842m S of site	29/03/2007
birds	House Sparrow	*Passer domesticus*	175m SE of site	01/01/2002
birds	Peregrine	*Falco peregrinus*	withheld	04/03/2011
mammals	Hedgehog	*Erinaceus europaeus*	187m NE of site	01/01/1999
mammals	Daubenton's Bat	*Myotis daubentonii*	635m S of site	05/05/2010
mammals	Leisler's Bat	*Nyctalus leisleri*	1949m NW of site	25/09/2002
mammals	Noctule Bat	*Nyctalus noctula*	1540m SW of site	31/08/2007
mammals	Kuhl's Pipistrelle	*Pipistrellus kuhlii*	1085m S of site	14/11/2006
mammals	Nathusius's Pipistrelle	*Pipistrellus nathusii*	801m S of site	04/09/2005
mammals	Common Pipistrelle	*Pipistrellus pipistrellus*	524m SW of site	08/03/2005
mammals	Soprano Pipistrelle	*Pipistrellus pygmaeus*	964m S of site	17/07/2008
mammals	Serotine	*Eptesicus serotinus*	1803m SW of site	15/04/2009

APPENDIX 2: Figure 1 - phase 1 habitat map for Agar Grove, Camden

APPENDIX 3: Phase 1 Survey Species Lists

The DAFOR scale is used to describe the relative abundance of species. It is important to note that where a species is described as rare this description refers to its abundance within the site and is not a description of its abundance within the wider landscape. Therefore a species with a rare relative abundance within the site may be common within the wider landscape.

DAFOR scale

DAFOR code	Relative abundance
D	Dominant
A	Abundant
F	Frequent
O	Occasional
R	Rare

Scattered broad-leaved trees

Common Name	Systematic Name	Abundance (DAFOR)
London Plane	*Platanus x hispanica*	A
Lime	*Tilia* sp.	A
Silver Birch	*Betula pendula*	F
Ash	*Fraxinus excelsior*	O
Alder	*Alnus glutinosa*	O
Horse-chestnut	*Aesculus hippocastanum*	O
Ornamental Amalanchier	*Amalanchier* sp.	O
Goat Willow	*Salix caprea*	O
Hawthorn	*Crataegus monogyna*	O
Hornbeam	*Carpinus betulus*	O
Manna Ash	*Fraxinus ornus*	O
Norway Maple	*Acer platanoides*	O
Ornamental Robinia	*Robinia* sp.	O
Rowan	*Sorbus acuparia*	O
Common Whitebeam	*Sorbus aria*	O

Scattered scrub

Common Name	Systematic Name	Abundance (DAFOR)
Butterfly-bush	*Buddleja davidii*	A
Bramble	*Rubus* agg.	A
Common Nettle	*Urtica dioica*	F

Amenity grassland

Common Name	Systematic Name	Abundance (DAFOR)
Perennial Rye-grass	*Lolium perenne*	D
Red Fescue	*Festuca rubra*	F
Daisy	*Bellis perennis*	F
Dandelion	*Taraxacum* agg	O
Common Mouse-ear	*Cerastium fontanum*	O
Moss sp.		O
White Clover	*Trifolium repens*	O
Lesser Celandine	*Ranunculus ficaria*	O

Introduced shrub

Common Name	Systematic Name	Abundance (DAFOR)
Ornamental Viburnum	*Viburnum* sp.	F
Butterfly-bush	*Buddleja davidii*	O
Oregon-grape	*Mahonia aquifolium*	O

APPENDIX 4: Photographs of the Site

Photograph 1:Lulworth Tower (building B7) to be retained post-development

Photograph 2: Agar Children's Centre (building B8) with sedum roof and solar panels to be retained post-development

Photograph 3: Residential buildings, hard standing, amenity grassland and scattered broad-leaved trees at Agar Grove, Camden

Photograph 4: Amenity grassland, residential buildings and introduced shrub at Agar Grove, Camden

APPENDIX 5: National Planning Policy Framework (NPPF)

The NPPF was published in late March 2012, setting out the Government's planning policies for England and the process by which these should be applied. The policies within the NPPF are a material consideration in the planning process.

The key principle of the NPPF is a presumption in favour of sustainable development, with sustainable development defined as a balance between economic, social and environmental needs. For planning decisions, this means approving development proposals that accord with the local development plan without delay; and where the development plan is absent, silent or out of date, permission can also be granted unless it is considered that either:

- The benefits of the proposed development are significantly and demonstrably outweighed by any adverse impacts arising from the proposed development when assessed against the policies contained within the NPPF; or

- Specific policies contained within the NPPF indicate that development should be restricted.

Policies 109 to 125 of the NPPF address conserving and enhancing the natural environment. Notable policies affecting ecological issues on development sites include the following:

- "109 – The planning system should contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes, geological conservation interests, and soils; recognising the wider benefits of ecosystem services; and minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity";

- "111 – Planning policies and decisions should encourage the effective use of land by re-using land that has been previously developed (brownfield land), provided that it is not of high environmental value";

- "112 – Local planning authorities should take into account the economic and other benefits of the best and most versatile agricultural land. Where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of a higher quality";

- "116 – Planning permission should be refused for major developments in these areas (National Parks, the Broads and Areas of Outstanding Natural Beauty) except in exceptional circumstances and where it can be demonstrated they are in the public interest. Consideration of such applications should include an assessment of the need for the development, including in terms of any national considerations, and the impact of permitting it,

or refusing it, on the local economy; the cost of, and scope for, developing elsewhere outside the designated area, or meeting the need for it in some other way; and any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated";

- "117 – To minimise impacts on biodiversity and geodiversity, planning policies should… promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan…";

- "118. When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

  - if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
  - proposed development on land within or outside a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site's notified special interest features is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest;
  - development proposals where the primary objective is to conserve or enhance biodiversity should be permitted;
  - opportunities to incorporate biodiversity in and around developments should be encouraged;
  - planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss; and
  - the following wildlife sites should be given the same protection as European sites: potential Special Protection Areas and possible Special Areas of Conservation; listed or proposed Ramsar sites; and sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites"; and

- "119 – The presumption in favour of sustainable development does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined".

APPENDIX 6: Suitable bird and bat boxes for inclusion within the development.

Bird Boxes

Peregrine Falcon

It has become increasingly difficult for peregrines to find suitably sheltered spaces, as a result of building renovation and/or the construction of new buildings with relatively smooth facades and roofs. However, as a result of research into the breeding biology and requirements for this species artificial nesting aids have been developed.

This species of raptor nests on ledges at over 20m. Provisions for this species may be possible at sites where high structures are available. It is recommended that a ledge is provided (450mm (l) x 600mm (w) x 40mm (h)). This ledge should have raised edges with some drainage to prevent flooding and can be covered with a substrate such as gravel or pea shingle.

The ledge should be placed away from direct sunlight and prevailing winds, usually on the eastern aspect of a building. Peregrine Falcons produce pellets and some prey will be discarded and the accumulation of these waste products should be borne in mind when positioning the ledge. The species can be vocal and disturbance for the users of the building should be considered when positioning this nesting site. The ledge should be positioned to avoid human disturbance.

Peregrine example box 1

Boxes are designed to provide a spacious, protected and securely attached breeding space in a robust, long-lasting structure that requires little maintenance. Boxes can be placed in quarries or on high buildings such as towers, silos, high rise buildings, highway bridges (for example on or around the abutments).

Schwegler Peregrine Falcon nestbox (www.schwegler-nature.com)

Schwegler Peregrine Falcon nest box

Black Redstart

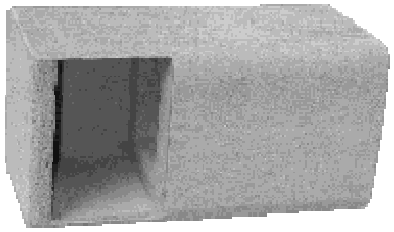
Providing nest boxes for this species is often only successful when suitable foraging habitat is available. For many of these sites this is not the case but there is potential to create foraging areas through the installation of brown roofs. Suitable habitat for this species includes areas of sparse wasteland vegetation and a stony substrate. In addition the species prefer structurally diverse habitats with areas for perching and singing. Provisions should be made for this species where Black Redstart has been identified as part of the desk study. Provision of habitat through brown roofs should be investigated at sites where none is present locally and flat roofs are available.

Boxes for Black Redstarts should be open fronted and, as with the other boxes, should be positioned away from direct sunlight.

Black Redstart box example 1:

Schwegler open fronted brick box 1HE (www.schwegler-nature.com)

This brick design can be built into the wall of the new development and the external surface, excluding the hole, can be rendered to match the surrounding wall. It has the added benefit of a narrow entrance which can help to prevent predation.



Schwegler open fronted brick box 1HE

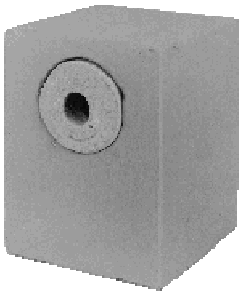
House Sparrow

Nest boxes can be provided to encourage this species to breed at the site. Nest boxes for this species should have a hole approximately 32mm in diameter and the box itself should be approximately 350mm (h) x 150mm (w) x 150mm (d). The box can be incorporated into the building or attached the outside of the building. Ideally the structure should be at the soffit/eaves level or at least 2m high. The boxes should be positioned away from too much direct sunlight preferably on an eastern aspect. The species nests in loose colonies of around 10-20 pairs and as they do not defend a territory boxes can be placed as close as 20-30cm apart. Several individual boxes can be placed together or a terrace (see below) can be installed. Ready built boxes are available for this species from a number of suppliers.

House Sparrow box example 1:

Schwegler Brick Box Type 24 (www.schwegler-nature.com)

This brick design can be built into the wall of the new development and the external surface, excluding the hole, can be rendered to match the surrounding wall.

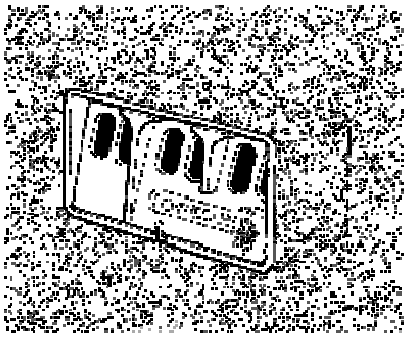


Schwegler Brick Box Type 24

House Sparrow box example 2:

Schwegler Sparrow Terrace 1SP (www.schwegler-nature.com)

A multiple nest site for this species which can be mounted into or on the external surface of the wall.



Sparrow Terrace 1SP mounted in wall

Sparrow Terrace 1SP

Starling

This key conservation species should be encouraged wherever possible and this can be achieved through the installation of boxes and the provision of greenspace. Boxes should have a hole approximately 45mm in diameter with dimensions of approximately 400mm (h) x 180mm (w) x 180mm (d). Ideally this box should be at the soffits/eaves level and should not be situated closer than 3m to the ground. Although Starlings do not defend a territory boxes should be spaced at least several metres apart and should also be placed out of direct sunlight, ideally on the eastern aspect of the building.

Starling nest box example 1

Schwegler Swift Box Type 25 (www.schwegler-nature.com)

Starling box 3S mounted on a tree

Generalist species

Boxes to attract garden birds and woodland breeding species such as tits, nuthatch, redstart and pied flycatcher can be placed in gardens, orchards or woodlands. Boxes should be fixed two to five metres up a tree or wall, out of the reach of predators such as domestic cats.

Unless there are trees or buildings, which give permanent shelter, it is best facing between north and east, thus avoiding strong sunlight and the wettest winds. Tilt the box forward slightly so that any driving rain will hit the roof and bounce clear.

The species of birds attracted to the box will depend upon the size of the entrance hole:

Entrance hole 32 mm: Great-, Blue-, Marsh-, Coal- and Crested Tit, Redstart, Nuthatch, Pied Flycatcher, Tree and House Sparrows.

Entrance hole 26 mm: Blue-, Marsh-, Coal- and Crested Tit, possibly Wren. All other species are prevented from using the nest box due to this smaller entrance hole

Entrance hole oval: Redstart; also used by species that nest in the diameter 32 mm boxes. However, because more light enters the brood chamber, it is preferred by Redstarts.

General purpose nest box example box 1

Schwegler General Purpose Nest Box 1B suitable for various garden bird and woodland species (www.schwegler-nature.com)

Schwegler No. 1B General Purpose Nestbox

Bat Boxes

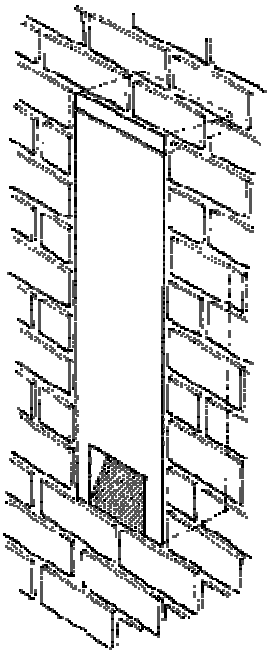
Bat bricks

These can be designed into the structure and many can be rendered in a similar manner to surrounding surfaces to minimise visual impacts.

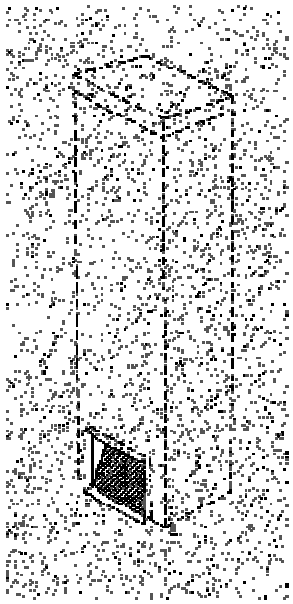
Bat Brick Example 1

The Schweglar Bat Tube 1FR can be installed on external wall and can be set flush with a rendered surface and therefore only leaving the entrance hole visible. It is considered suitable for bat species that inhabit buildings.

Schweglar Bat Tube 1FR (www.schwegler-nature.com)



1FR built in brickwork



1FR in rendered surface

Bat Brick Example 2

The Enclosed Bat Box B & C and Forticrete Bat Box are designed specifically for Pipistrelle bats and can be easily incorporated into the outer walls of a new build or during renovation works.

Enclosed Bat Box B & C (www.ibstock.com)

Bat Brick Example 3

Forticrete Bat Box (www.forticrete.co.uk)

Bat boxes

These types of boxes can be attached to external structures such as trees or buildings or installed internally within bat lofts to provide suitable roosting locations. This provision should be considered at all sites where suitable structures are present to support the boxes.

Example 1: Schwegler Bat Box 1FF (www.schwegler-nature.com)
Suitable for hanging in inaccessible places as it does not require cleaning.

Schwegler Bat Box 1FF

Example 2: Schwegler Bat Box 1FQ (www.schwegler-nature.com)

This box is suitable for all types of bats that inhabit buildings.

Schwegler Bat Box 1FQ

Example 3: Kent Bat Box (http://www.bedsbatgroup.org.uk/surveys/pdf.pdf)

This box is not readily available to buy but can be built to specification easily and cheaply. This box has the added advantage that it is low maintenance and does not require cleaning.

Kent Bat Box

Example 4: Schwegler General Purpose Bat Box 2F (www.schwegler-nature.com)

This box is a good all round standard box which is suitable for hanging on trees. It can be particularly successful for Pipistrelle and Long-eared bats.

Schwegler General Purpose Bat Box 2F

Example 5: Schwegler Bat Box 2FN (www.schwegler-nature.com)

This box can serve as a good all round box, particularly for woodland species such as Long-eared bats and Noctule. It is suitable for hanging on trees.

Schwegler Bat Box 2FN

Example 6: Summer and Winter Bat Box 1WI (in wall) (www.schwegler-nature.com)

This large box is suitable for mounting within a wall and can provide roosting for both summer and winter months. The box does not need cleaning and can therefore be positioned higher up on buildings. It can also be rendered to minimise visual impacts. The box is suitable for a range of species from Pipistrelles to Serotines.

Schwegler Summer and Winter Bat Box 1WI (in wall)

Example 7: Bat Box 1 FD (www.schwegler-nature.com)

This box is specifically designed fro smaller bat species and is suitable for mounting on trees.

Schwegler bat box 1 FD