Preliminary Ecological Appraisal Report

Site: West Kentish Town Estate, London, NW5 4LS

Ref: 20026/E1

Client: Camden London Borough Council

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SUMMARY

In October 2021, Indigo Surveys Ltd was instructed to carry out a Preliminary Ecological Appraisal West Kentish Town Estate in London. This was undertaken to determine the presence of any important habitats or species which might be impacted on by proposed re-development.

A search of ecological data supplied by GiGL (Greenspace Information for Greater London) revealed a number of records of European Protected Species, UK Biodiversity Action Plan (UKBAP) and Local Biodiversity Action Plan (LBAP) species within a 2.0 km radius of the site.

There were no statutory sites in the data search, but there are two Local Nature Reserves (LNRs), and 24 Sites of Importance for Nature Conservation (SINC). The two LNRs include Belsize Wood LNR 800 m to the northwest, and Adelaide LNR 1.0 km to the southwest.

The only SINC within 500 m is CaBI04 Kentish Town City Farm, Gospel Oak Railsides and Mark Fitzpatrick Nature Reserve. This is described as a large area of green railside land, with an adjacent city farm and a tranquil woodland nature reserve. It lies 250 m to the northeast and connects with Hampstead Heath Site of Metropolitan Importance (M072), the edge of which lies 500 m to the north. The heath is one of London's best loved open spaces, with a remarkable range of habitats so close to central London. It includes one of the capital's few bogs, as well as wide expanses of grassland and ancient woodland.

A total of 11,731 species records are present within the search area, the majority from Hampstead Heath, with 1191 records of London invasive species.

Of particular relevance are bats, with records including Serotine *Eptesicus serotinus*, Daubenton's *Myotis daubentonii*, Natterer's *M. nattereri*, Noctule *Nyctalus noctula*, Leisler's Bat *N. leisleri*, Brown Long-eared *Plecotus auritus*, Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *P. pygmaeus*, Nathusius's Pipistrelle *P. nathusii* and unidentified species. Several of these occur within 500 m, including Brown Long-eared and pipistrelles.

The only records of amphibians concern Common Frog *Rana temporaria* and Common Toad *Bufo bufo*, both within 200 m between 1999 and 2017, and the only reptile is Grass Snake *Natrix natrix*, recorded over 1.5 km away in 2008.

A very large number of bird records for the area were also returned, mostly from Hampstead Heath.

None of the designated sites had any direct connectivity to the estate, and they were separated by main and local roads and extensive residential areas. The proposed works are not considered to have any impact on the citation features of these sites.

The Phase 1 visit took place on 2nd November 2021, in mild and clear conditions, with no wind.

The survey site made up the whole of West Kentish Town Estate, comprising several apartment blocks with roads, parking areas, garages, interweaving paths, amenity grass lawns and scattered trees and shrubs.

The areas of amenity grassland were kept mown and well maintained, whilst the shrubs were all in specific beds. No rare vascular plants were found, and all species recorded were common and widespread. There were no invasive or notifiable species.

A total of 18 species of birds were observed, three of which were Species of High Conservation Concern (RSPB Red List); Herring Gull *Larus argentatus*, Grey Wagtail *Motacilla cinerea* and Starling *Sturnus vulgaris*, whilst one was a species of Medium Conservation Concern (RSPB Amber List); Black-headed Gull *Chroicocephalus ridibundus*. The rest were all Species of Low Conservation Concern (RSPB Green List). Several Magpie *Pica pica* and Woodpigeons' *Columba palumbus* nests were found within scattered trees around site.

Since all in-use bird's nests and their contents are protected from damage or destruction, any tree or shrub removal or works which may affect a nest should be undertaken outside the period 1st March to 31st August inclusive. If this time frame cannot be avoided, a close inspection of the trees, shrubs or structures to be removed will be undertaken prior to clearance. Work will not be carried out within a minimum of 5.0 metres of any in-use nest, although this distance could be more depending on the sensitivity of the species. Any in-use nest will be allowed to fledge before it is disturbed.

None of the trees contained features such as decay cavities, woodpecker holes, fissures and exfoliating bark, that would be considered suitable for bat roosting and/or hibernation bats. However, several of the trees had bat boxes mounted on them.

The buildings were all clad in hanging tiles. On every elevation of every building there were gaps in the tiling, and as such the suitability for bat roosting was considered to be at least low. There were also several gaps noted behind lead flashing along roof tops.

Given the low suitability, the presence of the bat boxes and the records of bats in the wider area, it is recommended that every building is assessed by nocturnal survey to determine the presence or absence of roosting bats. A minimum of one visit will be required per building, with all elevations on each structure surveyed simultaneously.

The site itself had limited value to foraging bats, as it was in a very built up area, with roadside illumination and light from all the apartments. Instead, it was considered that bats would forage around Hampstead Heath, approximately 500 metres to the north.

No evidence of Badgers was found, and there were no signs of Otters or Water Voles *Arvicola amphibius*. A Fox *Vulpes vulpes* was seen on site.

The site was considered unsuitable for amphibians and reptiles, as there was no standing water, limited foraging opportunities and no obvious refugia or hibernacula. There was no connectivity to any semi-natural habitats, and the estate was completely surrounded by roads and residential areas.

Although no reptiles or amphibians were found, care will be taken at all times when carrying out earthworks, as small mammals could be present. Any small mammals disturbed or uncovered will either be caught by hand and relocated to a safe area, or left to vacate the work site in their own time.

Since the site was dominated by amenity grassland and buildings with hardstanding, it was concluded that there was very low potential for significant invertebrate assemblages, in particular those species listed as a priority in the UK Biodiversity Action Plan and/or Local Biodiversity Action Plan.

If excavations are to be undertaken, it should be noted that open trenches could potentially trap wildlife, especially if these fill up with water. Escape routes should therefore be provided if trenches cannot be infilled immediately. These can be in the form of branches or boards placed on the bottom of the trench, with their upper ends above ground level and touching the sides, or sloping ends left in trenches.

1. INTRODUCTION

1.1 Background and survey objectives

In October 2021, Indigo Surveys Ltd was instructed to carry out a Preliminary Ecological Appraisal West Kentish Town Estate in London. This was undertaken to determine the presence of any important habitats or species which might be impacted on by proposed re-development.

A search of ecological data for the area revealed a number of records of European Protected Species, UK Biodiversity Action Plan (UKBAP) and Local Biodiversity Action Plan (LBAP) species within a 2.0 km radius of the site.

1.2 Site description

The survey site made up the whole of West Kentish Town Estate, comprising several apartment blocks with interweaving paths, amenity grass lawns and scattered trees and shrubs.

Species within the amenity grass lawns comprised; Daisy *Bellis perennis*, Yarrow *Achillea millefolium*, Creeping Buttercup *Ranunculus repens*, Common Ivy *Hedera helix*, Dwarf Mallow *Malva neglecta*, Foxglove *Digitalis spp.*, Dandelion *Taraxacum officinale*, Cow Parsley *Anthriscus sylvestris*, and Woody Nightshade *Solanum dulcamara*.

Scattered trees across site comprised; Hawthorn *Crataegus monogyna*, Lime *Tilia cordata*, Norway Maple *Acer platanoides*, Elder *Sambucus nigra*, Sycamore *Acer pseudoplatanus*, Holly *Ilex aquifolium*, Common plum *Prunus domestica*, False acacia *Robinia pseudoacacia*, Cotoneaster *Cotoneaster spp.*, Sorbus *Sorbus spp.*, London Plane *Platanus x Acerifolia*, Beech *Fagus sylvatica*, Willow *Salix babylonica*, Hazel *Corylus avellana*, Silver Maple *Acer saccharinum*, Sweet chestnut *Castanea sativa*, Pedunculate Oak *Quercus robur*, and Silver Birch *Betula pendula*.

The Ordnance Survey Grid Reference is TQ 28401 85009 centred on the middle of the site.

1.3 Proposed works

The proposed works are for redevelopment of the entire site.

2. METHODOLOGY

2.1 Desk study

A detailed desk study was undertaken to determine the nature conservation designations and protected species that had been recorded within a 2.0 km radius of the site. This involved contacting statutory and non-statutory organisations, and then assimilating and reviewing the data provided.

The consultees for the desk study were:

- Multi Agency Geographic Information (MAGIC) website;
- GiGL (Greenspace Information for Greater London).

2.2 Habitat survey

A Phase 1 Habitat Survey was carried out across the whole of the survey site. It was conducted using standard JNCC (2003) techniques and methodologies.

The Phase 1 visit took place on 2nd November 2021, in mild and clear conditions with no wind.

2.3 Badgers

Badgers are generally nocturnal and evidence of their presence in an area often comes from field signs rather than sightings of the animals. Useful field signs include:

- Setts (main, outlying, annex or subsidiary)
- Tufts of hair caught on barbed wire fences;
- Conspicuous Badger paths;
- Footprints;
- Latrines – small excavated pits in which droppings are deposited;
- 'Snuffle holes' – small scrapes where Badgers have searched for insects and plant tubers;
- Day nests – bundles of grass and other vegetation where Badgers may sleep above ground;
- Scratch marks on trees (usually near the sett).

Daytime surveys looking for field signs can be carried out at any time of the year, and should be non-intrusive, but nocturnal surveys of setts (if required), are only likely to be effective from April to November, when Badgers are most active, and any cubs present will have emerged.

A search for Badger presence and the field signs listed above was carried out as part of the ecological appraisal on 2nd November 2021. The search area included the application site and the surrounding area which was visible from within the site at the time of the survey.

2.4 Bats

In order to fully assess bat occupation of a particular site, the Bat Conservation Trust (2016) recommends that information gathered from a desk study of known bat records, and a daytime site walkover, is used to inform the type and extent of future bat survey work, potentially including nocturnal surveys.

The diurnal walkover provides an opportunity to check for signs of occupancy, such as droppings, scratch marks, feeding remains, carcasses, or even animals in residence, whilst nocturnal surveys (if required) allow numbers and species of bats to be confirmed.

The latter are also used to determine the presence or absence of bats, where signs of bat activity are indeterminate or absent but the suitability for bat roosting is considered to be low, medium or high.

Roosting places vary depending on the species. Pipistrelles usually inhabit narrow cracks or cavities around the outside of buildings, but they will roost in similar niches inside larger barns. Typical sites include soffit spaces, gaps behind fascia boards and end rafters, crevices around the ends of projecting purlins, under warped or lifted roof and ridge tiles, or in gaps in stone and brickwork where mortar has dropped out.

Larger species such as Brown Long-eared Bats, Myotis bats (Natterer's *Myotis nattereri* and Whiskered/Brandt's *M. brandtii*), and Lesser Horseshoes *Rhinolophus hipposideros*, like to roost in the roof voids of buildings, and can often be found hanging singly or in small groups from ridge boards or roof timbers, especially where these butt up against gable walls or chimney breasts. They especially favour older structures with timber frames. Here they squeeze into tight crevices making them difficult to observe.

Diurnal walkovers can be carried out at any time of the year, but nocturnal surveys should only be undertaken when bats are out of hibernation and in their summer roosts. The recommended period is from May to September inclusive, with May to August optimum and September sub-optimum. The season can be extended into October, although particularly cold weather will render this inadvisable. Indeed, the air temperature at the start of each survey must be at least 10°C or above.

Visits will be a minimum of two weeks apart, and the number of surveys is dependent on the evidence found or the suitability of the site to bats.

Where bats are found, or there is evidence of bat occupation or activity, i.e. that bat use is confirmed, the number and timing of visits will be decided by the ecologist, and will be appropriate for the type of roost. In general at least two nocturnal surveys will be carried out, both of which can be emergence surveys, or one emergence and one dawn re-entry.

Where there is no evidence of bat presence, and no or negligible suitability for roosting, no nocturnal surveys will be needed.

For a site with no evidence but low suitability, just one nocturnal emergence survey is required, this to be in the optimum period.

For medium suitability a minimum of two visits are needed, of which one must be in the optimum period, and one must be a dawn re-entry survey. With high suitability, three visits will be necessary, of which two must be in the optimum period.

At least one of these must be a dawn re-entry survey, with the third visit either an emergence or a dawn re-entry.

For sites < 5 ha in size, and/or regularly shaped structures, at least two surveyors must be present, with more surveyors at larger sites and more complex buildings, e.g. those with multiple elevations and/or roof structures.

On 2nd November 2021, Andy Warren (Natural England bat licence No. 2015-16489-CLS-CLS) made a thorough inspection (from the ground) of the trees on site, including any gaps in the bark, patches of exfoliating bark, fissures, splits, cracks and cavities, including woodpecker holes.

An external inspection of the apartment buildings and garage blocks was also carried out to assess their potential for roosting bats.

2.5 Birds

Most resident and migrant birds breed in the spring and summer, although Woodpigeons *Columba palumbus* and Collared Doves *Streptopelia decaocto* nest throughout the year, and as a result could be on eggs in almost any month.

In season, signs of breeding include singing males, display and copulation, birds gathering nesting materials, adults carrying food, calling chicks, etc.

In winter none of these activities may be occurring, so a survey for old nests and/or nest holes is the most reliable method of determining the presence or absence of breeding birds.

A search for signs of nesting birds was carried out as part of the ecological appraisal on 2nd November 2021.

2.6 Reptiles

Commoner reptiles which may be encountered in suburban areas include Grass Snake, Slow-worm *Anguis fragilis*, and Common Lizard *Zootoca vivipara*.

During the winter months, from mid-October to late February or early March, they are in hibernation, usually deep in underground hibernacula, such as holes and cracks in the ground, among rocks or the roots of large trees, down animal burrows, or in piles of rubble or stone.

In the spring and summer they live above ground in well-vegetated places, with Grass Snakes often near or in water. Being cold-blooded all reptiles like to bask, and can often be found in open places.

There are very few signs of reptile presence, but these include:

- Shedded skin (snakes);
- Eggs (but not Common Lizard which gives birth to live young).

A search for signs of reptile presence was carried out during the ecological appraisal, along with a check for basking animals.

A survey for Great Crested Newts may be indicated when background information on distribution suggests that they may be present. More detailed indicators are:

- *Any historical records of Great Crested Newts on the site or in the general area;*
- *A pond on or near the site (within around 500 m), even if it holds water only seasonally;*
- *Sites with refuges (such as piles of logs or rubble), grassland, scrub, woodland or hedgerows within 500 m of a pond.*

There are several field survey methods which can be employed depending on the time of year:

- *Bottle or funnel trapping – adults ideally February to May, with June and July sub-optimal, and August to September for detection of larvae (i.e. young);*
- *Egg search – April to June ideally, with March and July sub-optimal;*
- *Torch survey – March to May for adults, with February and June to July sub-optimal, and August to September for larvae;*
- *Netting – March to May for adults, with February and June to July sub-optimal, and August to September for larvae;*
- *Pitfall trapping – March to May and September for adults, with February, June to August and October sub-optimal;*
- *Refuge search – April to September ideally, with March and October sub-optimal.*

The latter two methods involve terrestrial habitats, the others aquatic habitats, for which a minimum of 4 visits per year are recommended, with at least 2 visits between mid-April and mid-May to record peak numbers (English Nature, 2001).

Outside the optimum survey period, a Habitat Suitability Index (HSI) for a particular water body can be calculated.

This is a scoring system developed as a means of evaluating habitat quality and quantity. The HSI for Great Crested Newts incorporates ten indices, all of which are thought to affect the species.

None of these methods were carried out at West Kentish Town as there was nothing to suggest that newts would be present.

2.7 Otter

Otters are nocturnal and are active all year round. They are large with an adult male reaching up to 1.2 m from nose to tail, and weighing about 10 kg.

Feeding mainly on fish and amphibians, Otters live by undisturbed waters where there is plenty of cover, mostly by freshwater lakes, rivers and quiet small streams as well as some coasts.

An Otter may use over 40 km of river and needs many resting places throughout this range. A female otter will give birth to 1 to 3 cubs in a natal holt, which is often away from the main river and must be completely undisturbed.

Field signs include:

- Prints in soft mud;
- Spraints (faeces);
- Holts.

A search for evidence of Otter presence on site was undertaken as part of the Ecological Appraisal.

2.8 Water Vole

The Water Vole is the largest of the British voles. It lives in a series of holes or burrows at the water's edge and can be found along the banks of ditches, streams, rivers, lakes and canals.

Although Water Voles live in colonies, the breeding females are territorial, each defining their contiguous territory with latrines during the breeding season. This lasts from March to October.

The Water Vole is herbivorous, feeding primarily on the lush aerial stems and leaves of waterside plants.

Its activity is normally confined to the area within two metres of the watercourse, the bankside vegetation in this area not only essential for food, but also for cover from predators.

Water Vole activity can be assessed by looking for the following signs:

- Burrows;
- Faeces and latrines;
- Feeding stations;
- Runs;
- Paw prints in areas of soft mud;
- Feeding 'lawns';
- Predator field signs.

A search for evidence of Water Vole presence on site was undertaken as part of the Ecological Appraisal.

The results of the species and habitat survey are detailed in Section 3.

2.9 Constraints

Although the survey was not carried out within the optimum period (considered to be April to August inclusive), due to the habitats and potential species on site, this was not considered to be a constraint.

3. RESULTS

3.1 Desk study

3.1.1 Designated sites

Statutory sites

There were no statutory sites within a 2.0 km radius of the search area.

Non-statutory sites

There were two Local Wildlife Sites (LWS) and 24 Sites of Importance for Nature Conservation (SINC)within the search area;

The two LNRs include Belsize Wood LNR 800 m to the northwest, and Adelaide LNR 1.0 km to the southwest.

The only SINC within 500 m is CaBI04 Kentish Town City Farm, Gospel Oak Railsides and Mark Fitzpatrick Nature Reserve. This is described as a large area of green railside land, with an adjacent city farm and a tranquil woodland nature reserve. It lies 250 m to the northeast and connects with Hampstead Heath Site of Metropolitan Importance (M072), the edge of which lies 500 m to the north. The heath is one of London's best loved open spaces, with a remarkable range of habitats so close to central London. It includes one of the capital's few bogs, as well as wide expanses of grassland and ancient woodland.

None of the designated sites had any direct connectivity to the survey site, and they were separated by main and local roads and extensive residential areas. The proposed works are not considered to have any impact on the citation features of these sites.

3.1.2 Protected species

A search of ecological data for the area revealed a number of records of European Protected Species, UK Biodiversity Action Plan (UKBAP) and Local Biodiversity Action Plan (LBAP) species within a 2.0 km radius of the site.

A total of 11,731 species records are present within the search area, the majority from Hampstead Heath, with 1191 records of London invasive species.

Of particular relevance are bats, with records including Serotine *Eptesicus serotinus*, Daubenton's *Myotis daubentonii*, Natterer's *M. nattereri*, Noctule *Nyctalus noctula*, Leisler's Bat *N. leisleri*, Brown Long-eared *Plecotus auritus*, Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *P. pygmaeus*, Nathusius's Pipistrelle *P. nathusii* and unidentified species. Several of these occur within 500 m, including Brown Long-eared and pipistrelles.

The only records of amphibians concern Common Frog *Rana temporaria* and Common Toad *Bufo bufo*, both within 200 m between 1999 and 2017, and the only reptile is Grass Snake *Natrix natrix*, recorded over 1.5 km away in 2008.

A very large number of bird records for the area were also returned, mostly from Hampstead Heath.

3.2 Habitat survey

3.2.1 Habitat descriptions

The following habitats were recorded across the site:

- Amenity grassland;
- Scattered trees;
- Scattered shrubs;
- Hardstanding & Buildings.

These are shown on the Phase 1 Habitat Survey map in Appendix 1, with a bird's-eye image in Appendix 2.

Amenity grassland

Between the apartment blocks were many maintained amenity grass lawns (Figs. 1, 2, 3 and 4).

Figs. 1, 2, 3 & 4 Amenity grass lawns

Scattered trees

Across the estate there were also many scattered trees, with 18 different species (Figs. 5, 6, 7, 8, 9 and 10).

Figs. 5, 6, 7, 8, 9 & 10 Scattered trees

Scattered shrubs

There were also a number of shrub beds around site, these contained a range of introduced shrub species (Figs. 11, 12, 13 and 14).

Figs. 11, 12, 13 & 14 Introduced shrubs

Hardstanding & Buildings

The rest of the site comprised hardstanding paths and roads, as well as the apartment blocks and garage units (Figs. 15 and 16).

Figs. 15 & 16 Buildings and hardstanding

3.2.2 Flora

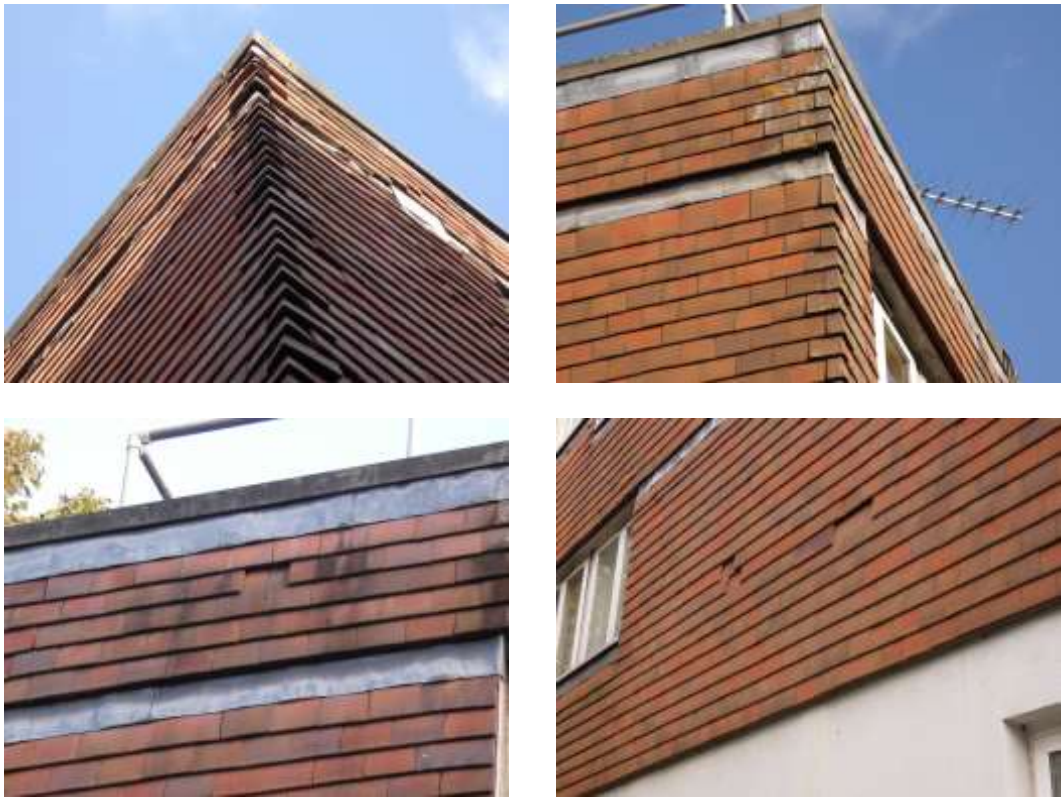
The botanical composition of each habitat was typical, and all species recorded were common and widespread. No rare vascular plants were found.

3.3 Protected species survey

3.3.1 Bats

None of the trees contained features such as decay cavities, woodpecker holes, fissures and exfoliating bark, that would be considered suitable for bat roosting and/or hibernation. Although several of the trees had bat boxes mounded on them.

An external inspection of the buildings was also carried out. The buildings were all clad in hanging tiles. On every elevation of every building there were gaps in the tiling with tiles that were missing, broken or dislodged, and as such the suitability for bat roosting was considered to be at least low (Figs. 17, 18, 19 and 20).



Figs. 17, 18, 19 & 20 Hanging tile gaps around site

Several gaps were also noted behind the lead flashing along the roof tops on some buildings (Figs. 21 and 22).


Figs. 21 & 22 Gaps behind lead flashing

The small garage block was constructed from brick with a felted flat roof and timber barge boards, they were not considered to hold any potential for roosting bats (Figs. 23 and 24).


Figs. 23 & 24 Garage blocks

Bat boxes were observed in a number of mature trees around the site (Figs. 25 and 26).


Figs. 25 & 26 Bat boxes present in some trees

The site itself had limited value to foraging bats, as it was in a very built up area, with roadside illumination and light from all the apartments as well as limited foraging habitats. Instead, it was considered bats would forage around Hampstead Heath, approximately 500 metres to the north.

3.3.2 Badgers

There were no signs of Badger activity.

3.3.3 Otters

There were no signs of Otter activity.

3.3.4 Water Voles

No evidence of Water Vole presence was found.

3.3.5 Birds

A total of 18 species of birds were observed, three of which were Species of High Conservation Concern (RSPB Red List); Starling, Herring Gull, and Grey Wagtail. Whilst one was a species of Medium Conservation Concern (RSPB Amber List); Black-headed Gull. The rest were Species of Low Conservation Concern (RSPB Green List). Several Magpie and Wood Pigeon nests were found within scattered trees around site.

3.3.6 Reptiles

The site was considered unsuitable for reptiles, with limited foraging opportunities and refugia or hibernacula.

3.3.7 Great Crested Newts

For the same reasons, and with no standing water on site, amphibians were also considered to be absent.

3.3.8 Invertebrates

Since the site was dominated by amenity grassland and buildings with hardstanding, it was concluded that there was very low potential for significant invertebrate assemblages, in particular those species listed as a priority in the UK Biodiversity Action Plan and/or Local Biodiversity Action Plan.

3.3.9 Other species

A fox was observed on site (Fig. 27).

Fig. 27 Fox on site

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4. CONCLUSIONS AND RECOMMENDATIONS

4.1 Site evaluation

The site was considered to be generally of low value to wildlife, with the exception of the foraging and nesting birds across site.

Only a small range of floral species were present, with forbs relatively scarce. Indeed, no rare vascular plants were found, and all species recorded were common and widespread.

18 species of bird were recorded on the site, and several Magpie and Wood pigeon nests were found in the scattered trees.

None of the trees contained features such as decay cavities, woodpecker holes, fissures and exfoliating bark, that would be considered suitable for bat roosting and/or hibernation, although a number had bat boxed affixed to them.

The buildings across site were considered to have low suitability for roosting bats due to the number of gaps in the hanging tiles.

The site itself had very limited value to foraging bats, instead, if present, they were considered to forage around Hampstead Heath to the north.

No evidence of Badgers was found, with no signs of Otters or Water Voles. However, a Fox was seen on site.

With no standing water and no obvious refugia or hibernacula, amphibians were considered to be absent.

The site was also considered unsuitable for reptiles for the same reasons.

Since the site was dominated by amenity grassland and hardstanding, it was concluded that there was very low potential for significant invertebrate assemblages, in particular those species listed as a priority in the UK Biodiversity Action Plan and/or Local Biodiversity Action Plan.

None of the designated sites had any direct connectivity to the estate, and they were separated by main and local roads and extensive residential areas. The proposed works are not considered to have any impact on the citation features of these sites.

4.2 Possible impacts of proposed work and recommendations

Since all in-use bird's nests and their contents are protected from damage or destruction, any tree or shrub removal or works which may affect a nest should be undertaken outside the

period 1st March to 31st August inclusive. If this time frame cannot be avoided, a close inspection of the trees, shrubs or structures to be removed should be undertaken prior to clearance.

Work should not be carried out within a minimum of 5.0 metres of any in-use nest, although this distance could be more depending on the sensitivity of the species.

Despite the presumed absence of breeding amphibians and reptiles on the site, at all times care will be taken when carrying out earthworks, as small mammals could be present. Any small mammals disturbed or uncovered will either be caught by hand and relocated to a safe area, or left to vacate the work site in their own time.

If excavations are to be undertaken, it should be noted that open trenches could potentially trap wildlife, especially if these fill up with water. Escape routes should therefore be provided if trenches cannot be infilled immediately. These can be in the form of branches or boards placed on the bottom of the trench, with their upper ends above ground level and touching the sides, or sloping ends left in trenches.

4.3 Further surveys

Given the low suitability of the buildings for roosting bats, the presence of the bat boxes and the records of bats in the wider area, it is recommended that every building is assessed by nocturnal survey to determine the presence or absence of roosting bats. A minimum of one visit will be required per building, with all elevations on each structure surveyed simultaneously.

Bat mitigation measures will be confirmed based on the results of the nocturnal surveys and are likely to include reasonable avoidance measures and the incorporation of bat roosting opportunities in the replacement buildings such as built-in bat boxes. A Bat Licence may be required if a bat or bats are subsequently recorded roosting within any of the buildings during the nocturnal surveys.

If any tree or shrub removal or works which may affect a nest cannot be timed appropriately to avoid the bird nesting period (considered to be March to August inclusive), then further surveys for nesting birds will be required.

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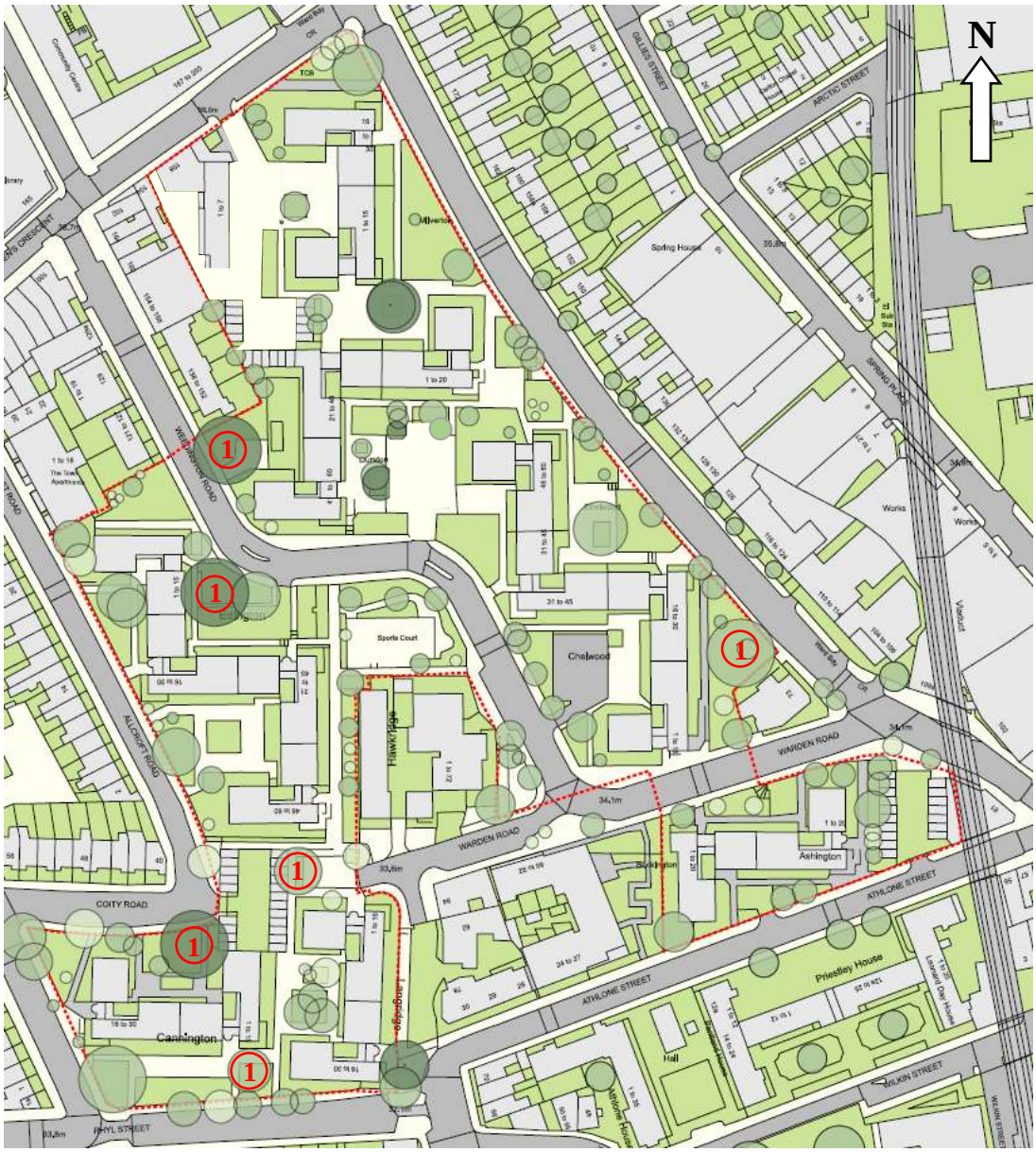
APPENDICES

Appendix 1: Phase 1 Habitat Survey and Target Notes

Appendix 2: Relevant legislation

Appendix 1: Phase 1 Habitat Survey Map



Legend			
—	Survey boundary		Hardstanding
	Amenity grass		Buildings
	Scattered trees		Target note
	Roads		

Target Number	Note
1	Bat boxes present in trees

Appendix 2: Relevant legislation

2.1 Badgers

Badgers are protected in Britain by the Protection of Badgers Act 1992. The purpose of this Act is to protect the animals from deliberate cruelty and from the incidental effects of lawful activities which could cause them harm. Under this legislation it is an offence to:

- Wilfully kill, injure, take, possess or cruelly ill-treat a Badger, or attempt to do so;
- Interfere with a sett by damaging or destroying it;
- Obstruct access to, or any entrance of, a Badger sett;
- Disturb a Badger when it is occupying a sett.

Note that if any of the above resulted from a person being reckless, even if they had no intention of committing the offence, their action would still be considered an offence.

A person is not guilty of an offence if it can be shown that the act was 'the incidental result of a lawful operation and could not have been reasonably avoided'; only a court can decide what is 'reasonable' in any set of circumstances. Penalties for offences under this legislation can be up to six months in prison and a fine of up to £5,000 for each offence.

A Badger sett is defined in the Act as 'any structure or place which displays signs indicating current use by a Badger'. This can include culverts, pipes and holes under sheds, piles of boulders, old mines and quarries, etc.

'Current use' does not simply mean 'current occupation' and for licensing purposes it is defined as 'any sett within an occupied Badger territory regardless of when it may have last been used'.

A sett therefore, in an occupied territory, is classified as in current use even if it is only used seasonally or occasionally by Badgers, and is afforded the same protection in law.

2.2 Bats

In England, Scotland and Wales, all bat species are fully protected under the Wildlife and Countryside Act 1981 (WCA) (as amended), through inclusion in Schedule 5. In England and Wales this Act has been amended by the Countryside and Rights of Way Act 2000 (CRoW), which adds an extra offence, makes species offences arrestable, increases the time limits for some prosecutions, and increases penalties.

All bats are also included in Schedule 2 of the Conservation (Natural Habitats, & c.) Regulations 1994, (or Northern Ireland 1995) (the Habitats Regulations), which defines ‘European protected species of animals’.

The above legislation can be summarised thus (Mitchell-Jones and McLeish, 2004):

- *Intentionally or deliberately kill, injure or capture (or take) bats;*

- *Deliberately disturb bats (whether in a roost or not;*
- *Recklessly disturb roosting bats or obstruct access to their roosts;*
- *Damage or destroy roosts;*
- *Possess or transport a bat or any part of a part of a bat, unless acquired legally;*
- *Sell (or offer for sale) or exchange bats, or parts of bats.*

The word 'roost' is not used in the legislation, but is used here for simplicity. The actual wording is 'any structure or place which any wild animal…uses for shelter or protection' (WCA), or 'breeding site or resting place' (Habitats Regulations).
As bats generally have both a winter and a summer roost, the legislation is clear that all roosts are protected whether bats are in residence at the time or not.

2.3 Birds

In Britain, all wild birds, their nests and eggs are protected under the Wildlife & Countryside Act 1981. There are penalties for:

- *Killing, injuring or capturing them, or attempting any of these;*
- *Taking or damaging the nest whilst in use;*
- *Taking or destroying the eggs.*

2.4 Great Crested Newts

Great Crested Newts are protected under Schedule 5 of the Wildlife & Countryside Act (1981) as amended, and Schedule 2 of the Conservation of Habitats and Species Regulations 2010. As a result of their rarity across Europe, they are also protected under Annexes IIa and IVa of the Habitats and Species Directive, and under the Berne Convention (the Convention on the Conservation of European Wildlife and Natural Habitats).

The above legislation can be summarised thus (Langton *et al*, 2001):

- *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 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 offer for sale Great Crested Newts or parts of them.*

2.5 Reptiles

All common reptiles (Common Lizard *Zootoca vivipara*, Grass Snake *Natrix natrix*, Slow-worm *Anguis fragilis* and Adder *Vipera berus*) are afforded legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) largely as a consequence of a national decline in numbers associated with persecution and habitat loss.

Under the terms of the Act it is illegal to intentionally kill or injure a reptile.

2.6 Otters

Otters are protected under Sections 9.1 and 9.4, Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), Annex 2 and 4 of the Conservation (Natural Habitats &c.) Regulations 1994 as amended, and are a priority species under the UK BAP. Actions that are prohibited include intentional killing, injuring or taking; and intentional or reckless damage, destruction or obstruction of any structure or place used for shelter or protection.

2.7 Water Voles

As of 12 August 2008, Water Voles have been given full protection under Section 9 of the Wildlife and Countryside Act 1981.

Offences under Section 9 carry a maximum penalty of a fine up to £5000, imprisonment for up to six months, or both, for each animal in respect of which an offence is committed. It is now an offence to:

- Intentionally kill, injure or take (capture) a Water Vole;
- Possess or control a live or dead Water Vole, or any part of a Water Vole or anything derived from a Water Vole;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place which a Water Vole uses for shelter or protection;
- Intentionally or recklessly disturb a Water Vole while it is occupying a structure or place which it uses for shelter or protection.