Preliminary Ecological Appraisal

Maple Road, Hayes

On Behalf of:
London Borough of Hillingdon

January 2023

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Executive Summary

1. This report presents the findings and recommendations of the preliminary ecological appraisal (PEA) undertaken at Maple Road, Hayes. The site is allocated for residential development with planning consent giving for the construction of two apartment blocks. The northern block required relocating due to a pre-existing water main and a new planning application is required. SES undertook previous surveys including a Preliminary Ecological Appraisal, badger monitoring and reptile survey in 2018 (SES, 2018a; b).

2. The site, approximately 0.5ha in size, comprises bareground, buildings, tall ruderal, dense scrub and scattered trees. The site is currently under development and none of the habitats on site are above site value.

3. There are no internationally designated sites within the 10km of the site. Within 5km there are no sites of special scientific interest (SSSI) but six local nature reserves are present. The closest is Yeading Meadows LNR . The site is located within an Impact Risk Zone of the closest SSSI (Fray's Farm Meadows SSSI, 6.7km north west) however the development does not meet the criteria to necessitate consultation with Natural England.

4. The majority of the site is considered to be of low ecological value (bareground and buildings) and is therefore suitable for development and the works are expected to be restricted to these habitats only. Boundary habitats will be retained.

5. The site has the potential to support a range of protected and notable species including foraging/commuting bats, foraging/commuting badgers, nesting birds, great crested newt, and common reptiles.

6. A Biodiversity Net Gain assessment is recommended. Mitigation and enhancement measures are proposed for nesting birds, bats and reptiles including precautionary working methods, retention and protection of existing habitats and new habitat creation.

7. Overall, the site is considered to be of low ecological value, and through implementing the recommended measures detailed in this report, it is considered that any adverse effects from the proposed development on the habitats and species on site will be fully mitigated.

Contents

Appendices

1.0 Introduction

1.1 Southern Ecological Solutions Ltd. (SES) was commissioned by Stonebond Properties Ltd to undertake a preliminary ecological appraisal (PEA) of the site at Maple Road, Heyes, London (the site). The site is located at Ordnance Survey Grid Reference TQ 11750 82521 and is approximately 0.5ha in extent. This report presents the findings and recommendations of the PEA to inform an altered planning application for residential development (43762/APP/2018/396), requiring the moving of a proposed apartment block. Previous surveys by SES included the original PEA (SES, 2018a) as well as sett monitoring and a reptile presence/absence survey (SES, 2018b)

1.2 The site comprised bareground and buildings under construction, with scrub in the fenced northern area and a tree line along the southwestern boundary. The town of Hillingdon within London with associated residential housing surrounds the site. The site location can be found in Appendix 1.

1.3 The PEA was conducted in November 2022 by SES, and aimed to:

- Map the main habitat types and ecological features within the site and compile a plant species list for each habitat type;
- Make an initial assessment of the presence or likely absence of species of conservation concern;
- Identify any legal and planning policy constraints relevant to nature conservation which may affect the development proposals (see Appendix 2);
- Determine any potential further ecological issues;
- Determine the need for further surveys and mitigation; and
- Make recommendations for minimising impacts on biodiversity.

1.4 Details of relevant wildlife legislation and national and local planning policies related to nature conservation and biodiversity are provided in Appendix 2.

2.0 Methods

2.1 This report has been prepared with reference to British Standards Institution (BSI) BS 42020:2013 'Biodiversity – code of practice for planning and development' (BSI, 2013) and The Chartered Institute of Ecology and Environmental Management's (CIEEM) Technical Guidance Series 'Ecological Report Writing' (CIEEM, 2017) and Code of Professional Conduct (CIEEM, 2019).

2.2 The following PEA follows guidance and methods as prescribed by the CIEEM Guidelines for Ecological Appraisal 2nd edition (2017) and the Guidelines for Ecological Impact Assessment (2019). Following these methods, a baseline of rare and/or noted ecological receptors (species and habitats) was established and valued. Predicted significant impacts upon these receptors have been identified and constraints and opportunities identified. This step-wise assessment process has informed likely mitigation and enhancement measures. These surveys will fully inform the predicted impacts of the scheme in accordance with the NPPF (MHCLG, 2021), local planning policy and relevant wildlife legislation.

2.3 CIEEM guidelines for Ecological Assessment in the United Kingdom (2019) have been utilised to assess the impacts upon habitats within the zone of influence of the site. CIEEM suggests that it is best to use the geographical scale (i.e. international, national, regional etc.) at which a feature (i.e. a habitat, species or other ecological resource) may or may not be important as the appropriate measure of value. As such, data from the data search, extended Phase 1 Habitat survey and subsequent species-specific surveys has been reviewed and the likely occurrence of protected and notable species/species groups assessed. This has allowed predictions of impacts to be made along with recommendations for mitigation, compensation and enhancement.

2.4 The following geographical scale categories are considered appropriate:

- International;
- National (England);
- County (Greater London);
- District (London);
- Local or Borough (Hayes); and
- Within Site or zone of influence only

Desk Study

2.5 SES commissioned a data search in November 2022 for records of protected and notable species and for data on non-statutory designated sites from the Greenspace Information for Greater London (GIGL). The data search encompassed the site and up to 2km from the site boundary; this data was received on 16th December 2022.

2.6 Hazel dormouse *Muscardinus avellanarius* records were sought from the National Biodiversity Network (NBN) Atlas www.nbnatlas.org, which holds data from the People's Trust for Endangered Species (PTES). As hazel dormice are known to be under-recorded, the data search for this species encompassed an area of up to 10km from the site boundary.

2.7 A web-based search for statutory designated sites via the Multi Agency Geographic Information for the Countryside (MAGIC) spatial data resource www.magic.gov.uk was undertaken in January 2022 for the following designations: European (up to 10km); national (5km) and local (2km).

2.8 Maps of the site and wider area, using the MAGIC online spatial data resource and aerial photographs on Google Earth (Google Inc., 2011), were examined to determine potential notable habitats on and adjacent to the site and the wider landscape. This included waterbodies (within 500m of the site boundary), watercourses and other landscape features that may be of ecological significance to protected species, notably great crested newts (GCN) *Triturus cristatus*, and mobile species such as bats and birds.

Previous Surveys

2.9 The following surveys/reports were undertaken on the site previously:

- Preliminary Ecological Appraisal (SES, 2018a);
- Badger monitoring;
- Reptile survey; and
- Phase 2 Ecological Surveys & Assessment (SES, 2018b).

Extended Phase 1 Habitat Survey

2.10 An extended Phase 1 Habitat Survey was carried out on 22nd November 2022 by suitably qualified ecologist Gwilym Pask-Hale BSc (Hons) ACIEEM during appropriate weather conditions. This is a standard technique for obtaining baseline ecological information for areas of land, including proposed development sites. Phase 1 Habitat Survey methods are set out in the Handbook for Phase 1 Habitat Survey (Joint Nature Conservation Committee [JNCC], 2010). Habitat mapping was undertaken using the standard classification to indicate habitat types. Features of ecological interest and value were highlighted using target notes.

2.11 The dominant and readily identifiable higher plant species identified in each of the various habitat parcels were recorded and their abundances assessed on the DAFOR scale:

- D - Dominant
- A - Abundant
- F - Frequent
- O - Occasional
- R - Rare

2.12 These scores represent the abundance within the defined area only and do not reflect national or regional abundances. Plant species nomenclature follows Stace (2010).

2.13 All impacts upon ecological features have been considered for the purposes of this survey following industry best practice guidance. Only relevant protected and notable species have been discussed within this report to keep its contents concise and relevant to the works being undertaken and for ease of application.

Protected and Notable Species

2.14 The site was assessed during the PEA for its suitability for protected and notable species that are likely to occur in the area.

Badger

2.15 An initial assessment was made to record badger setts across the site using standard guidelines for classifying badger setts (Harris *et al.,* 1989) and categorising entrances (Natural England, 2009). This assessment also sought to identify areas with the potential to be utilised by badgers for foraging, commuting and sett creation,

such as earth banks, woodland, hedgerows and rough grassland in addition to the recording of signs such as mammal paths, hairs and latrines.

Bats

2.16 The site was initially assessed for its suitability to support roosting, foraging and commuting bats. All existing habitats were assessed for suitability for bats using guidelines issued by the Bat Conservation Trust (Collins, 2016). Roosting habitats were assessed from the ground level only and assigned a level of suitability according to the descriptions outlined in Appendix 3.

2.17 Good bat foraging habitat generally includes sheltered areas and habitats with good numbers of insects, such as woodland, scrub, ponds, lakes and species-rich or rough grassland. Good commuting habitat generally comprises linear features such as well-connected hedgerows, woodland edge or watercourses. The site was assigned a level of suitability according to the classification provided by Collins (2016).

Birds

2.18 The site was assessed for its potential to support breeding birds. Suitable habitat generally includes scrub, hedgerows and trees and can also include buildings, open grassland, open water and piles of debris. The site was also assessed at this time for its potential to support significant wintering and/or migratory bird populations.

Great Crested Newt

2.19 The terrestrial habitat on site was assessed for its suitability for GCN. Suitable terrestrial habitat generally includes rough grassland and woodland where they can forage and hibernate, with good links to ponds where they breed.

Hazel Dormouse

2.20 Habitats were assessed for their general suitability for hazel dormice during the PEA. This species generally uses areas of dense woody vegetation and are more likely to be found where there is a wide diversity of woody species contributing to a three-dimensional habitat structure, a variety of food sources, plants suitable for nest-building materials and habitat connectivity.

Invertebrates

2.21 The site was assessed for its potential to support rare or notable invertebrate species as part of the PEA. This assessment was made on the basis of the habitats present and their structural complexity and diversity, giving particular consideration to rare and notable species recorded in the local vicinity.

Reptiles

2.22 The site was assessed for its suitability for the four common reptile species: Common lizard *Zootoca vivipara*, slow worm *Anguis fragilis*, grass snake *Natrix helvetica* and adder *Vipera berus*. Specific habitat requirements vary between species. Common lizards favour rough grassland; however they can be found in a variety of habitats ranging from woodland glades to walls and pastures. slow worms use similar habitats to common lizards

and are often found in gardens and derelict land. Grass snakes have similar habitat requirements to common lizards but have a greater reliance on ponds and wetlands where they hunt amphibians. Adders occupy areas of rough, open countryside and are often associated with woodland edge habitats.

Other Notable Species

2.23 The PEA included a first stage assessment of the suitability of habitats on site to support Natural Environment and Rural Communities (NERC) Act 2006 species of principal importance which are likely to occur in the local area, including hedgehog *Erinaceus europaeus*, brown hare *Lepus europaeus*, harvest mouse *Micromys minutus*, polecat *Mustela putorius* and common toad *Bufo bufo*.

Constraints

2.24 Desktop data searches are a valuable tool in evaluating a site's potential to hold rare and protected species; it is not, however, an absolute in confirming presence or absence of notable species due to the nature of how the records are collected.

2.25 Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by SES for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

2.26 The survey was undertaken outside of the optimal time of year to identify certain plant species. Whilst this does not impact habitat identification, the species list compiled will not be exhaustive.

3.0 Baseline Ecological Conditions

Designated Sites

3.1 No sites designated by the Conservation of Habitats and Species Regulations (Habitats Regulations, 2019) lie within 10km of the site. Six Local Nature Reserves (LNR's) are present within 5km (Table 1). The closest is Yeading Brook Meadows LNR approximately 0.8km west, designated for its grassland habitat. LNR's are considered to be of **National** importance.

Table 1: Statutory Designated sites within 5km of the site.

Site Name	Distance and Direction	Size (ha)	Description and Reason for Designation
Yeading Brook Meadows LNR	0.8km west	35.67	Yeading Brook Meadows comprise a series of neutral grassland fields located on either side of the Yeading Brook.
Islip Manor Meadows SINC and LNR	1.9km North	24.9	This site contains a rich mosaic of different grassland types; over 20 grass species and 10 leguminous species are among the diverse flora.
Northolt Manor LNR	2.1km Northeast	1.79	The site has meadows, scrub, woodlands, wetlands and ponds.
Litten Nature Reserve LNR	2.6km East	1.07	The site has varied woodland, with species including horse chestnut, hazel, oak, elder and snowberry. The ground level is dominated by ivy. There are also ponds and wetland areas, with plants such as pendulous sedge and water plantain.

Site Name	Distance and Direction	Size (ha)	Description and Reason for Designation
Grove Farm LNR	4.1km Northeast	8.07	The site has ancient woodland, and woodland flower species, while trees include the wild service tree.
Perivale Wood LNR	4.2km East	8.02	The site is mainly old oak woodland, with areas of pasture and damp scrub, three ponds and two streams.

Key: LNR = Local Nature Reserve

3.2 The site is situated within the Impact Risk Zones (IRZ) for nearby SSSIs (the nearest is Fray's Farm Meadows SSSI, 6.7km northwest), requiring consultation with Natural England for any development relating to aviation proposals or any discharge of water or liquid waste of more than 20m³/day to ground (i.e. to seep away) or to surface water, such as a beck or stream.

3.3 16 non-statutory Sites of Importance for Nature Conservation (SINC) were recorded within 2km of the site and are considered to be of **County** importance (Table 2).

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

Site Name	Distance and Direction	Size (ha)	Description and Reason for Designation
Hayes By-pass Roughs SINC	0.3km North	6.19	This site along both sides of the Hayes Bypass is what remains of a formally more extensive area of semi-natural grassland and scrub here.
Yeading Brook, Minet Country Park and Hitherbroom Park SINC	0.75km South	67.86	Minet Country Park partly comprises reclaimed derelict land; it was opened in 2003 and includes an information and education centre with classroom facilities run by A Rocha UK, who warden the site.
Northolt/ Greenford Countryside Park SINC	0.7km Northwest	29.72	This site is awaiting the production of a citation.
London's Canals SINC	0.9km East	189.66	London's canals support a wide range of aquatic flora, amongst which are found a number of locally uncommon species.
Yeading Brook Meadows SINC	0.9km West	170.08	An extensive mosaic of unimproved meadows and pastures divided by hedgerows, on the old floodplain of the Yeading Brook.
Down Way Park SINC	1.1km West	0.05	Strong population of house sparrows nesting here, a species which has greatly declined in London in recent years.
Lady Margaret Road SINC	1.3km South-East	0.11	This site is awaiting the production of a citation.
Willowtree Park SINC	1.4km South	32.52	The private Peabody Trust grounds in the east of the site include a large, lightly horse-grazed meadow with good vegetation structure.
The West London Shooting Grounds and Down Manor SINC	1.5km North-East	30.03	The West London Shooting Grounds support a mosaic of habitats including several hedges, some patches of suckering English elm (Ulmus procera) and a small woodland of pedunculate oak (Quercus robur) which is unusual in having a wide age-range of trees.
Cranleigh Park Rough SINC	1.5km North-West	0.14	This site is in the north end of a public park which formerly was managed more formally.
The West London Academy Nature Area SINC	1.6km North	3.55	The grounds of the West London Academy were being re-landscaped and re-developed during 2005 but most of the area of wildlife interest was retained.
Lime Trees Golf Course and Lime Trees Park SINC	1.9km North	38.82	This golf course was being re-landscaped in 2005 when surveyed.
Northolt Manor and Belvue Park SINC	1.9km Northwest	8.23	The site of the 14th century Northolt Manor supports several valuable wildlife habitats including woodland, scrub, grassland and wetland around the remains of an archaeological dig.
Smith's Farm, Marnham Fields, Bridge Farm Open Space & Greenford Lagoons SINC	2km East	22.46	This site is part of the wider 'Northolt & Greenford Country Park'.

Site Name	Distance and Direction	Size (ha)	Description and Reason for Designation
Ravenor Park Nature Area and stream SINC	2km East	0.84	This site has two separate parcels of land included. In the south of the park, the 'nature area' consists of a block of dense wild plum (Prunus domestica) scrub with young ash (Fraxinus excelsior) and pedunculate oak (Quercus robur) in the west end. The second part of the site occurs along the stream along the northern boundary.
Islip Manor Park SINC	2km Northeast	0.89	This part of the park is managed for nature conservation and provides a useful local wildlife resource.

Key: SINC = Site of Importance for Nature Conservation

Habitats

3.4 A Phase 1 Habitat map of the site is provided in Appendix 4. Plant species recorded per habitat type are tabled in Appendix 5. Site photographs are illustrated in Appendix 6.

3.5 The Phase 1 Habitat types (JNCC, 2010) within the site were:

- Bareground;
- Buildings;
- Dense scrub;
- Tall Ruderal;
- Scattered trees and
- Semi-improved grassland

Bareground

3.6 The majority of the site was made up of bareground with no vegetation present either in the form of exposed soil or ballast material.

Buildings

3.7 A large building was under construction in the south. This building was an unfinished brick structure with no windows or doors and sections of the upper floor still requiring construction.

3.8 The site also had a compound with a number of welfare and office containers in the center east. None of the buildings had any form of vegetation present.

Dense scrub

3.9 Two sections of dense scrub were present within the red line boundary. One was in the north of the site, fenced off from the main works area as a protected habitat on site. This contained abundant bramble *Rubus fruiticosus* and frequent hawthorn *Crataegus monogyna* with occasional dog rose *Rosa canina*.

3.10 The second was along the road embankment of Parkway (the road adjacent to the site) on the eastern boundary of the site. This contained abundant blackthorn *Prunus spinosa* and larger trees were present such as oak *Quercus robur* and ash *Fraxinus excelsior*.

3.11 The site originally contained significantly more scrub in the 2018 surveys however the vast majority has been removed from the works area as part of the original application and construction.

Tall ruderal

3.12 Between the bareground and the northern area of scrub was a strip of tall ruderal habitat with frequent wild lettuce *Lactuca virosa*, yellow mustard *Sinapis alba* and field thistle *Cirsium discolor*.

Scattered trees

3.13 In the southeast corner was a collection of scattered trees fenced off from the works area for their protection. Species included Leyland cypress *Cupressus × leylandii*, field maple *Acer campestre* and cherry laurel *Prunus laurocerasus*. Amongst these trees were bramble, hedge bindweed *Calystegia sepium* and ivy *Hedera helix.*

Semi-Improved Grassland

3.14 Within the provided red line boundary but outside of the construction zone is an area of semi-improved grassland which is part of the field to the immediate south. This was primarily comprised of perennial rye-grass *Lolium perenne* and false oat grass *Arrhenatherum elatius*.

Summary

3.15 The site has lost the amenity grassland and most of the scrub that was present in 2018 and the buildings have been demolished and replaced with compound welfare containers and buildings under construction (SES, 2018a). The habitats on site were of **site** importance only. The site value habitats were common within the wider landscape and lacked species diversity.

3.16 National planning policy requires a positive net gain in biodiversity. It is recommended that a biodiversity net gain assessment is undertaken using the DEFRA 3.1 BNG small sites metric to inform the options for securing a positive net gain for the site.

Protected Habitats

3.17 No protected or priority habitats were present on site and protected habitats are not considered further in this report.

Protected and Notable Species

3.18 Protected and notable species are animals and plants listed within the Conservation of Habitats and Species Regulations 2019, and The Wildlife and Countryside Act (WCA) (1981), as amended, The Protection of Badgers Act (1992), or listed in Section 40 or 41 of the NERC Act (2006). Protected and notable species with existing records within 2km of the site or that could utilise the site are detailed below.

Rare and Notable Flora

3.19 Two records of Deptford pink *Dianthus armeria,* and ten records of bluebell *Hyacinthoides non-scripta* were recorded within 2km of the site. Both species were listed in Schedule 8 of the WCA (1981) were recorded within

2km of the site within the last 10 years. No schedule 8 plants observed during the site visit; however the survey was undertaken outside of the optimal time of year. Flora comprised of common species that are frequently associated with the habitats present on site. The site is considered to be of **negligible** value for rare and notable plants and as such are not considered further in this assessment.

Invasive Species

3.20 Invasive species were reported in the record search within 2km, concerning terrestrial species. Three-cornered garlic *Allium triquetrum*, Cotoneaster *Cotoneaster*, wall cotoneaster *Cotoneaster horizontalis*, entire-leaved cotoneaster *Cotoneaster integrifolius*, New Zealand pigmyweed *Crassula helmsii*, montbretia *Crocosmia pottsii x aurea = C. x crocosmiiflora*, Canadian waterweed *Elodea canadensis*, Nuttall's waterweed *Elodea nuttallii*, Japanese Knotweed *Fallopia japonica*, giant hogweed *Heracleum mantegazzianum*, orange balsam *Impatiens capensis*, Himalayan balsam *Impatiens glandulifera*, variegated yellow archangel *Lamiastrum galeobdolon subsp. Argentatum* and parrot's-feather *Myriophyllum aquaticum.* All of these records were over 1km from the site and no invasive species listed on Schedule 9 of the WCA (1981) were recorded within the site; as such invasive species are not considered further in this report.

Badgers

3.21 The data search returned no records of badgers within 2km. A potential sett was recorded on the northern boundary in 2018. Monitoring surveys established that this sett was not in current use in 2018 (SES, 2018b). This sett was no longer visible during the updated survey. As such it is not considered to be a constraint.

3.22 No evidence of badgers was observed during the phase 1 habitat survey. The wooded areas, and scrub along the site boundaries are considered to provide suitable though sub-optimal dispersal/foraging/sett building habitat, and the remaining site was considered unsuitable for sett building due to being an active building site. Whilst these can contain soil piles from the site excavation the small site and traffic act as a likely deterrent.

3.23 The site is assessed as being of **site** importance for badgers. Confidence in this assessment is **high**.

Bats

3.24 Records of two species of bats and two unidentified bats were identified within 2km, summarised in Table 3.

Table 3. Summary of bat records within 2km of the site.

Species	Total No. of Records	Year of most recent record	Distance of closest record
Unidentified bat *Verspertilionidae sp.*	2	1986	1.4km northeast
Pipistrelle bat *Pipistrellus sp.*	6	1994	1.0km northeast
Common pipistrelle *Pipistrellus pipistrellus*	5	2016	0.4km northeast
Soprano pipistrelle *Pipistrellus pygmaeus*	1	2013	1.4km southeast

Roosting Bats

3.25 The buildings on site was assessed to be of negligible suitability for roosting bats. Additionally, none of the trees were found to contain suitable features for roosting bats.

3.26 The site is of **negligible** importance for roosting bats, confidence in this assessment is **high.**

Foraging/Commuting Bats

3.27 The trees, hedgerows, and scrub are considered to offer some opportunities for foraging and commuting bats, with the hedgerows considered to form strong commuting features along the boundaries of the site offering further connectivity to surrounding habitats.

3.28 The majority of the site is bareground and considered to be of negligible suitability for foraging and commuting bats.

3.29 The boundary habitats were valued as being of moderate suitability for foraging and commuting bats following current guidance (Collins, 2016; see Appendix 3). As such, the boundary habitats are considered to be of **site** importance for foraging/commuting bats. Confidence in this assessment is **high**.

Birds

3.30 The data search returned records for six species listed on Schedule 1 of the WCA (1981) within 2km. These are kingfisher *alcedo atthis* Mediterranean gull *Ichthyaetus melanocephalus* red kite *Milvus milvus,* green sandpiper *Tringa ochropus,* redwing *turdus iliacus* and fieldfare *Turdus pilaris.* However, given the habitats on site are unsuitable nesting or foraging habitat for these species and the overall size of the site, it is considered highly unlikely the proposed works would impact these species or wintering/migratory birds.

3.31 The survey was undertaken outside of the nesting bird season therefore no active nests were found however a number of old nests were noted in scrub and trees. Scrub and trees provide excellent habitat for nesting birds and it is highly likely that the site will be used by common species for nesting during the breeding season (March to August inclusive). Most of the Schedule 1 species listed above are unlikely to be utilising the site due to their specific habitat preferences (e.g. watercourses) however small numbers of fieldfare and redwing may forage on hawthorn *Crataegus monogyna* and blackthorn *Prunus spinosa* berries during the winter. The site also lacks the habitats utilised for migratory/wintering birds.

3.32 The surrounding area also provides extensive areas of nesting habitat for birds and only relatively small areas are available for nesting and foraging on site. Therefore, the site has value at a **Site** level for nesting birds.

Great Crested Newts

3.33 The data search returned 18 records of GCN within 2km; the closest record was observed at a location approximately 1km north of the site boundary. However, there are no waterbodies on site or any within 500m therefore although habitat on site is suitable, it is not connected to any suitable breeding ponds which GCN could disperse from. GCN are deemed absent, and impacts are considered to be highly unlikely. As such, they are not considered further in this report. Confidence in this assessment is **high.**

Hazel Dormice

3.34 No records for dormice within 10km of the site were returned from the NBN records search. The wider landscape is heavily urbanised being located in London, as such whilst there is connectivity off site, this connectivity does not lead to areas of suitable habitat for hazel dormice.

3.35 The site was considered to provide very limited opportunities for dormice along the boundaries only in the form of tree lines and scrub. Preferred core habitats for this species (broadleaved woodland with developed understory and species-rich complex-structured hedgerows) were not present. The value of the tree lines was also limited by their species-poor nature and limited understory and construction lighting on site. These factors were considered to severely limit the amount of suitable nesting habitat and the availability of a variety of food sources, necessary to sustain dormice throughout the year.

3.36 The site is considered to be of **negligible** importance to any local dormouse population, confidence in this assessment is **high**. As such hazel dormice are not discussed further in this report.

Invertebrates

3.37 35 records of notable invertebrate species stag beetle *Lucanus cervus* were returned within 2km. However, no suitable habitat is present on site for this species.

3.38 Given the very limited extent and structural diversity of natural habitats on site, it is unlikely that the site would support a notable invertebrate assemblage. Therefore, the site is considered to be of **site** importance for invertebrates. Confidence in this assessment is **high**.

Reptiles

3.39 71 records of slow worm, one common lizard and four grass snakes were returned from the data search within 2km. Previous surveys undertaken on site found a low population of slow worm and advised precautionary methods of clearance. These have already been undertaken in the construction area rendering them unsuitable for reptiles. As such, the existing suitable habitat for reptiles is present amongst the trees and scrub, but the majority of the site is considered to be unsuitable.

3.40 The site is considered to have up to **site** level importance for reptiles. Confidence in this assessment is **high**.

Other Notable Species

Hedgehog

3.41 37 hedgehog records were returned by the data search. Hedgehogs can utilise a range of habitats including woodland, hedgerows, residential gardens, farmland and grassland, and are known to nest (summer/ maternity/hibernation) in brash piles, dense scrub and buildings. The site contained a small area of scrub suitable for use by nesting hedgehogs, with suitable habitat for foraging and commuting hedgehogs present in the immediate landscape. It is therefore considered probable that the site is used by individuals for foraging and sheltering.

3.42 Due to the habitats present on site and within the wider landscape, and the number of records within the wider area for this species, the site is considered to be of **site** importance for hedgehogs, with confidence in this is currently **high**.

Common Toad

3.43 Common toads require access to aquatic habitats in order to reproduce. Outside of the breeding season, toads can utilise a range of terrestrial habitats including scrub, hedgerows, woodland, brash piles, buildings and private gardens. Only four records were found in the surrounding 2km. Due to the habitats present on site and within the wider landscape, with the lack of records within the wider area the site is considered to be of **site** importance for common toad, with confidence in this currently **high**. The boundary habitats within the site, hedgerows and trees were considered to provide suitable sheltering and foraging opportunities for toad.

Brown hare, harvest mouse and polecat

3.44 No records were found for brown hare, harvest mouse or polecat. The site lacks suitable habitat for brown hare and polecat with the actual construction area lacking habitat for harvest mouse. The site is considered to be of **site** importance for harvest mouse and negligible for brown hare and polecat, with confidence in this currently **high**.

Summary

3.45 A summary of the above is found in Table 4.

Table 4: Summary evaluation of features.

Feature	Summary Description	Importance	Confidence
Statutory Designated Sites	No SAC/SPA/Ramsar within 10km of the site	International	High
Statutory Designated Sites	Six LNRs within 5km of the site	National	High
Non-statutory Designated Sites	16 SINCs located within 2km west of the site	County	High
Habitats	Scattered trees, bareground, buildings, tall ruderal and scrub.	Site	High
Badger	Suitable sett building, foraging and commuting habitat on site.	Site	High
Bats	No roosting potential but potential for foraging and commuting habitats.	Site	High
Birds	Site suitable for urban nesting species	Site	High
Reptiles	Potential for species within field boundaries and other semi-improved grassland habitats. Previous survey found population of slow worms, and recommended clearance has already been carried out.	Site	High
Other notable species	Suitable habitat on boundaries for hedgehogs	Site	High
	Suitable habitat on boundaries for common toad	Site	High
	No suitable habitats for brown hare	Negligible	High
	Suitable habitat on boundaries for harvest mouse	Site	High
	No suitable habitats for polecats	Negligible	High

4.0 Preliminary Prediction of Impacts, Mitigation & Enhancement Measures

Description of Proposals

4.1 Current proposals are for the creation of two apartment housing blocks. The northern most block required moving due to original plans placing it over a water main, as such a fresh planning application was required. The southern block is unchanged and currently under construction.

Designated Sites

4.2 The closest statutory designated site is Yeading Meadows LNR; c. 1km to the west. There are no predicted direct or indirect effects on the designated site due to the distance from the development site and the small scale of the proposed works. Areas of dense residential development are also located between the LNR and the development site and form significant barriers.

4.3 The LNR has circular footpaths linking in with local roads, a network of formal pathways crosses the site, linking the areas. The Hillingdon Trail and Dog Rose Ramble (formal trails created by the council) also cross through the site. Yeading Meadows LNR is located in a densely populated area of Hillingdon therefore habitats and species using the LNR are likely to be habituated to disturbance from humans and domestic animals. As such it is already managed with visitors in mind.

4.4 Under current proposals, the likely level of increased pressure from recreation arising from the proposed development is not regarded as significant.

4.5 It is predicted that the development will have a **neutral** impact on designated sites.

Habitats

4.6 Species and habitats recorded are common and widespread through the borough. No habitats were considered to be Habitats of Principal Importance (NERC Act, 2006). No rare or notable plant species and no non-native invasive plant species were recorded. The works will only impact bareground habitats and as such mitigation is not required.

Protected and Notable Species

Badger

4.7 Badgers are a mobile species and are known to be present in the vicinity of the site. As such, if no work has been carried out on site within 12 months of the initial survey (November 2022), prior to construction works commencing it is recommended that a further badger survey is conducted to ascertain if new badger sett building activity within 30m of the site has occurred in the intervening period.

4.8 As badgers are highly mobile to mitigate any potential impacts to badgers commuting into or foraging on the site, during the construction phase such as death and/or injury the following precautionary techniques that are sympathetic to badgers are additionally recommended:

- Covering trenches at night or leaving a plank of wood leant against the side to ensure badgers can escape if they were to accidentally fall in;
- Covering open pipework with a diameter of greater than 120mm at the end of the workday to prevent animals from entering and becoming trapped;
- Covering chemicals and appropriately storing them overnight;
- Regular removal of litter; and
- Low speed limits (≤20mph).

4.9 The site could be enhanced for badgers through the planting of species known to benefit wildlife (see Appendix 9) such as native fruit trees and the creation of species-rich grasslands.

4.10 Without mitigation in place, the development is expected to have a negative effect for badgers at a site level due to the risk of killing/injuring badgers. If the above mitigation and enhancement measures are implemented the development is considered to result in a **neutral** residual effect at site level.

Bats

Bats – Roosting

4.11 The site could be enhanced for bats through the planting of flora known to be favoured by their prey species (Appendix 9) and the inclusion of traditional bat boxes on retained trees and/or integrated within new buildings. As such, bat boxes are recommended to be integrated into buildings and installed in trees as part of the development and landscape design, to provide opportunities for roosting bats on site post-development. There are numerous bat box designs but the Schwegler 2F bat box (Figure 2) provides excellent summer roosting conditions for crevice inhabiting species and is easily erected on retained trees. Additionally, a variety of bat boxes which can integrate seamlessly into the design of new buildings are available, such as the Habibat Bat Box (Figure 3), which can be supplied plain for a rendered finish, or faced with brick.

Figure 2: Schwegler 2F bat box suitable for erection on a tree.

Figure 3: Habibat Bat Box faced with red brick, incorporated within wall at gable end.

4.12 On trees, boxes should be sited at a minimum 3m height, with a clear uncluttered flight path to the box. Integrated boxes in buildings should be sited in properties close to the boundaries of the development and

retained established vegetation. Ideally, the boxes would be installed with a variety of orientations, including south-facing, high up on gable ends or directly under the eaves.

4.13 No roosting habitat is present on site and as such the resulting effect of the proposed development would be **positive** at a site level.

Bats – Foraging and Commuting

4.14 Activity and static surveys are considered unnecessary due to the small scale of the site and that the boundary habitats are being retained.

4.15 Impacts from the development will likely include disturbance and predation of foraging/commuting bats through increased site lighting, as well as disruption of commuting routes due to proposed removal of field boundary habitats. To mitigate these impacts, it is recommended that site lighting is kept to a minimum during both the construction and operational phases. No lighting should intrude upon areas of potential foraging/commuting habitats or potential roosting features, such as the on-site scattered trees and hedgerows. If lighting is necessary, then there are a number of ways to minimise the effect of lighting on bats.

4.16 The following mitigation strategies have been taken from the Institution of Lighting Professionals and Bat Conservation Trust's Guidance Note 08/18 Bats and artificial lighting in the UK (2018) and other referenced sources and provide guidance for the development of a suitable scheme:

- In general, light sources should not emit ultra-violet light so as to avoid attracting insects and thus potentially reducing numbers in adjacent areas, which bats may use for foraging. Metal halide and fluorescent sources should not be used.
- LED luminaires should be used where possible. A warm white spectrum (ideally <2700Kelvin) should be adopted to reduce blue light component. Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012).
- The height of lighting columns should be limited to eight meters and increasing the spacing of lighting columns (Fure, 2006) can reduce spill of light into unwanted areas such as the hedgerow boundary habitats. Only luminaires with an upward light ratio of 0% and with good optical control should be used. Luminaires should always be mounted on the horizontal, i.e. no upward tilt.
- Other ways to reduce light spill include the use of directional luminaires, shields, baffles and/or louvres. Flat, cut-off lanterns are best. Additionally, lights should be located away from reflective surfaces where the reflection of light will spill onto potential foraging/commuting corridors. Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill. Where windows and glass facades etc. cannot be avoided, low transmission glazing treatments may be a suitable option in achieving reduced illuminance targets.
- Lighting that is required for security or access should use a lamp of no greater than 2000 lumens and be passive infrared sensor activated on a short timer (1 minute), to ensure that the lights are only on when required and turned off when not in use (Jones, 2000; Hundt, 2012). A control management system can be used to dim (typically to 25% or less) or turn off groups of lights when not in use.

4.17 It is also recommended to mitigate impacts of the development, retained linear features such as hedgerows or tree lines are enhanced.

4.18 It is predicted that the above mitigation and enhancements would result in a **neutral to positive** residual effect for bats, depending on proposed survey results.

Birds

4.19 The trees and scrub within the site are considered to contain the potential for nesting birds but the proposed site layout is not anticipated to result in a loss of suitable nesting habitat. Should plans change and clearance of nesting bird habitat be required, clearance take place outside of the nesting bird habitat (generally considered March to August inclusive), or after a negative nesting bird check by a suitably qualified ecologist.

4.20 To enhance the sites nesting bird habitats, artificial nesting opportunities are recommended to be integrated into properties and installed on trees. Boxes are recommended on buildings or retained trees to attract species known to occur locally in particular house sparrow *Passer domesticus*, and swift *Apus apus* (Swift boxes are suitable for both species, figure 4). Nest boxes should be installed with a northerly orientation to create a cool nesting environment and minimise the risk of chicks overheating. Swift boxes should be installed on buildings at 4-5m with a clear flight line directly below the eaves of properties. The locations of boxes should be grouped within the scheme due to the colonial nesting nature of these species, to facilitate likelihood of uptake.

Figure 4: Manthorpe Swift box (integrated)

Figure 5: Schwegler 1B bird box for erection on trees.

4.21 It is predicted that the above mitigation would result in a **positive** residual effect for birds depending on the findings of the breeding bird surveys.

Invertebrates

4.22 The site is considered unlikely to support significant assemblages of rare or notable invertebrates due to the common habitats present and restricted variety and density of micro-habitats available. As such, no further surveys are recommended to adhere to wildlife legislation or planning policy.

4.23 These measures could result in a **neutral** residual effect at site level for invertebrates.

Reptiles

4.24 The presence of reptiles may not be discounted on the site but the previous phase 2 report recommended precautionary methods of clearance in the works area and this has already been carried out. The remaining

suitable habitat along the site boundaries will not be impacted. As such further mitigation is not required and the works would likely result in a **neutral** residual effect at site level.

Other notable species

4.25 The site contains suitable habitat for hedgehogs, toads, and harvest mouse on the boundary habitats. As vegetation clearance has already been undertaken within the construction area and no suitable habitat for these species was present. As such further mitigation is not required and the works would likely result in a **neutral** residual effect at site level.

5.0 Conclusions

5.1 Overall, the site was considered to be of low ecological value. However, it is considered that the site may provide suitable habitat for a number of protected and/or notable species. A summary of likely impacts and recommended mitigation is provided in Table 5.

Table 5:. Summary of likely impacts, mitigation and enhancement measures and residual impacts.

Feature	Likely Impacts	Further Surveys	Likely Mitigation and Enhancement Measures	Residual Effect
Designated Sites	None predicted	N/A	N/A	Neutral
Habitats	None predicted	Biodiversity Net Gain Assessment	BNG DEFRA 3.1 calculation	TBC
Badger	Death and/or injury during construction	Pre-construction badger survey if works begin after November 2023.	Standard precautionary measures (see 4.13). Wildlife friendly landscaping scheme incorporating diverse native planting of wildflower and wild berry mixes into retained and new hedgerows.	Neutral
Bats	Loss of foraging/ commuting habitat Lighting disturbance of commuting/ foraging areas	N/A	Retention of boundary habitats. Sensitive lighting scheme during construction avoiding light spill on to boundary habitats. Provision of bat boxes on retained trees and within new buildings	Neutral to Positive
Birds	Disturbance of retained habitats Death or disturbance of nesting birds	N/A	Retention, reinforcement and buffering of boundary features. Clearance works to take place outside of the nesting bird season or after a negative inspection by a suitably qualified ecologist. Wildlife friendly landscaping scheme incorporating berry producing native scrub and hedgerow species as well as semi-natural grassland areas providing refuge and feeding opportunities for a variety of invertebrate species.	Positive
Reptiles	None predicted	N/A	Retention, reinforcement and buffering of boundary features.	Neutral

5.2 Through the above mitigation, a wildlife friendly landscaping scheme, sensitive practices/management during construction and occupation and precautionary methods as suggested, it is considered that all significant impacts upon biodiversity, including any potential adverse impacts upon specific protected species and habitats will likely be able to be wholly mitigated in line with relevant wildlife legislation, Chapter 15 of the NPPF (MHCLG, 2021); and adopted local plan policies with regard to biodiversity.

6.0 References

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Appendix 1: Site Location Plan

Appendix 2: Legislative and Policy Framework

National Planning Policy

This document has not been prepared by a legal or planning professional and should be read as an interpretation of relevant statutes and planning policy guidance only. The information presented within this document has been reported in good faith and are the genuine opinion of SES on such matters. SES does not accept any liability resulting from outcomes relating to the use of this information or its interpretation within this document.

National Planning Policy

The NPPF (MHCLG, 2021) states that:

Paragraph 174

Planning policies and decisions should contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

Paragraph 180

When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity 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;
b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact 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;
c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

Local Planning Policy

Hillingdon Local Plan: Policy EM7: Biodiversity and Geological Conservation

The Council will review all the Borough grade Sites of Importance for Nature Conservation (SINCs). Deletions, amendments and new designations will be made where appropriate within the Hillingdon Local Plan: Part 2- Site Specific Allocations Local Development Document. These designations will be based on previous recommendations made in discussions with the Greater London Authority.
Hillingdon's biodiversity and geological conservation will be preserved and enhanced with particular attention given to:

1. The conservation and enhancement of the natural state of:
    - Harefield Gravel Pits
    - Colne Valley Regional Park
    - Fray's Farm Meadows
    - Harefield Pit

2. The protection and enhancement of all Sites of Importance for Nature Conservation. Sites with Metropolitan and Borough Grade 1 importance will be protected from any adverse impacts and loss. Borough Grade 2 and Sites of Local Importance will be protected from loss with harmful impacts mitigated through appropriate compensation.

3. The protection and enhancement of populations of protected species as well as priority species and habitats identified within the UK, London and the Hillingdon Biodiversity Action Plans.

4. Appropriate contributions from developers to help enhance Sites of Importance for Nature Conservation in close proximity to development and to deliver/ assist in the delivery of actions within the Biodiversity Action Plan.

5. The provision of biodiversity improvements from all development, where feasible.

6. The provision of green roofs and living walls which contribute to biodiversity and help tackle climate change.

7. The use of sustainable drainage systems that promote ecological connectivity and natural habitats.

Wildlife Legislation

The two principal wildlife statutes are the Conservation of Habitats and Species Regulations (The Habitats Regulations 2017) that deals with internationally important sites and species, and the Wildlife and Countryside Act (WCA) 1981 that deals with nationally important sites and species.

Certain habitats and species within discrete sites are protected as SSSI under the WCA 1981. A proportion of these are more strictly protected as proposed or designated SPA, SAC and Ramsar sites under the Conservation of Habitats and Species Regulations (2017). These designations protect features and resources listed as being of international importance from both direct and indirect effects arising from a range of issues including proposed development. In addition, non-statutory designated

sites (e.g. Local Wildlife Sites) are protected under the National Parks and Access to the Countryside Act, (1949) Section 21.

Certain species listed on Schedule 5 of the WCA 1981, including all bat species, Great Crested Newt (Great Crested Newt) *Triturus cristatus,* Hazel Dormouse *Muscardinus avellanarius* and Otter *Lutra lutra* are also protected under Schedule 2 of the Habitats Regulations 2010 making them European Protected Species (EPS). Taken together it is illegal to:

- Deliberately kill, injure or capture any wild animal of EPS;
- Deliberately disturb wild animals of any EPS in such a way to be likely to significantly affect:
- The ability of that species to survive, breed, rear or nurture their young; or
- The local distribution of that species.
- Recklessly disturb an EPS or obstruct access to their place of rest;
- Damage or destroy breeding sites or resting places of such animals;
- Deliberately take or destroy the eggs of such an animal;
- Possess or transport any part of an EPS, unless acquired legally; and/or
- Sell, barter or exchange any part of an EPS.

A range of species other than birds, including Water Vole *Arvicola amphibius*, is protected from disturbance and destruction under the WCA 1981 through inclusion on Schedule 5.

All breeding birds are protected from deliberate destruction under the WCA 1981. Certain species are further protected from disturbance at their nest sites being listed on Schedule 1 of the WCA 1981.

Common reptiles including Common Lizard *Zootoca vivipara,* Slow-worm, Grass Snake and Adder *Vipera berus* are protected under the WCA 1981, they are listed as schedule 5 species, therefore part of Section 9(1) and section 9(5) apply; the Countryside and Rights of Way Act 2000 (CRoW) also strengthens their protection.

Badger *Meles meles* is protected from sett disturbance and destruction under the Protection of Badgers Act 1992.

Section 40 of The Natural Environment and Rural Communities Act (NERC) 2006 places a legal duty on Local Authorities to conserve biodiversity. Section 41 (S41) sets out a list of 943 species and habitats of principal importance. These species are known as England Biodiversity Priority (EBP) species and are those identified as requiring action under the former UK Biodiversity Action Plan (BAP) and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework.

Native, species-rich hedgerows that fit certain criteria are protected as being 'Important' under the Hedgerow Regulations (1997).

Japanese Knotweed *Fallopia japonica*, along with other introduced and invasive species are listed under Schedule 9 of the WCA 1981. Japanese Knotweed is highly invasive and its rhizomes cause damage to built structures. Hence it is also classed as controlled waste under the Environment Protection Act 1990 and has therefore either to be removed or disposed of in a licensed landfill or the rhizomes buried to a depth of at least 5m.

Appendix 3: Detailed Methods

Extended Phase 1 Habitat Survey

Phase 1 Habitat Survey is a standard technique for obtaining baseline ecological information for areas of land, including proposed development sites. Phase 1 Habitat Survey methods are set out in the Handbook for Phase 1 Habitat Survey (Joint Nature Conservation Committee, 2010). Habitat mapping was undertaken using the standard classification to indicate habitat types. Features of ecological interest and value were highlighted using target notes.

Detailed Botanical Survey

As the Phase 1 Habitat Survey was conducted during sub-optimal timings for botanical survey, a further site visit was undertaken in May 2019 to assess the floristic value of the site and compile a peak-season detailed botanical species list.

Plant species identified in each of the various habitat parcels were recorded and their abundances assessed on the DAFOR scale:

- D - Dominant
- A - Abundant
- F - Frequent
- O - Occasional
- R - Rare

These scores represent the abundance within the defined area only and do not reflect national or regional abundances. Plant species nomenclature follows Stace (2010).

Bats

Preliminary Bat Roost Assessment

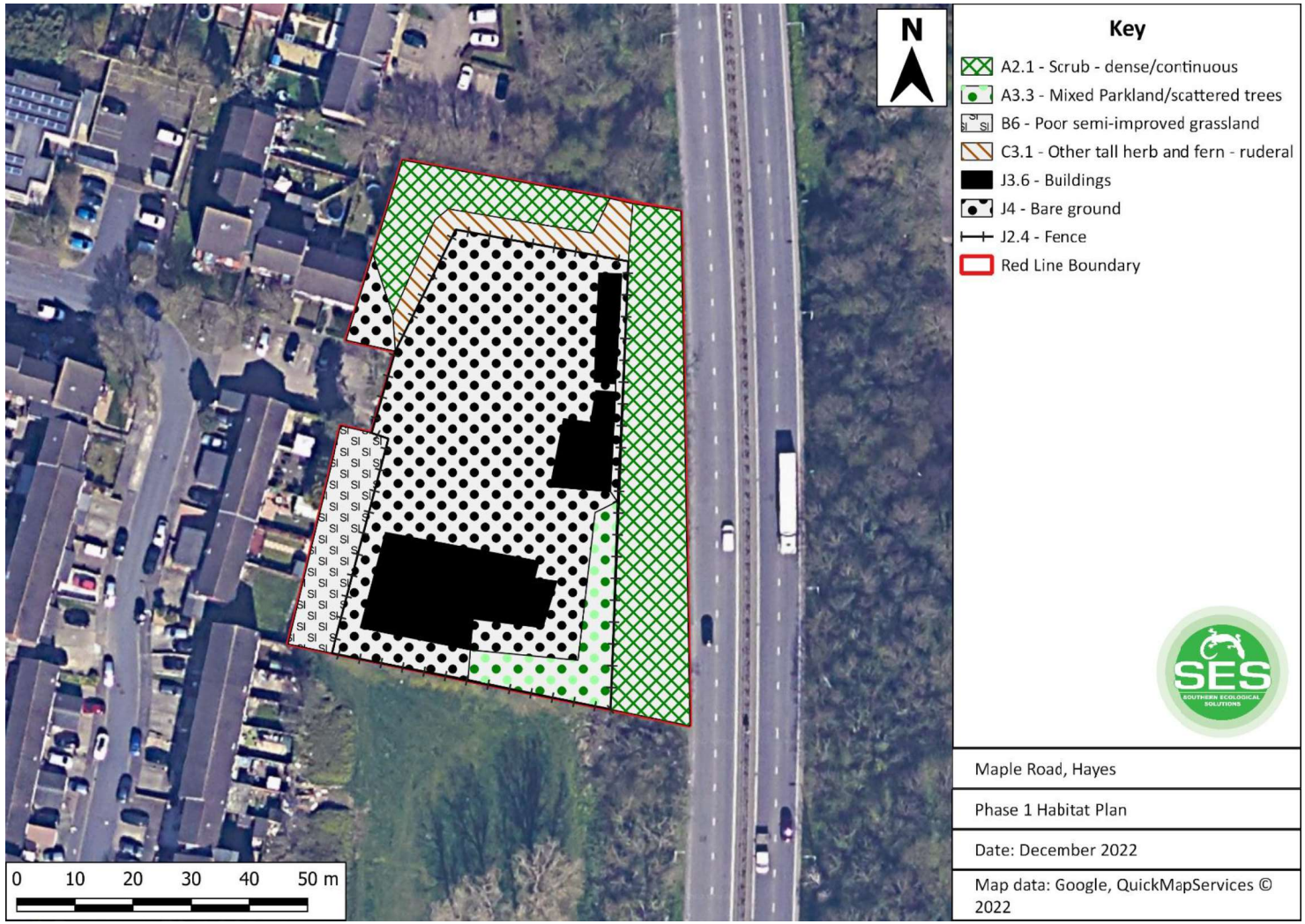
Habitats on and adjacent site were assessed for their suitability to support roosting, foraging and commuting bats using guidelines issued by the Bat Conservation Trust (Collins, 2016). All potential roosting habitats (existing trees) were assigned a level of suitability according to the descriptions outlined in Table A3.1. Trees were initially assessed from ground level, using binoculars where necessary to identify potential roost features, bat access points and evidence of bat occupation such as droppings, urine staining and mammalian fur oil staining.

The site was also assigned a level of suitability for foraging and commuting bats according to the descriptions outlined in Table A3.1.

Table A3.1. Assessment of the potential suitability of a proposed development site for roosting, foraging and commuting bats (Collins, 2016)

Suitability	Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats	Negligible habitat features on site likely to be used by commuting and foraging bats
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically but not enough space, shelter, protection and appropriate conditions to be used on a regular basis or by larger numbers of bats A tree of sufficient size and age to contain potential roosting features but with none seen from the ground or features seen with only very limited roosting potential	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by another habitat Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or patch of scrub
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge High-quality habitat that is well-connected to the wider landscape that is likely used regularly by foraging bats such as broad-leaved woodland, tree-lined watercourses and grazed parkland Site is close to and connected to known roosts

Appendix 4: Phase 1 Habitat Survey Plan



Appendix 5: Plant Species

Table A5.1: Plant Assemblages Recorded during Phase 1 Habitat Survey

Common name	Latin name	Dense Scrub	Tall ruderal	Semi-improved grassland	Scattered Trees
Ash	*Fraxinus excelsior*	O			
Blackthorn	*Prunus spinosa*	A			
Bramble	*Rubus fruiticosus*	A			
Cherry laurel	*Prunus laurocerasus*	O			O
Cleavers	*Galium aparine*		O	R	
Common nettle	*Urtica dioca*		A	R	
Dog Rose	*Rosa canina*	O			
False oat-grass	*Arrhenatherum elatius*			A	
Field maple	*Acer Campestre*				O
Field thistle	*Cirsium discolor*			R	
Hawthorn	*Crataegus monogyna*	F			
Hazel	*Corylus avellana*	O			
Hedge bindweed	*Calystegia sepium*				O
Herb Robert	*Geranium robertianum*		R		
Ivy	*Hedera helix*				O
Leyland cypress	*Cupressus × leylandii*				R
Pedunculate Oak	*Quercus Robur*	R			O
Perennial ryegrass	*Lolium perenne*			A	
Tree cotoneaster	*Cotoneaster frigidus*	R			
Wild lettuce	*Lactuca virosa*	O			
Yellow mustard	*Sinapis alba*	O			

Appendix 6: Site Photographs

Photo 1: Bare ground worksite

Photo 2: Compound buildings and building under construction

Photo 3: Scrub along the north of the site

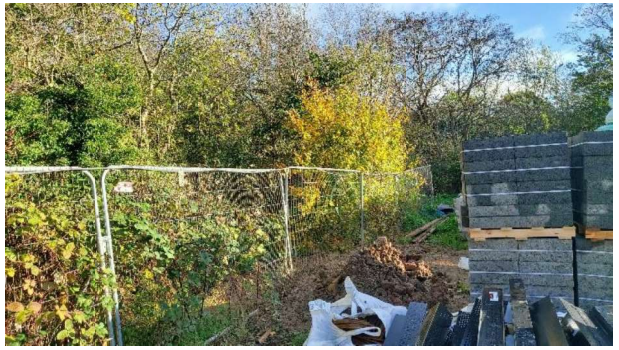


Photo 4: Fence separating site from parkway embankment

Photo 5: Building under construction in south of the site

Photo 6: Trees in south east of the site

Appendix 7: Proposed Layout