MIDDLEMARCH

Preliminary Ecological Appraisal

Charville Lane Children's Home, 113 Charville Lane, Hayes, London Borough of Hillingdon

A Report to: Hunters Architects
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Quality Assurance

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Declaration of Compliance

This study has been undertaken in accordance with British Standard 42020:2013 "Biodiversity, Code of Practice for Planning and Development". The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide **opinions.**

Disclaimer

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment. Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned **and prepared.**

Validity of Data

The findings of this study are valid for a period of 24 months from the date of survey. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified ecologist to assess any changes in the habitats present on site, and to inform a review of the conclusions and recommendations made.

Non-Technical Summary

Project Background

In July 2023 Hunters Architects commissioned Middlemarch to undertake a Preliminary Ecological Appraisal of the site of a proposed development at Charville Lane Children's Home, 113 Charville Lane, Hayes, London Borough of Hillingdon. This assessment is required to inform a planning application associated with the development of six houses and an education building.

Scope of Appraisal

To fulfil the above brief, an ecological desk study and a walkover survey (in accordance with Phase 1 Habitat Survey methodology) were undertaken. The survey was carried out on 24th July 2023 by Harry Stone ACIEEM (Senior Ecological Consultant) and Nick Davey (Ecological Consultant). An initial review of the ecological data was subsequently carried out to determine the features of ecological importance on site as well as a preliminary assessment of the potential impacts the proposed development could have on these features.

Potential Impacts on Important Ecological Features

Important ecological features identified through the desk study and Phase 1 Habitat Survey include designated sites (Yeading Brook Meadows SINC, Home Covert, Lowdham Field and Pole Hill Open Space SINC, and Hayes Shrub SINC), habitats (scattered trees and defunct hedgerow) and species (amphibians, badgers, bats, birds, hedgehogs, terrestrial invertebrates, and invasive plants).

Based on Middlemarch's current understanding of the proposals, potential impacts which could occur as a result of the development include**:**

- The loss, fragmentation and physical damage of the scattered trees and hedgerow;
- Killing, injury or disturbance of protected species; and,
- Spread of invasive plant species.

Whilst the proposed development has the potential to adversely impact ecological features, it also presents opportunities to deliver new or enhanced habitats and benefits to biodiversity, please refer to Chapter 6 for full details.

Recommendations

In order to ensure compliance with wildlife legislation and relevant planning policy and to secure a net gain for biodiversity overall, the following recommendations are made (full details are provided in Chapter 7):

Further Work Required	**Consultation** – The Local Planning Authority should be consulted prior to any works commencing to confirm whether any specific mitigation measures are required with respect to Yeading Brook Meadows SINC, Home Covert, Lowdham Field and Pole Hill Open Space SINC, and Hayes Shrub SINC. **Ecological Surveys** – the recommendations made in the Preliminary Bat Roost Assessment (RT-MME-161166-02) should be followed.
Scheme Design	The proposed development should be designed in accordance with the ecological mitigation hierarchy as set out in the National Planning Policy Framework (NPPF), and the National Planning Practice Guidance (NPPG). The proposed development should seek to avoid/minimise losses of important ecological features in the first instance and incorporate these features in the landscaping layout of the scheme accordingly.

	In accordance with the principles of the Environment Act 2021 the development should also secure an overall net gain for biodiversity.
Management Plans and Strategies	**Construction Ecological Management Plan (CEcMP**) - A CEcMP should be produced for the site setting out the safeguards and appropriate working practices that will be employed to minimise adverse effects on biodiversity and ensure compliance with UK Wildlife Legislation. This should include specific measures to minimise risk to terrestrial mammals, nesting birds, common amphibians and stag beetles, as well as measures to avoid pollution and prevent the spread of invasive plants. **Landscape and Ecology Management Plan (LEMP)** - A LEMP should be produced setting out the detailed establishment and management of all on site compensation and enhancement measures.

Contents

1. Introduction

1.1. Project Background

In July 2023 Hunters Architects commissioned Middlemarch to undertake a Preliminary Ecological Appraisal of the site of a proposed development at Charville Lane Children's Home, 113 Charville Lane, Hayes, London Borough of Hillingdon. This assessment is required to inform a planning application associated with the development of six houses and an education building.

The purpose of the Preliminary Ecological Appraisal is to identify the features of ecological importance on and surrounding the site and provide a preliminary assessment of the potential impacts the proposed development could have on these features. In addition, Middlemarch has been commissioned to undertake a Preliminary Bat Roost Assessment (RT-MME-161166-02).

1.2 Site Description and Context

Table 1.1 provides a brief summary of the site and its surroundings.

Attribute	Description
Location	Charville Lane Children's Home, 113 Charville Lane, Hayes, London Borough of Hillingdon
National Grid Reference	TQ 08904 83198
Site Area (ha)	0.31
Topography	Flat
Land Cover (on site)	The site is dominated by the Children's Home building, hardstanding, and amenity grassland. There are also areas of introduced shrub, a defunct hedgerow, and scattered trees.
Land Cover (site surrounds)	The wider landscape is dominated by urban development, as well as parks, sports grounds, agricultural land, and woodland. The A40 road is located 1.3 km north, with RAF Northolt located just beyond it.

Table 1.1: Summary of Site and Surroundings

1.3 Documentation Provided

The conclusions and recommendations made in this report are based on information provided by the client regarding the scope of the project. Documentation made available by the client is listed in Table 1.2.

Document / Drawing Number	Author
APL002 Topographic Plan	Hunters
APL003 Existing Plans and Elevations	Hunters
APL004 Site Plan	Hunters
APL006 Ground Floor Plan	Hunters
APL007 First Floor Plan	Hunters
APL008 Roof Plan	Hunters
APL009 Site Elevations	Hunters
APL010 Proposed Perspective	Hunters
Proposed Charville Children's Homes, Charville Lane, Hayes	Hunters

Table 1.2: Documentation Provided by Client

2. Methods

2.1 Desk study

An ecological desk study was undertaken to determine the presence of any designated nature conservation sites and protected species in proximity to the site. This involved contacting appropriate statutory and non-statutory organisations which hold ecological data relating to the survey area. Middlemarch then assimilated and reviewed the desk study data provided by these organisations.

The consultees for the desk study were:

- Natural England - MAGIC website for statutory conservation sites; and,
- Greenspace Information for Greater London (GiGL) CIC.

The desk study included a search for:

- Landscape Scale Conservation Initiatives;
- European statutory nature conservation sites in the UK (collectively the 'National Site Network') within a 10 km radius of the site;
- UK statutory sites within a 2 km radius; and,
- Non-statutory sites and protected/notable habitats and species records within a 1 km radius.

The data collected from the consultees are discussed in Chapter 3. In compliance with the terms and conditions relating to its commercial use, the full desk study data are not provided within this report.

The desk study also included a review of relevant local planning policy with regard to biodiversity and nature conservation (see Appendix 1).

2.2 Phase 1 Habitat Survey

A field survey was conducted following the Phase 1 Habitat Survey methodology of the Joint Nature Conservation Committee[1] and the Institute of Environmental Assessment[2]. Phase 1 Habitat Survey is a standard technique for classifying and mapping British habitats. The aim is to provide a record of habitats that are present on site. During the survey, a Habitat Condition Assessment was carried out to determine the ecological status of each habitat recorded. The condition assessment was undertaken using criteria published by Natural England (2023)[3], the details of which are presented in Section 8.

During the survey, the presence or potential presence of protected species was noted where observed. This included a review of suitable habitat opportunities or field signs of notable species

[1] Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey: A technique for environmental audit (reprint).* Joint Nature Conservation Committee, Peterborough.
[2] Institute of Environmental Assessment. (1995). *Guidelines for Baseline Ecological Assessment, Institute of Environmental Assessment*. E&FN Spon, An Imprint of Chapman and Hall. London.
[3]Natural England (2023) *The Biodiversity Metric 4.0 – User Guide: Technical Annex 1 Condition Sheets and Methodology. Natural England Joint Publication JP039*. Available http://publications.naturalengland.org.uk/publication/6049804846366720

groups (amphibians, bats, birds, terrestrial and aquatic invertebrates, terrestrial and aquatic mammals, plants and reptiles).

The survey was carried out on 24th July 2023 by Harry Stone ACIEEM (Senior Ecological Consultant) and Nick Davey (Ecological Consultant). Table 2.1 details the weather conditions at the time of the survey.

Parameter	Condition
Temperature (ºC)	15-17
Cloud (%)	0-100
Wind (Beaufort)	F0-F2
Precipitation	Dry

Table 2.1: Weather Conditions During Field Survey

Field Survey Constraints and Limitations

The field survey did not experience any constraints or limitations.

2.3 Preliminary Evaluation

The Preliminary Evaluation is an initial review of the ecological data (desk study and Phase 1 Habitat Survey) to identify important ecological features in the context of the site. Important ecological features are those that by virtue of their legal status, their inclusion in any national policy or plan, or their rarity or contribution to local ecological networks, are worthy of further consideration in the planning system. This typically includes statutory or non-statutory nature conservation sites, species protected by law, Habitats and Species of Principal Importance in England as defined by the Natural Environment and Rural Communities (NERC) Act 2006 or other ecological corridors and Biodiversity Opportunity Areas outlined in local policy.

2.4 Preliminary Impact Assessment

An initial review of the proposals has been undertaken to identify possible impacts on important ecological features that could occur as a result of the development. This initial assessment of impacts is based on Middlemarch's current understanding of the project.

3. Desk Study

3.1 Landscape Initiatives

No landscape initiatives were found which cover the site.

3.2 Nature Conservation Sites

Statutory and non-statutory nature conservation sites located in proximity to the survey area are summarised in Table 3.1.

Site Name	Designation	Proximity to the Survey Area	Description
European Statutory Sites			
South West London Waterbodies	SPA/Ramsar	9,560 m south-west	This site comprises a number of reservoirs and former gravel pits in the Thames Valley, which support internationally important numbers of gadwall *Anas streptera* and shoveler *Anas clypeata*. Important numbers of other bird species are supported, including cormorant *Phalacrocorax carbo*, pochard *Aythya farina*, and great crested grebe *Podiceps cristatus*.
UK Statutory Sites			
Yeading Brook Meadows	LNR	795 m east	This meadow is dominated by wildflowers and grasses which support a diverse invertebrate community including Roesel's bush-cricket *Metrioptera roeselii*. Various bird and plant species are also supported, including skylark *Alauda arvensis*.
Yeading Woods (inc. Gutteridge Wood)	LNR	845 m north	This reserve includes a small meadow, riverbank, and coppiced woodland. Species present include bluebell *Hyacinthoides non-scripta*, broad-leaved helleborine *Epipactis helleborine*, continental wasp spider *Argiope bruennichi*, and kingfisher *Alcedo atthis*.
Ten Acre Woods and Meadows	LNR	1,370 m south-east	An oak *Quercus* sp. plantation with hazel *Coryllus avellana* coppice and hawthorn *Crataegus monogyna*. Kingfisher, hobby *Falco subbuteo*, and Roesel's bush-cricket all use the site.

Table 3.1: Summary of Nature Conservation Sites (continues)

Site Name	Designation	Proximity to the Survey Area	Description
Non-statutory Sites			
Yeading Brook Meadows	SINC Metropolitan	200 m north-east	This SINC overlaps with Yealing Brook Meadows LNR and includes an adjacent portion of land. An extensive mosaic of unimproved meadows and pastures divided by hedgerows. The Yeading Brook flows through the site. There are several uncommon plant species present, including the only London population of nationally scarce narrow-leaved water-dropwort *Oenanthe silaifolia*. The waterbodies are used by great crested newts *Triturus cristatus*.
Home Covert, Lowdham Field and Pole Hill Open Space	SINC Borough Grade II	240 m north-west	Home Covert is a block of woodland dominated by pedunculate oak *Quercus robur* with abundant hazel. Lowdham Field contains species-rich grassland which is being invaded by scrub. Pole Hill Open Space includes outgrown hedgerows, wet ditches, and amenity grassland. There is also a small pond with wetland flora.
Hayes Shrub	SINC Borough Grade II	245 m south	A woodland which includes a mixture of exotic and native trees. Pedunculate oak is widespread and violets *Viola* sp. are abundant. A seasonal pond, as well as ditches, are present.
Key: SPA: Special Protection Area LNR: Local Nature Reserve Ramsar: Site listed on The Convention on Wetlands of International Importance (Ramsar Convention) SINC: Site of Importance for Nature Conservation SINC Metropolitan: Site of Metropolitan Importance for Nature Conservation SINC Borough Grade II: Site of Importance for Nature Conservation at Borough Level Grade II			

Table 3.1 (continued): Summary of Nature Conservation Sites

The site is located within an impact risk zone of Fray's Farm Meadows SSSI, which is located 3,950 m north-west.

3.3 Habitats

Table 3.2 summarises known priority or notable habitats within a 1 km radius of the site.

Habitat Type	No. of Records	Location of Nearest Record
Deciduous woodland	21	30 m north
Ponds	7	420 m north
Traditional orchards	2	620 m west
Good quality semi-improved grassland (Non Priority)	4	760 m east
Lowland meadows	1	805 m east
Ancient and semi-natural woodland	1	840 m north
Open mosaic habitat	1	895 m north-east

Table 3.2: Summary of Priority/Notable Habitats

3.4 Protected / Notable Species

Table 3.3 and the following text provide a summary of protected and notable species records within a 1 km radius of the study area. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Survey Area	Species of Principal Importance?	Legislation / Conservation Status
Amphibians					
Common frog *Rana temporaria*	4	2007	760 m east	-	WCA 5 S9(5)
Great crested newt *Triturus cristatus*	4	2020	765 m east	✓	ECH 2, ECH 4, WCA 5
Birds					
Kingfisher *Alcedo atthis*	5	2017	1000 m north-east	-	WCA1i
Red kite *Milvus milvus*	7	2017	1000 m north-east	-	WCA1i
Firecrest *Regulus ignicapilla*	1	2010	1000 m north-east	-	WCA1i
Redwing *Turdus iliacus*	4	2010	1000 m north-east	-	WCA1i
Fieldfare *Turdus pilaris*	4	2010	1000 m north-east	-	WCA1i
Green sandpiper *Tringa ochropus*	1	2013	*	-	WCA1i
Eurasian hobby *Falco subbuteo*	1	2020	†	-	WCA1i

Table 3.3: Summary of Protected/Notable Species Records (continues)

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Survey Area	Species of Principal Importance?	Legislation / Conservation Status
Birds (continued)					
Barn owl *Tyto alba*	1	2010	†	-	WCA1i
Invertebrates					
Stag beetle *Lucanus cervus*	40	2021	455 m west	✓	ECH 2, WCA 5 S9(5)
Jersey tiger moth *Euplagia quadripunctaria*	1	2019	990 m north	-	ECH 2
Mammals – Bats					
Pipistrelle *Pipistrellus* sp.	1	2014	995 m north-west	#	ECH 4, WCA 5, WCA 6
Mammals – Other					
Hedgehog *Erinaceus europaeus*	6	2017	785 m south-east	✓	WCA 6
Reptiles					
Grass snake *Natrix helvetica*	1	2004	605 m east	✓	WCA 5 S9(1), WCA 5 S9(5)
Slow worm *Anguis fragilis*	12	2021	780 m east	✓	WCA 5 S9(1), WCA 5 S9(5)

Key:

#: Dependent on species.

†: These records are confidential and therefore proximity is not provided within the report.

*: Potentially within a 1 km radius (grid reference provided was four figures only).

ECH 2: Annex II of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest whose conservation requires the designation of Special Areas of Conservation.

ECH 4: Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Species of community interest in need of strict protection.

WCA 1i: Schedule 1 Part 1 of Wildlife and Countryside Act 1981 (as amended). Birds protected by special penalties at all times.

WCA 5: Schedule 5 of amended Wildlife and Countryside Act 1981. Protected non-bird species.

WCA 5 S9(1): Schedule 5 Section 9(1) of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds). Protection limited to intentional killing, injury or taking.

WCA 5 S9(5): Schedule 5 Section 9(5) of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds). Protection limited to selling, offering for sale, processing or transporting for purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from, such animal.

WCA 6: Schedule 6 of Wildlife and Countryside Act 1981 (as amended). Animals which may not be killed or taken by certain methods.

Species of Principal Importance: Species of Principal Importance for Nature Conservation in England.

Table 3.3 (continued): Summary of Protected/Notable Species Records

Birds

The desk study returned records of seven bird species which are listed as Species of Principal Importance, including house sparrow *Passer domesticus*, skylark *Alauda arvensis*, and lapwing *Vanellus vanellus*.

Invertebrates

The desk study returned records of 23 butterfly and moth species listed as Species of Principal Importance, including small heath butterfly *Coenonympha pamphilus*, white admiral butterfly *Limenitis camilla*, and cinnabar moth *Tyria jacobaeae*.

There were also records of a Nationally Notable fly, *Merzomyia westermanni*, and the Nationally Notable beetles *Athous campyloides* and *Liogluta pagana*.

Plants

The desk study returned a record of frogbit *Hydrocharis morsus-ranae*, which is listed as Vulnerable on the GB Red List. There were also records of galingale *Cyperus longus*, fringed water-lily *Nymphoides peltata*, and narrow-leaved water-dropwort *Oenanthe silaifolia*, which are all Nationally Scarce.

3.5 Invasive Species

Table 3.4 provides a summary of invasive species records within a 1 km radius of the study area. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Survey Area	Legislation / Conservation Status
Butterfly-bush *Buddleia davidii*	2	2004	270 m south-east	LISI 3
Cotoneaster *Cotoneaster* sp.	5	2020	330 m south-west	LISI 2, WCA 9
Cherry laurel *Prunus laurocerasus*	5	2004	350 m north-west	LISI 3
Tree-of-heaven *Ailanthus altissima*	1	2004	530 m west	LISI 3
Snowberry *Symphoricarpos albus*	3	2004	570 m north-east	LISI 2
False-acacia *Robinia pseudoacacia*	4	2020	580 m south-west	LISI 4
Rhododendron *Rhododendron ponticum*	1	2004	590 m south	LISI 2, WCA 9

Table 3.4: Summary of Invasive Species Records (continues)

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Survey Area	Legislation / Conservation Status
Turkey oak *Quercus cerris*	2	2004	680 m south	LISI 5
Himalayan balsam *Impatiens glandulifera*	8	2011	760 m north	LISI 3, WCA 9
Canadian waterweed *Elodea canadensis*	1	2004	900 m east	WCA 9, LISI 5
Japanese knotweed *Fallopia japonica*	1	2004	940 m east	LISI 3, WCA 9
Parrot's-feather *Myriophyllum aquaticum*	1	2004	940 m east	LISI 3, WCA 9
Goat's-rue *Galega officinalis*	3	2004	970 m north-east	LISI 4
Giant hogweed *Heracleum mantegazzianum*	3	2008	970 m north-east	WCA 9
Spanish bluebell *Hyacinthoides hispanica*	1	2002	970 m north-east	LISI 4
Bluebell *Hyacinthoides non-scripta x massartiana*	1	2002	970 m north-east	LISI 4
Orange balsam *Impatiens capensis*	1	1997	970 m north-east	LISI 2

Key:

WCA 9: Schedule 9 of Wildlife and Countryside Act 1981 (as amended). Invasive, non-native, plants and animals.

LISI 2: London Invasive Species Initiative – Species of high impact or concern present at specific sites that require attention (control, management, eradication etc).

LISI 3: London Invasive Species Initiative – Species of high impact or concern which are widespread in London and require concerted, coordinated and extensive action to control/eradicate.

LISI 4: London Invasive Species Initiative – Species which are widespread for which eradication is not feasible but where avoiding spread to other sites may be required.

LISI 5: London Invasive Species Initiative – Species for which insufficient data or evidence was available from those present to be able to prioritise.

Table 3.4 (continued): Summary of Invasive Species Records

4. Survey Results

4.1 Introduction

A Phase 1 Habitat Survey Drawing (Drawing C161166-01-01), illustrating the location and extent of all habitat types recorded on site, is provided in Chapter 8. Detailed habitat descriptions and a summary of the condition assessment for each habitat type using criteria published by Natural England (2023)[3] is also included in Chapter 8.

4.2 Habitats

Table 4.1 details the types, extent and ecological condition of the habitats which were recorded on site during the field survey visit. Photographs taken during the survey are presented in Chapter 9.

Habitat	Area (ha) / Length (km)	Condition	Photo Reference
Amenity grassland	0.136	Poor	9.5
Building	0.053	N/A	9.7
Hardstanding	0.116	N/A	9.6
Species-poor Defunct Hedgerow	0.073 km	Poor	9.6
Introduced shrub	0.005	N/A	-
Scattered trees	15 no.	Moderate-Good	9.1, 9.3, 9.4

Table 4.1: Summary of Habitats Recorded on Site

4.3 Protected / Notable Species

Table 4.2 summarises the suitability of the site for protected/notable species and any species/evidence of species that were recorded during the survey. The time of year at which the survey is undertaken will affect species or field signs directly recorded during the survey.

Species/Group	Description
Amphibians	There is no aquatic habitat on site, and as such no suitable habitat for amphibians to breed. However, the amenity grassland and defunct hedgerow offer some suitable commuting habitat and shelter for common amphibians.
Badger	Badgers may use the amenity grassland and hedgerow for foraging, and they may commute through the site between suitable habitats located outside of the site.
Bats	The building and some of the scattered trees provide potential roosting opportunities for bats, and bats may use the trees and defunct hedgerow for foraging and commuting. For further details see the Preliminary Bat Roost Assessment (RT-MME-161166-02).
Birds	The building, trees, defunct hedgerow and introduced shrub could be used by birds for nesting and foraging.
Hedgehog	The amenity grassland and defunct hedgerow could be used by hedgehogs for foraging and commuting.

Table 4.2: Summary of Species/Species Evidence Recorded on Site (continues)

Species/Group	Description
Invertebrates (terrestrial)	A stag beetle was found on site during the field survey and the deadwood and stumps on site could provide a suitable food source for stag beetle larvae. A garden tiger moth was also found on site, which is a Species of Principal Importance. Garden tiger moth caterpillars use a range of plants for foraging, including species found on site such as nettles.

Table 4.2 (continued): Summary of Species/Species Evidence Recorded on Site

4.4 Invasive Species

Japanese knotweed *Fallopia japonica* was recorded during the field survey, which is included on Schedule 9 of Wildlife and Countryside Act 1981 (as amended) and on the London Invasive Species Initiative (LISI). Cherry laurel *Prunus lauroceraus* was also found on site, which is included on LISI.

5. Preliminary Evaluation

5.1 Identification of Important Ecological Features

Table 5.1 identifies the important ecological features on and surrounding the site based on the findings of the desk study and field survey. A discussion of potential impacts on important ecological features identified is provided in Chapter 6.

Feature		Description of Importance
Designated Sites		
South West London Waterbodies SPA/Ramsar		This is an internationally designated site with bird populations of international importance.
UK Statutory Sites (Yeading Brook Meadows LNR, Yeading Woods (inc Gutteridge Wood) LNR, Ten Acre Woods and Meadows LNR, and Fray's Farm Meadows SSSI)		The site is located with an impact risk zone for Fray's Farm Meadows SSSI and three LNRs are located within 2 km of the site. SSSIs and LNRs are statutory nature conservation sites of national importance.
Non-statutory Sites (Yeading Brook Meadows SINC, Home Covert, Lowdham Field and Pole Hill Open Space SINC, and Hayes Shrub SINC)		SINCs are some of the most ecologically important sites in London and often support rare or threatened species and habitats that are locally important and distinctive.
Habitats		
Non-priority notable habitats	Scattered trees	The mature and semi-mature trees have intrinsic ecological value and cannot be easily replaced in the short to medium term.
	Hedgerow	The hedgerow on site forms a Habitat of Principal Importance (is less than 5m wide, is over 20m long and has over 80% cover of native species) and provides connectivity to offsite habitats.
Protected/Notable Species		
Amphibians		The desk study returned records of common frog and great crested newt from within a 1 km radius of the site. Reference to Ordnance Survey mapping returned a count of seven ponds within 1 km of the site, with the closest located 420 m north. Great Crested Newts are considered unlikely to travel this far from their breeding ponds, and therefore it is extremely unlikely that Great Crested Newt are present on site. Nonetheless (unlike great crested newts), common amphibian species may by supported by local small garden ponds and therefore they may use the terrestrial habitats on site (i.e., the amenity grassland, hedgerows and introduced shrub) for commuting habitat or shelter. Great crested newts are a Species of Principal Importance and are protected under the Conservation of Habitats and Species Regulations 2017 and the Wildlife and Countryside Act 1981 (as amended). In addition, common toad is a Species of Principal Importance, and all amphibian species receive limited protection under Schedule 5 of Wildlife and Countryside Act 1981, as amended.

Table 5.1: Summary of Important Ecological Features (continues)

Feature	Description of Importance
Protected/Notable Species (continued)	
Badger	The desk study did not return any records of badgers. The habitats on site are not suitable for sett building and only have a low value for foraging. However, there is woodland located within proximity to the site which may support a badger population and as such badger may commute through and forage in local residential areas. Badgers are protected by Protection of Badgers Act 1992 and Schedule 6 of Wildlife and Countryside Act 1981 (as amended).
Bats	The desk study returned a single record of an unidentified pipistrelle. The building and trees may be used by bats for roosting and bats may use the site for foraging and commuting, with adjacent gardens and farmland providing connectivity with areas of woodland in the wider landscape. Several bat species are Species of Principal Importance and all are afforded full protection under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended). For further details see the Preliminary Bat Roost Assessment (RT-MME-161166-02).
Birds	The desk study returned records of eight bird species included on Schedule 1 of Wildlife and Countryside Act 1981 (as amended), however none of these species are likely to breed on site as they either require specialist breeding habitat or only overwinter in London. Other bird species, including Species of Principal Importance, may use the habitats on site for nesting. All birds and their nests are protected by Wildlife and Countryside Act 1981 (as amended).
Hedgehog	The desk study returned six records of hedgehogs within a 1 km radius of the site. Hedgehogs could use the site for foraging and commuting between other suitable habitats within the wider landscape. Hedgehogs are a Species of Principal Importance and receive limited protection under Schedule 6 of Wildlife and Countryside Act 1981 (as amended).
Invertebrates (terrestrial)	The desk study returned 40 records of stag beetles, and the field survey found a stag beetle on site. There is suitable habitat for breeding stag beetles on site. Stag beetles are a Species of Principal Importance and receive limited protection under the Wildlife and Countryside Act 1981 (as amended). The field survey also found a garden tiger moth, which is a Species of Principal Importance.

Table 5.1 (continued): Summary of Important Ecological Features

Invasive Species

Japanese knotweed was recorded during the field survey, which is included on Schedule 9 of Wildlife and Countryside Act 1981 (as amended), which makes it an offence to cause this species to spread in the wild. Cherry laurel was also found on site, which is included on LISI.

5.2 Features Scoped Out

Table 5.2. details ecological features which have been scoped out due to their low/negligible ecological value, the lack of desk study records or absence of suitable habitats within the development site and its surroundings. These features are not discussed further in this appraisal report.

Feature	Justification for Scoping Out
Habitats	
Building and hardstanding	These habitats are of negligible ecological importance.
Amenity grassland and introduced shrub	Although these habitats are not considered to be important and do not require further detailed consideration in the context of assessing impacts, they do hold some value and contribute to overall site biodiversity, which is recognised through the use of a biodiversity metric tool.
Protected/Notable Species	
Aquatic mammals	There is no aquatic habitat either on or within proximity of the site.
Dormouse	The desk study did not return any records of dormouse and the habitat on site is unsuitable for this species.
Invertebrates (aquatic)	There is no aquatic habitat either on or within proximity of the site.
Reptiles	The desk study returned records of grass snake and slow worm from within a 1 km radius of the site. However, the habitats on site are not considered suitable for reptiles.

Table 5.2: Summary of Features Scoped out of Further Assessment

6. Preliminary Impact Assessment

6.1 Summary of Proposals

The proposals are understood to be for the clearance of the site followed by the development of six houses and an education building, with associated landscaping.

The proposed development has the potential to adversely impact ecological features, but also presents opportunities to deliver new or enhanced habitats and benefits to biodiversity.

Activities likely to be associated with the proposed development during the construction and operational phases are outlined below.

Construction Phase

- Site clearance and ground preparation;
- Use and movement of heavy goods vehicles and machinery;
- Storage of plant, materials and waste;
- Presence of and movement of site personnel; and,
- Creation of landscaping / delivery of new habitats.

Operational Phase

- Permanent siting of buildings and structures;
- Frequent movement of cars and other forms of transportation;
- Use of lighting associated with roads and buildings;
- Presence of and movement of site personnel;
- Establishment of new habitats; and,
- Maintenance of landscaping.

6.2 Nature Conservation Sites

An initial review of the proposals (see Section 6.1) has been undertaken to determine whether the project has the potential to affect any nature conservation sites. The identified sites are listed in Table 6.1, and justification for scoping them in or out of further assessment is provided.

Nature Conservation Site	Summary of Potential Impacts
European Statutory Sites	
South West London Waterbodies SPA/Ramsar	South West London Waterbodies SPA/Ramsar is located 9.6 km south-west of the survey area. Since the proposed development is small in scale and the existing site is already residential, and given the large spatial separation and built-up nature of the intervening habitats, it is considered unlikely that the construction or operational phases of the development will impact this conservation site. As such, no further recommendations are made.

Table 6.1: Summary of Potential Impacts on Nature Conservation Sites (continues)

Nature Conservation Site	Summary of Potential Impacts
UK Statutory Sites	
Fray's Farm Meadows SSSI	The site is within an impact risk zone of Fray's Farm Meadows SSSI. Reference to Natural England's SSSI Impact Risk Tool indicates that development proposals relating to aviation, livestock and poultry units, and large combustion processes within this impact risk zone pose a potential risk to this designated site. The type of development proposed does not fall within any of these categories and as such adverse impacts on this SSSI are considered unlikely.
Yeading Brook Meadows LNR, Yeading Woods (inc Gutteridge Wood) LNR, Ten Acre Woods and Meadows LNR	These LNRs are all located within a 2 km radius of the site. Residential developments may have the potential to increase recreational impacts on these LNRs. However, given the built-up nature of the surrounding landscape and the low number of new houses proposed, recreational impacts are likely to be negligible. Overall, given the nature and scale of the proposals, the development is highly unlikely to impact these designated sites, which are well-removed from the site.
Non-statutory Sites	
Yeading Brook Meadows SINC, Home Covert, Lowdham Field and Pole Hill Open Space SINC, Hayes Shrub SINC	These SINCs are all located within 200-250 m from the site at their closest points, with the intervening habitats being predominantly semi-natural, including hedgerows and woodland. Despite this connectivity, the proposed development proposals will be predominantly confined to existing areas of hard landscaping and amenity grassland, while the existing trees and hedgerow will be retained (save for possible small-scale losses to the hedgerow), and new tree and hedgerow planting will also be provided. Therefore, given the nature and small scale of the proposals (on an already residential site), the development is unlikely to negatively impact any of the nearby SINCs. Nonetheless, Chapter 7 below addresses the need for pollution prevention measures in order to protect habitats on site and within surrounding areas (including the SINCs), while consultation with the local planning authority has also been recommended to confirm whether any additional mitigation measures are required.

Table 6.1 (continued): Summary of Potential Impacts on Nature Conservation Sites

6.3 Habitats

Table 6.2 below summarises the potential impacts on habitat features that may occur as a result of the construction and operational activities of the proposed development (see Section 6.1), in the absence of mitigation.

Habitat Type	Summary of Potential Impacts
Hedgerow	• Loss of hedgerow. • Habitat damage or degradation during construction works, lighting or inappropriate post-construction landscape management.
Scattered trees	• Loss or damage of trees, for example from root compaction during the construction works.

Table 6.2: Summary of Potential Impacts on Habitats

Habitat Opportunities

The development presents the following opportunities for habitat enhancement and creation:

- Enhancement of the existing hedgerows; and,

- Creation of wildflower grassland with a sward height of greater than 7 cm.

6.4 Protected / Notable Species

Table 6.3 below summarises the potential impacts on species/species groups that may occur as a result of the construction and operational activities of the proposed development (see Section 6.1), in the absence of mitigation.

Species / Species Group	Summary of Potential Impacts
Herpetofauna	The works will predominantly be confined to areas of existing short-mown amenity grassland and hard landscaping. Nonetheless, there is a low risk of killing/injuring individual amphibians should habitats providing shelter, such as hedgerows or introduced shrub, be impacted.
Bats	• Killing or injury of bats and/or damage, disturbance or fragmentation of a bat roost during the construction phase. • Physical loss or fragmentation of bat foraging/dispersal habitat. • Habitat fragmentation, degradation or displacement of foraging routes due to light spill. For further details see the Preliminary Bat Roost Assessment (RT-MME-161166-02).
Birds	• Loss of nesting and foraging habitat • Killing or injury of nesting birds or damage/destruction of a birds nest during construction phase or as a result of inappropriate post construction landscape management.
Terrestrial mammals (badger, hedgehog)	• Killing or injury of terrestrial mammals during construction phase • Loss/fragmentation of suitable foraging and refuge habitat
Stag beetle	• Killing or injury of species in larval phase during construction phase. • Loss of dead wood habitat.
Other invertebrate species	• Small-scale loss of suitable habitats for invertebrates such as garden tiger moth (a Species of Principal Importance), albeit such impacts are likely to be minor given that the site is dominated by mown grassland, the building and hardstanding. A recommendation to enhance the value of the site for invertebrates is included in Chapter 7.

Table 6.3: Summary of Potential Impacts on Protected/Notable Species

Opportunities for Species

The development presents opportunities to deliver habitats for the following species:

- Bats (bat boxes for roosting and linear scrub for foraging),
- Birds (bird boxes); and,
- Stag beetle (provision of partially buried dead wood).

6.5 Invasive Plant Species

The proposed development could result in the disturbance or spread of an invasive plant species such as Japanese knotweed during the construction phases or as a result of inappropriate post-construction landscape management. The spread of non-native invasive species can result in a reduction in biodiversity as native species are outcompeted.

7. Recommendations

All recommendations provided in this section are based on Middlemarch's current understanding of the site proposals, correct at the time the report was compiled. Should the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate.

R1 **Consultation with Statutory/Non-statutory Bodies:** The Local Planning Authority should be consulted prior to any works commencing to confirm whether any specific mitigation measures are required with respect to Yeading Brook Meadows SINC, Home Covert, Lowdham Field and Pole Hill Open Space SINC, and Hayes Shrub SINC.

R2 **Ecological Surveys:** The recommendations made within the Preliminary Bat Roost Assessment (RT-MME-161166-02) should be followed, including the recommendation for dusk emergence/dawn re-entry bat surveys. Further, should any trees be identified for removal, these will require further survey work, initially in the form of a Preliminary Bat Roost Assessment.

All further ecological surveys should be undertaken in accordance with best practice methodologies, during the appropriate survey windows. Please refer to Appendix 3.

R3 **Scheme Design:** The proposed development should be designed in accordance with the ecological mitigation hierarchy as set out in the National Planning Policy Framework (NPPF), and the National Planning Practice Guidance (NPPG). The mitigation hierarchy requires all development schemes to apply the following principles:

- *Avoidance and Mitigation* – the proposed development should seek to avoid/minimise losses of hedgerow and scattered trees, in the first instance and incorporate these features in the landscaping layout of the scheme accordingly. This will help to further avoid and minimise impacts to protected and notable species.
- *Compensation* – where unavoidable losses occur and mitigation cannot be provided, compensation for significant residual harm will be required as a last resort or planning permission could be refused. Compensation should include the remediation of lost habitats and/or connectivity, the creation of new habitats of ecological value and providing novel compensation solutions to minimise effects on protected or notable species to ensure compliance with UK wildlife legislation.
- *Enhancement* – where possible new ecological features should be provided 'over and above' those required to mitigate/compensate for an impact. The development provides the opportunity to enhance the existing hedgerow and create new habitats on site.

In accordance with the principles of the Environment Act 2021 the development should also secure an overall net gain for biodiversity. Biodiversity Net Gain is a planning process that aims to leave biodiversity on site in a better state than it was before, going beyond solely avoiding, mitigating and compensating adverse effect on biodiversity and actively seeking to enhance the site's biodiversity value overall. A Biodiversity Metric tool should be used to help guide and quantify the baseline and proposed value of the scheme.

R4 **Construction Ecological Management Plan (CEcMP):** A Construction Ecological Management Plan should be produced for the site setting out the safeguards and

appropriate working practices that will be employed to minimise adverse effects on biodiversity and ensure compliance with UK Wildlife Legislation. The details of the CEcMP will be informed by the final site design and ongoing ecological survey works but should include as a minimum:

- Development standoffs and safeguards for all retained habitats;
- Construction timetables to avoid sensitive periods such as nesting bird season;
- Covering open excavations and pipework to prevent the accidental entrapment of terrestrial mammals;
- Sensitive clearance of potential refugia (e.g., hedgerow, introduced shrub or deadwood features) to prevent any accidental killing or harm to amphibians or mammals (such as hedgehog);
- Mitigation works to minimise impacts on stag beetles, for example relocation of tree stumps and other dead wood features;
- A Method Statement detailing how the spread of invasive plants will be avoided;
- Safeguards to avoid the spread of pollution into suitable habitats both within the site and surrounding areas (e.g., the nearby SINCs). This will include measures such as dusk suppression, safe storage of liquids, safe disposal of silty water etc; and,
- Compliance with any specific mitigation measures that will be required to acquire a Development Licence for works affecting protected species.

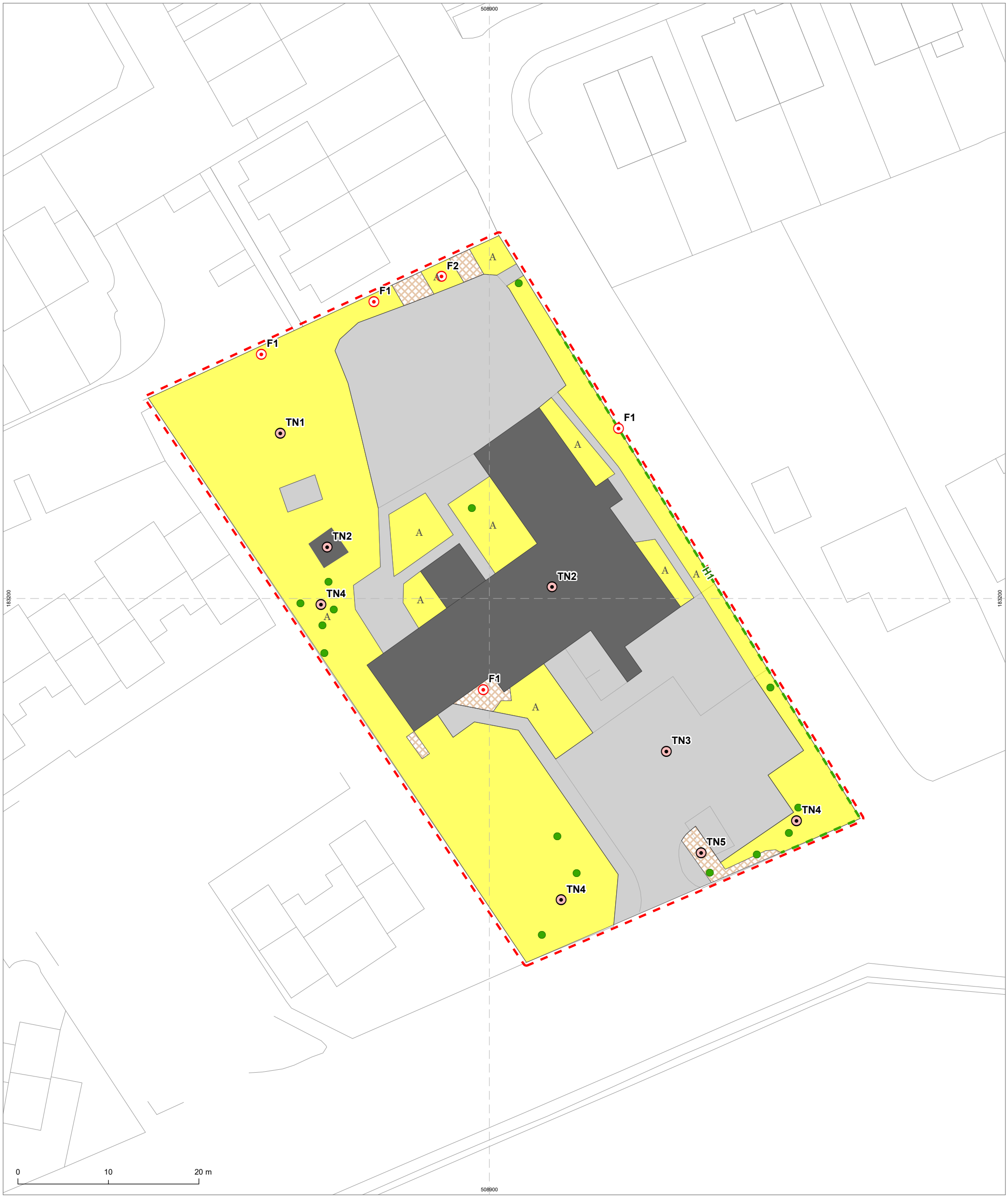
The CEcMP should be submitted to the Local Planning Authority for Approval and implemented in full thereafter.

R5 **Landscape and Ecology Management Plan (LEMP):** A Landscape and Ecology Management Plan should be produced setting out the detailed establishment and management of all on site compensation and enhancement measures, along with suitable management practices for retained habitats. In particular, suitable measures are likely to include retention/enhancement of trees and hedgerows and the creation of high-quality grassland, while planting should include a variety of native species of benefit to invertebrates such as garden tiger moth (Species of Principal Importance). In accordance with Biodiversity Net Gain Best Practice Principles, and the principles of the Environment Act 2021, the LEMP should cover a period of 30 years from the date of commencement with provisions for long-term monitoring and contingency actions linked to the Biodiversity Net Gain objectives of the project.

The LEMP should be submitted to the Local Planning Authority for approval (typically to discharge planning conditions) and should be implemented in full thereafter.

8. Drawings

Drawing C161166-01-01 – Phase 1 Habitat Map



Legend

- Survey area
- Scattered tree
- Species-poor defunct hedgerow
- A — Amenity grassland
- Building
- Hardstanding
- Introduced shrub
- Target note (habitat)
- Target note (feature)
  - F1 Japanese knotweed
  - F2 Tree stump

N

Project	Charville Lane Children's Home, 113 Charville Lane, Hayes, London Borough of Hillingdon
Drawing	Phase 1 Habitat Map
Client	Hunt Architects
Drawing Number	C161166-01-01
Revision	00
Scale @ A3	1:400
Date	July 2023
Approved By	HS
Drawn By	VO

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C161166-01-01

The following tables include full habitat descriptions and summarise the condition assessment for habitats and hedgerows using criteria published by Natural England (2023)[3].

Area Habitat				Condition Sheet Criteria Score																
Polygon / Line Ref.	**Phase 1 Habitat Type**	**UK Hab Habitat Equivalent**	**Habitat Description**	**Condition Sheet Used**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**Total Score**	**Condition Assessment**
TN1	Amenity grassland	Modified grassland g4	Heavily used amenity grassland covered much of the site in large areas and small patches. It supported a low diversity of common species including perennial ryegrass *Lolium perenne*, ribwort plantain *Plantago lanceolata*, creeping buttercup *Ranunculus repens*, common daisy *Bellis perennis*, autumn hawkbit *Leontodon autumnalis*, ragwort *Senecio* sp. and bristly oxtongue *Picris echioides*. 'Suboptimal' species included common nettle *Urtica dioica*, creeping thistle *Cirsium arvense*, and cleavers *Galium aparine*. Japanese knotweed *Fallopia japonica* was recorded in multiple areas at the fence line. The grass was closely mown with lots of areas compacted to bare ground. Meadow brown butterfly *Maniola jurtina* and garden tiger moth *Arctia caja* were recorded using this habitat during the site visit.	Grassland low	F	F	P	F	F	P	F	-	-	-	-	-	-	2	Poor
TN2	Building	Developed land; sealed surface	A large 1-2 storey irregularly shaped building covered the central portion of the site. It contained five separate loft spaces. A small wooden shed is also present on site towards the north of the building.	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N/A
TN3	Hardstanding	Developed land; sealed surface	Areas of hardstanding surrounded the building, consisting of asphalt, concrete block paving and paved paths.	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N/A
TN4	Scattered trees	Urban individual trees	A range of trees were present on site. Four very large oaks *Quercus* sp. had suspected crevice/cavity features, dead wood features and dense ivy *Hedera helix* growth. Due to the time of year, it was not possible to fully assess these oaks as summer foliage obscured such features. Smaller oaks, cherries *Prunus* sp., field maples *Acer campestre*, and a hawthorn *Crataegus monogyna* were found to be in good condition.	Individual trees	P	P	P/F	P	P/F	P	-	-	-	-	-	-	-	4-6	Moderate-Good
TN5	Introduced shrub	Introduced shrub	Pockets of introduced shrub were scattered throughout the site, predominantly consisting of cherry laurel *Prunus laurocerasus*, which is listed as a Species of Concern under the London Invasive Species Initiative.	N/A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N/A
Key: P – Criteria passed F – Criteria failed																				

Table 8.1: Habitat Descriptions and Condition Assessments

Hedgerows				Condition Sheet Criteria Score										
Ref.	**Phase 1 Habitat Type**	**UK Hab Habitat Equivalent**	**Description**	**A1**	**A2**	**B1**	**B2**	**C1**	**C2**	**D1**	**D2**	**E1***	**E2***	**Condition Assessment**
H1	Hedgerow	Native hedgerow	A defunct hedgerow was located along the site's eastern boundary, curling slightly around the southern boundary. It was dominated by hawthorn with occasional hazel *Corylus avellana*. Approximately 1-1.5 m in height by 1-1.5 m wide. It was overmanaged, with lots of gaps but otherwise comprised of generally healthy plants. Ground flora consisted of a continuation of the amenity grassland with occasional herb-Robert *Geranium robertianum* and cow parsley *Anthriscus sylvestris*. Japanese knotweed was also present.	P	P	P	F	F	F	F	F	N/A	N/A	Poor

Key:

P – Criteria passed

F – Criteria failed

*Applicable to hedgerows with trees only

Table 8.2: Hedgerow Descriptions and Condition Assessments

9. Photographs

Plate 9.1: Two large oak trees, southwest of site.

Plate 9.2: Dense oak foliage obscuring features.

Plate 9.3: Large oak, northwest of site.

Plate 9.4: Large oak with dense ivy, east of site.

Plate 9.5: Amenity grassland.

Plate 9.6: Hardstanding and defunct hedgerow.

Plate 9.7: Building.

Plate 9.8: Stag beetle found on site.

Plate 9.9: Japanese knotweed at fence line.

Plate 9.10: Japanese knotweed at base of existing building.

Appendix 1

General Biodiversity Legislation and Policy

The Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations 2017) and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (the Habitats Regulations 2019)

The Habitats Regulations 2017 (as amended) transposed the land and marine aspects of the Habitats Directive (Council Directive 92/43/EEC) and certain elements of the Wild Birds Directive (Directive 2009/147/EC) (known as the Nature Directives) into English and Welsh law. Changes have been made to parts of the Habitats Regulations 2017 so that they operate effectively from 1 January 2021. The changes are made by the Habitats Regulations 2019, which transfer functions from the European Commission to the appropriate authorities in England and Wales.

All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

The obligations of a competent authority in the 2017 Regulations for the protection of sites or species do not change. A competent authority is a public body, statutory undertaker, minister or department of government, or anyone holding public office.

The Habitats Regulations 2019 have created a 'National Site Network' on land and at sea, including both the inshore and offshore marine areas in the UK. The National Site Network includes:

- Existing Special Areas of Conservation (SACs), which are designated due to their importance to the habitats and species listed in Annexes I and II of the Habitats Directive;
- Existing Special Protection Areas (SPAs), which are designated due to their importance for wild birds in accordance with the Wild Birds Directive; and,
- New SACs and SPAs designated under these Regulations.

SACs and SPAs in the UK no longer form part of the European Union's Natura 2000 ecological network. Any references to Natura 2000 in the 2017 Regulations and in guidance now refers to the new National Site Network. However, guidance provided by Freeths (2020)[4] recommends that SACs and SPAs can continue to be referred to as "European sites" / "European marine sites".

Designated Wetlands of International Importance (known as Ramsar sites) do not form part of the National Site Network. Many Ramsar sites overlap with SACs and SPAs and may be designated for the same or different species and habitats. All Ramsar sites remain protected in the same way as SACs and SPAs.

The 2019 Regulations establish management objectives for the National Site Network. The network objectives are to:

- Maintain or, where appropriate, restore habitats and species listed in Annexes I and II of the Habitats Directive to a favourable conservation status; and,

[4] Freeths (2020). *The Habitats Regulations Assessment regime after 31 December 2020 – how will it look?* Available: https://www.freeths.co.uk/2020/10/22/the-habitats-regulations-assessment-regime-after-31-december-2020-how-will-it-look/?cmpredirect

- Contribute to ensuring, in their area of distribution, the survival and reproduction of wild birds and securing compliance with the overarching aims of the Wild Birds Directive.

The appropriate authorities must also have regard to the:

- Importance of protected sites;
- Coherence of the National Site Network; and,
- Threats of degradation or destruction (including deterioration and disturbance of protected features) on SPAs and SACs.

The network objectives contribute to the conservation of UK habitats and species that are also of pan-European importance, and to the achievement of their favourable conservation status within the UK.

The Wildlife and Countryside Act (WCA) 1981 (as amended)

The WCA, as amended, consolidates and amends pre-existing national wildlife legislation in order to implement the Bern Convention and the Birds Directive. It complements the Habitat Regulations 2017 and the Habitats Regulations 2019, offering protection to a wider range of species. The Act also provides for the designation and protection of national conservation sites of value for their floral, faunal or geological features, termed Sites of Special Scientific Interest (SSSIs).

Schedules of the act provide lists of protected species, both flora and fauna, and detail the possible offences that apply to these species.

The Countryside and Rights of Way (CRoW) Act 2000

The CROW Act, introduced in England and Wales in 2000, amends and strengthens existing wildlife legislation detailed in the WCA. It places a duty on government departments and the National Assembly for Wales to have regard for biodiversity, and provides increased powers for the protection and maintenance of SSSIs. The Act also contains lists of habitats and species (Section 74) for which conservation measures should be promoted, in accordance with the recommendations of the Convention on Biological Diversity (Rio Earth Summit) 1992.

The Natural Environment and Rural Communities (NERC) Act 2006

Section 40 of the NERC Act places a duty upon all local authorities and public bodies in England and Wales to promote and enhance biodiversity in all of their functions. Section 102 of The Environment Act 2021 (Commencement No. 5 and Transitional Provisions) Regulations 2022 makes amendments to Section 40 of the NERC Act. The revisions strengthen the requirement for public authorities to assess how they can take action to conserve and enhance biodiversity, and then take these actions.

Sections 41 (England) and 42 (Wales) list habitats and species of principal importance to the conservation of biodiversity. These lists superseded Section 74 of the CRoW Act 2000.

The Hedgerow Regulations 1997

The Hedgerow Regulations make provision for the identification of important hedgerows which may not be removed without permission from the Local Planning Authority.

Species and Habitats of Material Consideration for Planning in England

Previous planning policy (and some supporting guidance which is still current, e.g. ODPM Circular 06/2005, now under revision), refers to UK BAP habitats and species as being a material consideration in the planning process. Equally many local plans refer to BAP priority habitats and species. Both remain as material considerations in the planning process but such habitats and

species are now described as Species and Habitats of Principal Importance for Conservation in England, or simply priority habitats and priority species under the UK Post-2010 Biodiversity Framework. The list of habitats and species remains unchanged and is still derived from Section 41 list of the Natural Environmental and Rural Communities (NERC) Act 2006. As was previously the case when it was a BAP priority species hen harrier continues to be regarded as a priority species although it does not appear on the Section 41 list.

National Planning Policy Framework and Practice Guidance

In July 2021, the National Planning Policy Framework (NPPF) was updated, replacing the previous framework published in 2012 and revised in 2018 and 2019. A presumption towards sustainable development is at the heart of the NPPF. This presumption does not apply however where developments require appropriate assessment under the Birds or Habitats Directives.

Chapter 15, on conserving and enhancing the natural environment, sets out how the planning system should contribute to and enhance the natural and local environment by:

- protecting and enhancing existing sites of biodiversity value;
- minimising impacts on and providing net gains for biodiversity; and,
- establishing coherent ecological networks.

If a proposed development would result in significant harm to the natural environment which cannot be avoided (through the use of an alternative site with less harmful impacts), mitigated or compensated for (as a last resort) then planning permission should be refused. With respect to development on land within or outside of a Site of Special Scientific Interest (SSSI) which is likely to have an adverse effect (either alone or in-combination with other developments) would only be permitted where the benefits of the proposed development clearly outweigh the impacts on the SSSI itself, and the wider network of SSSIs. Development resulting in the loss of deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused unless there are wholly exceptional reasons for the development, and a suitable compensation strategy is provided.

Chapter 15 identifies that development whose primary objective is to conserve or enhance biodiversity should be supported and opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature.

Chapter 11, making effective use of the land, sets out how the planning system should promote use of land in meeting the need for homes and other uses, while safeguarding and improving the environment and ensuring safe and healthy living conditions. Substantial weight should be given to the value of using suitable brownfield land within settlements for homes and other identified needs. Opportunities for achieving net environmental gains, including new habitat creation, are encouraged.

In March 2014 the Department for Communities and Local Government released guidance to support the National Planning Policy Framework (NPPF), known as the National Planning Practice Guidance (NPPG).This has been produced to provide guidance for planners and communities which will help deliver high quality development and sustainable growth in England.

The guidance includes a section entitled ‘Natural Environment: Biodiversity, geodiversity and ecosystems and green infrastructure’, which was updated in July 2019. This document sets out information with respect to the following:

- the statutory basis for seeking to conserve and enhance biodiversity;

- the local planning authority's requirements for planning for biodiversity;
- what local ecological networks are and how to identify and map them;
- how plan-making bodies identify and safeguard Local Wildlife Sites, including Standard Criteria for Local Wildlife Sites;
- the sources of ecological evidence;
- the legal obligations on local planning authorities and developers regarding statutory designated sites and protected species;
- definition of green infrastructure;
- where biodiversity should be taken into account in preparing a planning application;
- how policy should be applied to avoid, mitigate or compensate for significant harm to biodiversity and how mitigation and compensation measures can be ensured;
- definitions of biodiversity net gain including information on how it can be achieved and assessed; and,
- the consideration of ancient woodlands and veteran trees in planning decisions and how potential impacts can be assessed.

The NPPG July 2019 issue also includes a section entitled 'Appropriate assessment: Guidance on the use of Habitats Regulations Assessment' which provides information in relation to Habitats Regulations Assessment processes, contents and approaches in light of case law. This guidance will be relevant to those projects and plans which have the potential to impact on European Sites and European Offshore Marine Sites identified under the Conservation of Habitats and Species Regulations 2017 (as amended).

Local Planning Policy

Local Plan: Part 1

The Hillingdon 'Local Plan: Part 1- Strategic Policies' (previously known as the Core Strategy) was adopted by the Council on the 8th November 2012. It sets out the key elements of the planning framework for the borough over the next 15 years. It comprises a spatial vision, strategic objectives, a spatial strategy, core policies and a monitoring and implementation framework with clear objectives for achieving delivery. The policy of relevance to ecology is:

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.

Local Plan: Part 2

The Local Plan Part 2 Development Management Policies and Site Allocations and Designations were adopted as part of the borough's development plan at Full Council on 16th January 2020. The new Local Plan Part 2 replaces the Local Plan Part 2 Saved UDP Policies (2012). Policies of relevance to ecology within this document comprise:

Policy DMHB 11: Design of New Development

A. All development, including extensions, alterations and new buildings will be required to be designed to the highest standards and, incorporate principles of good design including:
   i. harmonising with the local context by taking into account the surrounding:
      - scale of development, considering the height, mass and bulk of adjacent structures;
      - building plot sizes and widths, plot coverage and established street patterns;
      - building lines and setbacks, rooflines, streetscape rhythm, for example, gaps between structures and other streetscape elements, such as degree of enclosure;
      - architectural composition and quality of detailing;
      - local topography, views both from and to the site; and,
      - impact on neighbouring open spaces and their environment.
   ii. ensuring the use of high-quality building materials and finishes;
   iii. ensuring that the internal design and layout of development maximises sustainability and is adaptable to different activities;
   iv. protecting features of positive value within and adjacent to the site, including the safeguarding of heritage assets, designated and un-designated, and their settings; and
   v. landscaping and tree planting to protect and enhance amenity, biodiversity and green infrastructure.
B. Development proposals should not adversely impact on the amenity, daylight and sunlight of adjacent properties and open space.
C. Development will be required to ensure that the design safeguards the satisfactory re-development of any adjoining sites which have development potential. In the case of

proposals for major development sites, the Council will expect developers to prepare master plans and design codes and to agree these with the Council before developing detailed designs.

D. Development proposals should make sufficient provision for well designed internal and external storage space for general, recycling and organic waste, with suitable access for collection. External bins should be located and screened to avoid nuisance and adverse visual impacts to occupiers and neighbours.

Policy DMHB 14: Trees and Landscaping

A. All developments will be expected to retain or enhance existing landscaping, trees, biodiversity or other natural features of merit.
B. Development proposals will be required to provide a landscape scheme that includes hard and soft landscaping appropriate to the character of the area, which supports and enhances biodiversity and amenity particularly in areas deficient in green infrastructure.
C. Where space for ground level planting is limited, such as high rise buildings, the inclusion of living walls and roofs will be expected where feasible.
D. Planning applications for proposals that would affect existing trees will be required to provide an accurate tree survey showing the location, height, spread and species of trees. Where the tree survey identifies trees of merit, tree root protection areas and an arboricultural method statement will be required to show how the trees will be protected. Where trees are to be removed, proposals for replanting of new trees on-site must be provided or include contributions to offsite provision.

Policy DMEI 7: Biodiversity Protection and Enhancement

A. The design and layout of new development should retain and enhance any existing features of biodiversity or geological value within the site. Where loss of a significant existing feature of biodiversity is unavoidable, replacement features of equivalent biodiversity value should be provided on-site. Where development is constrained and cannot provide high quality biodiversity enhancements on-site, then appropriate contributions will be sought to deliver off-site improvements through a legal agreement.
B. If development is proposed on or near to a site considered to have features of ecological or geological value, applicants must submit appropriate surveys and assessments to demonstrate that the proposed development will not have unacceptable effects. The development must provide a positive contribution to the protection and enhancement of the site or feature of ecological value.
C. All development alongside, or that benefits from a frontage on to a main river or the Grand Union Canal will be expected to contribute to additional biodiversity improvements.
D. Proposals that result in significant harm to biodiversity which cannot be avoided, mitigated, or, as a last resort, compensated for, will normally be refused.

The London Plan 2021

The London Plan is the overall strategic plan for London, setting out an integrated economic, environmental, transport and social framework for the development of London over the next 20–25 years. It is the policies in this document that form part of the development plan for Greater London, and which should be taken into account in taking relevant planning decisions, such as determining planning applications.

This London Plan runs from 2019 to 2041. It was formally published by the Mayor on 2nd March 2021. This is a new plan, replacing all previous versions.

The policies of relevance to ecology are:

Policy G1 Green Infrastructure

A. London's network of green and open spaces, and green features in the built environment, should be protected and enhanced. Green infrastructure should be planned, designed and managed in an integrated way to achieve multiple benefits.
B. Boroughs should prepare green infrastructure strategies that identify opportunities for cross-borough collaboration, ensure green infrastructure is optimised and consider green infrastructure in an integrated way as part of a network consistent with Part A.
C. Development Plans and area-based strategies should use evidence, including green infrastructure strategies, to:
    1) identify key green infrastructure assets, their function and their potential function
    2) identify opportunities for addressing environmental and social challenges through strategic green infrastructure interventions.
D. Development proposals should incorporate appropriate elements of green infrastructure that are integrated into London's wider green infrastructure network.

Policy G2 London's Green Belt

A. The Green Belt should be protected from inappropriate development:
    1) development proposals that would harm the Green Belt should be refused except where very special circumstances exist,
    2) subject to national planning policy tests, the enhancement of the Green Belt to provide appropriate multi-functional beneficial uses for Londoners should be supported.
B. Exceptional circumstances are required to justify either the extension or de-designation of the Green Belt through the preparation or review of a Local Plan.

Policy G3 Metropolitan Open Land

A. Metropolitan Open Land (MOL) is afforded the same status and level of protection as Green Belt:
    1) MOL should be protected from inappropriate development in accordance with national planning policy tests that apply to the Green Belt
    2) boroughs should work with partners to enhance the quality and range of uses of MOL.
B. The extension of MOL designations should be supported where appropriate. Boroughs should designate MOL by establishing that the land meets at least one of the following criteria:
    1) it contributes to the physical structure of London by being clearly distinguishable from the built-up area
    2) it includes open air facilities, especially for leisure, recreation, sport, the arts and cultural activities, which serve either the whole or significant parts of London
    3) it contains features or landscapes (historic, recreational, biodiverse) of either national or metropolitan value
    4) it forms part of a strategic corridor, node or a link in the network of green infrastructure and meets one of the above criteria.
C. Any alterations to the boundary of MOL should be undertaken through the Local Plan process, in consultation with the Mayor and adjoining boroughs. MOL boundaries should only be changed in exceptional circumstances when this is fully evidenced and justified, taking into account the purposes for including land in MOL set out in Part B.

Policy G4 Open Space

A. Development Plans should:
    1) undertake a needs assessment of all open space to inform policy.

2) Assessments should identify areas of public open space deficiency, using the categorisation set out in Table 8.1 (the reader should refer to the full text within the plan) as a benchmark for the different types required. Assessments should take into account the quality, quantity and accessibility of open space
3) include appropriate designations and policies for the protection of open space to meet needs and address deficiencies
4) promote the creation of new areas of publicly accessible open space particularly green space, ensuring that future open space needs are planned for, especially in areas with the potential for substantial change
5) ensure that open space, particularly green space, included as part of development remains publicly accessible.

B. Development proposals should:
   1) not result in the loss of protected open space
   2) where possible create areas of publicly accessible open space, particularly in areas of deficiency.

Policy G5 Urban Greening

A. Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.
B. Boroughs should develop an Urban Greening Factor (UGF) to identify the appropriate amount of urban greening required in new developments. The UGF should be based on the factors set out in Table 8.2 (the reader should refer to the full text within the plan), but tailored to local circumstances. In the interim, the Mayor recommends a target score of 0.4 for developments that are predominately residential, and a target score of 0.3 for predominately commercial development (excluding B2 and B8 uses).
C. Existing green cover retained on site should count towards developments meeting the interim target scores set out in (B) based on the factors set out in Table 8.2.

Policy G6 Biodiversity and Access to Nature

A. Sites of Importance for Nature Conservation (SINCs) should be protected.
B. Boroughs, in developing Development Plans, should:
   1) use up-to-date information about the natural environment and the relevant procedures to identify SINCs and ecological corridors to identify coherent ecological networks
   2) identify areas of deficiency in access to nature (i.e. areas that are more than 1 km walking distance from an accessible Metropolitan or Borough SINC) and seek opportunities to address them
   3) support the protection and conservation of priority species and habitats that sit outside the SINC network, and promote opportunities for enhancing them using Biodiversity Action Plans
   4) seek opportunities to create other habitats, or features such as artificial nest sites, that are of particular relevance and benefit in an urban context
   5) ensure designated sites of European or national nature conservation importance are clearly identified and impacts assessed in accordance with legislative requirements.
C. Where harm to a SINC is unavoidable, and where the benefits of the development proposal clearly outweigh the impacts on biodiversity, the following mitigation hierarchy should be applied to minimise development impacts:

1) avoid damaging the significant ecological features of the site
2) minimise the overall spatial impact and mitigate it by improving the quality or management of the rest of the site
3) deliver off-site compensation of better biodiversity value.

D. Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain. This should be informed by the best available ecological information and addressed from the start of the development process.
E. Proposals which reduce deficiencies in access to nature should be considered positively.

Policy G7 Trees and Woodlands

A. London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest – the area of London under the canopy of trees.
B. In their Development Plans, boroughs should:
    1) protect 'veteran' trees and ancient woodland where these are not already part of a protected site
    2) identify opportunities for tree planting in strategic locations.
C. Development proposals should ensure that, wherever possible, existing trees of value are retained. If planning permission is granted that necessitates the removal of trees there should be adequate replacement based on the existing value of the benefits of the trees removed, determined by, for example, i-tree or CAVAT or another appropriate valuation system. The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.

Policy SI 17 Protecting and enhancing London's waterways

A. Development Plans should support river restoration and biodiversity improvements.
B. Development proposals that facilitate river restoration, including opportunities to open culverts, naturalise river channels, protect and improve the foreshore, floodplain, riparian and adjacent terrestrial habitats, water quality as well as heritage value, should be supported. Development proposals to impound and narrow waterways should be refused.
C. Development proposals should support and improve the protection of the distinct open character and heritage of waterways and their settings.
D. Development proposals into the waterways, including permanently moored vessels, should generally only be supported for water-related uses or to support enhancements of water-related uses.
E. Development proposals along London's canal network, docks, other rivers and water space (such as reservoirs, lakes and ponds) should respect their local character, environment and biodiversity and should contribute to their accessibility and active water-related uses. Development Plans should identify opportunities for increasing local distinctiveness and recognise these water spaces as environmental, social and economic assets.
F. On-shore power at water transport facilities should be considered at wharves and residential moorings to help reduce air pollution.

Appendix 2

Relevant Species Legislation

Bats

Bats and the places they use for shelter or protection (i.e. roosts) receive legal protection under the Conservation of Habitats and Species Regulations 2017 (Habitats Regulations 2017) and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (Habitats Regulations 2019). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that bats, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Regulation 41 of the Habitats Regulations 2017, states that a person commits an offence if they:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats; or
- damage or destroy a bat roost (breeding site or resting place).

Disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

It is an offence under the Habitats Regulations 2017 for any person to have in his possession or control, to transport, to sell or exchange or to offer for sale, any live or dead bats, part of a bat or anything derived from bats, which has been unlawfully taken from the wild.

Changes have been made to parts of the Habitats Regulations 2017 so that they operate effectively from 1st January 2021. The changes are made by the Habitats Regulations 2019, which transfer functions from the European Commission to the appropriate authorities in England and Wales.

All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

The obligations of a competent authority in the 2017 Regulations for the protection of species do not change. A competent authority is a public body, statutory undertaker, minister or department of government, or anyone holding public office.

Whilst broadly similar to the above legislation, the WCA 1981 (as amended) differs in the following ways:

- Section 9(1) of the WCA makes it an offence to *intentionally* kill, injure or take any protected species.
- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly** damage or destroy, *or obstruct access to*, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly** disturb any protected species *while it is occupying a structure or place which it uses for shelter or protection*.

*Reckless offences were added by the Countryside and Rights of Way (CRoW) Act 2000.

As bats re-use the same roosts (breeding site or resting place) after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present.

The reader should refer to the original legislation for the definitive interpretation.

The following bat species are Species of Principal Importance for Nature Conservation in England: barbastelle bat *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, greater horseshoe bat *Rhinolophus ferrumequinum* and lesser horseshoe bat *Rhinolophus hipposideros*. Species of Principal Importance for Nature Conservation in England are material considerations in the planning process. The list of species is derived from Section 41 list of the Natural Environmental and Rural Communities (NERC) Act 2006.

Badger

Badgers and their setts are protected under the Protection of Badgers Act 1992. The Protection of Badgers Act 1992 is based primarily on the need to protect badgers from baiting and deliberate harm or injury, badgers are not protected for conservation reasons. The following are criminal offences:

- To intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it.
- To wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so.

A badger sett is defined in the legislation as:

- 'Any structure or place that displays signs indicating current use by a badger'.

'Current use' is not synonymous with current occupation and a sett is defined as such (and thus protected) as long as signs of current usage are present. Therefore, a sett is protected until such a time as the field signs deteriorate to such an extent that they no longer indicate 'current usage'.

Badger sett interference can result from a multitude of operations including excavation and coring, even if there is no direct damage to the sett, such as through the disturbance of badgers whilst occupying the sett. Any intentional or reckless work that results in the interference of badger setts is illegal without a licence from Natural England. In England a licence must be obtained from Natural England before any interference with a badger sett occurs.

The reader should refer to the original legislation for the definitive interpretation.

Common amphibians

Common frogs, common toad, smooth newt and palmate newt are protected in Britain under Schedule 5 of the Wildlife and Countryside Act (1981, as amended) with respect to sale only. They are also listed under Annex III of the Bern Convention 1979. Any exploitation of wild fauna specified in Appendix III shall be regulated in order to keep the populations out of danger. The convention seeks to prohibit the use of all indiscriminate means of capture and killing and the use of all means capable of causing local disappearance of, or serious disturbance to, populations of a species.

Common toad is listed as a Species of Principal Importance for Nature Conservation in England.

Hedgehog

Hedgehogs receive some protection under Schedule 6 of the Wildlife and Countryside Act 1981 (as amended); this section of the Act lists animals which may not be killed or taken by certain methods, namely traps and nets, poisons, automatic weapons, electrical devices, smokes/gases and various others. Humane trapping for research purposes requires a licence.

Hedgehogs are a Species of Principal Importance for Nature Conservation in England and are thus capable of being material considerations in the planning process.

Nesting Birds

The Conservation of Habitats and Species Regulations 2017, (Habitats Regulations 2017) and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (Habitats Regulations 2019) places a duty on public bodies to take measures to preserve, maintain and re-establish habitat for wild birds.

Nesting and nest building birds are protected under the Wildlife and Countryside Act WCA 1981 (as amended).

Subject to the provisions of the act, if any person intentionally:

- kills, injures or takes any wild bird;
- takes, damages or destroys the nest of any wild bird while that nest is in use or being built; or
- takes or destroys an egg of any wild bird, he shall be guilty of an offence.

Some species (listed in Schedule 1 of the WCA) are protected by special penalties. Subject to the provisions of the act, if any person intentionally or recklessly:

- disturbs any wild bird included in Schedule 1 while it is building a nest or is in, on or near a nest containing eggs or young; or
- disturbs dependent young of such a bird, he shall be guilty of an offence.

Several bird species are Species of Principal Importance for Nature Conservation in England, making them capable of being material considerations in the planning process.

Stag beetle

The stag beetle is in decline globally. It is listed on Annex II of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (a list of animal and plant species of community interest whose conservation requires the designation of Special Areas of Conservation). Stag beetle also receives protection under Schedule 5 of the Wildlife and Countryside Act 1981, as amended, making the following activities illegal: selling, offering for sale, processing or transporting for purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from, such animal. Stag beetle is also listed as a Species of Principal Importance for Nature Conservation in England.

Appendix 3

Survey Calendar

MIDDLEMARCH

SPECIES SURVEY CALENDAR

This calendar helps identify the seasonal constraints associated with many ecological and protected species surveys.

Recommended survey time

Possible survey time

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Extended Phase 1 Habitat Survey	■	■	■	■	■	■	■	■	■	■	■	■
Botanical Survey				■	■	■	■	■	■			
Bats (initial bat survey)	■	■	■	■	■	■	■	■	■	■	■	■
Bats (activity survey)				■	■	■	■	■	■			
Bats (hibernation survey)	■	■	■									■
Great Crested Newt (habitat assessment)	■	■	■	■	■	■	■	■	■	■	■	■
Great Crested Newt (presence/absence survey)			■	■	■	■						
Reptiles			■	■	■	■	■	■	■			
Badger	■	■	■	■	■	■	■	■	■	■	■	■
Water Vole			■	■	■	■	■	■	■	■		
Otter	■	■	■	■	■	■	■	■	■	■	■	■
Birds (winter birds)	■	■	■								■	■
Birds (nesting bird)			■	■	■	■	■	■	■			
Dormouse	■	■	■	■	■	■	■	■	■	■	■	■
White Clawed Crayfish				■	■	■	■	■	■	■		

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