MIDDLEMARCH

Preliminary Ecological Appraisal

Northwood Hills Library, Potter Street, Northwood, London Borough of Hillingdon

A Report to: Philip Pank Partnership LLP
Report Number: RT-MME-161305-01
Date: September 2023

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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 August 2023 Philip Pank Partnership LLP commissioned Middlemarch to undertake a Preliminary Ecological Appraisal of the site of a proposed development at Northwood Hills Library. This assessment is required to inform a planning application associated with the demolition of the existing library and the construction of a new library with residential apartments above.

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 15th August 2023 by Richard Sainsbury BSc (Hons) (Senior Ecological Consultant) and James Sharma (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 habitats (hedgerows and scattered trees) and species (bats, birds, and hedgehogs).

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 hedgerows and scattered trees;
- Killing, injury or disturbance of bats, birds, and hedgehogs; and,
- Degradation of habitats due to inappropriate management.

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	**Ecological Surveys** – The recommendations made in the Preliminary Bat Roost Assessment (RT-MME-161305-02) 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. [E.g. This includes scattered trees and hedgerows. 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 protect the adjacent nature conservation site and minimise risk to nesting birds and foraging terrestrial mammals. **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 August 2023 Philip Pank Partnership LLP commissioned Middlemarch to undertake a Preliminary Ecological Appraisal of the site of a proposed development at Northwood Hills Library. This assessment is required to inform a planning application associated with the demolition of the existing library and the construction of a new library with residential apartments above.

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-161305-02).

1.2 Site Description and Context

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

Attribute	Description
Location	Northwood Hills, Potter Street, Northwood, London Borough of Hillingdon
National Grid Reference	TQ 10332 90528
Site Area (ha)	0.12
Topography	Flat
Land Cover (on site)	The site consists of the existing library building, with areas of hardstanding and parcels of amenity grassland. Introduced shrub and scattered trees are present across the site, while hedges are present along the northwestern and southeastern boundaries.
Land Cover (site surrounds)	The wider landscape is dominated by urban development, largely consisting of residential houses with gardens. A school borders the site to the east, and areas of greenspace are present in the wider landscape, including parks, playing fields, and cemeteries.

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
M10047_APL007_PROPOSED GROUND FLOOR PLAN	Hunters
M10047_APL008_PROPOSED FIRST FLOOR PLAN	Hunters
M10047_APL009_PROPOSED SECOND FLOOR PLAN	Hunters

Table 1.2: Documentation Provided by Client (continues)

Document / Drawing Number	Author
M10047_APL010_PROPOSED THIRD FLOOR PLAN	Hunters
M10047_APL011_PROPOSED ROOF PLAN	Hunters
M10047_APL012_PROPOSED PINNER ROAD ELEVATION	Hunters
M10047_APL013_POTTER STREET ELEVATION	Hunters
M10047_APL014_PROPOSED NORTHEAST ELEVATION	Hunters
M10047_APL015_PROPOSED ELEVATION SOUTHEAST	Hunters

Table 1.2 (continued): 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 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 groups (amphibians, bats, birds, terrestrial and aquatic invertebrates, terrestrial and aquatic mammals, plants and reptiles).

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[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

The survey was carried out on 15th August 2023 by Richard Sainsbury BSc (Hons) (Senior Ecological Consultant) and James Sharma (Ecological Consultant). Table 2.1 details the weather conditions at the time of the survey.

Parameter	Condition
Temperature (ºC)	22
Cloud (%)	0
Wind (Beaufort)	F1
Precipitation	Nil

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 on or in proximity to the survey area.

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
UK Statutory Sites			
Ruislip Woods	NNR/SSSI	1,105 m south-west	An extensive area of ancient semi-natural woodland with a range of oak *Quercus*. spp, hornbeam *Carpinus betulus* and birch *Betula* spp. woodland types. Other species present includes field maple *Acer campestre*, aspen *Populus tremula*, guelder-rose *Viburnum opulus,* honeysuckle *Lonicera periclymenum*, yellow archangel *Lamiastrum galeobdolon* and violet helleborine *Epipactis purpurata*. Other flora of note include heath spotted orchid *Dactylorhiza maculata*, petty whin *Genista anglica* and lousewort *Pedicularis sylvatica*. The site supports rare invertebrates such as light orange underwing moth *Archiearis notha*, the lead-coloured drab moth *Orthosia populeti* and a nationally rare soldier fly *Xylomyia maculate*. The site also supports breeding birds including tawny owl *Strix aluco*, green woodpecker *Picus viridus*, woodcock *Scolopax rusticola* and hawfinch *Coccothraustes coccothraustes*.
Oxhey Woods	LNR	1,200 m north-east	A large area of woodland, with some areas of ancient woodland. Species of note include wild service tree *Sorbus torminalis*, wood anemone *Anemone nemorosa* and bluebell *Hyacinthoides non-scripta.*

Table 3.1: Summary of Nature Conservation Sites (continues)

Site Name	Designation	Proximity to the Survey Area	Description
Non-statutory Sites			
Hog's Back Open Space (formerly Borough Hill)	SINC	230 m north	The site consists of areas of grassland and woodland and tall ruderal. The woodland is dominated by oak *Quercus robur*, bramble *Rubus fruticosus* agg. and hawthorn *Crataegus monogyna*, with abundant honeysuckle. The ground flora includes wood avens *Geum urbanum* and rosebay willowherb *Chamerion angustifolium*. The grassland area contains a diversity of plants including sheep's fescue *Festuca ovina*, rowan *Sorbus aucuparia* and orange ball tree *Buddleja globose*.
Haydon Hall Meadows	SINC	470 m south-east	Habitats on site include semi-improved neutral grassland, secondary woodland and orchard. A series of lightly cattle-grazed meadows contain diverse meadow flora, such as plentiful sneezewort *Achillea ptarmica*, common knapweed *Centaurea nigra*, agrimony *Agrimonia eupatoria* and red bartsia *Odontites vernus*. The area of trees and outgrown hedgerow include pedunculate oak, field maple, blackthorn *Prunus spinosa*, field rose *Rosa arvensis* and hornbeam. These habitats support fauna such as goldfinch *Carduelis carduelis*, chiffchaff *Phylloscopus collybita*, meadow brown butterfly *Maniola jurtina* and diverse solitary bees.
Potter Street Hill	SINC	620 m north-east	The grassland area is dominated by cat's-tail *Phleum pratense*, with false oat-grass *Arrhenatherum elatius* and tufted hair-grass *Deschampsia cespitosa*. Wildflowers include purple loosestrife *Lythrum salicaria*, fleabane *Pulicaria dysenterica*, agrimony and figwort *Scrophularia nodosa*. An outgrown hedge forms a spinney where large pedunculate oaks provide standing decaying timber of value to invertebrates. Ground flora includes bluebell, wood dock *Rumex sanguineus* and greater stitchwort *Stellaria holostea*. Two ponds in the north of the spinney support wetland flora such as yellow iris *Iris pseudacorus* and red bistort *Persicaria amplexicaulis*, as well as soft rushes *Juncus effusus*.

Table 3.1 (continued): Summary of Nature Conservation Sites (continues)

Site Name	Designation	Proximity to the Survey Area	Description
Non-statutory Sites (continued)			
Haste Hill Golf Course, Northwood Golf Course and Northwood Park	SINC	710 m south-west	Two golf courses with small areas of species-rich grassland and woodland. Acid grassland flora on site include heath bedstraw *Gallium saxatile*, sheep's sorrel *Rumex acetosella* and mouse-ear hawkweed *Pilosella officinarum*. The woodland flora include silver birch *Betula pendula*, downy birch *Betula pubescens*, pedunculate and sessile oaks *Quercus petraea*, Scots pine *Pinus sylvestris* and exotic trees, such as Pride-of-India *Koelreuteria paniculate*. Other species of note include male fern *Dryopteris filix-mas* and galingale *Cyperus longus*. Hornets occur on site, along with a diversity of other invertebrates, birds and reptiles.
Pinnerwood Park and Ponds	SINC	870 m north-east	A golf course, with large areas of ancient woodland, acid grassland and several ponds. Pinner Wood is an ancient woodland dominated by oak and ash *Fraxinus excelsior* to the east and hornbeam to the west, with a sparse shrub layer of holly *Ilex aquilifolium* and hazel coppice *Corylus avellana*. Ground flora includes broad buckler-fern *Dryopteris dilatata*, violets *Viola* spp. and pendulous sedge *Carex pendula*. The grassland area contains devil's bit scabious and heather *Calluna vulgaris* remnants, with loosestrife and false fox-sedge *Carex otrubae* near the ponds. There are records of great crested newt *Triturus cristatus* and grass snake *Natrix helvetica* on site.
St Vincent's Hospital Meadows	SINC	915 m south-west	The site comprises two fields either side of the hospital. The northern field is dominated by Yorkshire fog *Holcus lanatus* and tufted hair-grass, with meadow foxtail *Alopecurus pratensis* and common couch *Elytrigia repens*. Other flora includes great willowherb *Epilobium hirsutum* and red clover *Trifolium pratense*. The southern field is dominated by false oat grass and perennial rye-grass *Lolium perenne* with abundant crested dog's-tail *Cynosurus cristatus* and common centaury *Centaurium erythrea*. The site supports invertebrates such as solitary wasps, grasshoppers, and butterflies.

Table 3.1 (continued): Summary of Nature Conservation Sites (continues)

Site Name	Designation	Proximity to the Survey Area	Description
Non-statutory Sites (continued)			
Grim's Ditch and Pinner Green	SINC	955 m south-east	Habitats on site include woodland, hedgerow, scrub and semi-improved neutral grassland. The woodland ground flora includes hedge woundwort *Stachys sylvatica*, wood avens, raspberry *Rubus idaeus* and honesty *Lunaria annua*. The hedgerow and ditch support lords-and-ladies *Arum maculatum* and brooklime *Veronica beccabunga*. An area of roughland includes wood speedwell *Veronica montana*, scarlet pimpernel *Anagallis arvensis* and Russian comfrey *Symphytum x uplandicum*.
Key: SSSI: Site of Special Scientific Interest NNR: National Nature Reserve LNR: Local Nature Reserve SINC: Site of Importance for Nature Conservation			

Table 3.1 (continued): Summary of Nature Conservation Sites

The site falls within impact risk zones for Ruislip Woods SSSI, which is located approximately 1.10 km north-west of the survey area.

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	20	200 m north
Traditional orchard	1	500 m south-west

Table 3.2: Summary of Priority/Notable Habitats

There are eight ponds within 1 km of the site, the nearest of which is located 780 m north-east.

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*	2	2006	270 m south	-	WCA 5 S9(5)
Common toad *Bufo bufo*	1	2002	425 m south-east	✓	WCA 5 S9(5)
Birds					
Crossbill *Loxia curvirostra*	1	2013	*	-	WCA1i
Red kite *Milvus milvus*	2	2019	*	-	WCA1i
Invertebrates					
Stag beetle *Lucanus cervus*	12	2020	310 m east	✓	ECH 2, WCA 5 S9(5)
Mammals - Bats					
Common pipistrelle *Pipistrellus pipistrellus*	2	2014	230 m east	-	ECH 4, WCA 5, WCA 6
Unidentified bat *Chiroptera* sp.	1	2021	315 north-west	#	ECH 2 #, ECH 4, WCA 5, WCA 6
Unidentified bat *Vespertilionidae* sp.	1	2002	425 m south-east	#	ECH 2 #, ECH 4, WCA 5, WCA 6
Mammals - Other					
Hedgehog *Erinaceus europaeus*	10	2021	370 m west	✓	WCA 6
Badger *Meles meles*	3	2021	†	-	WCA 6, PBA
Reptiles					
Slow worm *Anguis fragilis*	2	2004	425 m south-east	✓	WCA 5 S9(1), WCA 5 S9(5)
Grass snake *Natrix helvetica*	1	2004	675 m south-west	✓	WCA 5 S9(1), WCA 5 S9(5)
Adder *Vipera berus*	1	2004	†	✓	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.

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

Key (continued):

*: 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. Animal and plant species of community interest in need of strict protection.

PBA: Protection of Badgers Act 1992.

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 Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds).

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 three bird species listed as Species of Principal Importance, comprising linnet *Linaria cannabina*, spotted flycatcher *Muscicapa striata* and house sparrow *Passer domesticus*.

These species are also on the RSPB Red List, alongside swift *Apus apus*, which was also identified in the desk study.

Records were also returned of two birds on the RSPB Amber List, comprising grey wagtail *Motacilla cinerea* and tawny owl *Strix aluco*.

Invertebrates

The desk study returned records of two butterflies listed as Species of Principal Importance, including small heath butterfly *Coenonympha pamphilus pamphilus* and white admiral butterfly *Limenitis camilla*.

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
Evergreen oak *Quercus ilex*	4	2020	30 m west	LISI 5
Turkey oak *Quercus cerris*	7	2020	140 m west	LISI 5
Tree-of-heaven *Ailanthus altissima*	3	2020	160 m north-west	LISI 3
Butterfly-bush *Buddleia davidii*	9	2009	200 m south-west	LISI 3
False-acacia *Robinia pseudoacacia*	10	2020	250 m south	LISI 4
Cherry laurel *Prunus laurocerasus*	7	2009	290 m north	LISI 3
Canadian waterweed *Elodea canadensis*	1	2002	340 m south-east	WCA 9, LISI 5
Ragweed *Ambrosia artemisiifolia*	2	2004	350 m north	LISI 5
Snowberry *Symphoricarpos albus*	5	2009	380 m north	LISI 2
Green alkanet *Pentaglottis sempervirens*	1	2009	500 m north-east	LISI 6
Montbretia *Crocosmia x crocosmiiflora*	1	2009	500 m north-east	LISI 2, WCA 9
Waterer's cotoneaster *Cotoneaster frigidus x salicifolius*	1	2009	500 m north-east	LISI 2
Cotoneaster *Cotoneaster horizontalis*	1	2004	650 m south-west	WCA 9, LISI 2

Key:

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

LISI: London Invasive Species Initiative

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.

LISI 6: London Invasive Species Initiative – Species that were not currently considered to pose a threat or have the potential to cause problems in London.

Table 3.4: Summary of Invasive Species Records

4. Survey Results

4.1 Introduction

A Phase 1 Habitat Survey Drawing (Drawing C161305-01-01), 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 field survey are presented in Chapter 9.

Habitat	Area (ha) / Length (km)	Condition	Photo Reference
Amenity grassland	0.016	Poor	Plate 9.3
Building	0.045	N/A	Plate 9.1
Hardstanding	0.042	N/A	Plate 9.2
Introduced shrub	0.023	N/A	Plate 9.7
Scattered trees	14	Moderate/poor	Plate 9.8 and 9.9
Species-poor, defunct hedgerow	0.009	N/A	Plate 9.6
Species-poor, defunct, native hedgerow	0.006	Poor	Plate 9.4
Species-poor, intact, native hedgerow	0.008	Poor	Plate 9.5

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
Bats	The building is considered suitable for use by bats for roosting, and the trees and hedgerows provide suitable foraging and commuting habitat as well as connectivity with the wider landscape. For further details see the Preliminary Bat Roost Assessment (RT-MME-161305-02).

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

Species/Group	Description
Birds	The scattered trees, introduced shrub, building, and hedgerows provide suitable habitat for nesting birds, and a nest was recorded within the brickwork on the southern elevation of the library building (F1). Species observed using the site during the field survey included woodpigeon *Columba palumbus*, robin *Erithacus rubecula*, feral pigeon *Columba livia domestica*, swift *Apus apus* and house sparrow *Passer domesticus*.
Hedgehog	The hedgerows, introduced shrub, and grassland provide suitable refuge and foraging habitat for hedgehogs, as well as connectivity with suitable habitats in the wider landscape.

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

4.4 Invasive Species

No invasive plant species included either on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) or on the London Invasive Species Initiative were recorded on site during the field survey. An unidentified cotoneaster *Cotoneaster* sp. was recorded on site, although some cotoneaster species are considered invasive the plant found was not considered likely to belong to one of these species.

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
Designated Sites		
UK Statutory Sites (Ruislip Woods SSSI/NNR, Oxhey Woods)		The site is located with an impact risk zone for Ruislip Woods SSSI/NNR, which is located 1,105 m south-west. SSSI's and NNR's are statutory nature conservation sites of national importance. Oxhey Woods LNR is located 1,200 m north-east. LNR's are statutory nature conservation sites of national importance.
Non-statutory Sites (seven SINC's)		Sites of Importance for Nature Conservation (SINC's) 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	Non-priority hedgerows	The hedgerows do not meet Habitat of Principal Importance criteria as they are not of sufficient size, however they have ecological value and increase connectivity for biodiversity between the site and wider landscape.
	Scattered trees	The mature and early mature trees have intrinsic ecological value and cannot be easily replaced in the short to medium term.
Protected/Notable Species		
Bats		The desk study returned records of at least one bat species within a 1 km radius of the site. The Preliminary Bat Roost Assessment classed the library building as having a high potential to support roosting bats. The scattered trees and hedgerows may be used by bats for commuting and foraging, and they increase connectivity for bats through 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-161305-02).
Birds		The desk study returned records of two bird species, crossbill and red kite, included on Schedule 1 of Wildlife and Countryside Act 1981 (as amended), however the habitats on site are not suitable for either of these species. The habitats on site provide suitable nesting habitat for a range of notable and more common/generalist bird species. All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended).

Table 5.1: Summary of Important Ecological Features (continues)

Feature	Description
Protected/Notable Species (continued)	
Hedgehog	The site and surrounding landscape support suitable habitat opportunities for hedgehog. Records of this species, which is listed as a Species of Principal Importance, were identified within a 1 km radius of the site.

Table 5.1 (continued): Summary of Important Ecological Features

5.2 Features Scoped Out

Table 5.2. details ecological features which have been scoped 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, hardstanding	These habitats are of negligible ecological importance.
Amenity grassland, 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	
Amphibians	The desk study returned records of two amphibian species, common frog and common toad, from within a 1 km radius of the site. There is no aquatic habitat on site and reference to Ordnance Survey data suggests there are no waterbodies within a 500 m radius of the site. Therefore, it is considered unlikely breeding amphibians are present within proximity to the site. Additionally, the habitats on site are not considered suitable for use by amphibians, other than the hedgerows which only have suboptimal value.
Aquatic mammals	It is considered unlikely that aquatic mammals are present and using the site due to a lack of suitable aquatic habitat on or immediately adjacent to the site.
Badgers	The desk study returned three records of badgers within a 1 km radius of the site. The site is not suitable for sett building, and although the hedgerows and amenity grassland are suitable for foraging, they are only very small in area and considered unlikely to be utilised by badgers. There is suitable habitat for this species in the wider landscape, however the site is isolated from these habitats by roads and urban development and as such badgers are considered unlikely to visit the site.
Dormouse	The habitats on site are not suitable for dormice.
Invertebrates	The desk study returned 12 records of stag beetles within a 1 km radius of the site, however no deadwood habitat was found on site and therefore there is no suitable habitat for stag beetles. The site is dominated by the built environment and is unlikely to support any notable invertebrate species or assemblages.
Plants	The field survey did not find any rare or notable plant species on site. The habitats on site are widespread and routinely managed and therefore are unlikely to support protected or notable species.

Table 5.2: Summary of Features Scoped out of Further Assessment (continues)

Feature	Justification for Scoping Out
Reptiles	The desk study returned records of three reptile species within a 1 km radius of the site. The habitats on site are considered suboptimal for reptiles and the site is isolated from suitable habitats by roads and the built environment. Reptiles are therefore deemed highly unlikely to be present on site.

Table 5.2 (continued): Summary of Features Scoped out of Further Assessment

Invasive Species

No invasive plant species were recorded on site during the field survey.

6. Preliminary Impact Assessment

6.1 Summary of Proposals

The proposals are for the demolition of the existing library building and its replacement with a new building containing a library on the ground floor and residential apartments on the upper floors. This development will include a car park and landscaping around the new building.

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 associated lighting;
- 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
UK Statutory Sites	
Ruislip Woods SSSI/NNR	The site is within an impact risk zone for Ruislip Woods SSSI/NNR. Reference to Natural England's SSSI Impact Risk Tool indicates that development proposals relating to aviation, pipelines and cables, minerals/oil/gas, livestock and poultry units, composting, landfill, combustion processes and large infrastructure pose a potential risk to this designated site. The proposed development does not fall within any of these categories and as such adverse impacts on this SSSI are considered unlikely. Although the development is partially residential the risk of recreational impacts on the SSSI is negligible as the number of new units is low and the surrounding land use is predominantly residential.
Oxhey Woods LNR	This LNR is located 1.2 km north-east of the site. The site is separated from this LNR by roads and urban development, and as such there is poor connectivity for biodiversity. Therefore, adverse impacts on this LNR because of the proposed development are not anticipated.
Non-statutory Sites	
Seven SINC's	The seven non-statutory sites are located in excess of 200 m from the survey area and due to the small-scale of the proposed development, along with the built-up nature of the intervening habitats, the risk of significant harm or disturbance to these conservation sites is considered negligible.

Table 6.1: 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
Non-priority hedgerows	• Loss of hedgerows in their entirety. • Habitat damage or degradation during construction works, lighting or inappropriate post-construction landscape management.
Scattered trees	• Loss of scattered trees. • Damage or degradation during construction works, lighting or inappropriate post-construction landscape management.

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 new multifunctional green infrastructure features, including attenuation ponds and distinctive green corridors comprising native planting.

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
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.
Birds	• Loss of nesting 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.
Hedgehogs	• Killing or injury of terrestrial mammals during construction phase. • Loss/fragmentation of suitable foraging and refuge habitat.

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); and,
- Birds (scrub planting and bird boxes).

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 **Ecological Surveys:** The recommendations made in the Preliminary Bat Roost Assessment (RT-MME-161305-02) should be followed.

R2 **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 scattered trees and hedgerows, 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 hedgerows and create distinctive green corridors.

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.

R3 **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 avoid accidental entrapment of terrestrial mammals; and,
- Compliance with any specific mitigation measures that will be required to acquire a Development Licence for works affecting protected species.

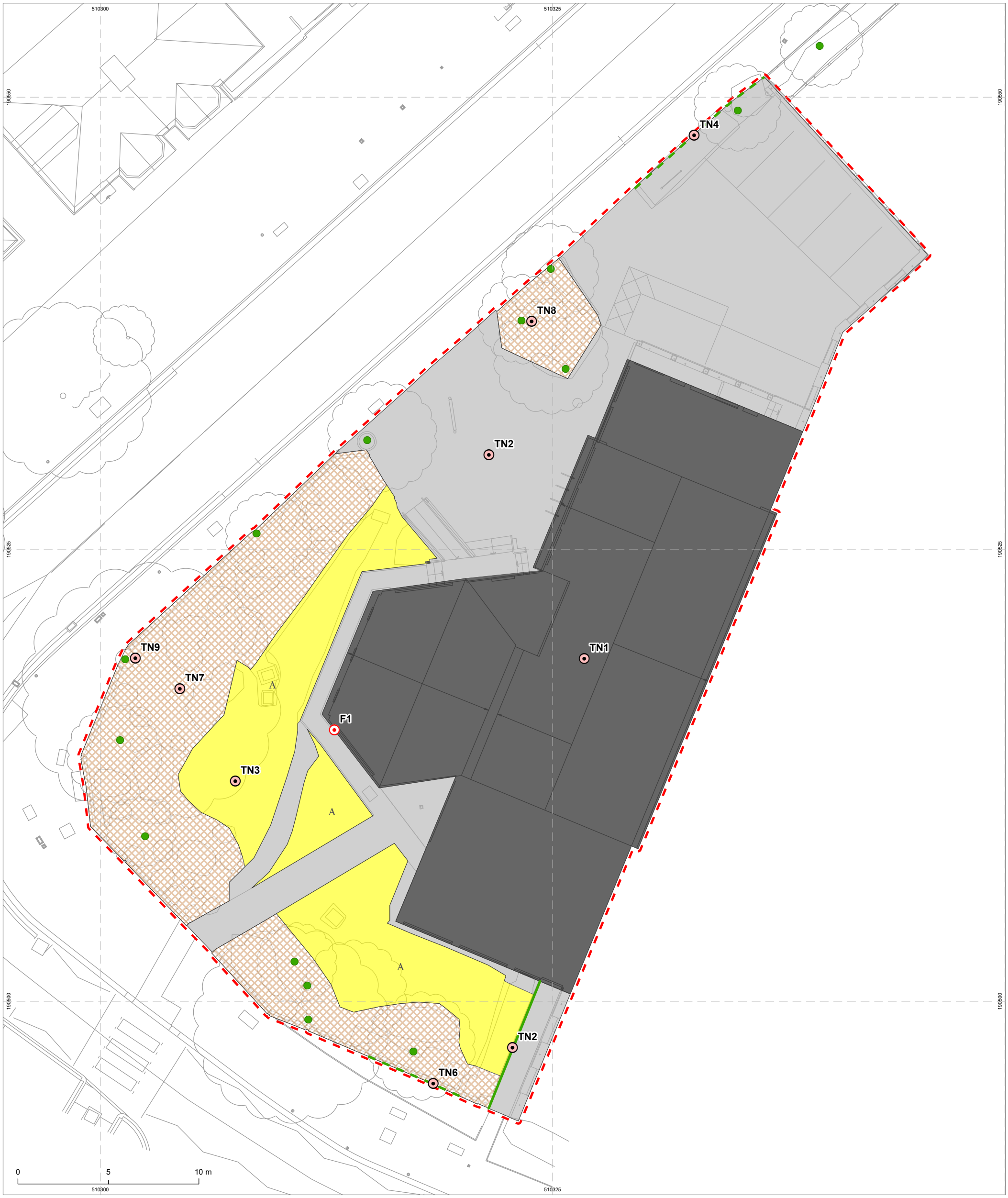
The CEcMP should be submitted to the Local Planning Authority for Approval and implemented in full thereafter.

R4 **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. 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 C161305-01-01 – Phase 1 Habitat Map



Legend

- Site boundary
- Scattered tree
- Species-poor defunct hedgerow
- Species-poor intact hedgerow
- Building
- A — Amenity grassland
- Hardstanding
- Introduced shrub
- Target note- habitat parcel
- Target note - feature
- F1. Bird's nest

Project	Northwood Hills Library, Potter Street, Northwood
Drawing	Phase 1 Habitat Map
Client	Philip Pank Partnership LLP
Drawing Number	C161305-01-01
Revision	00
Scale @ A3	1:200
Date	August 2023
Approved By	JS
Drawn By	BD

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C161305-01-01

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	Building	Urban – developed land; sealed surface	The building on site consisted of the library building, which was brick-built and had single storey and two storey sections.	N/A														N/A	N/A
TN2	Hardstanding	Other developed land	Hardstanding was present across the site including concrete and tarmac. It was in use as a private car park and public walkways. These areas were devoid of any vegetation.	N/A														N/A	N/A
TN3	Amenity grassland	Modified grassland	A small expanse of amenity grassland was present to the west of the library building. It had a short sward height (< 50 mm) with frequent forbs and a section of bare ground. Species present included: Dominant perennial ryegrass *Lolium perenne* Frequent yarrow *Achillea millefolium*, white clover *Trifolium repens*, daisy *Bellis perennis*, ribwort plantain *Plantago lanceolata*, dandelion *Taraxacum officinale* agg. Occasional common mallow *Malva sylvestris*, small-flowered crane's-bill *Geranium pusillum*	Grassland – Low Distinctiveness	F	F	P	F	P	P	P							4	Poor
TN7	Introduced shrub	Urban – introduced shrub	Scattered introduced shrubs were present at the site boundaries, often bordering/amongst areas of bare ground and nearby trees. Species comprised Japanese barberry *Berberis thunbergii*, Chinese barberry *Berberis julianae*, cotoneaster *Cotoneaster* sp., viburnum *Viburnum* sp., willow-leaved cotoneaster *Cotoneaster salicifolius*, Mexican orange *Choisya ternata*, Oregon-grape *Mahonia aquifolium*, Japanese fatsia *Fatsia japonica*, New Zealand broadleaf *Griselinia littoralis*. Understorey predominantly bare ground with occasional early emerging colonising species including herb-Robert *Geranium robertianum*, dandelion, thistle *Cirsium* sp., ground ivy *Glechoma hederacea*, hawk's-beard *Crepis* sp., small-flowered crane's-bill and redshank *Persicaria maculosa*.	Urban														N/A	N/A
TN8	Scattered trees	Scattered trees	A group of mixed, early mature native and non-native trees present at the site's western and southern boundaries. Trees predominantly sited within areas of bare ground. No potential roost features noted. All in good condition and of similar age/size. Species comprised frequent hawthorn *Crataegus monogyna*, occasional cotoneaster and holly *Ilex aquifolium*, and rare silver birch *Betula pendula*.	Individual trees – urban trees	P	F	F	P	F	F								2	Poor
TN9	Scattered trees	Scattered trees	A mature oak *Quercus* sp. was present on the western site boundary between a brick wall and amongst hardstanding.	Individual trees – urban trees	P	P	P	P	F	F								4	Moderate
F1	Bird nest	N/A	A bird nest was present within missing brickwork on the southern elevation of the library building.	N/A														N/A	N/A
Key: P – Criteria passed																			

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**
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**
TN4	Species-poor, defunct, native hedgerow	Native hedgerow	A 9 m length of managed native hedgerow comprising dominant hawthorn and occasional ash *Fraxinus excelsior* and rose *Rosa* sp.	P	P	P	F	F	F	P	P			Poor
TN5	Species-poor, intact, native hedgerow	Native hedgerow	A 9 m length of managed native hedgerow comprising dominant yew *Taxus baccata* and occasional bindweed *Calystegia* sp.	P	P	P	P	F	F	P	P			Poor
TN6	Species-poor, defunct hedgerow	Urban – introduced shrub	A non-native and ornamental hedgerow present at the site's southern boundary. It was c. 6 m long, managed and comprised of garden privet *Ligustrum ovalifolium*, Mexican orange *Choisya ternata*, and Japanese barberry.											N/A
Key: *Applicable to hedgerows with trees only														

Table 8.2: Hedgerow Descriptions and Condition Assessments

9. Photographs

Plate 9.1: Target Note 1 - Building

Plate 9.2: Target Note 2 - Hardstanding

Plate 9.3: Target Note 3 – Amenity Grassland

Plate 9.4: Target Note 4 – Species-poor Defunct Native Hedgerow

Plate 9.5: Species-poor Intact Native Hedgerow

Plate 9.6: Species-poor Defunct Hedgerow

Plate 9.7: Target Note 7 – Introduced Shrub

Plate 9.8: Target Note 8 – Scattered Trees

Plate 9.9: Target Note 9 – Scattered Tree

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 - Hillingdon Council

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.
        - ensuring the use of high-quality building materials and finishes;
    ii) ensuring that the internal design and layout of development maximises sustainability and is adaptable to different activities;
    iii) 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
    iv) 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. 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

2) include appropriate designations and policies for the protection of open space to meet needs and address deficiencies
3) 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
4) 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.

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.

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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