

PRELIMINARY ECOLOGICAL APPRAISAL

Harefield Academy, Uxbridge

*Produced on behalf of,
Chadwick Dryer Clarke*

May 2022

CONTENTS

EXECUTIVE SUMMARY	4
1.0 INTRODUCTION	6
1.1 Background	6
1.2 Site description	6
1.3 Site proposals	6
1.4 Aims of the study	6
2.0 LEGISLATION.....	8
2.1 Legislation	8
2.1.1 <i>European legislation</i>	8
2.1.2 <i>National legislation</i>	8
2.2 Local plan policies	8
2.2.1 <i>Local Biodiversity Action Plan</i>	9
3.0 METHODOLOGY	10
3.1 Guidelines for Preliminary Ecological Appraisal	10
3.2 Desk study.....	10
3.3 Site survey.....	10
3.3.1 <i>Surveyor qualifications</i>	10
3.4 Limitations	10
3.4.1 <i>General</i>	10
4.0 RESULTS.....	12
4.1 Supporting documents	12
4.2 Designated sites	12
4.2.1 <i>International statutory sites</i>	12
4.2.2 <i>National statutory sites</i>	12
4.2.3 <i>Non-statutory sites</i>	13
4.3 Habitats	14
4.3.1 <i>Modified grassland</i>	14
4.3.2 <i>Scattered trees</i>	15
4.3.3 <i>Hedgerow/scrub</i>	15
4.3.4 <i>Hard standing</i>	15
4.4 Species.....	15
5.0 POTENTIAL IMPACTS	19
5.1 Designated sites	19
5.2 Habitats	19

5.3 Species.....	20
6.0 RECOMMENDATIONS FOR FURTHER SURVEY	22
6.1 Further surveys.....	22
6.1.1 <i>Hedgerow assessment</i>	22
6.1.2 <i>Great crested newt</i>	22
6.1.3 <i>Badger</i>	22
6.2 Potential for additional requirements.....	22
7.0 MITIGATION AND PRECAUTIONARY MEASURES.....	23
7.1 Habitats	23
7.2 Species.....	23
7.2.1 <i>Foraging/commuting bats</i>	23
7.2.2 <i>Nesting birds</i>	23
7.2.3 <i>Reptile</i>	23
7.2.4 <i>Hedgehogs</i>	23
8.0 BIODIVERSITY ENHANCEMENTS	25
8.1 National Planning Policy Framework.....	25
8.2 Recommendations	25
9.0 REFERENCES	26
APPENDICES.....	27

EXECUTIVE SUMMARY

Report purpose	To assess the potential ecological constraints affecting the proposed development at Harefield Academy.
Client and commission date	Chadwick Dryer Clarke May 2022
Date and methods of survey	A desk study was undertaken and biological data records attained from GIGL on 3 rd May 2022. A survey of the site was conducted utilising the UK Habitats Classification to classify habitats. The survey also included a search for indicative evidence of protected species. This survey was conducted on 4 th May 2022.
Key findings	Designated Sites: There are four SSSIs located within 2km of the Site, in addition to a number of Local Wildlife Sites. Habitats: Habitats on Site include modified grassland with a mosaic of ephemeral/short perennial and ruderal, scattered trees, hedgerow/scrub and hard standing. Species: The habitats on Site or in the immediate vicinity have the potential to support protected and important species/species groups including great crested newt, foraging/commuting bats, badger, nesting birds, reptile and hedgehog.
Potential impacts (in the absence of mitigation)	Habitats: Loss of an area of grassland, hedgerow/scrub, and young scattered trees. Species: Adverse impacts may occur to great crested newt, foraging/commuting bats, badgers, nesting birds, reptiles, and hedgehog.
Measures to avoid and/or reduce impacts	Habitats: Mitigation hierarchy to be followed where possible, and compensation of lost habitats to be incorporated into new planting, to include planting of native trees and sowing of species-rich grass mix. Species: To be determined following further survey for great crested newt and badger. Precautionary measures will be required in regard to nesting birds, reptiles, and hedgehog. Detailed mitigation measures will be prescribed following the completion of survey work within an EclA.

Recommendations for further survey	<p>Further survey will be required prior to works to ascertain the presence/absence or value of the Site to these habitats or species' groups:</p> <ul style="list-style-type: none"> • Hedgerow assessment of the southern boundary hedge to identify if it is classed as an 'important hedgerow' under the Hedgerow Regulations 1997. • Great crested newt: Habitat Suitability Index and possible eDNA survey of pond located to the east. • Badger walkover survey of the woodland to the north-east.
Opportunities for biodiversity enhancement	<p>General enhancements may include;</p> <ul style="list-style-type: none"> • Incorporation of bat and bird boxes on retained trees on the wider site; • Incorporation of native species-rich hedgerow boundaries around the new development to maintain connectivity between habitats in the locality; • Sowing of a species-rich seed mix in new grassland areas; • Use of felled tree material to create hibernacula in adjacent sites (with landowner/manager permission) for reptiles, amphibians, small mammals and invertebrates.

1.0 INTRODUCTION

1.1 Background

Maydencroft Limited was commissioned by Chadwick Dryer Clarke to undertake a Preliminary Ecological Appraisal (PEA) of the habitats on Site at Harefield Academy, Uxbridge. The appraisal was required to assess the potential ecological constraints affecting the development of a new dwelling on Site. The PEA comprised a desk study and site survey undertaken on 4th May 2022 by Senior Ecologist, Alison Hood and Assistant Ecologist, Eleanor Clark of Maydencroft Limited.

1.2 Site description

The section of land concerned in the survey (referred to as the 'Site' from hereafter) covers an area of approximately 0.7ha, and lies within Harefield, which is a village in the London Borough of Hillingdon, located on the north-west outskirts of London. The Site is located on an existing school site which is generally bordered by residential areas to the south and east, and fields, mature hedgerows and a large residential garden to the north and west. The Site itself comprises of an existing school building, tennis court and hard standing with small landscaped areas and boundary vegetation.

1.3 Site proposals

It is proposed to build an extension to the existing school, with new car parking facilities and access point to the south.

1.4 Aims of the study

The aim of this study is to complete an ecological appraisal of the proposals. This report aims to:

- Review and summarise designated sites and biological records returned by the desk study;
- Describe the habitats and features present on Site and evaluate their potential to support protected species;
- Detail the methods and results of the surveys undertaken on Site;
- Outline the legislative and/or policy protection afforded to any habitats or species of importance likely to be associated with the Site;
- Highlight the potential impact of the development on ecological receptors, therefore identifying potential ecological constraints;
- Set out requirements for further survey, mitigation, compensation and enhancement measures.



Figure 1. Location of the Site (red line) in its landscape context. Source: Google Maps 2022.

2.0 LEGISLATION

2.1 Legislation

2.1.1 European legislation

The Bern Convention (The Convention on the Conservation of European Wildlife and Natural Habitats) was adopted in 1979 and came into force in 1982. To implement this agreement, the European Community adopted the EC Habitats Directive.

The EC habitats directive has been transposed into UK legislation by the Wildlife and Countryside Act (WCA) 1981 (as amended) and the Conservation of Habitats and Species Regulations, 2017. The Countryside and Rights of Way Act (CRoW) 2000 strengthened the existing wildlife legislation in the UK.

The UK has also signed The Bonn Convention (The Convention on the Conservation of Migratory Species of Wild Animals) and is therefore party to various agreements.

2.1.2 National legislation

The WCA 1981, as amended by the CRoW 2000 and NERC Act 2006, consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive).

The WCA gives protection to native species (especially those under threat), controls the release of non-native species, enhances the protection of SSSIs and builds upon the rights of way rules in the National Parks and Access to the Countryside Act 1949.

The NERC Act places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.

Please see [Appendix C](#) for specific protected species legislation relevant to the Site.

2.2 Local plan policies

The Hillingdon Local Plan: Part 1- Strategic Policies is the key strategic planning document for Hillingdon. The plan contains planning policies which relate to ecology, biodiversity and/or nature conservation. Those which are considered potentially relevant to the Site are listed below:

- EC1 Protection of sites of special scientific interest, nature conservation importance and nature reserves
- EC2 Nature conservation considerations and ecological assessments
- EC3 Potential effects of development on sites of nature conservation importance
- EC4 Monitoring of existing sites of nature conservation importance and identification of new sites
- EC5 Retention of ecological features and creation of new habitats

2.2.1 Local Biodiversity Action Plan

Habitats and species of principle importance (Priority Habitats) in the UK are listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.

3.0 METHODOLOGY

3.1 Guidelines for Preliminary Ecological Appraisal

This report has been produced based on the *Guidelines for Preliminary Ecological Appraisal* (Chartered Institute of Ecology and Environmental Management, 2017). It includes an assessment of the Site's habitats as to their likely importance for protected or notably important species, as identified under the following legislation; The Conservation of Habitats & Species Regulations 2017, the Wildlife & Countryside Act (as amended) 1981, the Protection of Badgers Act 1992 and the NERC Act 2006.

3.2 Desk study

To provide contextual background to this project, a desk study has been undertaken to search for the following:

- International statutory designated sites within 5km;
- National statutory sites within 2km;
- Non-statutory sites within 1km;
- Protected and important species and habitats within a 2km radius of the Site.

These 'study areas' were considered appropriate for the scale of the proposed works and follow best practice guidance. The desk study was conducted using online sources such as Magic Map alongside data on protected/notable species and local sites from GIGL. The data was returned on 3rd May 2022.

3.3 Site survey

The site survey was undertaken on the 7th March 2022 by Senior Ecologist, Alison Hood and Assistant Ecologist, Eleanor Clark of Maydencroft Limited. The weather during the survey was mild and sunny.

The survey involved an assessment of the habitats and a search for indicative evidence of habitual use by protected and important species. The UK Habitat Classification system was used to classify habitats as per current standing advice.

3.3.1 Surveyor qualifications

- Alison Hood – BSc (Hons), MSc, MCIEEM

Alison has over eight years' experience of carrying out a wide variety of ecological surveys and producing ecological reports.

- Eleanor Clark – BSc (Hons), MSc, Qualifying CIEEM.

Eleanor has one years' experience carrying out ecological surveys.

3.4 Limitations

3.4.1 General

As to the reliability of the assessment for protected and important species, it must be acknowledged that this assessment is based on the presence of suitable habitat to support such species and not on qualitative species-specific surveys. Where the potential for protected or important species has been identified, further species-

specific surveys are necessary to be confident of either a positive or negative conclusion as to the presence of protected or important species on Site, and to conclude the significance of any impacts to such species.

4.0 RESULTS

4.1 Supporting documents

The results of the Ecological Appraisal on the Site are summarised in the sections below and supported by a habitat map in *Appendix A* and Site photographs in *Appendix B*.

4.2 Designated sites

4.2.1 International statutory sites

No international statutory sites lie within 5km of the Site.

4.2.2 National statutory sites

Four Sites of Special Scientific Interest (SSSI) lie within 2km of the Site, and are detailed in *Table 1* below.

Table 1: National statutory sites designated sites within the study area.

Site name	Distance from Site (km)	Habitat importance
Old Park Wood SSSI	1.1km north-west	Old Park Wood is an ancient woodland. Ground flora consists of bluebells (<i>Hyacinthoides non-scripta</i>), yellow archangel (<i>Lamium galeobdolon</i>), lesser celandine (<i>Ranunculus ficaria</i>), wood anemone (<i>Anemone nemorosa</i>) and coralroot bittercress (<i>Cardamine bulbifera</i>), the latter being a rarity in both the UK and Hertfordshire.
Mid Colne Valley SSSI	1.4km south-west	Its main importance lies in its extensive diversity of wetland birds in lakes of former gravel pits. The site is divided into three areas. The majority is in an area of four lakes bounded on the west by the River Colne and on the east by the Grand Union Canal. The SSSI also includes a field called Coppermill Down east of the canal.
Harefield Pit SSSI	1.3km south-west	The site occupies much of a partially filled-in chalk quarry. It is an important Tertiary site in the London Basin, which displays a sequence through the Upper Chalk, Reading Beds and London Clay. It is the only known source of charophytes in the Reading Beds.
Ruislip Woods SSSI	1.5km south-east	The Ruislip Woods form an extensive example of ancient semi-natural woodland, including some of the largest unbroken blocks that remain in Greater London. A diverse range of oak and hornbeam woodland types occur, with large areas managed on a traditional coppice-with-standards system.

4.2.3 Non-statutory sites

There are 7 Sites of Importance for Nature Conservation (SINCs) within 1km of the Site, and are detailed in *Table 2* below.

Table 2: Non-statutory designated sites within the study area.

Site name	Distance from Site (m)	Habitat importance
Shepherd's Hill Woods and Fields	980m east	A large mosaic of fields and small woods with thick inter-connecting hedges, creating a distinctly rural feel. The site consists of ancient and secondary woodland, bracken, coniferous woodland, hedgerows, pond/lake, scattered scrub, semi- improved neutral grassland and unimproved neutral grassland.
Medipark Site	800m north-west	An interesting mosaic of habitats within the former grounds of a demolished hospital building. Habitats include chalk grassland, ruderal, secondary woodland and semi-improved neutral grassland. The grassland supports a sizeable population of bee orchid (<i>Ophrys apifera</i>), as well as occasional pyramidal orchid (<i>Anacamptis pyramidalis</i>), common broomrape (<i>Orobanche minor</i>), glaucous sedge (<i>Carex flacca</i>), grass vetchling (<i>Lathyrus nissolia</i>) and dwarf gorse (<i>Ulex minor</i>), all regionally restricted plants of local distribution within the borough.
The Dairy Farm, Harefield	860m south	Habitats include hedgerows, semi-improved neutral grassland, unimproved neutral grassland, wet ditches and wet grassland. Although relatively small, this is an interesting site with a range of habitats and a varied topography. A number of notable plants have been recorded, including sneezewort (<i>Achillea ptarmica</i>) and bog stitchwort (<i>Stellaria uliginosa</i>) in the wet grassland, soft shield-fern (<i>Polystichum setiferum</i>) in the hedges, and pedunculate water starwort (<i>Callitrichia brutia</i>) and common water-crowfoot (<i>Ranunculus aquatilis</i>) in the pond and ditches. Great horsetail (<i>Equisetum telmateia</i>) is frequent in the damp south-western field.
White Heath Farm and Harefield Grove	750m north	This is a farmland landscape consisting mainly of pastures, arable fields, copses and hedgerows, and has managed to retain the rural character of the landscape. Much of the site is a mixture of improved and semi-improved, horse-grazed pastures, some of which have been ungrazed for a while. Some fields are dominated by a mix of perennial rye-grass (<i>Lolium perenne</i>) and bents (<i>Agrostis spp.</i>). Two arable fields, are included in the site for their ancient hedgerows and patches of other habitats. A number of small copses punctuate the landscape, including Cooks Wood, Watts

Site name	Distance from Site (m)	Habitat importance
		Common and a shaw (a narrow belt of woodland) alongside a stream. They are generally dominated by pedunculate oak and ash or beech.
Knightscote Farm Ponds	980m south	The site consists of two ponds separated by an area of woodland, containing patches of bracken (<i>Pteridium aquilinum</i>) and occasional gorse (<i>Ulex europaeus</i>) indicating the acidic nature of the soil. The woodland around and between the two ponds is dominated by oak (<i>Quercus robur</i>), ash (<i>Fraxinus excelsior</i>) and crack willow.
Harefield Green Pond	600m south west	This small pond is situated in the south-eastern corner of Harefield Green (a Registered Common and Village Green), adjacent to the war memorial. The pond itself supports a wide range of wetland plants, dominated by a large stand of great reedmace (<i>Typha latifolia</i>) with smaller areas dominated by trifid bur-marigold (<i>Bidens tripartita</i>), galingale (<i>Cyperus longus</i>) and sweet flag (<i>Acorus calamus</i>). It is likely that the pond supports populations of invertebrates and amphibians.
Shepherds Hill House	320m east	The grounds of this field study centre contain scattered native trees and shrubs including frequent pedunculate oak (<i>Quercus robur</i>), and occasional ash (<i>Fraxinus excelsior</i>), hornbeam (<i>Carpinus betulus</i>) and hazel (<i>Corylus avellana</i>). Beneath the trees, the lawns contain grasses such as sweet vernal-grass (<i>Anthoxanthum odoratum</i>) and red fescue (<i>Festuca rubra</i>), and wild flowers indicative of acid grassland, including heath bedstraw (<i>Galium saxatile</i>), mouse-ear hawkweed (<i>Pilosella officinarum</i>) and field woodrush (<i>Luzula campestris</i>).

4.3 Habitats

4.3.1 Modified grassland

Several patches of modified grassland are present on Site. The grassland is part of the existing landscaped areas of the school, and is currently unmanaged. The grassland adjacent to the existing building on Site supports of mosaic of grassland, bare ground, ruderal vegetation and ephemeral/short perennial vegetation. The sward is dominated by fescue sp., doves foot cranesbill, and mouse ear, with a mixture of other species but is considered generally species poor. Species present are considered to be common and widespread. The grassland does not qualify as a Habitat of Principal Importance (HPI) as it is not unimproved, and based on the very small size of the habitat and limited species diversity, the grassland is considered to be of no significant ecological importance.

4.3.2 **Scattered trees**

A number of scattered trees are located upon the grassland habitat on Site. The trees present include young ash, cherry and oak which were planted in approximately 2011. The trees are not an HPI but are considered to be of significant ecological importance at a Local level.

4.3.3 **Hedgerow/scrub**

An area of hedgerow/ scrub exists along the southern boundary of the Site, and connects at its north-eastern end to extend north. A small area of woodland lies adjacent to the north-eastern boundary; however, this habitat lies off-site and was not assessed during the survey. It is considered that an original hedgerow was present on the exterior southern boundary and scrub has been planted adjacent, forming into one belt of vegetation. The vegetation is mature and comprises hawthorn, goat willow, blackthorn, field maple, oak, alder, dogwood and lime. This hedgerow qualifies as an HPI. It is considered to be of significant ecological importance at a Local level based on its species diversity and HPI status. A full hedgerow assessment has not been undertaken at this stage and so it is unknown if the hedgerow would qualify as 'Important'.

Other lengths of hedgerow are present on-Site including hornbeam hedges located along a footpath leading from the building. The hedges are approximately 1.2m wide and 1.2m tall and are well managed. This habitat does not qualify as an HPI due to its short length being less than 20m.

An area of scrub also lies within a walled courtyard within the existing building footprint. This scrub consists of oak, buddleia and hornbeam and is currently unmanaged and has become overgrown. This habitat does not qualify as an HPI, and covers a small area contained within a high wall. The habitat is therefore considered to be of no significant ecological importance.

4.3.4 **Hard standing**

Areas of hard standing are present throughout the Site and comprise the access track, disused car park, pathways and existing tennis courts.

4.4 **Species**

The potential for protected and important species to be present within the Site is discussed in *Table 4* below.

Table 4: Species present or potentially present on Site.

Species group	Desk study results	Site survey results
Great crested newt	Records of great crested newt (<i>Triturus cristatus</i>) were returned through the desk study. The closest record was from 2018, 1km from the Site.	<u>Great crested newts:</u> There are four ponds and one small ditch located within 250m of the Site. The Site hedgerow/scrub and grassland provides suitable terrestrial habitat for great crested newt. It is considered that the three ponds located to the north and west of the Site may support great crested newt, however due to the presence of optimal newt habitat surrounding these ponds (woodland, scrub grassland) and their distance over 150m away from the Site, it is considered highly unlikely that newts would travel to the Site from these ponds. However, the fourth pond, located to the east of the Site lies within 150m and so it is considered that a small number of newts could travel the distance and given the presence of suitable terrestrial habitat on Site, the presence of great crested newt on Site is possible.
Bats	Records of five species of bat were returned through the data search including, common pipistrelle (<i>Pipistrellus pipistrellus</i>), soprano pipistrelle (<i>Pipistrellus pygmaeus</i>), noctule (<i>Nyctalus noctula</i>), nathusius's pipistrelle (<i>Pipistrellus nathusii</i>) and brown long-eared (<i>Plecotus auritus</i>). All records returned were over 500m from the Site.	<p><u>Roosting bats:</u> The existing building on Site is of modern construction and was not found to have any potential roost features (PRF). The trees on Site are also all young and do not support any PRF, therefore roosting bats are considered likely absent from the Site.</p> <p><u>Foraging/commuting bats:</u> The Site itself may provide a small amount of foraging habitat around the hedgerow and grassland for a small number of bats. The hedgerow also provides suitable commuting habitat. The wider area is considered to be of Moderate/High suitability for foraging/commuting bats, however due to the small size of the Site, the Site itself is unlikely to support large numbers of foraging/commuting bats.</p>

Badgers	<p>One record of badger (<i>Meles meles</i>) was returned from the data search. Exact locations have not been provided however they are not from the immediate vicinity of the Site. The lack of records is considered likely due to lack of recording rather than lack of presence.</p>	<p>No evidence of badger was identified during the survey and all areas of the Site were accessible. The woodland adjacent to the north of the Site was not accessible at the time of survey and so there is potential for badger to be present within this woodland. The areas of grassland on Site are not considered to be of importance for foraging badger due to its small size, however badger may pass through the site for dispersal.</p>
Birds	<p>Seven species of bird have been returned through the data search over the last ten years. This includes one species listed under Schedule 1 the Wildlife and Countryside Act 1981; red kite (<i>Milvus milvus</i>).</p> <p>Three records of BAP Priority Species were returned including; song thrush (<i>Turdus philomelos</i>), cuckoo (<i>Cuculus canorus</i>), lesser redpoll (<i>Acanthis cabaret</i>) and house sparrow (<i>Passer domesticus</i>).</p>	<p>The hedgerow/scrub and trees on Site provide potential nesting and foraging habitat for birds locally. Furthermore, the Site is surrounded by suitable nesting and foraging habitat for birds. Therefore, it is considered likely that birds may nest on Site throughout the nesting season (March to August, inclusive).</p>
Hazel dormice	<p>No records of dormice were returned from the data search.</p>	<p>The Site hedgerow/scrub may offer suitable habitat for dormouse and the hedgerow does offer some connectivity to the north-east mature hedgerows off-site in the wider landscape. However, given the very small size of the Site and limited connectivity of the hedgerow to the west, it is considered that dormouse are likely absent from habitats on Site.</p>
Invertebrates	<p>Records of a number of invertebrates were returned through the data search. Exact locations have not been provided.</p>	<p>The hedgerow on Site provides suitable habitat for a number of invertebrates, and connectivity to other large areas of woodland increases the likelihood of invertebrate presence. However, due to the small size of the Site and small amount of habitat, it is not considered likely to support an important assemblage of invertebrates.</p>

Other mammals	One record of hedgehog (<i>Erinaceus europaeus</i>) was returned through the data search, the closest recorded of hedgehog being 100m south from the Site.	The hedgerow/scrub on Site provides foraging and sheltering opportunities for hedgehog. It is considered likely that hedgehog utilise the Site intermittently, as the species has a large home range and is highly transient, often travelling several kilometres in one night.
Otters and water voles	No records of otter or water vole were returned from the data search. The lack of records is considered likely due to lack of recording rather than lack of presence.	The Site is not situated within close proximity to a river or large waterbody. In addition, there have been no records of otter or water vole within the study area. Therefore, these species are considered likely absent from the Site.
Reptiles	One record of grass snake (<i>Natrix helvetica</i>) was returned within the data search area. The closest record is 750m north-west of the Site. The lack of records is considered likely due to lack of recording rather than lack of presence.	The hedgerow/scrub base and grassland on Site may provide habitat for a small number of reptiles sporadically, however is unlikely to support a population due to the small size of the Site. There is a larger area of more suitable habitat off-site to the north and west, and so reptiles are likely present in the wider area also.

5.0 POTENTIAL IMPACTS

5.1 Designated sites

The Site lies within a “SSSI Impact Risk Zone”. Impact Risk Zones define zones around SSSI’s which reflect the particular sensitivities of the features for which it is notified and indicate the types of development which could have adverse impacts on the SSSI. Where a site falls within the Risk Zone and includes a type of development which is considered likely to cause adverse impacts then the Local Planning Authority (LPA) have a duty to consult Natural England before granting planning permission.

The Site falls within the SSSI Risk Zone however, the planned development on Site does not match the risk criteria of the management descriptions as the Site does not exceed 1ha. Therefore, the proposed development is unlikely to pose a risk to the SSSIs and the LPA does not need to consult Natural England on this proposal regarding likely impacts on SSSI’s.

5.2 Habitats

The potential impacts of the development on semi-natural habitats are identified in Table 5 below, in the absence of mitigation.

Table 5. Potential impacts to semi-natural habitats in the absence of mitigation.

Modified grassland	Areas of existing modified grassland/ruderal/ephemeral/ short perennial habitat are to be removed as part of the development. However, as these habitats are not protected or considered to be HPIs, in addition to their small size, this impact is not considered to be significant.
Scattered trees	Approximately eight young trees will be removed as part of the development. This is considered to result in impact at a Local level.
Hedgerow /scrub	A 2m strip of scrub will be removed as part of the development, in addition to a 20m (approx.) section of the hedgerow. As this habitat type is of local level importance, in addition to the hedgerow being an HPI, this is considered to result in impact at a Local level. If the hedgerow qualifies as an ‘Important hedgerow’ then removal of a section could result in an offence under the Hedgerow Regulations 1997.

5.3 Species

Potential impacts of the proposed development on protected and important species in the absence of mitigation are detailed in *Table 5*.

Table 5: Potential impacts of the development on protected and important species.

European protected species	
Bats	<p><u>Roosting:</u> Roosting bats are considered likely absent from Site and so no impacts are predicted.</p> <p><u>Foraging and commuting:</u> A small amount of scrub, grassland and hedgerow are to be removed, however due to the very small size of this habitat loss, in the context of the surrounding habitats which offer an abundance of suitable foraging/commuting habitats. This impact is not considered significant. Any new lighting may cause light spill however onto boundary features which has the potential to adversely impact bats in the local area.</p>
Great crested newt	<p>It has been identified that the Site could support great crested newt and/or great crested newt could be encountered on Site during the works, if they were to travel from the nearby pond within 150m to the east.</p> <p>If present on site there is potential for killing/injury of newts and loss of a small amount of terrestrial habitat during site clearance and the removal of grassland and areas of scrub and hedgerow. This would result in an offence under the legislation.</p>
Dormice	This species is considered likely absent and so no impacts are predicted.
Otters	This species is considered likely absent and so no impacts are predicted.
Nationally protected and important species	
Reptiles	A small number of reptiles may be encountered on Site during the works. The proposed vegetation clearance works has the potential to result in killing/injury of reptile if present on Site. This would result in an offence under the legislation.
Badgers	There is potential for impact to badgers if any setts are present within 30m of the adjacent woodland to the north. If a sett is present within this distance, then there is potential for damage or disturbance to the sett as a result of the works to the proposed car parking area adjacent to this boundary. This would result in an offence under the legislation.

Birds	Destruction of, or damage to active birds' nest during tree felling or removal of scrub/hedgerow, resulting in a contravention of the law.
Water voles	This species is considered likely absent and so no impacts are predicted.
Invertebrates	The development will result in the loss of relatively small area of suitable habitat. Given the small size of the Site and the likely absence of important assemblages of invertebrates, no significant impacts are predicted.
Hedgehogs	Killing/injury of hedgehog during vegetation removal.

6.0 RECOMMENDATIONS FOR FURTHER SURVEY

6.1 Further surveys

Where there is the potential for a habitat or protected species/ species group to be present on a site and the significance of development impacts cannot otherwise be accurately predicted and mitigated against, additional species-specific surveys are required, as detailed below. Once all further surveys are completed, a full Ecological Impact assessment will be required to support a planning application.

6.1.1 *Hedgerow assessment*

It is recommended that a full assessment of the southern boundary hedgerow is completed to confirm if it qualifies as an 'Important' hedgerow under the Hedgerow Regulations 1997. If it is found that it does qualify, then permission will likely be required for removal of the section.

6.1.2 *Great crested newt*

It is recommended that a great crested newt habitat suitability index (HSI) is carried out of the nearby pond to the east to identify its suitability for supporting this species. If this pond is considered suitable, then it is recommended that at a further eDNA survey is conducted to determine presence or likely absence of great crested newt. The eDNA surveys can be carried out between mid-April to end of June. It is considered that as the pond is not to be impacted, and given the very small size of the Site and other available habitat in the vicinity, a presence/absence assessment may be sufficient to supporting a Natural England Mitigation Licence (if required), rather than a full population assessment. However, this will be confirmed following further assessment.

6.1.3 *Badger*

It has been identified that there is potential for a badger sett/s to be located in the adjacent woodland to the north-east and so it is recommended that a walkover survey of this woodland is conducted to confirm presence/likely absence of badger setts within proximity to the Site.

6.2 Potential for additional requirements

The results of the recommended species-specific surveys may incite additional survey and licensing requirements in order for the development to proceed lawfully. This will be confirmed following the results of the surveys, however may include further assessment and Natural England licencing great crested newt or badger.

7.0 MITIGATION AND PRECAUTIONARY MEASURES

Where potential impacts can be predicted at this stage without further survey, the following measures have been recommended.

7.1 Habitats

Semi-natural habitat on Site (scattered trees, section of hedgerow, scrub) is being permanently lost as part of the development, and so any mitigation measures to reduce the amount of removal should be taken. It is recommended that loss of the habitats is compensated for in the landscape plan through planting of additional native trees, scrub and hedgerow on Site or in the wider site.

7.2 Species

Where potential significant impacts on protected or important species have been identified in *Table 5*, mitigation and/or precautionary measures have been recommended below. Further measures, the results of the aforementioned further surveys and any ecological method statements required will be detailed in full within the EclA.

7.2.1 *Foraging/commuting bats*

Any new lighting to be used on Site should be designed in consultation with an Ecologists to ensure any light spill onto boundary vegetation is avoided or reduced, for example by adjusting and lowering the column height or using appropriate light cowls.

7.2.2 *Nesting birds*

Clearance of vegetation including trees, scrub, and hedgerows should be undertaken outside of bird nesting season, i.e., carried out during the period September to February (inclusive – as a guide). If this is not possible, all areas to be impacted should first be checked for active nests by an ecologist or other suitably qualified individual. In the event that nesting activity is identified, certain aspects of work in the vicinity of the nest will need to cease until the birds have finished nesting and the young have fledged.

7.2.3 *Reptile*

Clearance of the hedgerow, scrub and grassland habitats should follow a Reptile Method Statement to follow certain mitigation measures, and should be carried out under a Watching Brief by an ecologist.

This may include (but is not limited to); sensitive timing of the work to avoid winter period, phased clearance of the grassland, hand searches of the scrub and hedgerow bases and supervision by the ecologist.

7.2.4 *Hedgehogs*

Hedgerow bases and scrub will be carefully dismantled and raked back before commencement of works to reveal any sheltering hedgehogs. Any new fencing should also contain hedgehog tunnels to maintain any connectivity between the site and surrounding woodland.

If any hedgehogs are seen to be disturbed then operations should cease temporarily and only continue sensitively once it is considered that they are no longer prone to immediate direct harm. If hedgehogs are encountered when undertaking works during the winter hibernation period (November to April), then advice should be sought from an ecologist or *The British Hedgehog Preservation Society* before continuing with works which are likely to result in direct disturbance.

8.0 BIODIVERSITY ENHANCEMENTS

8.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF) requires local planning authorities to request the preservation, restoration, and recreation of priority habitats and ecological networks and the recovery of priority species populations. In addition, the works should result in no net loss of biodiversity.

8.2 Recommendations

The following list is the recommended ecological enhancement opportunities for the Site. They are not required for mitigation but would allow a greater increase in biodiversity at the Site in line with the NPPF requirements:

- Incorporation of bat and bird boxes on the new building or existing trees on the wider site;
- New grassland areas to be sown with a native species-rich sward (Emorsgate, or similar).
- Incorporation of native species-rich hedgerow boundaries around the new development to maintain connectivity between habitats in the locality;
- Use of felled tree material to create hibernacula in adjacent sites (with landowner/manager permission) for reptiles, amphibians, small mammals and invertebrates.

9.0 REFERENCES

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Disclaimer

Every effort has been made to ensure that the content of this report accurately identifies the potential ecological constraints to operations, its overall ecological value, and considered the possibility of the presence or absence of all Protected Species and the need for further surveys or ecological works. External factors such as weather conditions, time of day, seasons, disturbance by others, can all affect the use of the site by such species, and this report should therefore not be viewed as definitive. No liability can be accepted for omissions or changes within the status of wildlife after the production of this report.

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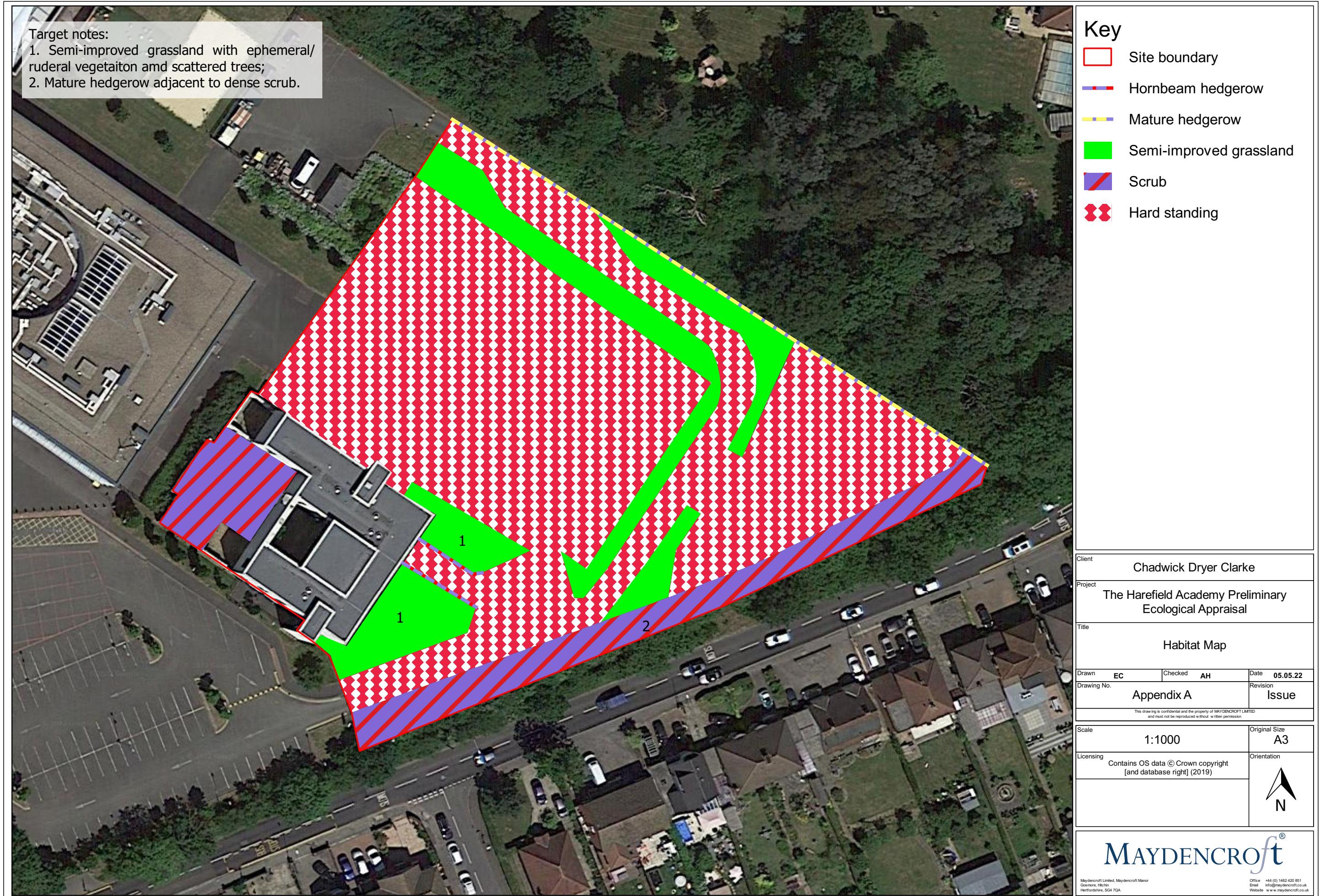
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APPENDICES



Appendix C. Survey Pictures



Plate 1: Modified grassland with ruderal vegetation and hornbeam hedge adjacent to the existing building.



Plate 2: Modified grassland, with ruderal and ephemeral/short perennial and scattered trees.



Plate 3: Existing building with hornbeam hedges, grassland and scattered trees.



Plate 4: Scrub adjacent to hedgerow on the southern boundary.



Plate 5: Hard standing proposed for the new car park, with surrounding boundary vegetation.



Plate 6: Inner courtyard to the north with unmanaged grassland and scrub.

Appendix C. Relevant Protected Species Legislation

Summary

Species	Protection	Details
Great crested newt	Conservation of Habitats and Species Regulations 2017 – Sch 2	Works likely to impact on the species or its habitat requires a European Protected Species License issued by Natural England
	Wildlife and Countryside Act – Sch 5 Section 9 (full protection)	Prohibits killing, injuring or taking by any method; Prohibits sale or advertising for sale; Prohibits damage, destruction or obstruction of access to any structure or place which is used for shelter or protection; Prohibits disturbance whilst occupying a structure used for shelter or protection
	Wildlife and Countryside Act – Sch 6	Prohibits killing or taking by certain methods under Section 11 (1)
Birds	Wildlife and Countryside Act – Sch 1	Prohibits the taking, damaging or destruction of active bird nests; killing, injuring or taking of any wild bird; taking or destruction of the eggs of any wild bird
	Wildlife and Countryside Act – Sch 1 (pt.1)	Prohibits any form of intentional or reckless disturbance to bird species as listed under Schedule 1 part 1 whilst they are nesting or rearing young
Badger	Protection of Badgers Act 1992	Prohibits killing, injuring or taking a badger or cruelly ill-treating a badger
	Wildlife and Countryside Act – Sch 6	Prohibits killing or taking by certain methods under Section 11 (1)
Reptiles (Common species)	Wildlife and Countryside Act – Sch 5 Section 9 (pts. 1 & 5 only)	Prohibits killing, injuring, taking by any method; Prohibits sale or advertising for sale

European Protected Species

The Bern Convention (The Convention on the Conservation of European Wildlife and Natural Habitats) was adopted in 1979 and came into force in 1982. To implement this agreement, the European Community adopted the EC Habitats Directive.

The EC habitats directive has been transposed into UK legislation by the Wildlife and Countryside Act, 1981 (as amended) and the Conservation of Habitats and Species Regulations, 2017. The Countryside and Rights of Way Act (CROW), 2000 strengthened the existing wildlife legislation in the UK.

The UK has also signed The Bonn Convention (The Convention on the Conservation of Migratory Species of Wild Animals) and is therefore party to various agreements.

Great crested newt

Great crested newts are protected under Schedules 5 of the Wildlife and Countryside Act 1981 (and as amended) and are also protected along with their habitat under Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are listed under Appendix II of the Bern Convention and Annex II and IV of the EC Habitats Directive 1992.

Other Protected Species

Birds

All wild birds are protected under Schedule 1 of the Wildlife and Countryside Act, 1981. Therefore, in the

UK it is an offence to:

- take, damage or destroy the nest of any wild bird whilst it is being built or in use;
- kill, injure or take any wild bird; and
- take or destroy the eggs of any wild bird.

To avoid committing an offence no works should be carried out on a structure/ feature that is being used by nesting birds. Nesting is deemed to be over when the young have fully fledged.

Certain species which are listed in Schedule 1 Part 1 of the Wildlife and Countryside Act receive special protection. In these cases any form of intentional or reckless disturbance when they are nesting or rearing dependant young, constitutes an offence.

Badger

Badgers are fully protected in the UK by the Protection of Badgers Act, 1992 and by Schedule 6 of the Wildlife and Countryside Act, 1981(as amended). This makes it an offence to:

- wilfully kill, injure, take, possess or cruelly treat a badger;
- intentionally or recklessly damage, destroy or obstruct access to a badger sett; and
- disturb a badger while it is occupying a sett. Disturbance could include digging or scrub clearance within 30m of the sett, and therefore advice should be sought before carrying out such activities.

Badgers are mainly protected due to persecution in the past and are not rare.

Reptiles

All native reptiles are protected from intentional killing and injury under Schedules 5 of the Wildlife and Countryside Act 1981 (and as amended). They are listed under Appendix III of the Bern Convention as species which are in need of protection.

Sand lizard and smooth snake, along with their habitats, are further protected under Schedule 2 of the Conservation of Habitats and Species Regulations 2017.

Species of Principal Importance

Species of principal importance for the purpose of conserving biodiversity, covered under Section 41 (England) of the NERC Act (2006). Species of principal importance must be treated as a material consideration by a public body when performing any of its functions with a view to maintaining the favourable conservation status. Those such species which are considered to have potential to be encountered on Site and are not aforementioned as a result of a higher level of protection in the sections above are listed below:

- *West European Hedgehog (Erinaceus europaeus);*