ECOLOGICAL APPRAISAL REPORT:

29 -31 HIGH STREET,
HAMPTON WICK,
LONDON,
KT1 4DA

For: Allan Frost
29-31 High St, Hampton Wick

Issued by: **Wychwood Environmental Ltd**

www.wychwoodenvironmental.com

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Contents

EXECUTIVE SUMMARY

Proposed development

- Development proposals involve a demolition of existing buildings on site and the construction of 2 retail units, a commercial workspace, 9 residential units and associated landscaping.

Impacts

- The proposed development has low potential to impact foraging and roosting bats. Buildings B1 and B4 have low potential to support roosting bats. All other buildings have negligible potential
- The proposed development has limited potential to impact breeding birds.
- The habitats contained within the site are largely of low ecological value.
- The proposed development has the potential to impact upon trees adjacent to site.

Further recommended surveys

- Further bat emergence/re-entry surveys are recommended for buildings B1 and B4.

Proposed mitigation

- Mitigation to address the impacts of artificial lighting upon foraging/commuting bats is detailed.
- Mitigation to address impacts upon breeding birds is detailed.
- Mitigation to reduce impacts on trees adjacent to the site is detailed.

Enhancements

- It is suggested that the integration of bat roosting features are incorporated into the new build, to enhance the site for bats.
- It is suggested that native species planting is undertaken within the landscaping plan for the site.
- It is recommended that green roofs designed to support local bird and invertebrate species are provided within the development proposals.
- Mitigation measures and enhancements should form part of Biodiversity Enhancements and Mitigation Plan, to be secured by a planning condition.

Report completed by: Nadine Clark BSc MSc MCIEEM

Verified by: Rosalind Salter MSc MCIEEM

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1.0 INTRODUCTION

1.1 Wychwood Environmental Ltd was instructed by Fletcher Crane Architects (on behalf of Allan Frost) undertake an Preliminary Ecological Assessment to highlight the possible presence of protected species (e.g. bats, badgers, great crested newts, reptiles, and breeding birds) and/or habitat(s) of ecological/conservation value on the proposed development site at: 29-31 High Street, Hampton Wick, London, KT1 4DA.

1.2 Surveys are necessary to collect information on habitats/protected species to provide necessary guidance and mitigation advice, to ensure that no valuable habitats/protected species are adversely affected by the proposed development.

1.3 The survey was completed to inform the Local Planning Authority (LPA) of any material impacts resulting from the proposed development and to ensure compliance with the requirements of the Natural Environment and Rural Communities (NERC) Act (2006) (Section 40) and the Government Circular: Biodiversity and Geological Conservation – Statutory obligations and their Impact within the Planning System (ODPM 06/2005, Defra 01/2005). The legislation relating to protected species is detailed in Annex 1.

1.4 Development proposals involve the demolition of the existing buildings on site including all outbuildings and possible crown reduction of neighbouring trees to facilitate development allow for the construction of two retail units, a commercial workspace and nine residential units (7 flats and 2 mews) and associated landscaping. The location of the site is shown in Figures 1-3 (Annex 2). Proposed development proposals can be found in Figure 5 (Annex 2). Full details are given in the planning submission.

1.5 Section two of this report describes the methodologies used for survey work. Section three provides the results of these surveys, sections four and five provide discussion and implications for development, with further surveys and mitigation covered in section six and enhancement recommendations are made in section seven.

2.0 METHODOLOGY

Habitat Survey

2.1 A Preliminary Ecological Assessment (PEA) of the site was undertaken, following standard extended Phase 1 habitat survey protocols (IEA, 1995), by Nadine Clark BSc MSc MCIEEM on 9th October 2019. This involved systematically walking over the site and classifying each parcel of land based on vegetation, into one of approximately 90 habitat types (JNCC, 2010).

2.2 A search for any invasive non-native species, as listed under Schedule 9 of the Wildlife and Countryside Act 1981, as amended,[1] such as Japanese knotweed (*Fallopia japonica*) was also carried out.

2.3 Any habitats or features of interest and any sightings, signs or evidence of protected or notable fauna or any potential habitats suitable for such species, were assessed as detailed below:

- The suitability of habitats was assessed for amphibians & reptiles (including great crested newts, *Triturus cristatus*)[2];
- The suitability of habitats was assessed[3] for badgers (*Meles meles*) and any evidence including setts, dung pits/ latrines, badger paths, hairs, bedding, footprints and scratching of trees/ shrubs was noted;
- Buildings with features potentially suitable for roosting bats were assessed following best practice guidelines as outlined by the survey techniques published by the Bat Conservation Trust (BCT)[4] and Mitchell-Jones and McLeish (2004) [5]. Trees within the development area were also assessed for their potential to support roosting bats (following BCT protocols).

[1] http://archive.defra.gov.uk/wildlife-pets/wildlife/management/non-native/documents/schedule9-list.pdf
[2] Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M. (2000). Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10(4), 143-155.
[3] Badger survey followed guidelines recommended in Harris *et al*. (1989).
[4] Collins J (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn) (published by Bat Conservation Trust, London).
[5] Mitchell-Jones A J (2004). *Bat mitigation guidelines.* English Nature.

- Landscape features such as hedgerows, trees and shrubs were also assessed for their potential suitability for bat foraging and commuting;
- The suitability of habitats was assessed for nesting birds.

Desk Study

2.5 The Internet database MAGIC (Multi-Agency Geographic Information for the Countryside) was searched for any areas with statutory designations within a 2km radius of the site.

Survey Limitations

2.6 An initial site assessment such as this is only able to act like a 'snapshot' to record any flora or fauna that is present at the time of the survey. It is therefore possible that some species may not have been present during the survey but may be evident at other times of the year. For this reason, habitats were assessed for their potential to support some species, even where no direct evidence (such as droppings) has been found. The trees adjacent to the property were only viewed from the redline boundary as they were situated on private property abutting the site which limited the view available at the time of the survey. The single storey garage (B5) was in a state of dilapidation with walls and roof structures unsafe. As such the building was surveyed from outside and through the door and broken section of the wall.

Baseline Evaluation Criteria

2.7 Based on the desk study and field survey results, an ecological evaluation of the site was undertaken using a combination of evaluation criteria for habitats and species, following the general framework provided by CIEEM[6] (Table 1).

2.8 Where relevant the evaluation was made with reference to the statutory protection afforded to species and habitats. Legal protection does not always correspond to conservation value. Some species (e.g. badgers) are protected for reasons of animal welfare rather than conservation. Others are of national conservation value but are not protected by law (e.g. some Red Data Book species and UK BAP species).

[6] CIEEM (2012). Guidelines for Preliminary Ecological Appraisal (PEA).

Table 1. Ecological value criteria used in the ecological evaluation, as outlined by CIEEM.

Ecological Value	**Description and Examples**
High	Habitats or features that have high importance for nature conservation, such as statutory designated nature conservation sites of international or national importance or sites maintaining viable populations of species of international or national importance (e.g. Red Data Book species, European protected species).
Medium	Sites designated at a county or district level, e.g. Local Wildlife Site (LWS), ancient woodland site, ecologically 'important' hedgerows or ecological features that are notable within the context of a region, county or district (e.g. a viable area of a Priority Habitat on the county BAP or a site that supports a viable population of a county BAP species).
Low	Sites of nature conservation value within the context of a parish or neighbourhood, low-grade common habitats, such as arable fields and improved grasslands and sites supporting common, widespread species.

3.0 RESULTS

Desk Study

Designated Sites

3.1 There are four statutory designated sites within 2km of the application site. Bushy Park and Home Park Special Scientific Interest (SSSI) is located 150m to the southeast of site at its closest point. The SSSI site is designated the deadwood habitat from veteran trees and associated saproxylic invertebrate communities. In addition to the veteran trees present on site there is also a mosaic of dry acid grassland communities. The application site falls within the Bushy Park and Home Park SSSI Impact Risk Zone. However, the application is small scale and therefore does not fall within the type of development that requires the local authority to consult Natural England on potential risks (if any) to the SSSI's status.

3.2 Richmond Park SSSI is located approximately 1.km to the northeast of the proposed development site at its closest point. The site is designated as a SSSI for the acid grassland communities it supports along with the deadwood saproxylic invertebrate assemblage it supports. Richmond Park has also been designated as a Special Area of Conservation (SAC) which is designated for the population of stag beetle (*Lucanus cervus*) that is supported by the deadwood habitat present. The site is also designated as a National Nature Reserve (NNR).

Site Location Description

3.3 The site is located in the southern part of Hampton Wick High Street (see Figures 1 & 2, Annex 2). The application site is immediately bordered to the north by Hampton Wick High Street, neighbouring residential gardens to the west and commercial properties to the east. The White Hart Hotel car park is immediately adjacent to the site to the south. The River Thames is located approximately 140m to the east of the development and separated by other commercial and residential properties.

Habitat survey

3.4 The habitats recorded on the site are shown in Photos 1-16 (Annex 2) and Figure 4 (Annex 2). Habitats that would potentially be impacted by the proposed development consist of the following:

- Buildings
- Hard-standing
- Trees (on neighbouring properties)

3.5 The application site consists of the existing property which included four inter-connected sections, a detached garage, and several single-storey outbuildings. The land within the development site consists of hardstanding which was used as an access road and car parking.

3.6 The site was split into three definable habitat areas: Buildings; hardstanding and trees along the site boundary which overhang the development site (Annex 2, Figure 4).

3.7 The buildings on site were split into four interconnected sections in the northern section of the site (B1, B2, B3 and B4), a dilapidated single storey garage (B5) and several single storey outbuildings (B6, B7, B8 & B9). Building B1 was a two-storey building with dormer windows built into the roof space at the north-eastern elevation that faces onto the High Street (Annex 2, Photograph 1). The buildings had a slate roof on the northern section and a flat bitumen felted roof on the eastern section (Annex 2, Photograph 2). Building B2 and B3 were single storey buildings with sloped corrugated roofs (Annex 2, Photograph 3). Building B4 was a two storey building attached to B3 and had a gable slate roof (Annex 2, Photograph 3). These buildings with the exception of B1 had some Virginia creeper (*Parthenocissus quinquefolia*) present growing around walls and roof structures (Annex 2, Photograph 4). A more detailed description of these buildings is provided in section 3.12– 3.23.

3.8 Building B5 was a single storey garage with concrete walls and a corrugate asbestos roof and was in a state of severe dilapidation and covered in Virginia creeper (Annex 2, Photograph 4). Buildings B6, B7, B8 and B9 were four inter-connected single storey outbuildings accessed through building B6 (Annex 2, Photograph 5) and were in some disrepair and partially covered in Virginia Creeper.

3.9 Other than the buildings, the other habitat within the redline boundary was hardstanding formed of brick paving. This hardstanding formed an access road off the High Street to car parking on the western boundary (Annex 2, Photograph 5 & 6). The majority of this habitat was devoid of vegetation but in places ruderal species had colonised. Species found included buddleia (*Buddleja davidii*), ivy (*Hedera helix*), green alkanet (*Pentaglottis sempervirens*), bramble (*Rubus fruticosus* agg.), dandelion (*Taraxacum officinale* agg.) and creeping bent (*Agrostis stolonifera*).

3.10 In addition to habitats on site, there were several trees that are located adjacent to the site boundary and which may be impacted by the development. Trees included mature and immature ash (*Fraxinus excelsior*), cherry (*Prunus* sp.), and a conifer (*Chamaecyparis lawsoniana*) (Annex 2, Photograph 7).

3.11 Overall, the site habitat was assessed as being of low ecological value.

Protected Species Survey

Bats

3.12 The site has limited potential to support foraging and commuting bats as the site itself supports minimal vegetation. However, the trees on neighbouring properties could support foraging and commuting bats. The majority of the trees adjacent to the site are mature, however upon inspection they all appear to be in good condition with limited potential roosting features although a cherry and ash tree on site had some ivy growth on the trunks and as such these trees have a low potential to support roosting bats.

3.13 All the buildings on site are due to be demolished under current development proposals. This includes the main structure made up of Buildings B1-B4, the dilapidated garage (B5) and the complex of outbuildings in the southern section of the site, Buildings B6-B9. Each has been described in more detail below.

Building B1

3.14 This building provided the frontage to the site and was adjacent to the High Street. It was a two-storey property with accommodation built into the roof structure (Annex 2, Photograph 1). The main section of the roof was tiled in slate with the south-eastern elevation also having

a sloping bitumen felted roof (Annex 2, Photograph 2). This building was attached to Building B2 at the first-floor roofline (Annex 2, Photograph 8). During the external survey several potential roost features were identified and these included:

- Slipped tiles on the roof
- A missing sile on the northern elevation
- Gaps around the lead flashing
- Gaps where the slate roof met the tiled roof of the neighbouring property (Annex 2, Photograph 9).

3.15 Internally, there was one large roof void with a queen truss structure that provides a large open roof space (Annex 2, Photograph 10). The roof void was approximately 8m by 6m with a maximum height to the roof apex of 2.5m. The roof void had breathable membrane under the tiles which appeared to be relatively new. The presence of slate dust and slivers indicated that the slate may have been in a poor state of repair and there was evidence of water damage with blown bricks and damage to the roof void floor. There were a few gaps around the south-eastern gable, but these had been blocked by fibre glass insulation material (Annex 2, Photograph 11). The bricks on this gable end were in a poor state or repair and deep holes where mortar was missing were noted.

3.16 No visible signs of roosting bats, droppings or feeding remains were observed during the inspection.

Building B2 & B3

3.17 This building's corrugated metal roof was attached to building B1 at the first floor and formed a butterfly roof structure with building B3's corrugated asbestos roof (Annex 2, Photograph). Both Building B2 and B3 were single storey buildings. Externally, both building B2 and B3 had limited potential roost features although there were a few minor gaps along the roof lines where they met B1 and B4. The edge of the roof was also covered in places with Virginia creeper. Building B2 had no enclosed roof void. Building B3 had a triangular shaped roof void with a maximum height of 1.2m that ran the width of the building. This roof void was lit by natural light from several semi-transparent corrugated sheets. No gaps into the roof void from the outside were noted during the internal inspection.

3.18 No visible signs of roosting bats, droppings or feeding remains were observed during the inspection. Building B2 and B3 were assessed as having negligible potential to support roosting bats.

Building B4

3.19 This two-storey brick-built building was attached to building B3 by its roof at the first-floor level (Annex 2, Photograph 3). This building had a slate tiled roof with velux windows and there was no enclosed roof space (Annex 2, Photograph 12). The building was generally in good condition with limited potential roosting opportunities. However, visibility was limited by extensive Virginia creeper growth around the sides and roof of this building (Annex 2, Photograph 6). No evidence of roosting bats was found during the external and internal inspection. The building was assessed as having a low potential to support roosting bats.

Building B5

3.20 This building was a single storey garage adjacent to Building B4. This building was completely covered by Virginia creeper and was in a state of disrepair with missing panels along the walls and a roof of corrugated asbestos that was starting to collapse (Annex 2, Photograph 13). For health and safety reasons this building was not inspected internally. No evidence of roosting bats was found, and the building was assessed as having negligible potential to support roosting bats.

Buildings B6- B9

3.21 These single storey outbuildings were present in the south western section of the site and sat adjacent to each other to form a complex of buildings. These buildings were surveyed internally and where possible externally for evidence of roosting bats. Building B6 was a chipboard fronted building with a corrugated metal roof and breeze block walls with large gaps around the roof and the walls (Annex 2, Photograph 14). The building had ivy and Virginia creeper present on the roof and sides. Although the gaps around the roof provide access the building has little opportunity for roosting due to the tight metal joists and drafty and damp conditions. No evidence of roosting bats was found in Building B6 and it was assessed as having negligible potential to support roosting bats.

3.22 The access doors for Building B7, B8 and B9 are located within Building B6. Building B7 was boarded out around the roof and appeared to be predominantly constructed with metal

including the roof. This large outbuilding had clear plastic at the south-eastern elevation letting in some daylight (Annex 2, Photograph 15). No evidence of roosting bats was found during the internal inspection and Building B7 was assessed as having negligible potential to support roosting bats.

3.23 Building B8 and B9 were brick-built outbuildings which were accessed through Building B6. They both had sloping mono pitch roofs with a maximum height of around 3m. The roofs were in poor disrepair with holes in the roof which were tiled with corrugated metal and slate (Annex 2, Photograph 16). These two adjacent buildings showed evidence of extensive water ingress. No evidence of roosting bats was found during the internal inspection and overall buildings B8 and B9 were assessed as having a negligible potential to support roosting bats

Amphibians and Reptiles

3.24 The site had very limited habitat, consisting of hardstanding with minimal vegetation encroaching and buildings. As such, the site has a negligible potential to support a population of reptiles or amphibians.

Nesting birds

3.25 The Virginia creeper on the buildings and neighbouring trees has some potential to support nesting birds in the bird breeding season.

Badgers

3.26 No field signs of badgers being present on site were found during the site and the habitats on site were of very limited value to any badgers if they are present in the local vicinity.

4.0 ECOLOGICAL EVALUATION

Designated Nature Conservation Sites

4.1 The site is located within 150m of Bushy Park and Home Park SSSI and falls within the SSSI impact consultation zone but given the scale of the development it is unlikely that this will require the Local Authority to consult Natural England to assess the impact. The development is unlikely to impact this statutory protected site given the scale and limited pathways of impact during redevelopment or operation. However, standard pollution prevention and dust prevention measures should be implemented during the construction phase to minimise the risk of impact.

Habitats

4.2 The site supports hardstanding and buildings with limited vegetation or species present. The site supports no Biodiversity Action Plan habitats. The site could be considered to support habitats of **low** ecological value.

Protected Species

Flora

4.3 None of the species recorded during the survey are specifically protected by the Wildlife and Countryside Act 1981 (as amended) or considered nationally or locally rare (see Preston et al., 2002[7]). Also, none of the species recorded are listed as Species of Principal Biological Importance on Section 41 of the NERC Act 2006 or as Priority Species on the national BAP (UK BAP, 2007[8]).

4.4 Mitigation to minimise any impacts to the trees in the neighbouring properties is recommended in Sections 6 below.

Fauna

4.5 Buildings B1 and B4 were assessed as having a low potential to support roosting bats. No evidence of roosting bats was found and roosting potential is predominantly for crevice

[7] Preston, C.D., Telfer, M.G., Arnold, H.R., Carey, P.D., Cooper, J.M., Dines, T.D., Pearman, D.A., Roy, D.B. & Smart, S.M. 2002. *The changing flora of the UK*. Department for Environment, Food and Rural Affairs, London.
[8] UKBAP (2007) Report on the Species and Habitat Review: Report by the Biodiversity Reporting and Information Group (BRIG) to the UK Standing Committee, June 2007

roosting species using external features created due to the poor state of the buildings. Buildings B2, B3 and B5-B9 were assessed as having a negligible potential to support roosting bats. The site was also considered to offer low potential to support foraging and commuting bats.

4.6 The vegetation on the buildings and also within neighbouring trees were considered potentially suitable for supporting nesting birds during the spring/summer.

4.7 The site has negligible potential to support reptiles or amphibians.

Invasive species

4.8 No invasive species were identified during the walkover survey.

5.0 RECOMMENDATIONS

5.1 Wherever possible, negative ecological impacts should be avoided. If this is unavoidable then mitigation and compensation measures will be proposed for adverse ecological effects. In addition, it is best practice to seek positive biodiversity benefits through enhancement measures, in particular with regard to Priority Habitats and Species listed on the national and local Biodiversity Action Plans and the NERC Act 2006.

5.2 CIEEM (2016)[9] endorses the following principle, recommended by the Royal Town Planning Institute (2000)[10] for optimising the biodiversity outcomes of planning decisions

5.3 New benefits: seek to provide net benefits for biodiversity over and above requirements for mitigation and compensation.

5.4 The provision of compensation/enhancements helps local planning authorities in meeting requirements as stipulated under the National Planning Policy Framework[11], which states that sustainable development should seek to achieve net gains in biodiversity for nature.

[9] *CIEEM (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, 2nd edition.* Chartered Institute of Ecology and Environmental Management, Winchester.
[10] Royal Town Planning Institute (RTPI) (2000) *Planning for Biodiversity.*
[11] National Planning Policy Framework. (2012) Department of Communities and Local Government.

6.0 MITIGATION & FURTHER SURVEY

Habitat

6.1 No further habitat surveys are required. Best practice should be followed (i.e. S5837:2012 Trees in Relation to design, demolition and construction – Recommendations) to ensure individual trees on neighbouring properties are retained and are not adversely affected. Any trees over 100 mm trunk diameter, and/ or of significant ecological value, should be protected by barriers. Minimum distance between tree trunk and barriers must be either the distance of branch spread or half tree height, whichever is the greater. In all cases trees must be protected from direct impact and from severance or asphyxiation of the roots.

6.2 Any planting within the site as part of the proposed development should use native species that will enhance the biodiversity of the site. See Annex 4 for details of planting that will enhance the site for foraging bats and local wildlife.

Bats

6.4 As building B1 and B4 were assessed as having a low potential to support roosting bats. In order to determine if bats are using the property, it is recommended a further emergence/re-entry survey during the spring/summer months (between May and September) is undertaken. A single survey should be conducted during optimal weather conditions (following BCT protocols). No surveys are required for buildings B2 & B3 and B5-B9.

6.5 The site supports limited potential foraging habitat for bats although habitat immediately off site had potential to support foraging and commuting bats. As such any light scheme for the new development should limit light spillage. The lighting scheme for the site should be low level and designed to minimise light spillage onto non-target areas such as vegetation and green roofs. Annex 3 details the Bat Conservation Trust's guidelines on lighting mitigation.

Breeding birds

6.6 The trees on neighbouring properties and buildings with extensive Virginia creeper growth on site potentially supports several nesting bird species. It is therefore recommended that removal of suitable nesting habitat occurs outside the bird nesting season, which is

generally accepted to extend from March - August inclusive (although dates vary by species and are subject to prevailing weather conditions). If this is not possible the area to be removed should be inspected for evidence of nesting activity by a suitably experienced ecologist no more than 24 hours in advance of clearance. If this identifies any nesting activity the habitat feature should be left undisturbed until nesting ceases. If any vegetation removal is undertaken on site during the bird-nesting season, all resultant brash should be immediately removed from the site to prevent birds from nesting in it.

7.0 ENHANCEMENTS

7.1 In line with local and national policy (NPPF 2019[12]), the new development should seek to provide biodiversity enhancements. The following suggestions would enhance the site for wildlife:

Use of Native Species in Landscaping Proposals

7.2 The site at the time of the survey supported very little vegetation. The proposed landscaping scheme recommends additional soft landscaping and any shrub and tree planting should look to utilise native species or species which are beneficial to wildlife. A list of native and non-native species that are beneficial to pollinating insects, produced by the Royal Horticultural Society, is provided in Appendix 3.

Green Roofs

7.3 The landscaping scheme also proposes several sections of green roof to be created. These roofs should look to provide habitat for local birds and invertebrates and utilise species of value to wildlife. These newly created areas of value to biodiversity should include invertebrate habitat such as different substrates types and depths and provision of insect "hotels".

Bird Boxes

7.4 Several nest boxes for different species of bird, particularly sparrow, should be erected around the site in areas of good cover and out of the reach of domestic cats. These can be placed on trees or on walls of the new dwelling where they border areas of vegetation. Integrated boxes should also be considered and designed into the new dwellings[13][14].

Bats

7.5 A guide to bat friendly gardening is provided in Annex 4. Consideration of inclusion of bat 'bricks' or crevices under the proposed slate tiles or timber cladding into the new developments or associated structures should also be considered. Full details for bats will be set out, following the recommended further survey.

[12] https://www.gov.uk/government/publications/national-planning-policy-framework--2
[13] http://www.birdbrickhouses.co.uk/brick-nesting-boxes/integrated-bird-box/
[14] https://www.wildcare.co.uk/wildlife-nest-boxes/bird-boxes/building-integrated-bird-boxes.html

7.6 The biodiversity enhancements should be informed by all ecological surveys and should form part of a Biodiversity Enhancements and Mitigation Plan (BEMP), to be secured by an appropriate planning condition. This should ensure compliance with local and national policies.

8.0 REFERENCES

Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.

Department of Communities and Local Government (March 2012) National Planning Policy Framework.

Institute of Environmental Assessment (1995) Guidelines for Baseline Ecological Assessment.

JNCC (2010) *Handbook for Phase 1 Habitat Survey: a technique for environmental audit.* JNCC, Peterborough.

MAGIC Site Check Report. Available: www.magic.gov.uk.

Mitchell-Jones, J. (2004) Bat Mitigation Guidelines. Natural England.

Mitchell-Jones, A.J. and Mc Leish, A.P. (2004) Bat Workers Manual. JNCC

Annex 1 – Protected Species Legislation.

Plants
All wild plants are protected against unauthorised removal or uprooting under Section 13 of the Wildlife and Countryside Act 1981 (as amended). Plants listed on Schedule 8 of the Act (e.g. triangular club rush and Deptford Pink) are afforded additional protection against picking, uprooting, destruction and sale. Bluebell is protected against sale only.

Amphibians (Common Species)
Common amphibian species (i.e. common frog, common toad, smooth newt and palmate newt) are afforded partial legal protection under UK legislation, i.e. Schedule 5, Section 9 (5) of the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. This legislation prohibits:

- sale
- transportation
- advertising for sale

Badgers
Badger is a widespread and generally common species. However, they are legally protected under The Protection of Badgers Act 1992, which is based primarily on the need to protect badgers from baiting and deliberate harm or injury. Under this legislation it is illegal to:

- Wilfully kill, injure, take, or cruelly ill-treat a badger, or attempt to do so
- Possess any dead badger or any part of, or anything derived from, a dead badger
- Intentionally or recklessly interfere with a sett by disturbing badgers whilst they are occupying a sett, damaging or destroying a sett, causing a dog to enter a sett, or obstructing access to it

A badger sett is defined in the legislation as "*any structure or place, which displays signs indicating current use by a badger*".

Bats
All bat species are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way Act 2000 and The Conservation of Habitats and Species Regulations 2017. Together, this legislation makes it illegal to:

- Intentionally or deliberately take, kill or injure a bat
- Damage, destroy or obstruct access to bat roosts
- Deliberately disturb bats

A bat roost is defined in the legislation as *"any structure or place which a bat uses for shelter or protection". Roosts are protected whether or not bats are present at the time.* If a development activity is likely to result in disturbance or killing of a bat, damage to its habitat or any of the other activities listed above, then a licence will usually be required from Natural England.

Birds
The bird breeding season generally lasts from early March to September for most species. All birds are protected under the Wildlife and Countryside Act (1981) (as amended) and the Countryside & Rights of Way Act 2000. This legislation makes it illegal, both intentionally and recklessly to:

- Kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird while it is being built or in use;
- Take or destroy the eggs of any wild bird; and
- Possess or control any wild bird or egg unless obtained legally.

Birds listed under Schedule 1 of the Wildlife and Countryside Act (1981) (as amended) (e.g. barn owl and kingfisher) are afforded additional protection, which includes makes it an offence to disturb a bird while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Great crested newts

Great crested newts and their habitat are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way Act 2000 and The Conservation of Habitats and Species Regulations 2017. This makes it is an offence to kill, injure or disturb great crested newts and to destroy any place used for rest or shelter by a newt. The great crested newt is also listed on Annexes II and IV of the EC Habitats Directive and Appendix II of the Bern Convention. If a development activity is likely to result in disturbance or killing of a great crested newt, damage to its habitat etc, then a licence will usually be required from Natural England.

Reptiles

There are six native species of reptiles in the UK, including the slow-worm (*Anguis fragilis*), viviparous lizard (*Zootoca vivipara*), grass snake (*Natrix natrix*) and adder (*Vipera berus*), smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*), which are afforded varying degrees of protection under UK and European legislation.

Slow-worm, viviparous lizard, adder and grass snake are protected under Schedule 5, Section 9 (1 and 5) of the Wildlife and Countryside Act 1981 (as amended) and the Countryside & Rights of Way Act 2000 against deliberate or reckless killing and injuring and sale.

Otters

Great Otters are fully protected under the Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species
- Damage or destruction of a breeding site or resting place
- Deliberate disturbance of otters as:
  - to impair their ability:
  - to survive, breed, or reproduce, or to rear or nurture young;
  - to hibernate or migrate
  - to affect significantly the local distribution or abundance of the species

Otters are also currently protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection

Annex 2 – Plans, Figures and Photographs.

Figure 1 – Approximate location of the site (red outline). Image taken from Google Earth.

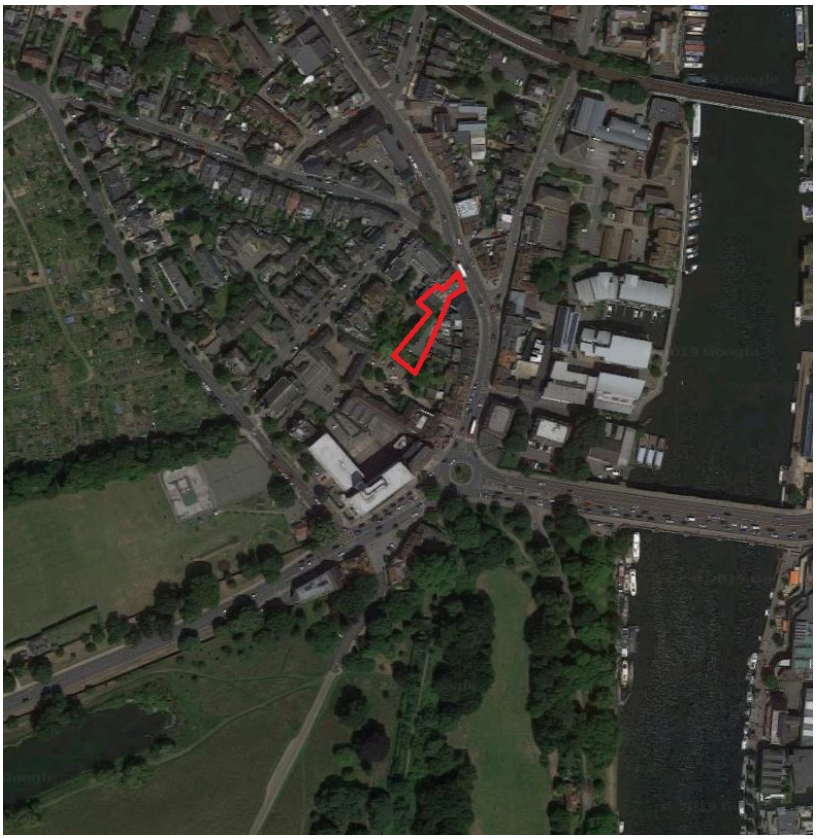

Figure 2 – Approximate location of the site (red outline) within the wider landscape. Image taken from Google.

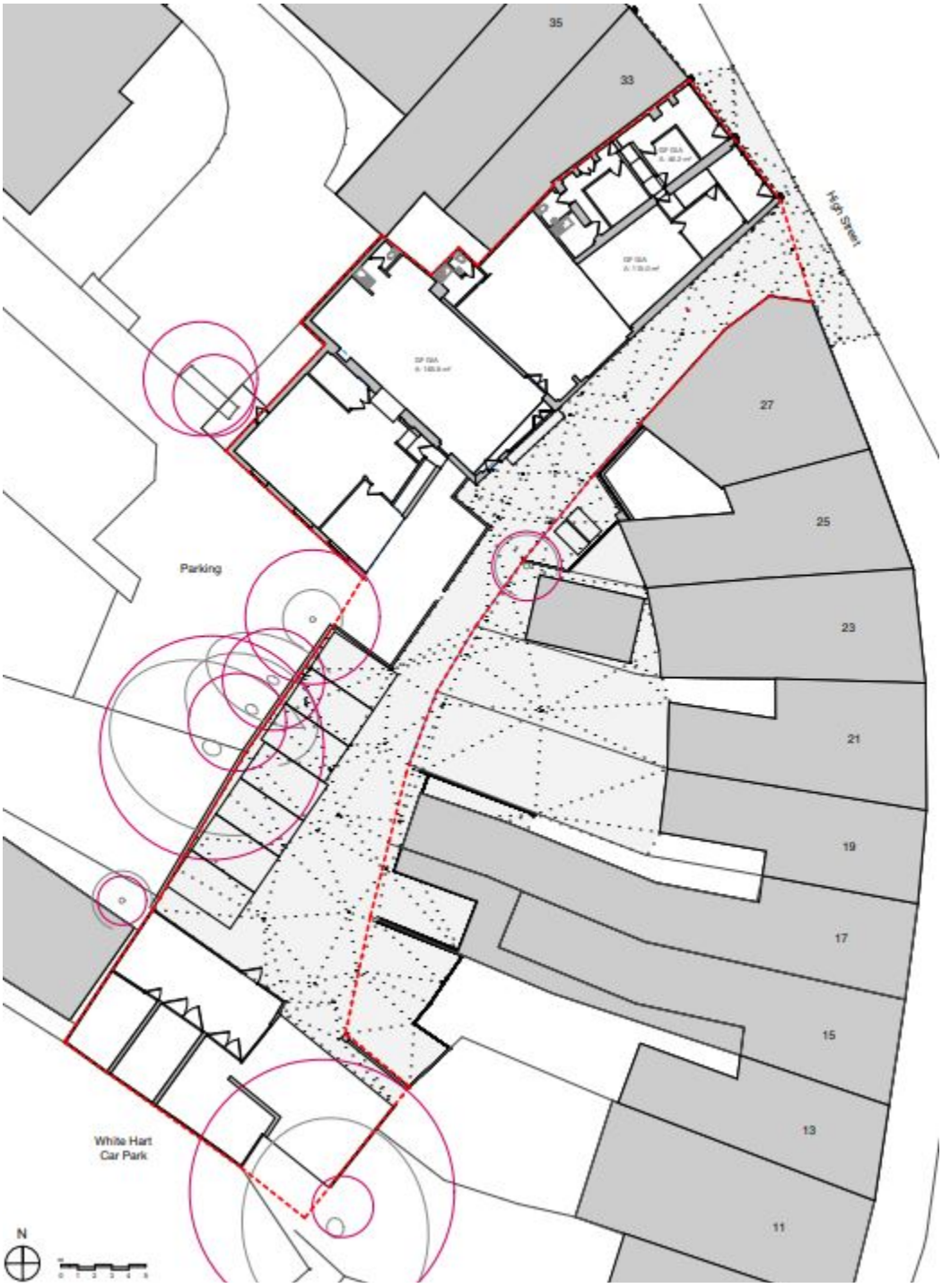

Figure 3 – Red outline boundary of the site.

Figure 4 – Modified plan, showing the main habitats on site: Grey – Buildings, Green – trees on adjacent land, hatched light grey – hardstanding.

Figure 5 – Proposed Development Proposals.

Photo 1 – North-eastern elevation of Building B1 that is adjacent to the High Street. Note the dormer windows in the roof.

Photo 2 – Flat roof on the eastern elevation of Building B1.

Photo 3 – Building B2 in the foreground, B3 in the centre and B4 in the background.

Photo 4 – Virginia creeper growing up the side of Building B4 and Building B5.

Photo 5 – Building B6 in the background, looking SW, which provides access to Buildings B7, B8 & B9. Area of car parking formed of brick paving on the southern section of the site.

Photo 6 – View of the access road looking north towards the High Street.

Photo 7 – Mature trees including cherry and ash adjacent to the western section of the redline boundary.

Photo 8 – Building B1 in the background with Building B1 and B2 attached at second storey level.

Photo 9 – Gaps around the lead flashing and between the slate roof on site and the tiles of the neighbouring property.

Photo 10 – Roof void of B1 showing an open uncluttered space and the partition wall for the neighbouring building.

Photo 11 – Southeastern gable showing gaps stuffed with insulation and the poor state of repair of the brickwork.

Photo 12 – Roof of building B4 showing the lack of an enclosed roof space.

Photo 13 – Building B5, a single storey dilapidated garage with asbestos corrugated roof and missing side panels.

Photo 14 – Building B6 looking west with chipboard frontage and metal corrugated roof with large gaps. The doors to Buildings B8 and B9 are shown on the left of this photograph.

Photo 15 – Building B7 showing the boarded out roof and the clear windows on the eastern elevation.

Photo 16 – Building B9 with damaged roof allowing water ingress.

Annex 3 – Lighting guidance - the impact of artificial light on bats

The following basic set of guidelines is summarized from the latest Guidance Note (08/18)[15] provides a concise checklist of points to consider with any lighting scheme:

- *Use professional lighting design engineers to model and predict light spill so that it can be avoided.*
- *Reduce light levels to the minimum necessary to meet legal and safety requirements.*
- *Reduce horizontal and upward/downward light spillage to the minimum achievable. The use of cowling, masks, louvers etc. and limiting the height of lighting columns may be important depending on the design of the lighting units. No bare bulbs. Lighting should only light the target area.*
- *Use non-reflective surfaces within the area to be lit to minimise indirect (reflected) spillage of light. The use of planting or other structures to add screening.*
- *Reduce the duration of lighting. The use of lighting 'curfews' can also be helpful - especially in the vicinity of bats roosts. For example, the emergence of bats, typically within the hour after sunset, may be disrupted (delayed) by raised light levels and this may result in a loss of feeding opportunities.*
- *Consider the type of light to be used and whether a different type or design may reduce potential impacts on bats and other wildlife. Narrow spectrum lighting with minimal UV emission should be used.*
- *Use 'screen planting' to limit light spill into dark areas.*
- *Use narrow spectrum light sources* to lower the range of species affected by lighting, as research has shown that spectral composition does impact biodiversity.
- *Use light sources that emit minimal ultra-violet light*
- *Avoid white and blue wavelengths of the light spectrum* to reduce insect attraction and where white light sources are required in order to manage the blue short wave length content they should be of a warm / neutral colour temperature <4,200 kelvin.

For more details, please refer to:

https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

http://www.bats.org.uk/pages/bats_and_lighting.html

http://www.batsandlighting.co.uk/index.html

[15] https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/

Annex 4 – Gardening for bats.

GARDENING FOR BATS

All sixteen species of bats in the UK eat insects, and need a good supply of these from spring through to the autumn. By growing flowers attractive to a range of insects, our gardens can become important feeding stations for bats, birds and other wildlife.

Many plants depend on insects

We grow flowers in our gardens for our own enjoyment. But colour and perfume are really the plants' way of advertising themselves to insects. Sweet nectar and protein-rich pollen are bait to encourage insects to visit. In return, pollen is carried from one flower to another on their bodies so the flowers are fertilised.

Bats need insects

Flying uses a lot of energy, so bats have huge appetites. All our UK bats eat insects. Five species, including the long-eared bat, prefer moths, but most bats rely more heavily on flies as food than any other insect group. Especially important are craneflies, and a range of midge families and their relatives. Pipistrelles, the bats most likely to visit your garden, depend on catching very large numbers of tiny insects, some of which are pests.

Flower shape and insect tongues

Flowers with long narrow petal tubes, such as evening primrose and honeysuckle, are visited by moths and butterflies. Only their long tongues can reach deep down to the hidden nectar.
Short-tongued insects include many families of flies and some moths. They can only reach nectar in flowers with short florets.
By planting a mixture of flowering plants, vegetables, trees and shrubs, you can encourage a diversity of insects to drop in and refuel.

Follow these general rules

? Plant flowers varying not only in colour and fragrance, but also in shape.
? Daisies and daisy-like flowers are open with a mass of shallow florets.
? Pale flowers are more easily seen in poor light.
? Single flowers have more nectar than double varieties
? Native wild flowers or those closely related are most useful
? Flowers with landing platforms and short florets such as daisy or carrot family attract many insects.
? Many flowering vegetables such as beans and courgettes are also good for insects.

Plant trees and shrubs

These are important in providing

- food for insect larvae
- food for adult insects
- shelter for flying insects
- roosting opportunities for bats.

In a small garden, choose trees that can be coppiced – cut down to the ground every few years - to allow new shoots to spring from the base. Young shoots and leaves will support leaf-eating insects, even if they do not produce flowers. Hawthorn and elder are useful small trees.

Create a wet area

A pond, a marshy area, even a half-tub made into a mini-pond can attract insects. Many of the tiny flies favoured by bats start life in water as aquatic larvae.

Say NO to insecticides

Chemical pesticides kill natural predators and so may do more harm than good. They reduce bats' insect prey, and surviving insects carry traces of poison.

Encourage natural predators

Hoverflies, wasps, ladybirds, lacewings, ground beetles and centipedes are the gardener's friends. As natural predators they help keep the balance, eating many pests.
? Allow some weeds to grow to provide ground cover for natural predators
? Grow favourites of hoverflies and other predators close to the flowers and vegetables that tend to become infested.
? Leave hollow-stemmed plants to overwinter as shelter for ladybirds.
? Leave heaps of dead leaves and brushwood undisturbed for hedgehogs.
? Most garden birds are effective predators. Provide them with regular food and water.

Prevent a CATastrophe

Many bats and other small mammals fall prey to Britain's most dangerous four-legged predator, the domestic cat. Cats do not need to stay out all night. Bring you cat in an hour before sunset so bats can emerge undisturbed.
(Send for our special leaflet on cats and bats.)

The Bat Conservation Trust, 15 Cloisters House
8 Battersea Park Road, London SW8 4BG
Tel 0845 1300 228 Fax 020 7627 2628
enquiries@bats.org.uk www.bats.org.uk
Registered Charity no 1012361 Company limited by guarantee, registered in England no 271282

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Gardening for bats

Aim at having flowers in bloom through the year, including both annuals and herbaceous perennials.
Below are some suggestions, but this is by no means an exhaustive list. See what grows well in YOUR garden, and what seems most attractive to insects.
Flowering times are approximate, varying in different areas. Regular dead-heading extends flowering period in many flowers. A=annual, HA=hardy annual, HHA=half-hardy annual, P=perennial, W=wild flower.

Flowers for borders			
St John's Wort	*Hypericum*	P	March-
marigolds	*Calendula*	H/A	March – Oct.
aubretia	*a. deltoidea*	P	March-June
honesty	*Lunaria rediva*	HB	March
forget-me-not	*Myosotis sp.*	A/P	March - May
elephant ears	*Bergenia*	P	April
Wallflowers	*Erysimum*	B	April - June
Cranesbills	*Geranium sp*	P	May – Sept.
Yarrow	*Achillea*	P	May -
Poppies	*Papaver sp.*	A	May - July
Dames violet	*Hesperis matronalis*	P	May - August
Red Valerian	*Centranthus ruber*	P	May – Sept.
Poached egg plant	*Limnanthes*	HA	June – Aug.
Knapweed	*Centaurea nigra*	P	June- Sept.
Phacelia		HA	June – Sept.
Ox-eye daisy	*Leucanthemum vulgare*	P	June – Aug.
Evening primrose	*Oenathera biennis*	B	June-Sept.
Candytuft	*Iberis umbellata*	HA	June – Sept.
Sweet William	*Dianthus barbatus*	B	June - July
Blanket flowers	*Gaillardia*	P	June -
Verbena	*V.bonariensis*	HHA	June – Oct.
Scabious	*knautia arvensis*	P	July-Aug.
Night-scented stock	*mattiola bicornis*	HA	July-Aug
Pincushion flower	*Scabious sp.*	A/P	July – Sept.
Cherry pie	*heliotrope*	HHA	July – Oct.
Mexican aster	*Cosmos sp.*	A/P	July – Oct.
Cone flower	*Rudbeckia sp.*	A/P	August-Nov.
Mallow	*lavatera sp.*	P	August-Oct.
Michaelmas daisy	*Aster sp.*	P	August-Sept.
Ice plant 'Pink lady'	*Sedum spectabile*	P	Sept.
Herbs – both leaves and flowers are fragrant			
Fennel	*Foeniculum vulgare*		July – Sept.
Bergamot	*Monarda didyma*		June - Sept
Sweet Cicely	*Myrrhis odorata*		April - June
Hyssop	*Hyssopus officianlis*		July - Sept
Feverfew	*Tanacetum parthenium*		June – Sept.
Borage	*Borago officinalis*		May – Sept.

Rosemary	*Rosemary officinalis*	March - May
Lemon balm	*Melissa officinalis*	
Coriander	*Copriannum sativum*	June - August
Lavenders	*Lavendula sp.*	
Marjoram	*Origanum sp*	
Trees, shrubs and climbers important to insects		
Oak	*Quercus sp.*	large gardens only
Silver birch	*Betula pendula*	
Common alder	*Alnus glutinosa*	Suitable for coppicing
Hazel	*Corylus avellana*	Suitable for coppicing
Elder	*Sambucus nigra*	Small
Pussy willow	*Salix caprea*	Suitable for coppicing
Hawthorn	*Crataegus monogyna*	Suitable for coppicing
Honeysuckle	*Lonicera sp.*	grow a variety for succession.
Dog rose	*Rosa canina*	Climber
Bramble	*Rubus fruticosus*	Climber
Ivy	*hedera helix*	Climber
Buddleia	*Buddleia davidii*	shrub
Guelder rose	*Viburnum opulus*	shrub
Gorse	*Ulex sp.*	shrub

Plants for pond edges and marshy areas			
Purple loosestrife	*Lythrum salicaria*	W	June – Aug.
Meadow sweet	*Filipendula ulmaria*	W	June – Sept.
Lady's smock	*Cardamine pratensis*	W	April - June
Water mint	*mentha aquatica*	W	July – Sept.
Angelica	*Angelica sylvestris*	W	July – Sept
Hemp agrimony	*Eupatorium cannabinum*	W	July – Sept.
Marsh marigold	*Caltha palustris*	W	March – May
Creeping Jenny	*Lysimachia nummularia*	W	May - August
Fringed water lily	*Nymphoides peltata*	W	June – Sept.
Water forget-me-not	*Myosotis scorpioides*	W	June – Sept.

Allow part of your lawn to grow long in summer and cut in autumn, removing the clippings. Avoid using fertilizers.
Compost heaps are good producers of insects too.

Add a seat to watch your garden come to life!

Native Plant Species Recommended

Hedging/shrubs (60cm whips)	
Blackthorn	*Prunus spinosa*
Hawthorn	*Crataegus monogyna*
Common Dogwood	*Cornus sanguinea*
Guelder Rose	*Viburnum opulus*
Holly	*Ilex aquifolium*
Elder	*Sambucus nigra*
Field Maple	*Acer campestre*
Hazel	*Corylus avellana*
Spindle	*Euonymus europaeus*
Trees (regular standard size)	
Apple	*Malus spp.*
Cherry	*Prunus spp.*
Field Maple	Acer campestre
Hornbeam	*Carpinus betulus*
Rowan	*Sorbus aucuparia*
Wild Service	*Sorbus torminalis*
English Oak	*Quercus robur*
Shrubs/Herbacous plants (formal beds)	
Use species attractive to pollinators e.g bees, butterflies, moths. See this selection of RHS plants for pollinators: http://www.rhs.org.uk/Gardening/Sustainable-gardening/Plants-for-pollinators (see Appendix 4)	
Note – all specimens should be of British native stock from reputable suppliers.	