MKA ECOLOGY

Preliminary Ecological Appraisal and Preliminary Roost Assessment

Weybridge Business Park, Addlestone

Site	*Weybridge Business Park, Addlestone Road, Addlestone, KT15 2UP*
Project number	*121121*
Client name / Address	*Bridge Industrial Ltd, 14 Old Bond Street, London, W1S 4PP*

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1.0	*18 March 2022*	*Original*
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Declaration of compliance

This Preliminary Ecological Appraisal has been undertaken in accordance with British Standard 42020:2013 "Biodiversity, Code of practice for planning and development". The information which we have provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

MKA Ecology Ltd is a CIEEM Registered Practice. This means that MKA Ecology Ltd are formally recognised for high professional standards, working at the forefront of our profession.

Validity of data

Unless stated otherwise the information provided within this report is valid for a maximum period of 24 months from the date of survey. If works at the site have not progressed by this time an updated site visit may be required in order to determine any changes in site composition and ecological constraints.

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1. EXECUTIVE SUMMARY

In November 2021 MKA Ecology Limited was commissioned to undertake a Preliminary Ecological Appraisal and Preliminary Roost Assessment of Weybridge Business Park, Addlestone. The appraisal included a habitat survey, protected species scoping survey and desktop study of protected and notable sites and species in the area. The roost assessment included an inspection of the buildings and trees for potential bat roosts. A site visit was undertaken on 22nd November 2021.

The Site is dominated by existing infrastructure, including buildings and associated hardstanding, with small areas of grassland, scrub and areas of introduced shrubs present throughout. An area of woodland is also present within the north of the Site. The proposals are for the demolition of the existing buildings and the development of number of new industrial buildings, along with associated parking and landscaping.

The following ecological constraints were identified at the Site with recommendations made as follows;

- **Designated sites:** A Construction Ecological Management Plan (CEMP) should be produced to protect the integrity of the nearby sections of the Wey Navigation SNCI and the Woburn Park Stream SNCI;
- **Habitats:** The existing woodland and hedgerows should be retained within proposals, protected during construction and enhanced post development;
- **Plants:** Small-leaved cotoneaster, a species which is listed on Schedule 9 of the Wildlife and Countryside Act (1989 as amended), should be removed and disposed of as controlled waste to insure it does not spread;
- **Amphibians:** An ecological method statement should be included within the CEMP as a precautionary measure to protect this species group during work;
- **Reptiles:** An ecological method statement should be included within the CEMP as a precautionary measure to protect this species group during work;
- **Nesting birds**: It is recommended that any vegetation clearance be undertaken outside of bird breeding season (September – February inclusive). Should these timings not be possible, a nesting bird check by a suitably qualified ecologist should take place prior to any clearance;
- **Bats**: No features suitable to support roosting bats have been identified within the buildings or trees on Site. The Site has been assessed as having moderate suitability for foraging and commuting bats, such that a sensitive lighting scheme is recommended to minimise the impacts on bat activity during construction and post development. The woodland and waterways should remain unlit post development;
- **Badger:** No evidence of badger was present within the Site. However, as badger could use the Site to commute, measures to reduce potential impacts should be employed during works and a sensitive lighting strategy implemented; and

- **Hedgehog:** Care should be taken during works for this species. Should any hedgehogs be found during works, they should be relocated to the woodland on the northern boundary.

Ecological enhancements post-development should contribute to national and local conservation targets through the planting of native species and those of benefit to wildlife, the protection of the woodland and enhancement of the understorey and ground flora, the planting of additional species-rich hedgerows and trees within the design scheme, the inclusion of valuable features such as diverse grassland habitats, orchards and green infrastructure provision, a bird and bat box scheme and provision of invertebrate features. It is recommended that a Biodiversity Net Gain assessment is undertaken to ensure that the proposed development is able to demonstrate a significant increase in biodiversity within the Site.

The inclusion of enhancement features is in line with National Planning Policy Framework and will also contribute towards a net positive change in biodiversity onsite and ensure a sustainable development that helps to achieve both local and national biodiversity targets whilst contributing to the existing green network within the area.

2. INTRODUCTION

2.1. Aims and scope of Preliminary Ecological Appraisal and Preliminary Roost Assessment

In November 2021 MKA Ecology Limited was commissioned to undertake a Preliminary Ecological Appraisal and Preliminary Roost Assessment at Weybridge Business Park, Addlestone by Bridge Industrial Ltd in order to support a planning application for redevelopment of the existing industrial site.

The aims of the Preliminary Ecological Appraisal and Preliminary Roost Assessment were to:

- Undertake a desktop study to identify the extent of protected and notable species and habitats within close proximity of the Site;
- Prepare a habitat map for the Site;
- Identify evidence of protected species/species of conservation concern at the Site;
- Assess the potential impacts of the proposed development, using existing plans;
- Detail recommendations for further survey effort where required;
- Detail recommendations for biodiversity enhancements;
- Undertake a Preliminary Roost Assessment to establish the suitability of the buildings and trees at the Site for roosting bats, and record any evidence of bat presence; and
- Assess the need for further survey effort, a European Protected Species Licence or mitigation for bats, if required.

2.2. Site description and context

The survey area is shown on the map in Figure 1. Within this report this area is referred to as the Site or Weybridge Business Park. The Site is located in Addlestone, which falls under the jurisdiction of Runnymede Borough Council. The Site is comprised of two parcels of industrial land, a northern parcel centred on National Grid Reference TQ 06351 64825 and a southern parcel centred at TQ 06298 64669.

2.3. Proposed development

The current proposals are for the demolition of the existing industrial buildings and the construction of three new larger industrial units. Each unit will be built within the existing hardstanding footprint, along with new associated loading areas and car parking areas.

2.4. Legislation and planning policy

This Preliminary Ecological Appraisal and Preliminary Roost Assessment have been undertaken with reference to relevant wildlife legislation and planning policy.

Relevant legislation considered within the scope of this document includes the following:

- The Wildlife and Countryside Act 1981 (as amended);
- The Conservation of Habitats and Species Regulations 2017 (as amended);
- Natural Environment and Rural Communities (NERC) Act 2006;
- The Countryside and Rights of Way (CRoW) Act 2000;
- Protection of Badgers Act 1992; and
- Wild Mammals (Protection) Act 1996.

Further information is provided in Appendix 1, including levels of protection granted to the species considered in Section 3.3.

In addition to obligations under wildlife legislation, the revised National Planning Policy Framework (NPPF) updated on 20th July 2021 requires planning decisions to contribute to conserving and enhancing the local environment. Further details are provided in Appendix 1.

Runnymede Borough Council has produced an adopted Local Plan that runs until 2030, which covers policies relating to biodiversity and habitat conservation. Those policy details relevant to the Site are referenced below:

- Policy EE9: Biodiversity, Geodiversity and Nature Conservation;
- Policy EE11: Green Infrastructure; and
- Policy EE12: Blue Infrastructure.

Where relevant these are discussed in further detail in Section 5.

3. METHODOLOGIES

This Preliminary Ecological Appraisal has been undertaken in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal, 2nd edition (CIEEM, 2017).

3.1. Desktop study

A data search was conducted for the Site and the surrounding 10km for international designations and the surrounding 2km for national designations, habitats and species data. Data was retrieved from the sources listed in Table 1.

Table 1: Sources of data for desktop study

Organisation	Data collected	Date collected
Multi-agency Geographic Information for the Countryside (MAGIC) www.magic.gov.uk	Information on local, national and international statutory protected areas.	24/11/2021
Surrey Biodiversity Information Centre (SBIC)	Information on protected and notable sites and species within 2km of the Site (TQ 06298 64669).	01/12/2021
Ordnance Survey maps and aerial photography	Information on habitats and connectivity between the Site and the surrounding landscape	24/11/2021
Plantlife Important Plant Areas (IPAs)	Information on important invertebrate areas within 2km of the Site (TQ 06298 64669).	24/11/2021
Buglife Important Invertebrate Areas (IIAs)	Information on important plant areas within 2km of the Site (TQ 06298 64669).	24/11/2021

Runnymede Borough Council planning portal was also referred to in order to understand the scope of further development surrounding the Site.

3.2. UK Habitat Classification

Habitats were surveyed using the standardised UK Habitat classification and mapping methodology (UK Habs) (Butcher et al, 2020). Data were recorded onto field maps and then transferred onto a Geographic Information System (GIS) following the UK Habs Colour Mapping Pallet for ArcGIS.

Dominant plant species were observed and recorded within each habitat type. The plant species nomenclature follows that of Stace (2019).

The DAFOR scale is used to describe the relative abundance of species. The scale is shown in Table 2. It is important to note that where a species is described as rare this description refers to its relative abundance within the Site and is not a description of its abundance within the wider landscape. Therefore, a species with a rare relative abundance within the Site may be common within the wider landscape.

Table 2: DAFOR scale

DAFOR code	Relative abundance
D	Dominant
A	Abundant
F	Frequent
O	Occasional
R	Rare

3.3. Protected and notable species scoping survey

As part of the Preliminary Ecological Appraisal, an assessment of the potential for the habitats on Site to support protected or notable species was made. This assessment was based on the quality, extent and interconnectivity of suitable habitats, along with the results of the desktop study detailed in Section 3.1. This includes Species of Principal Importance as listed on Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006), and Red and Amber listed Birds of Conservation Concern (BoCC) as per Eaton *et al*., 2015 (see Appendix 1).

Protected and notable species considered within the protected species scoping survey for Weybridge Business Park include the following:

- Plants and fungi: Species such as bluebell *Hyacinthoides non-scripta*.
- Invertebrates: Species including stag beetle *Lucanus cervus,* small heath *Coenonympha pamphilus* and small square-spot *Diarsia rubi*
- Amphibians: Natterjack toad *Epidalea calamita*, great crested newt *Triturus cristatus* and common toad *Bufo bufo*.
- Reptiles: Adder *Vipera berus*, common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, grass snake *Natrix helvetica helvetica*.
- Birds: With special reference to species listed under Schedule 1 of The Wildlife and Countryside Act 1981 (as amended) and Species of Principal Importance.

- Mammals: Badger *Meles meles*, bats (all species), water vole *Arvicola amphibius*, otter *Lutra lutra*, hazel dormouse *Muscardinus avellanarius*, hedgehog *Erinaceus europaeus*, brown hare *Lepus europaeus* and harvest mouse *Micromys minutus*.

In each case the likelihood of presence of these protected species at the Site was classified as being either confirmed, high, moderate, low or negligible.

- **Confirmed**: The species is confirmed on the Site during the Preliminary Ecological Appraisal, previous survey effort or recent records.
- **High:** Habitats are available onsite which are highly suitable for this species and there are records within the desktop study. The surrounding areas also provide widespread opportunities for the species which are well connected to the Site.
- **Moderate:** Some suitable habitat available on Site for the species although not of optimum quality. Species is present with the desktop study.
- **Low:** Some suitable habitat available on Site for the species but this is low value and possibly of small scale or with poor connectivity. No, or very few, records returned in the desktop study.
- **Negligible**: No suitable habitat available for the species, or very little poor-quality habitat.

This protected species scoping survey is designed to assess the *potential* for presence or absence of a particular species or species group, and does not constitute a full survey for these species.

3.4. Preliminary Roost Assessment

All buildings and trees were inspected and the locations of these are shown in Figure 1. An external inspection of buildings within the Site was undertaken following guidance set out in *Bat Surveys for Professional Ecologists – Good Practice Guidelines (3rd edition)* (Collins, 2016).

The following features were recorded for buildings:

- Location;
- Type;
- Dimensions;
- Age;
- Construction materials; and
- Current use.

Descriptions of potential and actual access points and roosting places were recorded (including height above ground level and aspect), as well as descriptions of evidence of bats found. The following types of evidence of use by bats include:

- Location and number of any live bats;
- Location and number of any bat corpses or skeletons;
- Locations and number of bat droppings;
- Notes on relative freshness, shape and size of bat droppings;
- Location and quantity of any bat feeding remains;
- Location of clean, cobweb-free timbers, crevices and holes;
- Location of characteristic staining from urine and/or grease marks;
- Location and quantity of bat-fly (Nycteribiidae) pupal cases;
- Location of known and potential access points to the roost; and
- Location of the characteristic smell of bats.

The following features were recorded for trees:

- Species; and
- Diameter at breast height.

Descriptions of suitable and actual roost features were recorded (including height above ground level and aspect), as well as descriptions of evidence of bats found.

Potential roost features include:

- Woodpecker holes;
- Rot holes;
- Hazard beams;
- Other vertical or horizontal cracks and splits (such as frost-cracks) in stems or branches;
- Partially detached plately bark;
- Knot holes arising from naturally shed branches, or branches previously pruned back to the branch collar;
- Man-made holes (e.g. cavities that have development from flush cuts) or cavities created by branches tearing out from parent stems;
- Cankers (caused by localised bark death) in which cavities have developed;
- Other hollows or cavities, including butt-rots;
- Double-leaders forming compression forks with included bark and potential cavities;
- Gaps between overlapping stems or branches;
- Partially detached ivy with stem diameters in excess of 50mm; and
- Bat, bird or dormouse boxes.

The following types of evidence of use by bats were recorded for trees:

- Presence of bats;
- Bat droppings in, around or below a potential roost feature;
- Odour emanating from a potential roost feature;
- Audible squeaking at dusk or in warm weather; and
- Staining below the potential roost feature.

Buildings and trees were assessed for their bat roost suitability according to the scheme presented in Collins (2016). These categories are shown in Table 3.

Table 3: Categories to assess roost suitability in buildings and trees (adapted from Collins, 2016)

Roost suitability	Description
Negligible	Negligible habitat features on Site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions* and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potential for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.

*For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

The guidelines for categorisation of bats in England by distribution and rarity (adapted from Wray *et al.*, 2010) are shown in the tables below.

Table 4: Rarity of bat species within England

Rarity within range (England)	Species
Rarest (population under 10,000)	Greater horseshoe bat *Rhinolophus ferrumequinum* Bechstein's bat *Myotis bechsteinii*

Rarity within range (England)	Species
	Alcathoe's bat *Myotis alcathoe* Greater mouse-eared bat *Myotis myotis* Barbastelle *Barbastella barbastellus* Grey long-eared bat *Plecotus austriacus*
Rarer (population 10,000 to 100,000)	Lesser horseshoe bat *Rhinolophus hipposideros* Whiskered bat *Myotis mystacinus* Brandt's bat *Myotis brandtii* Daubenton's bat *Myotis daubentonii* Natterer's bat *Myotis nattereri* Leisler's bat *Nyctalus leisleri* Noctule *Nyctalus noctula* Serotine *Eptesicus serotinus*
Common (population over 100,000)	Common pipistrelle *Pipistrellus pipistrellus* Soprano pipistrelle *Pipistrellus pygmaeus* Brown long-eared bat *Plecotus auritus*

Table 5: Level of importance of roost type

Geographic frame of reference	Roost type
District, Local or Parish	Feeding perches (common species) Individual bats (common species) Small numbers of non-breeding bats (common species) Mating sites (common species)
County	Maternity sites (common species) Small numbers of hibernating bats (common and rarer species) Feeding perches (rarer/rarest species) Individual bats (rarer/rarest species) Small numbers of non-breeding bats (rarer/rarest species)
Regional	Mating sites (rarer/rarest species) including well-used swarming sites Maternity sites (rarer species) Hibernation sites (rarest species) Significant hibernation sites for rarer/rarest species or all species assemblages
National/UK	Maternity sites (rarest species) Sites meeting SSSI guidelines*
International	SAC sites

*Sites meeting SSSI (Sites of Special Scientific Interest) selection guidelines include Barbastelle maternity roosts and mixed species hibernacula assemblages

3.5. Surveyor, author and reviewer

The survey was undertaken by Jo Sykes, Graduate Ecologist at MKA Ecology Ltd and Rory Roche ACIEEM, Senior Ecologist at MKA Ecology Ltd. Jo has two years' experience within the industry, undertaking ecological appraisals and holds a Natural England (NE) bat licence. Rory has five years' experience within the industry undertaking Preliminary Ecological Appraisals and holds both a NE great crested newt licence and a NE bat licence. The report has been reviewed by Rory and authorised by Will O'Connor CEcol MCIEEM, Director and Principal Ecologist at MKA Ecology Ltd. Will has over ten years' experience as a consultant ecologist.

3.6. Date, time and weather conditions

See Table 6 below for details of the date, time and prevailing weather conditions recorded during the site visit for the Preliminary Ecological Appraisal.

Table 6: Date, time and weather conditions of survey visit

Date	Time of survey	Weather conditions*
22/11/2021	11:00	Wind: BF3 Cloud: 0 Temp: 10ºC Rain: None

*Wind as per Beaufort Scale / Cloud cover given in Oktas.

3.7. Constraints

A single visit cannot always ascertain the presence or absence of a protected species. However, an assessment is made of the likelihood for protected species to occur based on habitat characteristics and the ecology of each species. Where there is potential for protected species, additional survey work may be required to ascertain their presence or absence.

Data on species records obtained from local biological records centres are sometimes only available at low spatial resolutions and are constrained by the voluntary nature of the contributions and what has been chosen to be submitted as records. While these records provide a useful indication of species recorded in the local area, in particular protected or notable species, the data is not necessarily an accurate reflection of species assemblages or abundance in the vicinity.

The assessment was undertaken outside the optimum period of April to the end of September. However, within the scope of the study it was possible to identify key habitats present and assess their likelihood of supporting a greater range of species.

Following the initial Preliminary Ecological Appraisal and Preliminary Roost Assessment, the application boundary was extended to the north, into the woodland adjacent to Weybridge Road. Examination of existing aerial imagery and photographs taken during the Site visit have been used to classify the habitats outside the original survey area.

4. RESULTS

4.1. Desktop study

An ecological desktop study was completed for the Site and the surrounding 10km for international designations and 2km for national designations. Data provided by Surrey Biodiversity Information Centre (SBIC) identified a small number UK and European protected species, Species and Habitats of Principal Importance (as listed under Section 41 of the NERC Act 2006), and species of conservation concern within 2km of the Site. It should be noted that this is not a comprehensive list of the distribution or extent of the local flora and fauna of conservation importance. These species records are discussed in greater detail in the protected species scoping survey section (Section 4.3 below).

Details of internationally statutorily designated sites identified as part of the desktop study are displayed in Table 7 below. These consist of two Special Protection Areas (SPA), one Special Area of Conservation (SAC) and a single RAMSAR site.

Table 7: International statutorily designated sites within 10km of Weybridge Business Park

Site name	Area (ha)	Distance and direction	Reasons for selection
South West London Waterbodies SPA and RAMSAR	830.26	3.8km NW, 5.6km NE and 7.5km N	The site comprises a number of reservoirs and former gravel pits in the Thames Valley which support internationally important numbers of Gadwall *Anas strepera* and Shoveler *Anas clypeata*
Thames Basin Heaths SPA	8309.50	3.8km NW, 5.2km S and 6.8km W	This site comprises a network of heathlands and is designated for their internationally important bird populations of Dartford warbler *Sylvia undata*, nightjar *Caprimulgus europaeus* and woodlark *Lullula arborea*.
Thursley, Ash, Pirbright & Chobham SAC	5154.33	6.8km W	Designated primarily for the presence of habitats listed on Annex 1 of the Habitats Directive. These include: • Northern Atlantic wet heaths with *Erica tetralix*; • European dry heaths; and • Depressions on peat substrates of the *Rhynchosporion*.

Details of internationally statutorily designated sites identified as part of the desktop study are displayed in Table 8 below. These consist of one Local Nature Reserve (LNR) and one Site of Special Scientific Interest (SSSI).

Table 8: National statutorily designated sites within 2km of Weybridge Business Park

Site name	Area (ha)	Distance and direction	Reasons for selection
Chertsey Meads LNR	40.98	0.9km N	An open area of remnant floodplain meadow on the banks of the River Thames. Over 400 species of plants have been recorded, including flowers, grasses and sedges. 108 species of bird have been recorded including lesser whitethroat *Sylvia curruca*, reed bunting *Emberiza schoeniclus* and sedge warbler *Acrocephalus schoenobaenus* and reed warbler *Acrocephalus scirpaceus*. Meadow cranesbill *Geranium pratense* has been recorded on site which is usually found in chalk grassland
Dumsey Meadow SSSI	9.62	1.6km N	An unimproved, cattle and pony-grazed riverside pasture situated on the flood-plain of the River Thames.

Details of non-statutorily designated sites identified as part of the desktop study are displayed in Table 9 below. These consist of 12 Sites of Nature Conservation Importance (SNCI).

Table 9: Non-statutorily designated sites within 2km of Weybridge Business Park, Addlestone

Site name	Area (ha)	Distance and direction	Reasons for selection
Woburn Park Stream SNCI	1.80	0.5km W	This section of river runs through Woburn Park. The selected area includes the river and an 8m buffer corridor on either side. This stretch was classed as important for its proximity to Chertsey Meads, its woodland setting, the presence of greater dodder *Cuscuta europaea* and a diverse riffle glide sequence.

Site name	Area (ha)	Distance and direction	Reasons for selection
Wey Navigation - Runnymede SNCI	0.90	0.5km E	These habitats provide a corridor for species migration, act as a buffer zone to protect the riverine environment and may also have important communities in their own right. The majority of this stretch was classed as important mainly for the diverse marginal and aquatic flora including unbranched bur-reed *Sparganium ermersum* and fat duckweed *Lemna gibba* two uncommon species in Surrey.
Chertsey Bourne at Chertsey Meads SNCI	3.40	1.0km N	This stretch of river runs along the southern boundary of Chertsey Meads SNCI. The selected area includes the river and an 8m buffer corridor on either side. This stretch was classed as important for its location adjacent to Chertsey Meads and for a diverse and abundant assemblage of aquatic plants.
River Thames - Elmbridge SNCI	55.20	1.1km NE	The Thames falls within the top 10% of UK waterways on the grounds of numbers of macroinvertebrate species present. The fringing habitats provide a corridor for species migration and act as a buffer zone to protect the riverine environment. The Thames provides an important highway for migratory fish as well as an important corridor for migratory birds
Wey Navigation – Elmbridge SNCI	10.00	1.4km NE	This site supports bullhead *Cottus gobio* and is likely to support brook lamprey *Lampetra planeri*. Greater dodder *Cuscuta europaea,* a Nationally Scarce species, is found along the banks of this stretch of river. Selected for the stretches of river classified as 'important' within the Environment Agency River Corridor Survey.

Site name	Area (ha)	Distance and direction	Reasons for selection
River Thames - Runnymede SNCI	49.40	1.5km NE	The Thames falls within the top 10% of UK waterways on the grounds of numbers of macroinvertebrate species present. The fringing habitats provide a corridor for species migration and act as a buffer zone to protect the riverine environment. The Thames provides an important highway for migratory fish as well as an important corridor for migratory birds.
Chertsey Meads SNCI	73.10	1.5km SE	This site supports calcareous and improved grassland and has been designated for species rich unimproved grassland that it also supports.
Wey Navigation (including Addlestone Mill Pond) SNCI	10.20	1.5km NE	This area comprises a mostly man-made canal connecting the River Wey with the Basingstoke Canal. It has been designated for the presence of a nationally scarce beetle and for its function as a corridor linking the Wey Navigation SNCI in the north with the Basingstoke Canal SNCI in the south. The Addlestone Mill Pond has bird interest, including breeding great crested grebe *Podiceps cristatus*.
The Heath SNCI	20.40	1.7km SE	This site has been designated for the relict heathland it supports, with further potential for heathland restoration.
River Thames - Spelthorne SNCI	69.60	1.8km N	The Thames falls within the top 10% of UK waterways on the grounds of numbers of macroinvertebrate species present. The Thames provides an important highway for migratory fish as well as an important corridor for migratory birds.
Ferris Meadows SNCI	18.60	1.9km NE	This site comprises a lake created after gravel working. Wetland communities fringing the river Thames here are of importance. The site also supports important numbers of wintering wildfowl and summer breeding birds.
Simplemarsh Farm SNCI	11.10	2.0km W	This site is important area for birds, including 15 amber and seven red species on RSPB Birds of Conservation Concern.

The northern parcel is bound to the north by Weybridge Road, to the east by woodland and residential housing to the south by Addlestone Road and to the west by industrial development. The southern parcel of the site is bound to the north by Addlestone Road, to the east by the River Wey, and to the south and west by further industrial and residential development. In the wider landscape, open greenspace is present to the north and south, including Chertsey Meads LNR, River Thames and Wey Navigation SNCIs, with the M3 beyond to the north; Addlestone and the M25 lie to the west.

Although there are a number of international designated sites located within 10km of Site and a small number of national designations within 2km of the Site, given the nature and scale of the proposed development, further consideration of such designations is not necessary.

The Site lies within a Natural England Site of Special Scientific Interest (SSSI) Impact Risk Zone (IRZ) (Natural England, 2019). However, this IRZ criteria does not apply to the proposed development type and, accordingly, local planning authority consultation with Natural England on the likely ecological risks associated with the proposals will not be required.

The Site does not lie within or in the vicinity of any Important Plant Areas (IPAs). Although the Site doesn't lie within an Important Invertebrate Areas (IIAs), it is located nearby to the Thames Basin Lowlands IIA and the Thames Basin heath Woodland IIA. IIAs are nationally or internationally significant places for the conservation of invertebrates and the habitats upon which they rely. Whilst more specific information regarding the importance of specific areas within an IIA is not currently available, consideration of invertebrates will be given with regard to the proposed development of the Site.

A search of the local planning portal returned primarily previous applications for the Weybridge Business Park itself, including the previous renovation of the Site.

4.2. UK Habitat Classification

The Site is dominated by existing infrastructure, including buildings and associated hardstanding, with small areas of grassland, scrub and areas of introduced shrubs present throughout. An area of woodland is also present in the north. More detailed species lists, along with their relative abundance, can be found in Appendix 2. The UK habitat classification survey map is provided in Figure 1, at the end of this section. Descriptions of the habitat types present along with dominant species compositions are provided below.

Developed land; sealed surface u1b (17 Ruderal/ ephemeral)
Large areas of the both the northern and southern parcel of the Site comprise hardstanding that function as car parks, access roads and footpaths. These areas were largely in a good condition at the time of survey and devoid of vegetation (Photograph 1, Appendix 3), however within the northern section of the

Site there is a large amount of ephemeral growth, including species such as Canadian fleabane *Erigeron canadensis* (Photograph 2, Appendix 3).

Buildings u1b5

One building (Building B1 at Figure 1) is located within the northern parcel, and six buildings (Buildings B2 to B7 at Figure 1) are located in the southern parcel. These comprise two or three storey structures with flat roofs, with the buildings in the southern section having been subject to renovation in 2017, and have been unoccupied such that they are in very good condition (Photograph 3, Appendix 3). Building B1 within the northern parcel (Photograph 4, Appendix 3) has been vacant for several years and was not subject to renovation in 2017, however, was still noted to be in a good condition, with no evidence restoration resulting in bat roosting potential.

Suburban/ mosaic of developed/ natural surface u1d (1160 Introduced shrubs, 11 Scattered trees)

Areas of introduced shrubs are present as ornamental planting throughout the car parking areas within the southern parcel (Photograph 5, Appendix 3). These comprise low shrubs, such as lavender *Lavandula* sp. and small-leaved cotoneaster *Cotoneaster microphyllus* (Photograph 6, Appendix 3), along with a small number of planted young trees.

Modified grassland g4

Small areas of modified grassland are present within the southern parcel, in association with the areas of ornamental planting. These areas are subject to regular management, with a short sward length of approximately 2cm recorded at the time of survey. A larger area of grassland is present to the east of Building B2, which appears subject to less regular management and supported a longer sward and small tussocky patches at the time of survey.

Other neutral grassland g3c

There is a small area of grassland within the northern parcel that has been left unmanaged, resulting in a sward length of up to 30cm in places (Photograph 7, Appendix 3). Small amounts of bramble *Rubus fruticosus* agg. have encroached onto the grassland from the neighbouring woodland parcel.

Other lowland mixed deciduous woodland w1f (37 Semi-natural woodland)

Two parcels of woodland are present along the southern, western and northern boundary of the northern parcel (Photograph 8, Appendix 3). This extends offsite to surround the section of the River Wey which runs along this boundary (Photograph 9, Appendix 3) and to the east. The woodland is dominated by field maple *Acer campestre* with regular instances of ash *Fraxinus excelsior* and supports an understorey of bramble, elder *Sambucus nigra* and firethorn *Pyracantha coccinea* in places, whilst the majority of the woodland supports a more open understorey. Piles of deadwood are present (Target Note TN2, Figure 1). It is considered likely that this habitat adheres to the definition of 'Lowland Mixed Deciduous Woodland', which is a Habitat of Principal Importance as described within the NERC Act (2006).

Mixed scrub h3h

Two small areas of scrub are present along the northern boundary of the northern parcel, which appears to have developed through the fence that bounds the offsite portion of woodland, and within the southern corner of the southern parcel. These areas comprise bramble, butterfly-bush *Buddleja davidii*, common nettle *Urtica dioica* and elm *Ulmus* sp.

Scattered trees 11

A small number of scattered trees are present throughout the Site, primarily within the areas of introduced shrubs. These included crab apple *Malus sylvestris* and tree of heaven *Ailanthus altissima*.

Hedgerow (priority habitat) h2a

A native, species rich hedgerow bounds the fence line that is present between Buildings B2 and B7. This hedgerow is dominated by dogwood *Cornus sanguinea*, with occasional instances of late cotoneaster *Cotoneaster lacteus*. This habitat is considered to adhere to the definition of 'Priority Hedgerow', which is a Habitat of Principal Importance as described within the NERC Act (2006).

Other hedgerow h2b

Two non-native hedgerows are present within the Site, comprising a small section dominated by late cotoneaster present along the eastern boundary of the southern and a more extensive Leyland cypress *Cupressus x leylandii* hedgerow within the northern parcel (Photograph 10, Appendix 3).

Figure 1: UK Habitat Classification map of Weybridge Business Park

Target Notes: TN1 - log pile; TN2 - bird boxes

4.3. Protected species scoping survey

Plants and fungi

The desk study returned a very limited number of records for protected and notable plant species within 2km of the Site, including species such bluebell.

The Site is dominated by hardstanding and buildings, which do not provide suitability for protected or notable plant species. Additionally, the areas of vegetation are subject to regular management and support a low diversity of species such that they are unlikely to support protected or notable species. Overall, due to the lack of records returned from the desk study and the lack of species diversity, the risk of the Site to support protected or notable plant species is considered to be **negligible**.

Small-leaved cotoneaster *Cotoneaster microphyllus*, was identified within the introduced shrub areas on Site. Several cotoneaster species, including small-leaved, are listed under the Wildlife and Countryside Act (1981) Schedule 9 as invasive species. The presence of invasive plant species is therefore **confirmed**.

Invertebrates

The desk study returned a small number of records for protected and notable invertebrates within 2km of the Site. These include small heath *Coenonympha pamphilus*, ghost moth *Hepialus humuli* and stag beetle.

The woodland, scrub, introduced shrub and small areas of unmanaged grassland provide suitable habitat for invertebrates. However, the Site is generally limited in its structural and floral diversity, and did not appear to support significant nectar or pollen resources. The Site is therefore unlikely to support significant assemblages of invertebrates or notable invertebrates. However, there were a small number of log piles present within the woodland (Target Note TN1, Figure 1), which provide suitable habitat for protected species, such as stag beetle. Overall, the Site has been assessed as having **low** potential to support invertebrates.

Amphibians

The desk study returned a small number of records for amphibians within 2km of the Site. These are for great crested newt, smooth newt, common toad and common frog. The most recent record was for great crested newt, recorded approximately 2km west of the Site in 2019. A search of MAGIC returned no European Protected Species Licences (EPSL) granted for great crested newt within 2km of the Site.

There are no waterbodies located within the Site boundaries. However, a canalized section of the River Wey is located along the eastern boundary of the southern parcel, and a small outlet of the Wey runs along the southern boundary of the northern parcel. As both waterbodies are support moderately fast flowing water, these are not considered suitable for great crested newt, although they may, provide

suitable habitat for other amphibian species, such as common toad and common frog. Additionally, there are several other outlets of the River Wey and The Bourne River within 500m of the Site boundary.

The majority of the southern parcel provides no suitability for amphibians such as great crested newt as it is dominated by hardstanding and buildings. The areas of scrub, hedgerows and introduced shrub along the eastern boundary provide some limited suitable habitat but are isolated from more suitable habitats by existing roads and development. The woodland, scrub and neutral grassland within the northern parcel provide suitable habitat for amphibians; additionally, this section of the Site is directly connected to the woodland adjacent to the River Wey. The log piles within the woodland (Target Note TN1, Figure 1) also provide suitable hibernacula for amphibians. Nevertheless, in context of the wider landscape the suitable habitats on Site are small in extent. Overall, the Site has been assessed as providing no more than **low** suitability for amphibians.

Reptiles

The desk study returned no records for reptiles within 2km of the Site.

The southern parcel of the Site, being dominated by built form, provides negligible habitat for reptiles. The areas of well managed grassland and introduced shrubs within the Site are small in extent and isolated from more suitable habitat by existing roads and development. However, the woodland, scrub and long sward grassland within the northern parcel of the Site do provide opportunities for basking and resting reptiles, whilst the log piles within the woodland also provide suitable hibernacula for reptiles (Target Note TN1, Figure 1). Additionally, these habitats are directly connected to the neighbouring parcel of woodland, which would also provide suitable habitat for reptiles, and opportunities for movement from the surrounding areas. Overall, due to the majority of the Site being unsuitable for reptiles and lack of records from the desk study, it has been assessed as having **low** potential to support reptiles.

Birds

The desk study returned a small number of records for protected and notable birds within 2km of the Site, including species on the BoCC red list, schedule 1 of the Wildlife and Countryside Act (1981, as amended) and Species of Principal Importance listed on the NERC Act 2006. These include skylark *Alauda arvensis*, swift *Apus apus*, stock dove *Columba oenas,* black redstart *Phoenicurus ochruros,* peregrine falcon *Falco peregrinus* and house martin *Delichon urbicum*.

Eleven species were recorded during the Site visit. These species are shown in Table 10 together with their conservation status. It is important to note that this is not a full inventory of species for the Site.

Table 10: Bird species recorded during site visit at Weybridge Business Park

Common name	Systematic name	S1 W&CA[1]	BoCC[2] Status	S41 SPI[3]	Local PrSp[4]
Coal tit	*Periparus ater*	-	Green	-	-
Blackbird	*Turdus merula*	-	Green	-	-
Robin	*Erithacus rubecula*	-	Green	-	-
Blue tit	*Cyanistes caeruleus*	-	Green	-	-
Pied wagtail	*Motacilla alba*	-	Green	-	-
Grey heron	*Ardea cinerea*	-	Green	-	-
Woodpigeon	*Columba palumbus*	-	Amber	-	-
Magpie	*Pica pica*	-	Green	-	-
Red kite	*Milvus milvus*	Yes	Green	Yes	-
Kestrel	*Falco tinnunculus*	-	Amber	-	-
Wren	*Troglodytes troglodytes*	-	Green	-	-

[1] Schedule 1 of The Wildlife and Countryside Act 1981 (see Appendix 1)
[2] Birds of Conservation Concern (see Appendix 1)
[3] Section 41 (NERC Act 2006) 'Species of Principal Importance' (see Appendix 1)
[4] Local Priority Species

The Site contains habitats suitable to support a range of common nesting birds, in the form of trees, hedgerows, scrub and woodland. In addition, a kestrel was observed perching on a tree within the woodland bounding the northern parcel of the Site. A small number of bird boxes present on the roof of building B6 (Target Note TN2, Figure 1; Photograph 11, Appendix 3), although no evidence of nesting material was present at the time of survey. Overall, the Site has a **high** likelihood of supporting common nesting bird species and a **low** likelihood of supporting notable or protected bird species.

Badgers

SBIC do not provide records of badger due to confidentiality.

No evidence of badger was found on Site during the survey. However, the small areas of grassland and woodland in the northern parcel of the Site do provide very limited suitable foraging habitat for badger. The potential for sett-building within the Site itself is negligible, due to the domination of built form. However, the Site is directly connected to neighbouring undisturbed land parcels, including further woodland, which are likely to provide opportunities for sett building and foraging. Overall, due to the suitable habitat present and direct connectivity to further suitable habitat, the likelihood of badger utilising the Site has been assessed as no more than **low**.

Otter and water vole

The desk study returned no records of otter or water vole within 2km of the Site.

Although the Site is directly adjacent to the River Wey, the section of the waterway along the southern parcel is canalized within high concrete embankments, making it unsuitable for holts or burrow creation. The stream that runs along the southern boundary of the northern parcel is small and shallow with limited banks, and is therefore also unsuitable for holts or burrow creation. Although woodland can provide opportunities for otter holts, the areas of woodland within the Site are small and of lesser suitability than the woodland in the surrounding area. Overall, the Site has been assessed as having **negligible** likelihood of supporting otter and water vole and these species are not considered further in this report.

Hedgehog

The desk study returned two records for hedgehog within 2km of the Site, these were both recorded in 2016 with the closest record 0.8km east of the Site.

The grassland, scrub and woodland, particularly within the northern parcel of the Site offer suitable foraging habitat for hedgehog. In addition, the Site is well connected to the wider landscape, including woodland and residential gardens. This provides opportunities for hedgehog to use the Site to commute to other areas with suitable habitat. Overall, the likelihood of hedgehog being on Site has been assessed as **moderate**.

4.1. Preliminary Roost Assessment

The desk study returned a large number of records for bats within 2km of the Site. These were for common pipistrelle, soprano pipistrelle, serotine, noctule, Daubenton's bat and brown long-eared bats. Records were also returned for a number of unidentified *Nyctalus*, *Plecotus, Pipistrellus* and *Myotis* species bats. A search of MAGIC returned four EPSLs granted for bats within 2km of the Site, detailed in Table 11.

Table 11: Bat EPSLs within 2km of Weybridge Business Park

Species	Reason for licence	Distance and direction	Year granted
Common pipistrelle	Destruction of a resting place	1.3km SE	2017
Common pipistrelle	Destruction of a resting place	1.2km NE	2015

Species	Reason for licence	Distance and direction	Year granted
Common pipistrelle, Soprano pipistrelle, brown long-eared bat	Destruction of a resting place	1.4km W	2010
Soprano pipistrelle, brown long-eared bat	Damage and destruction of a resting place	1.8km SE	2017
Soprano pipistrelle	Destruction of a resting place	1.9km SE	2015

All the buildings on Site are multi-storey structures with steel frames and metal cladding, with large sections of glazing. All the buildings support flat roofs, with either rooftop plant rooms or ventilation systems present. All the buildings within the southern parcel have been newly constructed or renovated in 2017 and are in good condition, supporting no features suitable for roosting bats. Building B1 within the northern parcel of the Site has been vacant for a number of years, however, it is still in relatively good condition and supported no features suitable for roosting bats. No direct evidence of bats were observed on any building. None of the trees on Site provided suitable potential roosting features. Accordingly, the Site has been assessed as having **negligible** suitability to support roosting bats.

The grassland, scrub, woodland and hedgerows present within the Site provide suitable foraging and commuting opportunities for bats. Additionally, the adjacent watercourses would provide a water source and additional foraging opportunities to bats, especially Daubenton's bats which are known for foraging on water and were identified as present in the area during the data search. The woodland adjacent to the northern parcel also provides foraging and roosting opportunities, and is currently unlit such that it provides suitable dark habitats for bats and provides connectivity to the surrounding landscape. Overall, the Site has been assessed as having **moderate** suitability to support foraging and commuting bats.

5. ECOLOGICAL CONSTRAINTS, OPPORTUNITIES AND RECOMMENDATIONS

This section outlines key ecological issues for consideration, recommendations for further work and ecological enhancements where appropriate.

Off-site habitats

The Site is located immediately adjacent to two sections of the River Wey. Given the proximity of these watercourses, pollutants and dust associated with construction works are likely to run into these waterways. Additionally, the Woburn Park Stream SNCI is located within 0.5km of the Site boundary, which would also be at risk from pollutants and dusk from construction. Policy EE12 of the Runnymede Local Plan states that blue Infrastructure assets should be protected and maintained during development and, as such, should clearance and construction activities be designed to minimise impacts from pollutants (such as surface run-off, dust, wind-blown litter), the integrity of the waterways and SNCI are unlikely to be affected by the proposals and the aims of the Local Plan would be addressed. A buffer of at least 8m from the development and the watercourses should be installed where possible.

The mitigation measures to be adopted throughout the construction phase of the development should be documented within a Construction and Environmental Management Plan (CEMP), and include measures to protect the offsite designations and the protected fauna which may make use of the Site, as detailed in the recommendations below. The CEMP will include:

- Measures to minimise dust arising, when necessary, including the use of dust control machinery and wet machinery;
- Measures to prevent pollution / contamination events through surface run-off;
- Measures to minimise other pollution events such as noise, vibration and wind-blown litter;
- Measures to prevent accidental damage to the adjacent watercourses and nearby designated sites; and
- Measures to safeguard protected faunal species (detailed further below).

Recommendation 1

Mitigation measures should be place to protect the adjacent waterways and nearby SNCI through the production of a CEMP (Policy EE12, Runnymede Borough Council).

On-site habitats

The woodland and hedgerow habitats are considered to represent Habitats of Principal Importance as set out within the NERC Act (2006) and are considered to be of elevated value in their own right, such

that their retention is recommended. The current proposals aim to retain the existing woodland area however, should the proposals change, it is recommended that the woodland and hedgerow continue to be retained. Under the current proposals, the majority of the scattered trees will be removed to facilitate works. The loss of such trees should be mitigated for through the planting of UK native trees within the Site, to include more individuals than were felled (to compensate for the time they take to establish), thereby providing a net gain of trees on site.

As set out within policy EE9 of the Runnymede Local Plan, habitat fragmentation of green Infrastructure should be avoided in development proposals through the restoration, protection, maintenance and enhancement of habitat connectivity. As such, retained trees and woodland should be protected during demolition and construction using root protection fencing around the root zones in accordance with British Standards BS 5837 2012: Trees in Relation to Construction. In addition, where possible, a 5m buffer from the woodland edge should be implemented.

Recommendation 2

The woodland and priority hedgerow should be retained in any future proposals. Scattered trees should be retained wherever possible. Retained trees and woodland should be protected using root protection fencing (Policy EE11, Runnymede Borough Council).

Plants

Small-leaved cotoneaster is present on Site, which is listed on Schedule 9 of the Wildlife and Countryside Act 1981. It is an offence to plant or cause this plant to spread in the countryside and all waste containing this plant falls under the control of Part II of the Environmental Protection Act 1990. Careful management will be required during works in order to prevent further spread into the wild as a result of the works. Where this species is being removed to facilitate works, theses should be removed as controlled waste with the arisings disposed of as such to avoid spread.

Recommendation 3

Ensure instances of cotoneaster are managed to ensure this species does not spread. Removed instances should be disposed of as controlled waste.

Amphibians

Due to the presence of a stream along the southern boundary of the northern parcel and its connectivity to the wider landscape, it has been assessed as having a low likelihood of supporting common amphibian species. The proposed works currently retain the existing woodland. However, as a precaution for any amphibians which may be present on Site, a method statement should be produced outlining safe methods of vegetation clearance, as set out in Recommendation 5 below, and included within the recommended CEMP (Recommendation 1).

Recommendation 4

Produce an ecological method statement within the CEMP prior to works. This should detail how to avoid impacts on amphibians during the removal of habitat and other works

Reptiles

All UK reptile species are protected under Schedule 5 of the Wildlife & Countryside Act (1981), and are listed as Species of Principal Importance under the NERC Act (2006). It is an offence to intentionally kill or injure individuals of these species (see Appendix 1 for more information).

There is a low risk of reptiles being present on the Site due to the presence of suitable habitats, particularly the area of long sward grassland within the north of the Site, and the connectivity between the Site and the wider landscape. As a precautionary measure, in order to avoid any residual risk during the Site clearance works, it is recommended that the precautionary habitat clearances procedures are implemented. This can be achieved through the employment of habitat manipulation. The habitat manipulation exercise will involve mowing the grassland and reducing the scrub within the site in order to reduce these areas to a uniformly short height, thereby encouraging herpetofauna to relocate from the Site to retained peripheral features.

The above exercise should be conducted outside of the hibernation period (i.e. between March/April and September/October). The exercise will begin with the dismantling of any point features (such as the log piles present within the woodland) by hand. Following this, tall vegetation will be reduced in height to ground level, through staged strimming. Vegetation should be cleared in a directional approach, from the centre, outwards. Once the habitat has been cleared, and the arisings have been removed, the areas cleared should be left for 24hours to allow any reptile or amphibians utilising the Site to disperse naturally to the peripheral retained habitat features within the Site or indeed, offsite.

This should be outlined and included within the recommended CEMP. In the event that reptiles are present within the Site at the time of the proposed clearance works, the above safeguards will ensure that this species is fully protected.

Recommendation 5

Produce an ecological method statement document for the habitat manipulation exercise prior to works and detail this within a CEMP. This should detail how to avoid impacts on reptiles during the removal of habitat and other works.

Birds

The scrub, hedgerows, trees and woodland present on Site provide suitability to support breeding birds. All wild birds, their active nests and eggs are protected under The Wildlife and Countryside Act 1981 (as amended), which makes it an offence deliberately, or recklessly, to kill or injure any wild bird or damage or destroy any active birds' nest or eggs.

Scheduling vegetation removal works between the months of September and February inclusive (i.e. outside of the bird season) would avoid impacts on breeding birds.

Where vegetation clearance works are required during the breeding bird season (between the months of March and August inclusive), such works can only proceed following the completion of a nesting bird check undertaken by an experienced ornithologist. Any active birds' nest identified during this check must be protected from harm until the nesting attempt is complete. This will require a buffer to be left around the nest, the size of which will depend upon the species involved (as a general rule, this will be 10m in all directions around the nest). Any buffers established as a result of the initial nesting bird check must be subjected to a second check after the original nesting attempt is completed, before such areas can be removed during the breeding bird season.

Recommendation 6

Schedule vegetation and building clearance works between the months of September and February inclusive to avoid impacts on breeding birds. Where this timing is not feasible works should be preceded by a nesting bird check.

It is strongly recommended that any potential nesting bird habitat is cleared outside the breeding bird season in order to avoid potentially lengthy delays if nests are found during nesting bird checks.

Bats

Bat roosting behaviour, commuting and foraging activity can additionally be dramatically affected by artificial lighting (BCT, 2018). It is strongly recommended that any proposed exterior lighting on the new buildings is designed and managed appropriately to ensure that the area remains suitable for foraging bats. A sensitive lighting scheme should be developed to allow suitable roosting and foraging areas for bats. Additionally, the woodland in the northern parcel and the River Wey adjacent to the southern parcel should not be lit, so as to remain as dark corridors and foraging areas for bats. These measures should be secured through a planning condition.

Recommendation 7

Light pollution from any lighting should be minimised both during and after the construction phase. A sensitive lighting scheme should be developed and secured through a planning condition to allow for suitable roosting and foraging areas for bats within the site with maximum use of appropriate luminaries and directed lighting, with the trees and woodland habitats within the Site in particular being protected from light spill. The CEMP should detail a sensitive lighting scheme to be implemented during the construction phase of the development.

Badgers and small mammals

As no evidence of badger or badger setts were found on site, no further survey for badgers is required to support the planning application. However, as badgers are highly mobile creatures and there are habitats on Site suitable for badger, it is advised that the sensitive lighting strategy is implemented to prevent disturbance to any potential foraging badgers.

It is also advised that the following measures are used to reduce any potential impacts on badgers and other mammals:

- Backfilling or providing a ramp in excavations before dusk to avoid animals becoming trapped in them;
- Maintaining access across the construction site for badgers by not blocking or storing equipment along possible commuting routes;
- Avoid construction lights illuminating commuting routes (e.g. woodland edges and northern boundary of the northern site) during construction;
- Site contractors are made aware, during site inductions, of the potential presence of badgers onsite, what action is to be taken if a badger is found during construction works; and
- Any chemicals or potentially harmful compounds to be stored within badger proof containers.

These measures should be outlined and included within the recommended CEMP.

Recommendation 8

The proposed sensitive lighting scheme should be developed within nocturnal species such as badger in mind and additional measures put in place to reduce the potential development impacts on badgers.

Hedgehog

The Site has potential to support hedgehog, which is a Species of Principal Importance and should therefore be considered during the planning process. Hedgehog may use the woodland, scrub and grassland so care must be taken during any vegetation clearance. If any hedgehogs are found during works, they should be moved to the adjacent woodland off site, so to not be further impacted by works. Additionally, it is recommended that provisions are made for hedgehog. This should include the installation of a hedgehog dome within the woodland in the northern parcel of the Site.

Recommendation 9

Install one hedgehog domes within the woodland habitat on Site.

Opportunities for biodiversity enhancement

Following the issue of the National Planning Policy Framework (NPPF; see Appendix 1), all planning decisions should aim to maintain and enhance, restore or add to biodiversity and geological conservation interests. Ecological enhancements should aim to deliver biodiversity gains for the

proposed development site. In addition, as set out within Policy EE9 of the Runnymede Locla Plan, the Council will seek net gains in biodiversity, through creation/expansion, restoration, enhancement and management of habitats and features to improve the status of priority habitats and species. Accordingly, it is recommended that a Biodiversity Net Gain assessment is undertaken to ensure that the proposed development is able to demonstrate a significant increase in biodiversity within the Site.

Recommendation 10

Ensure that the development delivers a biodiversity net gain by updating the Biodiversity Net Gain assessment following any design revisions.

It has been recommended that tree, scrub and shrub planting are included within the Site to mitigate for the loss of vegetation under the proposals. Species that will increase habitat diversity and structural heterogeneity at the Site are recommended for inclusion within the landscape proposals. Examples of recommended species to be planted are provided in Appendix 4 and have been selected to provide a year-round source of nectar and pollen for invertebrates.

There is the opportunity to incorporate fruit and nut tree planting, which would provide opportunities to insect pollinators and provide benefits for other species within the ecosystem, including birds and bats. In addition, it recommended that the opportunity to create an urban orchard habitat is taken. This can be achieved through the planting of a high density of fruit bearing trees within an area of grassland free from developing scrub. Suitable native species for such planting are presented in Appendix 4.

There is also the opportunity to incorporate species-rich hedgerow planting within the Site. To achieve a species-rich state, the hedgerow should comprise a minimum of five native woody hedgerow species. Suitable native species for such planting are presented in Appendix 4 and 7.

It is recommended that the grassland habitats to be created within the Site are designed with biodiversity in mind. This will help to increase native plant species diversity, provide more ecologically valuable habitats and result in a greater diversity of dependent taxonomic groups, especially invertebrates. In particular, it is recommended that a pond edge mix be sown within the western grassland areas in close proximity to the River Wey as this includes species tolerate of wetland conditions. Similarly, it is recommended that hedgerow and woodland seed mixes are sown within the grassland areas surrounding these habitats, as this includes species tolerate of the shaded conditions in these areas. In addition, a bee lawn mix should be sown in the publicly accessible areas as this mix includes species that can tolerate trampling and mowing, which is appropriate as these areas will also function as an amenity area for the future users of the Site. These grassland habitats will be specially cultivated to attract insect pollinators by combining grasses with low-flowering perennial plant species and contain a diverse mixture of plant species to attract many different kinds of invertebrates, which in turn will attract birds and small mammals such as voles, shrews and hedgehogs. The creation of these grassland habitats, in combination with scrub and tree planting, will create further opportunities and

niches for faunal species and will maximise the ecological value of the Site, forming an ecotone at the boarder of the existing woodland habitat and creating pockets of still air for the benefit of invertebrates such as butterflies.

Recommendation 11

It has been recommended that native British species and those with a known attraction or benefit to local wildlife are incorporated within the planting scheme for the Site in order to enhance the overall value of the Site for biodiversity, in line with the requirements of the NPPF. Species-rich hedgerows have been recommended for establishment within the Site, along with diverse grassland habitat creation, tree and scrub planting and the creation of an urban orchard habitat.

The creation of deadwood features at the Site will be particularly valuable for invertebrates as a foraging resource, which in turn benefits a range of other species such as amphibians, hedgehogs and reptiles. This could include rotting roots or tree stumps spread around various locations. The drilling of holes or cutting of notches can add even more value for invertebrates. Such features should be included within the areas of retained woodland and in close proximity to the retained ditches and new pond, to allow the features to be utilised by a range of faunal groups, including invertebrates, reptiles and amphibians should they be present.

Recommendation 12

Incorporate deadwood features within the Site post development.

It is recommended that the existing woodland be enhanced through the creation of a structural diverse and significant understorey and through the development of a more diverse ground flora, as outline in Recommendation 11 above and in Appendix 4. Species recommended for planting within the understorey are presented in Appendix 4. These species also have the additional benefit of producing berries, which would benefit several taxa, such as a birds and badgers.

Recommendation 13

It is recommended that the woodland be enhanced through additional understorey planting and the sowing of a woodland seed mix to develop a diverse ground flora.

It is recommended that herb and pollen rich planting beds are included within the soft landscaping within the Site. These features should be planted with species that will to increase habitat diversity and structural heterogeneity at the Site. Examples of recommended species to be planted are provided in Appendix 4 and have been selected to provide a year-round source of nectar and pollen for invertebrates.

Recommendation 14

It is recommended that the planting beds are included within the Site designs and are designed to enhance biodiversity.

Enhanced opportunities for breeding birds should be incorporated into the design scheme. Bird boxes should be mounted on trees, fences and built structures at the Site. It is recommended that integrated boxes are included within the final development and that there is focus on black redstart. Black redstart is known to breed in disused buildings and urban areas and is listed on Schedule 1 of the Wildlife and Countryside Act (1981) and is nationally red-listed, so the inclusion of specific nest boxes for this species would be adding real value to the Site. It is recommended that there is also a focus on swift, together with the provision of generalist bird boxes. Swift boxes have the added advantage of being used by house sparrow and starling. In addition, given the presence of extensive grassland habitat to the east of the Site and the observation of kestrel within the offsite portion of woodland, it is recommended that opportunities for this species is included within the Site post development. Similarly, given the presence of records of peregrine falcon within 2km of the Site, it is recommended that a nest box is also provided for this species within the Site post development. Examples of suitable boxes are shown in Appendix 5 together with information concerning the correct siting of these enhancement features.

Recommendation 15

A minimum of 12 bird boxes should be installed at the site, to include boxes targeted to swift, black redstart, peregrine falcon and kestrel.

The Site itself has relatively little provision for roosting bats however, the wider landscape has the potential for use by bats. With this in mind, enhanced opportunities for roosting bats should also be provided at the site through installation of bat boxes.

Recommendation 16

Provisions should be made for roosting bats at the site post-development, to include a minimum of six wall mounted bat bricks or bat boxes and boxes mounted in trees at the site.

It is recommended that, where possible, the development plans include living walls and that these features be designed to be sympathetic to wildlife. Such green infrastructure features have been identified as an opportunity to maximise biodiversity within urban and sub-urban areas within Policy EE11 Green infrastructure within the Local Plan, as set out in Appendix 1.

Green walls can provide a food source for invertebrates on which, in turn, other invertebrates and birds may feed. They also provide breeding and nesting habitat for invertebrates, birds and possibly bats and are ideal for including artificial animal breeding structures such as nest boxes or bat roosting boxes. Careful choice of species and the orientation of the wall will increase the potential of a living wall to

harbour other forms of wildlife. Of particular note is the inclusion of ivy, which is a valuable food source for innumerable invertebrates which feed on its leaves, flowers and nectar, and it also provides valuable over-wintering and hibernation habitat. Fruits trees such as apples and pears can also be used to form a green wall by training them as espaliers. Further information relating to the green wall provision is provided within Appendix 4 below.

Recommendation 17

It is recommended that, where possible, green walls are included within the development proposals, to provide biodiversity gains for local priority species, as well as biodiversity in general.

Summary of recommendations

Table 12 below summarises the recommendations made within this report, and specifies the stage of the development at which action is required. Colour coding of cells within the table is as follows:

Key:

No action required for this species group at this stage

Action required (see notes for details)

Level of action required will be determined following the further survey work

Table 12: Summary of recommendations at Weybridge Business Park

Species	Pre-planning action required?	Pre-construction action required?	Construction phase mitigation required?	Enhancements proposed?
Offsite habitats	No	Production of a CEMP.	Protection of the nearby Wey Navigation and Woburn Park Stream SNCI.	No
Habitats	Retain existing woodland, hedgerows and scattered trees within design. Native planting, green wall provision within design.	Develop a CEMP to ensure protection of retained features.	Protection of retained trees and woodland. Enact the CEMP	Incorporate, scrub and tree planting into the landscaping scheme. Create species-rich hedgerows, diverse grassland habitats and green walls.
Plants		Removal of small-leaved cotoneaster, with arisings	Removal of small-leaved cotoneaster, with arisings disposed of as controlled waste.	Native planting, including pollen rich herbs, fruit trees and hedgerows.

Species	Pre-planning action required?	Pre-construction action required?	Construction phase mitigation required?	Enhancements proposed?
		disposed of as controlled waste.		
Bats	Bat boxes and native planting within design	No	Incorporate integrated and tree mounted bat boxes into the Site and provide a sensitive lighting scheme.	Bat boxes and native planting
Amphibians	No	Production of a CEMP	Vegetation clearance works under a method statement	Native planting and habitat creation; retain and enhance log piles.
Reptiles	No	Production of a CEMP	Vegetation clearance works under a method statement	Native planting and habitat creation; retain and enhance log piles.
Birds	Bird boxes and native planting	No	Timing of works for vegetation removal OR further survey work Incorporate integrated bird boxes into retained trees and new buildings	Bird boxes and native planting
Badgers	No	No	Sensitive lighting for badgers. Ensure construction practices take into account mammals using the Site.	Native planting

Species	Pre-planning action required?	Pre-construction action required?	Construction phase mitigation required?	Enhancements proposed?
Hedgehog	No	No	Ensure construction practices take into account mammals using the Site.	Native planting and deadwood features. Provision of hedgehog domes

6. CONCLUSIONS

In November 2021, MKA Ecology Limited was commissioned to undertake a Preliminary Ecological Appraisal and Preliminary Roost Assessment at Weybridge Business Park, Addlestone by by Bridge Industrial Ltd in order to support a planning application for redevelopment of the existing industrial site.

The Site is overall of limited ecological value due to the domination of built form, however of the habitats present onsite, the woodland and hedgerows, which are considered to be priority habitats, hold the highest ecological value. It is considered feasible to retain and enhance these habitats onsite post-development through additional planting. Scattered trees should also be retained where possible. Should trees be removed to facilitate works, they should be replaced on a minimum of a like for like basis.

Due to the Sites proximity to the adjacent watercourses and nearby designated sites, mitigation measures to minimise impacts from pollutants should be put in place to protect the waterways site during construction. A CEMP should be produced for the Site to detail these measures for construction teams.

The Site has the potential to support invertebrates, amphibians, reptiles, breeding birds, badger and hedgehog. The Site also supports small-leaved cotoneaster, an invasive species, which should be removed and disposed of in a careful and controlled manner. The CEMP should cover precautionary working methods and mitigation for amphibians and reptiles, due to the presence of suitable habitat. A sympathetic lighting scheme should be developed to minimise impacts on nocturnal species as a result of the proposed works, whilst works must also be timed sensitively to avoid impacts on active birds' nests.

There are opportunities to enhance the site for biodiversity. Recommended enhancements include the enhancement of the woodland, the provision of a diverse grassland habitats, the creation of an orchard habitat, the provision of additional dead wood features, hedgehog domes, bird and bat boxes and the inclusion of green walls within the final development. A Biodiversity Net Gain assessment has been recommended to ensure that the proposed development provides a significant increase in biodiversity.

Should all recommendations within this report being followed and adhered to, it is unlikely that there will be impacts on any waterways, designated sites or protected species. The recommendations outlined within this report will ensure that the proposals are in compliance with the National Planning Policy Framework and will also contribute to ensuring a sustainable development that helps to achieve both local and national biodiversity targets.

7. REFERENCES

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8. APPENDICES

8.1. Appendix 1: Relevant wildlife legislation and planning policy

Please note that the following is not an exhaustive list, and is solely intended to cover the most relevant legislation pertaining to species commonly associated with development sites.

Subject	Legislation (England)	Relevant prohibited actions
Amphibians		
Great crested newt *Triturus cristatus* Natterjack toad *Epidalea calamita*	Schedule 2 of Conservation of Habitats and Species Regulations (2017) Schedule 5 of The Wildlife and Countryside Act 1981 (as amended)	• Deliberately capture or kill, or intentionally injure; • Deliberately disturb or recklessly disturb them in a place used for shelter or protection; • Damage or destroy a breeding site or resting place; • Intentionally or recklessly damage, destroy or obstruct access to a place used for shelter or protection; and • Possess an individual, or any part of it, unless acquired lawfully.
Reptiles		
Common lizard *Zootoca vivipara* Adder *Vipera berus* Slow-worm *Anguis fragilis* Grass snake *Natrix helvetica helvetica*	Part of Sub-section 9(1) of Schedule 5 of The Wildlife and Countryside Act 1981 (as amended)	• Intentionally kill or injure individuals of these species (Section 9(1)).

Subject	Legislation (England)	Relevant prohibited actions
Sand lizard *Lacerta agilis* Smooth snake *Coronella austriaca*	Full protection under Section 9 of Schedule 5 of The Wildlife and Countryside Act 1981 (as amended)	• Deliberately or intentionally kill, capture (take) or intentionally injure; • Deliberately disturb; • Deliberately take or destroy eggs; • Damage or destroy a breeding site or resting place or intentionally damage a place used for shelter; or • Intentionally obstruct access to a place used for shelter.
Birds		
All wild birds	Wildlife and Countryside Act 1981 (as amended)	• Intentionally kill, injure, or take any wild bird or their eggs or nests.
'Schedule 1' birds	Schedule 1 of the Wildlife and Countryside Act 1981 (as amended)	• Disturb any wild bird listed on Schedule 1 whilst it is building a nest or is in, on, or near a nest containing eggs or young; or • Disturb the dependent young of any wild bird listed on Schedule 1.
Mammals		
Bats (all UK species)	Schedule 2 of Conservation of Habitats and Species Regulations (2017)	• Deliberately capture, injure or kill a bat; • Deliberately disturb a bat (disturbance is defined as an action which is likely to: (i) Impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) Impair their ability to hibernate or migrate; or (iii) Affect significantly the local

Subject	Legislation (England)	Relevant prohibited actions
	Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	distribution or abundance of the species); • Damage or destroy a bat roost; • Intentionally or recklessly disturb a bat at a roost; or • Intentionally or recklessly obstruct access to a roost. In this interpretation, a bat roost is "*any structure or place which any wild [bat]...uses for shelter or protection*". Legal opinion is that the roost is protected whether or not the bats are present at the time.
Badger *Meles meles*	Protection of Badgers Act 1992	Under Section 3 of the Act: • Damage a sett or any part of it; • Destroy a sett; • Obstruct access to, or any entrance of, a sett; or • Disturb a badger when it is occupying a sett. A sett is defined legally as any structure or place which displays signs indicating current use by a badger (Natural England 2007).
Hazel dormouse *Corylus avellana*	Schedule 2 of Conservation of Habitats and Species Regulations (2017)	• Intentionally or deliberately capture or kill, or intentionally injure;

Subject	Legislation (England)	Relevant prohibited actions
	Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	• Deliberately disturb or intentionally or recklessly disturb them in a place used for shelter or protection; • Damage or destroy a breeding site or resting place; • Intentionally or recklessly damage, destroy or obstruct access to a place used for shelter or protection; and • Possess an individual, or any part of it, unless acquired lawfully.
Otter *Lutra lutra*	Schedule 2 of Conservation of Habitats and Species Regulations (2017) Section 9(4)(b) and (c) of Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	• Deliberately capture, injure or kill an otter; • Deliberately disturb an otter in such a way as to be likely to significantly affect the local distribution or abundance of otters or the ability of any significant group of otters to survive, breed, rear or nurture their young; • Intentionally or recklessly disturb any otter whilst it is occupying a holt; • Damage or destroy or intentionally or recklessly obstruct access to an otter holt.
Water vole *Arvicola amphibius*	Section 9 of Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	• Intentionally kill, injure or take water voles; • Possess or control live or dead water voles or derivatives; • Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection; or • Intentionally or recklessly disturb water voles whilst occupying a structure or place used for that purpose.

Subject	Legislation (England)	Relevant prohibited actions
Crustaceans		
White-clawed crayfish *Austropotamobius pallipes*	Section 9(1) of Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	• Intentionally kill, injure or take white-clawed crayfish by any method.

The Conservation of Habitats and Species (Amendment) Regulations 2017

Full legislation text available at: The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (legislation.gov.uk)

The Wildlife and Countryside Act 1981 (as amended)

Full legislation text available at: http://www.legislation.gov.uk/ukpga/1981/69/contents.

Countryside and Rights of Way Act 2000

Full legislation text available at: http://www.legislation.gov.uk/ukpga/2000/37/contents

Protection of Badgers Act 1992

Full legislation text available at: http://www.legislation.gov.uk/ukpga/1992/51/contents

Section 41 of Natural Environments and Rural Communities (NERC) Act 2006

Full legislation text available at: http://www.legislation.gov.uk/ukpga/2006/16/section/41

Many of the species above, along with a host of others not afforded additional protection, are listed on Section 41 of the NERC Act 2006.

Section 41 (S41) of the Natural Environment and Rural Communities (NERC Act 2006) requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The list (including 56 habitats and 943 species) has been drawn up in consultation with Natural England and draws upon the UK Biodiversity Action Plan (BAP) List of Priority Species and Habitats.

The S41 list should be used to guide decision-makers such as local and regional authorities to have regard to the conservation of biodiversity in the exercise of their normal functions – as required under Section 40 of the NERC Act 2006. The duty applies to all local authorities and extends beyond just conserving what is already there, to carrying out, supporting and requiring actions that may also restore or enhance biodiversity.

Schedule 9 of Wildlife and Countryside Act 1981 (as amended)

In addition to affording protection to some species, The Wildlife and Countryside Act 1981 (as amended) also names species which are considered invasive and require control. Section 14 of the Act prohibits the introduction into the wild of any animal of a kind which is not ordinarily resident in, and is not a regular visitor to, Great Britain in a wild state, or any species of animal or plant listed in Schedule 9 to the Act. In the main, Schedule 9 lists non-native species that are already established in the wild, but which continue to pose a conservation threat to native biodiversity and habitats, such that further releases should be regulated.

Wild Mammals (Protection) Act 1996

Full legislation text is available at: http://www.legislation.gov.uk/ukpga/1996/3/contents

Under this legislation it is an offence to cause unnecessary suffering to wild mammals, including by crushing and asphyxiation. It largely deals with issues of animal welfare, and covers all non-domestic mammals including commonly encountered mammals on development sites such as rabbits, foxes and field voles.

Birds of Conservation Concern (BoCC)

This is a quantitative assessment of the status of populations of bird species which regularly occur in the UK, undertaken by the UK's leading bird conservation organisations. It assesses a total of 246 species against a set of objective criteria to place each on one of three lists – Green, Amber and Red – indicating an increasing level of conservation concern. There are currently 52 species on the Red list, 126 on the Amber list and 68 on the Green list. The classifications described have no statutory implications, and are used merely as a tool for assessing scarcity and conservation value of a given species.

National Planning Policy Framework (NPPF)

Full text is available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2

The revised NPPF was updated on 20 July 2021 setting out the Government's planning policies for England and the process by which these should be applied. The policies within the NPPF are a material consideration in the planning process. The key principle of the NPPF is a presumption in favour of sustainable development, with sustainable development defined as a balance between economic, social and environmental needs.

Policies 174 to 188 of the NPPF address conserving and enhancing the natural environment, stating that the planning system should:

- Contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes;
- Recognise the wider benefits of ecosystem services; and
- Minimise impacts on biodiversity and provide net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity.

Furthermore there is a focus on re-use of existing brownfield sites or sites of low environmental value as a priority, and discouraging development in National Parks, Sites of Specific Scientific Interest, the Broads or Areas of Outstanding Natural Beauty other than in exceptional circumstances.

Where possible, planning policies should also

"*promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity*".

Local Policy

Runnymede Borough Council has produced an adopted Local Plan that runs until 2023, which covers policies relating to biodiversity and habitat conservation. Those policy details relevant to the Site are referenced below:

- **Policy EE9: Biodiversity, Geodiversity and Nature Conservation:** Development on or adjacent to the following hierarchy of important sites in the Borough will need to pay particular attention to the requirements of this policy:
    1. Ramsar sites (international).
    2. Special Protection Areas and Special Areas of Conservation (European).
    3. Sites of Special Scientific Interest and National Nature Reserves (National).
    4. Ancient Woodland, ancient or veteran trees; and/or trees and hedgerows protected by a Tree Preservation Order.
    5. Sites of Nature Conservation Importance, Local Nature Reserves.
    6. Other priority habitats and priority species not identified in 1, 2, 3, 4 or 5 above (Local); designated Local Green Space where richness of wildlife has been identified as a contributing factor in its designation; and any area in Runnymede that may be in future identified as a Nature Improvement Area; trees considered to make a significant contribution to their surroundings, individually or as a group.

    The Council will seek net gains in biodiversity, through creation/expansion, restoration, enhancement and management of habitats and features to improve the status of priority habitats and species. Development proposals should demonstrate how this will be achieved and should be in accordance with any Supplementary Planning Document the Council

prepares. Development proposals not directly related to the management of Ramsar, SPA, SAC as well as SSSI units forming part of these designations will not be permitted unless it can be demonstrated that the impact of proposals, either alone or in combination, will not result in likely significant adverse effects. If significant adverse effects remain even with the implementation of suitable avoidance and/or mitigation, development proposals will need to demonstrate that alternatives to the proposal have been fully explored and that Imperative Reasons of Overriding Public Interest (IROPI) exist. In these exceptional circumstances the Council will only permit development where suitable compensatory measures can be implemented. For development proposals that affect national, regional or locally protected sites not forming part of a Ramsar, SPA or SAC, permission will only be granted where it can be demonstrated that the benefits of the development proposal clearly outweigh the harm to the site and has followed the hierarchy of mitigation so that biodiversity/geodiversity damage from development should first be avoided, then mitigated on-site and finally, as a last resort and where acceptable, offset.

- **Policy EE11: Green Infrastructure:** The Council will seek to avoid further habitat fragmentation of Green Infrastructure by encouraging development proposals which restore, maintain and enhance habitat connectivity, in particular in Biodiversity Opportunity Areas as shown on the policies map. The Council will seek development to contribute towards the delivery of a high quality multi-functional Green Infrastructure network by requiring proposals to provide and make enhancements to onsite Green Infrastructure assets. In exceptional circumstances, if it is not possible to provide on-site Green Infrastructure as it is neither feasible nor viable, a financial contribution towards provision and enhancement of Green Infrastructure and services may be sought. The Council will ensure the effective use of Tree Preservation Orders to protect significant trees and will encourage the proper care and maintenance of trees by requiring owners to submit applications to work on protected trees and ensure that protected trees are replaced if they have to be felled.

- **Policy EE12: Blue Infrastructure:** The local planning authority will require applicants to contribute towards the delivery of a high quality multi-functional Blue Infrastructure network by expecting Blue Infrastructure assets to be provided, protected, maintained and enhanced to deliver multiple benefits and services for biodiversity, recreation and landscape. Therefore, the Council will resist proposals that lead to a decrease in the provision and quality of, and fails to enhance, the status of blue infrastructure, in accordance with the Water Framework Directive. Proposals will be supported that:

    - Demonstrate how they will support improving the status of failing waterbodies, in particular in relation to the requirements of the Thames River Basin Management Plan;
    - Do not involve the culverting of watercourses;
    - Do not involve the loss of natural banks; and

- Make appropriate provision to protect, enhance, improve and maintain accessible networks of Blue Infrastructure, including through deculverting and re-naturalisation of hard banks if appropriate.
- Where appropriate, enable public access to Blue Infrastructure, including through providing undeveloped buffer zones (8m minimum for main rivers and 5m minimum for ordinary water courses). In certain circumstances, these standards could be negotiated to suit the particular ecological and requirements of a site. Any scheme to provide a buffer zone will need to include a working method statement detailing how the buffer zone will be protected during construction and long-term ecological plan.
- Include measures to allow for the natural movement of fish within the watercourse where barriers to fish movement (e.g. weirs) are present.

Development where inclusion of Sustainable Drainage Systems is necessary should have a management plan in place to demonstrate how wildlife has been taken account of.

8.2. Appendix 2: UK Habitat Classification species list

Please note that these lists are intended to be incidental records and do not constitute a full botanical survey of the site. Relative abundance is given using the DAFOR scale. Please see Table 2 for details.

Modified grassland g4

Common Name	Systematic Name	Relative abundance
Perennial ryegrass	*Lolium perenne*	A
Annual meadow grass	*Poa annua*	F
Cow parsley	*Anthriscus sylvestris*	F
Common daisy	*Bellis perennis*	F
Dandelion	*Taraxacum officinale* agg.	F
Yarrow	*Achillea millefolium*	F
Buck's-horn plantain	*Plantago coronopus*	O
Dove's-foot crane's-bill	*Geranium molle*	O
Red clover	*Trifolium pratense*	O
White clover	*Trifolium repens*	O
Bristly oxtongue	*Helminthotheca echioides*	R

Other neutral grassland g3c

Common Name	Systematic Name	Relative abundance
Bent grass	*Agrostis* sp.	A
Yorkshire fog	*Holcus lanatus*	A
Annual meadow grass	*Poa annua*	F
Cleavers	*Galium aparine*	O
Dandelion	*Taraxacum officinale* agg.	O
Bird's-foot trefoil	*Lotus corniculatus*	O
Bramble	*Rubus fruticosus* sp.	R
Willowherb	*Epilobium* sp.	R
Wood avens	*Geum urbanum*	R

Other woodland: broadleaved w1g (37 Semi-natural woodland)

Common Name	Systematic Name	Relative abundance
Field maple	*Acer campestre*	D
Ash	*Fraxis excelsior*	F
Bramble	*Rubus fruticosus* sp.	O
Cherry laurel	*Prunus laurocerasus*	O
Elder	*Sambucus nigra*	O
Firethorn	*Pyracantha coccinea*	O
Holly	*Ilex aquifolium*	O
Oak	*Quercus robur*	O
Snowberry	*Symphoricarpos albus*	O
Hazel	*Corylus avellana*	R
Norway maple	*Acer platanoides*	R
Stinking iris	*Iris foetidissima*	R

Mixed scrub h3h

Common Name	Systematic Name	Relative abundance
Bramble	*Rubus fruticosus* sp.	O
Buttefly-bush	*Buddleja davidii*	O
Cherry laurel	*Prunus laurocerasus*	O
Common nettle	*Urtica dioica*	O
Elm	*Ulmus* sp.	O
Willowherb	*Epilobium* sp.	O
Yew	*Taxus beccata*	O

Scattered trees 11

Common Name	Systematic Name	Relative abundance
Field maple	*Acer campestre*	D
Ash	*Fraxis excelsior*	F
False-acacia	*Robinia pseudoacacia*	O
Silver birch	*Betula pendula*	

Common Name	Systematic Name	Relative abundance
Alder	*Alnus glutinosa*	O
Elder	*Sambucus nigra*	O
Elm	*Ulmus* sp.	O
Oak	*Quercus robur*	O
Sycamore	*Acer pseudoplatanus*	O
Rowan	*Sorbus aucuparia*	O
Horse-chestnut	*Aesculus hippocastanum*	O
Cherry	*Prunus* sp.	O
Willow	*Salix* sp.	O
Norway maple	*Acer platanoides*	O
Beech	*Fagus sylvatica*	O
Tree-of-heaven	*Ailanthus altissima*	O
Poplar	*Populus* sp.	R
Goat willow	*Salix caprea*	R
Weeping willow	*Salix babylonica x alba = S. x sepulcralis*	R
Plum	*Prunus sp.*	R
Amur maple	*Acer ginnala*	R
Scarlett oak	*Quercus coccinea*	R

Hedgerow (priority habitat) h2a

Common Name	Systematic Name	Relative abundance
Dogwood	*Cornus sanguinea*	A
Late cotoneaster	*Cotoneaster lacteus*	F
Holly	*Ilex aquifolium*	O
Ash	*Fraxis excelsior*	R
Crab apple	*Malus sylvestris*	R

Other hedgerow h2b

Common Name	Systematic Name	Relative abundance
Late cotoneaster	*Cotoneaster lacteus*	D
Ash	*Fraxis excelsior*	O
Cherry laurel	*Prunus laurocerasus*	O
Leyland cypress	*Cupressus x leylandii*	D

8.3. Appendix 3: Site photographs

Photograph 1: Hardstanding within the southern parcel

Photograph 2: Hardstanding present within the northern parcel, with evidence of developing ephemeral vegetation

Photograph 3: Example of buildings in the southern parcel (building B6, Figure 1)

Photograph 4: Building B1 within the northern parcel

Photograph 5: Areas of introduced shrubs

Photograph 6: Small leaved cotoneaster within the ornamental planting

Photograph 7: Area of long sward, unmanaged grassland within the northern parcel

Photograph 8: Woodland within the northern parcel

Photograph 9: Portion of the River Wey present along the southern boundary of the northern parcel

Photograph 10: Hedgerow in northern parcel

Photograph 11: Example of bird boxes present atop the buildings within the Site

8.4. Appendix 4: Soft landscaping recommendations

Native species planting recommendations

Table A: Recommended species for hedgerow planting

Common name	Systematic name
Field maple	*Acer campestre*
Dogwood	*Cornus sanguinea*
Spindle	*Euonymus europaeus*
Wild privet	*Ligustrum vulgare*
Dog rose	*Rosa canina*
Wayfaring tree	*Viburnam lantana*
Guelder rose	*Viburnam opulus*
Elder	*Sambucus nigra*
Hazel	*Corylus avellane*
Hawthorn	*Crataegus monogyna*
Beech	*Fagus sylvatica*
Small-leaved lime	*Tilia cordata*
Holly	*Ilex aquifolium*
Blackthorn	*Prunus spinosa*

Table B: Recommended species for fruit, nut and berry planting

Common name	Systematic name
Crab apple	*Malus sylvestris*
Sweet cherry	*Prunus avium*
Elder	*Sambucus nigra*
Hazel	*Corylus avellane*
Hawthorn	*Crataegus monogyna*

Table C: Recommended shrub planting

Common Name	Systematic name
Lavender	*Lavandula angustifolia*
Hebe	*Hebe* sp.
Bee bush	*Abelia* sp.
Dogwood	*Cornus sanguinea*
Guelder rose	*Viburnum opulus*

Grassland creation recommendations

Table D: Recommended species for hedgerow and woodland planting (Emorsgate EG9 grass mixture or hedgerows and woodland)

Common Name	Systematic name
Common bent	*Agrostis capillaris*
Sweet vernal-grass	Anthoxanthum odoratum
False brome	*Brachypodium sylvaticum*
Crested dogstail	*Cynosurus cristatus*
Tufted hair-grass	*Deschampsia cespitosa*
Red fescue	*Festuca rubra*
Wood meadow-grass	*Poa nemoralis*

Table E: Recommended species for riparian area planting (Emorsgate EP1 pond edge mixture)

Common Name	Systematic name
Common bent	*Agrostis capillaris*
Sweet vernal-grass	*Anthoxanthum odoratum*
Quaking grass	*Briza media*
Crested dogstail	*Cynosurus cristatus*
Tufted hair-grass	*Deschampsia cespitosa*
Red fescue	*Festuca rubra*
Meadow fescue	*Schedonorus pratensis (Festuca pratensis)*
Yarrow	*Achillea millefolium*
Agrimony	Agrimonia eupatoria
Wild angelica	*Angelica sylvestris*
Common knapweed	*Centaurea nigra*
Rough chervil	*Chaerophyllum temulum*
Crosswort	*Cruciata laevipes*
Wild teasel	*Dipsacus fullonum*
Meadowsweet	*Filipendula ulmaria*

Common Name	Systematic name
Hedge bedstraw	*Galium album - (Galium mollugo)*
Lady's bedstraw	*Galium verum*
Oxeye daisy - (Moon Daisy)	*Leucanthemum vulgare*
Purple loosestrife	*Lythrum salicaria*
Musk mallow	*Malva moschata*
Ribwort plantain	*Plantago lanceolata*
Common sorrel	*Rumex acetosa*
Pepper saxifrage	*Silaum silaus*

Table F: Recommended species for flowering lawn planting (Emorsgate EP1 flower lawn mixture)

Common Name	Systematic name
Common bent	*Agrostis capillaris*
Crested dogstail	*Cynosurus cristatus*
Red fescue	*Festuca rubra*
Lady's bedstraw	*Galium verum*
Oxeye daisy - (Moon Daisy)	*Leucanthemum vulgare*
Wild Red Clover	*Trifolium pratense*
Rough Hawkbit	*Leontodon hispidus*
Birdsfoot Trefoil	*Lotus corniculatus*
Cowslip	*Primula veris*
Selfheal	*Prunella vulgaris*
Meadow Buttercup	*Ranunculus acris*
Smaller Cat's-tail	*Phleum bertolonii*

Other flowering plants to consider including would be:

- Kidney Vetch (*Anthyllis vulgaris*)
- Daisy (*Bellis perennis*)
- Ragged Robin (*Lychnis flos-cuculi*)

- Salad Burnet (*Sanguisorba minor*)
- Wild Marjoram (*Origanum vulgare*)
- Toadflax (*Linaria vulgaris*)
- Yellow Rattle (*Rhinanthus minor*) – This plant is particularly useful if the lawn is being created on previously well fertilised, grass heavy soils, as it is very good at drawing away nutrients and suppressing grass growth. (Sourced seeds must be as fresh as possible for best chance of growth).

Green Walls

Green walls are walls with vegetation growing on them, enhancing otherwise featureless areas of bare wall. They may be natural, such as brick or stone-built walls which have been naturally colonized by lichens, mosses, ferns and flowering plants or they can be large scale engineered green walls. The process of allowing and encouraging plants to grow on and up walls allows the natural environment to be extended into urban areas.

Green walls can mimic natural rock faces of cliff and rock slopes and provide resting and feeding places for birds, invertebrates and even small mammals. Climbers provide nesting habitat for birds such as wrens, blackbirds, song thrushes and house sparrows. The combination of green walls with green roofs provides a route for wildlife between habitats at ground and roof level. Green walls that comprise climbers and light weight support structures such as wires and trellis are relatively cheap to develop and maintain.

Engineered green walls, or 'vertical gardening', provide an opportunity for impressive visual impact whilst providing a living vertical habitat with biodiversity value. They may be either designed as a large structure attached to a wall containing a variety of planted species and an irrigation system which provides the plants with water and nutrients, or as a hanging wall at the top of a building where plants are allowed to hang down from suspended planters, entailing no direct contact between the plants and the wall. Whilst providing impressive displays many engineered green walls comprise mainly non-native plants and can be expensive to maintain and as such their inclusion needs careful consideration.

On a smaller scale, green walls can also be created on existing buildings by growing climbing plants against a section of trellis work to train the plant. Climbing plants are likely to require pruning to ensure that they do not have an adverse effect on the condition of windows and guttering. Fruits trees such as apples and pears can also be used to form a green wall by training them as espaliers.

8.5. Appendix 5: Faunal enhancement recommendations

Invertebrate recommendations

Deadwood features

Example	Description	Picture
'Stag beetle loggery	https://ptes.org/9-top-ways-to-help-stag-beetles-in-your-garden/ Large volume deadwood dug into the soil (a minimum of 500mm depth) to provide food for the larvae of deadwood specialists such as stag beetles.	 (image credit – PTES, 2021)
Artificial rot hole	Once felled, an artificial cavity can be carved easily with a chainsaw to create a rot hole. The ensuing pool and rotting wood provide habitat for a number of specialist invertebrates. These examples were targeted at a pinewood specialist in Caledonian forests in Scotland, but are of equal value to other species in lowland England. Taylor *et al.* (2021) British Wildlife **32**(8) p547	   (image credits - Athayde Tonhasca via Scotlandsnature.blog, 2020)

Bird box recommendations

A large number of bird boxes are available, designed for the specific needs of individual species. These are normally either designed to be mounted onto trees, external walls or integrated into a building. In general, bird boxes should be mounted out of direct sunlight and prevailing winds, out of reach of predators, with suitable foraging habitat for the subject species close by. Bird boxes should also be left up over winter as they can provide useful roosting sites for birds in bad weather.

Nest boxes should be cleaned at the end of each bird breeding season. All nesting material and other debris should be removed from the box. It should then be scrubbed clean with boiling water to kill any parasites (avoid using any chemicals). Once the box is clean, it should be left to dry out thoroughly. Under the Wildlife and Countryside Act 1981 it is an offence to disturb breeding birds and therefore annual cleaning is best undertaken from October to January when there is no risk of disturbing breeding birds.

Generalist boxes

Boxes to attract garden birds and woodland breeding species such as tits, nuthatch, redstart and pied flycatcher can be placed in gardens, orchards, woodlands and a wide variety of other habitats. The species of birds attracted to the box will depend upon the size of the entrance hole (see table below).

Boxes should be fixed two to five metres up a tree or wall, out of the reach of predators such as domestic cats. Unless there are trees or buildings, which give permanent shelter, it is best facing between north and east.

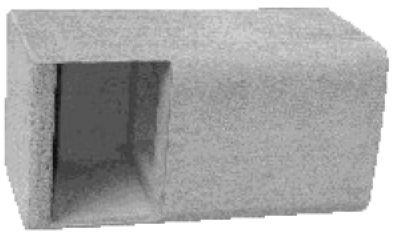
General		
Example	**Description**	**Picture**
Schwegler No. 1B General Purpose Nest box	www.schwegler-nature.com Suitable for various garden and woodland birds, created with different sized entrance holes to avoid competition between species. Other variations (e.g. 2M) can be free hanging, to deter predators.	
Entrance Hole	**Species**	

26 mm	Blue-, Marsh-, Coal- and Crested Tit, possibly Wren. All other species are prevented from using the nest box due to this smaller entrance hole
32 mm	Great-, Blue-, Marsh-, Coal- and Crested Tit, Redstart, Nuthatch, Pied Flycatcher, Tree and House Sparrows.
Oval	Redstart; also used by species that nest in the diameter 32 mm boxes. However, because more light enters the brood chamber, it is preferred by Redstarts.

Black redstart

Providing nest boxes for black redstart is often only successful when suitable foraging habitat is available in the surrounding area, such as areas of sparse wasteland vegetation and a stony substrate, as well as areas for perching and singing. The provision of such habitats can be achieved by creating foraging areas through the green roof to be included within the final development.

Black redstart typically nests on a building ledge or within a hole in the wall. The ideal nest box would therefore be built into the wall with an open front. Boxes for black redstart should be open fronted with a narrow entrance to present access by predators.

Black redstart		
Example	**Description**	**Picture**
Schwegler open fronted brick box 1HE	www.schwegler-nature.com This brick design can be built into the wall of the new development and the external surface, excluding the hole, can be rendered to match the surrounding wall. It has the added benefit of a narrow entrance which can help to prevent predation.	

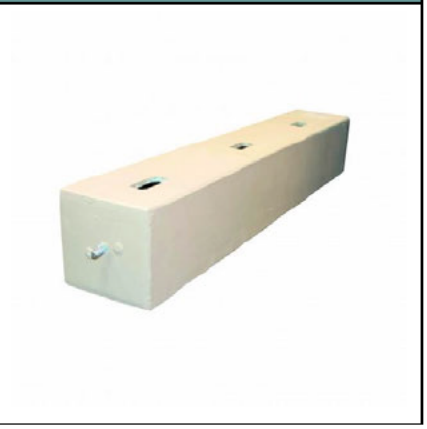
Swift boxes

Swifts are colonial nesters and it is important to have several nest sites in one area. It is recommended that most buildings should have between 4 and 10 nest provisions. Swifts also feed almost exclusively on the aerial plankton of flying insects and airborne spiders of small to moderate size, so therefore require habitats which support these invertebrates.

Nest boxes designed for swifts should be installed at least 5m high, around the eaves of the building or under deeply overhanging eaves to allow swifts to drop into the air to forage. The boxes should be positioned away from climbing plants to avoid access for predators such as rodents.

Swifts typically nest in flat spaces within buildings or within a crevice or cavity. The ideal nest box should have an oval or rectangular hole around 30mm (h) x 65mm (w). The internal dimensions of the box should be approximately 400mm (w) x 200mm (d) x 150mm (h).

Swifts can be attracted to areas that they have not previously colonised using 'swift response calls'. Audio CDs are available for this purpose and are available on the Schwegler website (www.schwegler-nature.com).

Swift		
Example	**Description**	**Picture**
Triple Genesis Swift Nest Box	https://www.wildcare.co.uk/ It can be mounted on an external wall to provide three swift nesting sites.	

Peregrine falcon boxes

Peregrine falcons require extensive open terrain for hunting with habitat suitable for its prey. It has become increasingly difficult for Peregrines to find suitably sheltered spaces to nest, as a result of building renovation and/or the construction of new buildings with relatively smooth facades and roofs.

Peregrine falcons typically nest on ledges at over 20m high. As a nesting provision, it is recommended that a ledge is provided at this height with the dimension 450mm (l) x 600mm (w) x 40mm (h). This ledge should have raised edges with some drainage to prevent excessive water and can be covered with a substrate such as gravel or pea shingle.

The ledge should be positioned to avoid human disturbance. Peregrine falcons can be vocal so disturbance for the users of the building should be considered when positioning this nesting site. In addition, the falcon will produce pellets which may accumulate beneath the ledge, so positioning of the ledge should again be carefully considered.

It is important that additional ledges or perches are provided lower down the building to provide safe landing platforms for young when they start to fledge. Consequently, it is not advised to position artificial nests on buildings with smooth, vertical facades without ledges or other niches which young birds can reach if they fail to return to the nest site.

Peregrine falcon		
Example	**Description**	**Picture**
Schwegler Peregrine Falcon nest box	www.schwegler-nature.com Boxes are designed to provide a spacious, protected and securely attached breeding space in a robust, long-lasting structure that requires little maintenance. Boxes can be placed in quarries or on high buildings such as towers, silos, high rise buildings, highway bridges (for example on or around the abutments).	 
Large open fronted nestboxes	http://www.londonperegrines.com/services/index.php Constructed of wood or metal and can be secured to the outside of a structure or on top of a building on an elevated tower or frame. Installation often requires scaffolding or hoists.	
Open trays	http://www.londonperegrines.com/services/index.php A shallow tray with raised edges, containing substrate that is secured to a sheltered ledge or within the structure.	

Kestrel

Kestrels defend only a small territory immediately around the nest. Kestrels are adaptable in their use of nest sites, but do not build their own nests. Old or disused nests of crows and other stick nesters are often used, as are ledges on cliffs and buildings. They are also regular hole-nesters and readily accept nest boxes. The same nest site is often used in successive years with some sites used for decades.

The box should be mounted at least 5m high, preferably with a clear flight path to the box. Kestrels are less likely to be hit by traffic than species such as barn owls, so a position near light traffic is acceptable if other sites are not available. The box should ideally face east, north east or south east.

Kestrel		
Example	**Description**	**Picture**
Kestrel Nest Box	The Kestrel Nest Box has a large opening for kestrels and a sturdy perch. It is constructed from FSC certified exterior grade plywood with drainage holes and a non-toxic, water repellent finish. The nest box should be sited high in a tree, or on a post, at least five metres above the ground with a good viewpoint. https://www.nhbs.com/kestrel-nest-box.	

Bat box recommendations

A wide range of bat boxes are available to suit a variety of species and design requirements. Bat boxes can be mounted externally on buildings, built directly into the wall structure or mounted on trees (dependent on box design).

Boxes are more likely to be inhabited if they are located where bats feed and it may help to place the box close to features such as tree lines or hedgerows, which bats are known to use for navigation and can provide immediate cover for bats leaving the roost. Boxes should be placed in areas sheltered from strong winds and are exposed to the sun for part of the day. Access to any bat roosting features should not be lit and should also be at a reasonable height to avoid predation (at least 2m if possible, preferably 4-5m).

Example	Description	Picture
Schwegler General Purpose Bat Box 2F	www.schwegler-nature.com Height: 33 cm Weight: approx. 3.8 kg External diameter: 16 cm Installation: Hanging A general purpose box, suitable for all species.	
Schwegler General Purpose Bat Box 2F with Double Front Panel	www.schwegler-nature.com Height 33 cm Weight: approx. 4.1 kg External diameter: 16 cm Installation: Hanging This box is suitable for crevice dwellers, such as Nathusius´ pipistrelle, Daubenton`s bat and common pipistrelle.	
Schwegler 1FF	www.schwegler-nature.com Dimensions: 14(d) x 27(w) x 43(h) cm Weight: 9.9 kg Installation: Hanging This box is suitable for crevice dwellers, such as Nathusius´ pipistrelle, Daubenton`s bat and common pipistrelle. This box minimises temperature fluctuations in spring and autumn and is self-cleaning.	

Example	Description	Picture
Schwegler 1FQ	www.schwegler-nature.com Dimensions: 60(h) x 35(w) x 9(d) cm Weight: 15.8kg Installation: Attached to most external brick, timber or concrete walls at least 3m high. Can also be placed inside roof space This box is ideal for all types of bats that inhabit buildings. The box is weather-resistant and is also temperature controlled and self-cleaning. The front panel of the box can also be painted during manufacture, to match an existing colour.	
Vivara Pro Woodstone bat box	https://www.nhbs.com/equipment Dimensions: (h) 250 x (w) 190 x (d) 165 mm, Weight: 4.5 kg This box is made from woodstone and it is designed to last for years. The box can be attached to either a wall or a tree and should be sited at a height of at least 3 m from the ground. Bats prefer to change roosts to benefit from varying ambient temperatures, so bat boxes should ideally be clustered in small groups.	
Eco Kent bat box	https://www.nestbox.co.uk/products/eco-kent-bat-box Dimensions: (h) 52 x (w) 23 x (d) 16 cm Weight: 4.5kg This bat box is ideal for crevice-dwelling species such as common and soprano pipistrelle. It has a 100% recycled outer shell to protect the wooden interior to create	

Example	Description	Picture
	a long-lasting box. It is also a self-cleaning, maintenance free box.	
Bark Boxes	https://www.barkboxes.co.uk/ Bark Boxes are constructed using a tough felt made of recycled polyamide combined with a cement and recycled cellulose fibre mix. The cellulose fibre will allow the outer layers to mellow and support lichens and mosses in time. Each box has a curved back to fit well on a tree. Boxes have endoscope holes for inspection and/or drainage holes. They come in a range of sizes and can be designed for crevice-dwelling and void-dwelling bats, including maternity chambers and hibernation boxes.	 

Sensitive lighting recommendations

Artificial lighting has been shown to have a negative impact on bats. It can cause bats to desert or become entombed within a roost, affect feeding behaviour and create barriers which bats cannot cross. There are several factors to consider within a sensitive lighting scheme in order to minimise light spill onto features identified as important for bats during previous survey effort.

Avoid lighting the key habitats and features

Where possible, there should be no artificial lighting on any roost entrances or associated flight paths, as well as habitats or features used by large numbers of bats, rare species or highly light-averse species. An unlit 'dark zone' should be created around the features of importance through the careful placement of artificial lighting and structures such as walls or fences. It is important to remember that there is no legislation requiring a road or area to be lit.

Appropriate luminaire recommendations

Bats are particularly sensitive to blue, green and UV light and therefore luminaries should be selected which emit "warm white" light (2700K to 3000K) and wavelengths with peaks greater than 550nm. LED lights should be used where possible as they fit these criteria and have other advantageous characteristics such as sharp cut-offs, usability at lower intensities and dimming capabilities.

Column height and timing

Column height should be carefully considered in order to minimise light spill. Luminaires should always be mounted on the horizontal and only luminaires with an upward light ratio of 0% and with good optical control should be used. Low-level lighting from bollards should be avoided where possible, and specialist bollard or low-level downward directional luminaires should only be used as directed by the lighting professional. Any external security lighting should be set on motion sensors and short (one minute) timers.

Internal lighting

Where possible, the site design should minimise the number and size of windows facing the features of importance. Where windows are required, recessed lighting should be used rather than pendant lighting to minimise light spill. Furthermore, factory-tinted glazing treatments can be used to minimise internal light transmission

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