



Preliminary Ecological Appraisal
21 Greencourt Drive, Bognor
Regis
For
Sherfield Homes Ltd

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1. Summary

- 1.1.1 Sherfield Homes Ltd. is submitting a planning proposal to modify a brownfield Site to the rear of 17-23 Greencourt Drive, Bognor Regis, PO21 5EU. The proposals include the construction of two bungalows, two gardens and four new parking spaces. The proposed development is set on a 0.07 hectare site. The site location is shown on Figure 1. The site was cleared of nearly all vegetation prior to the survey being commissioned, therefore pre-baseline biodiversity calculations have been estimated based on the remaining vegetation and piles of cleared vegetative matter. The Site previously comprised dense scrub, ornamental planted shrubs and a small area of modified grassland. There is a large hardstanding driveway with a single dilapidated outbuilding to the north.
- 1.1.2 Nature's Cousins were commissioned to undertake a Preliminary Ecological Appraisal (PEA) of the site, including an ecological desk study, habitat survey and assessment of the site's baseline biodiversity value. This appraisal informs the assessment of potential effects of the project on biodiversity and ecological features including protected species, species of conservation concern, designated sites and priority habitats for nature conservation.
- 1.1.3 Records for statutory designated sites and priority habitats were collated for a 1km study area from online data sets, and desk study records for non-statutory designated sites, protected species and species of conservation concern were requested from the local environmental records centre.
- 1.1.4 The desk study found were that the site is within 2km of one statutory designated sites; Bognor Reef SSSI (1.9km South). An additional non-statutory Local Nature Reserve site; The Brooks LNR was located 1.8km North of the Site. Neither site will be impacted by the proposals.
- 1.1.5 The desk study found records of priority habitats for nature conservation within the 1km study area. These included coastal floodplain grazing marsh. The closest parcel of priority habitat to the site was 950m north from site. No records of ancient woodland were recorded within the study area.
- 1.1.6 Records of protected and notable species were found within the 1km study area. These included multiple records for birds, three records for bats, slow worm, stag beetle and hedgehog.
- 1.1.7 A habitat survey using the UK Habitat Classification (UKHab) methodology was undertaken during a site visit carried out by Grace Cousins, MSc, BSc Hons, MCIEEM, on 5th July 2024. Habitats on site were described, mapped and assessed for their conservation importance and potential to support protected species or species of conservation concern. Ecological features of note were target noted. Habitat conditions were also recorded.
- 1.1.8 During the habitat survey the main habitats found were modified grassland (g4), developed land (u1b) and buildings (u1b5) and mixed bramble scrub (h3h). The habitat survey results are shown in Figure 3.

2. Introduction

2.1.1 During the ecological desk study, designated sites and priority habitats¹ for nature conservation are identified within a defined study area of the proposed works and the potential of the project to affect those sites and habitats is discussed. Records for protected species and species of conservation concern² are collated to identify potential effects of the project and inform requirements for further surveys if necessary. During the habitat survey undertaken by a suitably qualified ecologist, the habitats present on the site are identified and mapped to determine the baseline biodiversity metric value for the site, and the suitability of the site to support protected species and species of conservation concern is assessed.

2.2 Project Description

2.2.1 The existing brownfield site behind 17- 23 Greencourt Drive, Bognor Regis, PO21 5EU is going to be redeveloped and two bungalows constructed with four associated parking spaces (see proposed drawing No 102).

2.2.2 The proposals are hereafter referred to collectively as “the proposed works”.

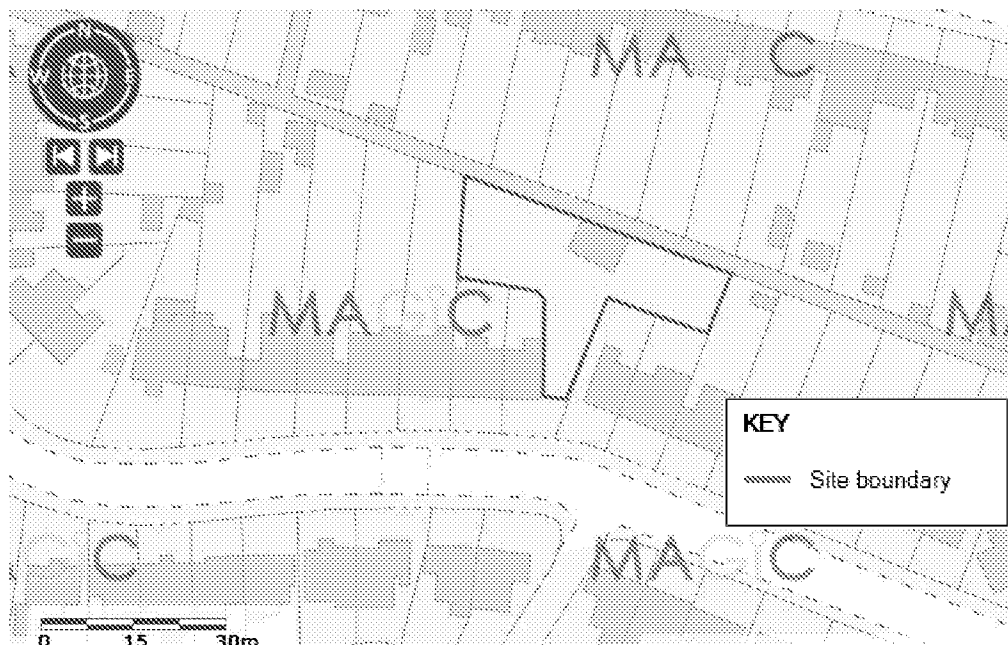
2.3 Site Description

2.3.1 The site was used by the previous owners to dump rubbish, it had been left for a period of time and scrub vegetation had colonised. In order to remove the rubbish and allow safe access to the site, the area was cleared of all rubbish and vegetation prior to the survey being commissioned. Therefore, previous habitat types have been estimated based on the remaining vegetation piles (located on site at the time of survey) and any bordering plant species remaining. The Site did comprise a small parcel of modified grassland (g4), but mostly bramble scrub; hd3 (dominated by bramble (*Rubus fruticosus*) and common nettle (*Urtica dioica*) with some ornamental shrubs such as arrow bamboo (*Pseudosassa japonica*) and butterfly bush (*Buddleia davidii*), a hardstanding driveway (u1b) and an old derelict outbuilding, previously used as a garage and workshop. There were no trees or hedgerows on site. The site location is shown on Figure 1.

¹ Priority habitats are habitats listed on the Section 41 list of the Natural Environment and Rural Communities Act 2006 (the NERC Act) as Habitats of Principal Importance in England or listed in local Biodiversity Action Plans.

² Species of conservation concern are species identified on published lists as being rare, vulnerable or declining, This includes priority species which are species which are listed on the Section 41 list of the NERC Act as Species of Principal Importance in England or species which are listed in local biodiversity action plans. Protected species are species protected under legislation.

Figure 1: Site Location



2.4 The Brief and Objectives

2.4.1 Nature's Cousins was commissioned on 2nd July 2024 to undertake a PEA for the project, including:

- * An ecological desk study;
- * A habitat survey;
- * Condition assessments to inform baseline biodiversity metric calculation; and
- * A report detailing results.

2.4.2 The objective of the appraisal was to identify constraints and opportunities related to ecology and biodiversity with respect to possible development of the site.

2.5 Limitations

2.5.1 The species data collated during the desk study is mainly derived from records submitted by members of the public and *ad hoc* surveys undertaken by volunteers. Therefore, it should not be taken as a definitive list of the protected species and other species of conservation concern that occur in the local area.

2.5.2 This report is based on the development boundary and layout provided by Wildern Architecture Ltd on the 2nd July. Subsequent changes may result in a requirement to reassess the potential impacts of the development and the requirements for avoidance, mitigation and enhancement.

- 2.5.3 .As the vegetation had already been cleared prior to the survey being completed, plant species estimates were made from limited remaining boundary vegetation and cleared vegetation piles as best as was possible at the time of survey. Therefore BNG pre assessments have been completed using this data (see Appendix 4).

3. Planning Policy and Legislation

- 3.1.1 National legislation and planning policy relating to ecology and biodiversity, relevant to the proposed works, is summarised below. Local policies relevant to the project are also described below.

- 3.1.2 This report refers to “ecological features” which include:

- ✧ Statutory designated sites for nature conservation;
- ✧ Non-statutory designated sites for nature conservation;
- ✧ Priority habitats for nature conservation, including ancient woodland;
- ✧ Protected species;
- ✧ Species of conservation concern; and
- ✧ Invasive non-native species.

Designated Sites

- 3.1.3 Designated sites for nature conservation are protected under UK legislation. Sites can be classified according to their levels of conservation importance. Sites may be considered of international, national or local conservation importance. Internationally important sites receive the highest level of protection.
- 3.1.4 Paragraph 180 of the National Planning Policy Framework, 2023 (NPPF) states that: “Planning policies and decisions should contribute to and enhance the natural and local environment by: a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan)”. In this guidance, which sets out the government’s planning policies for England and how they should be applied, “sites of biodiversity” are taken to include designated sites for conservation.
- 3.1.5 Paragraph 187 of the NPPF states that “The following should be given the same protection as habitats sites³:
- a) potential Special Protection Areas and possible Special Areas of Conservation;
 - b) listed or proposed Ramsar sites; and

³ Any site which would be included within the definition at regulation 8 of the Conservation of Habitats and Species Regulations 2017 for the purpose of those regulations, including candidate Special Areas of Conservation, Sites of Community Importance, Special Areas of Conservation, Special Protection Areas and any relevant Marine Sites.

c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.”

- 3.1.6 Statutory designated sites of national importance include Sites of Special Scientific Interest (SSSIs) which are protected under the Wildlife and Countryside Act 1984 (WCA), Countryside and Rights of Way Act 2000 (CRoW Act) and Natural Environment and Rural Communities Act 2006 (NERC Act). National Nature Reserves (NNRs) are a selection of the very best parts of England's SSSIs, protected under the WCA and CRoW Act.
- 3.1.7 Natural England's Impact Risk Zones (IRZ) for SSSIs (Natural England, 2021) is a GIS tool developed by Natural England to make a rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts. The IRZs also cover the interest features and sensitivities of European sites, which are underpinned by the SSSI designation and "Compensation Sites", which have been secured as compensation for impacts on European and Ramsar sites.
- 3.1.8 Development proposals situated within IRZs may require consultation between the Local Planning Authority and Natural England to discuss the potential impacts of a proposal upon the designated site.
- 3.1.9 Local Nature Reserves (LNRs) are statutory designated sites of local importance that receive protection under the National Parks and Access to the Countryside Act 1949. Local Planning Authorities are required to consult Natural England about all new proposals. An LNR can be given protection against damaging operations. It also has protection against development on and around it. This protection is usually given via the Local Plan⁴ (produced by the planning authority), and often supplemented by local bylaws. Unlike national designations, the level and type of protection afforded an LNR is decided locally and varies from site to site.
- 3.1.10 Non-statutory designated sites, such as Sites of Nature Conservation Interest (SNCI), Sites of Interest to Nature Conservation (SINC) and Local Wildlife Sites (LWSs) are of local importance. These sites are not protected under legislation. However, local authorities take account of local sites when formulating local plans and when considering planning applications.

Priority Habitats

- 3.1.11 In this report priority habitats for nature conservation include:
- * Habitats of Principal Importance listed under Section 41 of the NERC Act;
 - * Habitats listed under Local Biodiversity Action Plans (LBAPs); and

⁴ A plan for the future development of a local area, drawn up by the local planning authority in consultation with the community. In law this is described as the development plan documents adopted under the Planning and Compulsory Purchase Act 2004. A local plan can consist of either strategic or non-strategic policies, or a combination of the two.

- ✧ Ancient woodland.

- 3.1.12 Habitats of Principal Importance are listed under the NERC Act. Under Section 41 of the NERC Act, the Secretary of State must, as respects England, publish a list of the types of habitat which in the Secretary of State's opinion are of principal importance for the purpose of conserving biodiversity.
- 3.1.13 Section 40 of the Act places a duty on all public bodies, including planning authorities, to have regard for biodiversity in exercising their functions. Planning authorities should have particular regard to the Habitats of Principal Importance (priority habitats) listed under Section 41 of the Act which should be treated as a material consideration in the planning process.
- 3.1.14 Paragraph 185 of the NPPF states that to protect and enhance biodiversity and geodiversity, plans should "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." The NPPF defines "priority habitats and species" as "Species and Habitats of Principal Importance included in the England Biodiversity List published by the Secretary of State under section 41 of the Natural Environment and Rural Communities Act 2006".
- 3.1.15 Some habitats are described as 'irreplaceable habitat'. The NPPF describes these as habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen.
- 3.1.16 Ancient woodland is any area that's been wooded continuously since at least 1600AD⁵. Ancient woodland, as well as ancient and veteran trees, are regarded as an irreplaceable habitat⁶. Paragraph 186(c) of the NPPF states that "When determining planning applications, local planning authorities should apply the following principles: c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists ..."

Protected Species

- 3.1.17 Rare and declining plant and animal species in the UK are generally protected under national legislation. Such protection and species can be found in Appendix 2.
- 3.1.18 Species protected under the Habitat Regulations⁷ receive the highest level of protection in the UK. These species are considered to be of international importance because they are rare or declining in Europe as well as in the UK. These species are not only protected from killing and injury, but their breeding sites and resting places are also protected. These species include:

⁵ Ancient woodland includes 'ancient semi-natural woodland' (ASNW) and plantations on ancient woodland sites (PAWS).

⁶ <https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions>

⁷ These species are often referred to as European Protected Species (EPS) because the requirement to protect them under national legislation originally derives from the fact that these species are listed under the European Habitats Directive

- * Great-crested newt (*Triturus cristatus*), natterjack toad (*Epidalea calamita*) and pool frog (*Pelophylax lessonae*);
- * All bat species;
- * Hazel dormouse (*Muscardinus avellanarius*) and otter (*Lutra lutra*);

3.1.19 For the species listed above, the Habitats Regulations makes it an offence to:

- * Deliberately kill, injure, disturb or capture them;
- * Deliberately take or destroy their eggs;
- * Damage or destroy their breeding sites and resting places⁸; and
- * Possess, control or transport them (alive or dead).

3.1.20 The WCA also offers protections. In addition to the species listed above, which also receive some protection under the WCA (Section 9 (1)), protection under this legislation is given to prevent intentional (or reckless in Scotland) killing and injury⁹ of:

- * Common lizard (*Zootoca vivipara*), slow worm (*Anguis fragilis*), adder (*Vipera berus*) and grass snake (*Natrix helvetica*);
- * All wild birds; and
- * Water vole (*Arvicola amphibius*).

3.1.21 The WCA also provides additional protection for some species also protected under the Habitats Regulations. These species include great-crested newt, sand lizard, smooth snake, bats, dormouse, otter, large blue butterfly, Fisher's estuarine moths, and little ramshorn whirlpool snails, whereby it is also an offence under the WCA to intentionally or recklessly:

- * Disturb while they occupy a structure or place used for shelter or protection; and
- * Obstruct access to a place of shelter or protection.

Species of Conservation Concern

3.1.22 Other rare or declining species may not receive strict legal protection but may be recognised on published lists as species of conservation concern that should be protected as a matter of best practice.

3.1.23 Under Section 41 of the NERC Act, the Secretary of State must, publish a list of the living organisms which in the Secretary of State's opinion are species of principal importance for the purpose of conserving biodiversity. Planning authorities are required to have particular regard to these species and treat them as a material consideration in the planning process. Consideration of species of conservation concern during development projects is a requirement of the NERC Act which states that any "public authority must, in exercising its functions, have regard ... to the purpose of conserving biodiversity" and "conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat."

⁸ This applies even if the species is not present at the time when the damage or destruction occurs.

⁹ The WCA also protects many species from activities related to their sale, including: Selling, offering for sale, possessing or transporting for the purpose of the sale or publishing advertisements to buy or sell a protected species (WCA Section 9 (5)).

3.1.24 Further information can be found in Appendix 2.

Invasive Non-Native Plant Species

3.1.25 Invasive non-native plants are those listed as species of special concern because they cause severe problems for native UK plants and the environment.

3.1.26 The relevant legislation on invasive plant species is:

- ✧ Schedule 9 of the WCA; and
- ✧ Schedule 2 of the Invasive Alien Species (Enforcement and Permitting) Order 2019, which gives effect to EU regulations on the prevention and management of the spread of invasive alien species.

3.1.27 Both make it an offence to “plant or otherwise cause to grow in the wild” any plant species listed.

Local Planning Policy

3.1.28 **Arun District Council Local Plan** (Adopted 2011- 2031); Local Planning Policy DM5 on Development and Biodiversity states: “

Policy ENV DM5

Development and biodiversity

Development schemes shall, in the first instance, seek to achieve a net gain in biodiversity and protect existing habitats on site. They shall also however incorporate elements of biodiversity including green walls, roofs, bat and bird boxes as well as landscape features minimising adverse impacts on existing habitats (whether designated or not). Development schemes shall also be appropriately designed to facilitate the emergence of new habitats through the creation of links between habitat areas and open spaces. Together, these provide a network of green spaces which serve to reconnect isolated sites and facilitate species movement.

Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species, with details of measures to be incorporated into the development scheme to avoid loss of the species. This involves consideration of any impacts that will affect the species directly or indirectly, whether within the application site or in an area outside of the site, which may be indirectly affected by the proposals. All surveys shall be carried out at an appropriate time of year and shall be undertaken by a qualified and, where appropriate, suitably licensed person.

All developments shall have regard to Natural England's standing advice for protected species.

“ (Arun District Council, accessed July 2024). Therefore recommendations have been made in line with this planning policy.

4. Desk Study

4.1 Methods

4.1.1 A study area was defined to cover the site and all land within a 1km buffer area. Records for designated sites, ancient woodland and priority habitats were sought for the full 1km study area. Records for protected species, species of conservation concern and invasive non-native species were sought for a 1km study area. The site location and study areas are shown on Figure 1.

4.1.2 The search areas for biological records were deemed to be suitable based on the zone of influence for the works. The zone of influence for a project is defined as the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities (CIEEM, 2017). The development is small scale and the works will be short-term, furthermore, there will be no change in land use following the development.

4.1.3 Publicly available data sets were referenced to identify the location of statutory designated sites and priority habitats, including ancient woodland. Biological records were requested from the Local Environmental Records Centre (LERC) for records relating to species and non-statutory designated sites. The Natural England MAGIC website (<https://magic.defra.gov.uk>) was also consulted for biological records.

4.1.4 In addition to the records request, OS mapping was used to identify the presence of running (rivers and streams) and standing (lakes, ponds and ditches) water bodies within the 500m study area.

4.1.5 Sources of information were as follows:

Table 4.1: Sources of desk study data

Source	Summary of information provided
Sussex Environmental Record Centre	Desk study data of species and designated sites.
MAGIC	Priority habitats and waterbodies.

4.1.6 Requests for information were sent to the Local Environmental Record Centre, listed above, on 3rd July 2024, with results received from Sussex ERC on 15th July 2024.

4.1.7 Results were filtered to include only those relevant to the study area within 1km, and only those recorded in the last ten years. Results are presented in the following section.

4.1.8 Potential ecological constraints identified as a result of the desk study are presented in Section 7.

5. Habitat Survey

5.1 Methods

5.1.1 A survey area was defined as an area that encompassed the site. The survey area is shown on Figure 2.

5.1.2 A survey using the UK Habitat Classification system (UKHab) (Butcher *et al.*, 2023) was conducted throughout the survey area. This is a nationally recognised habitat classification system that is compatible with the DEFRA Biodiversity Metric for calculating biodiversity net gain values (DEFRA, 2023).

5.1.3 The UKHab has five hierarchical levels and includes the identification of priority habitats (Habitats of Principal Importance listed under the Natural Environment and Rural Communities Act 2006) and Annex I habitats as listed under the European Habitats Directive. The five levels are:

- ✧ Level 1 – Biomes/major ecosystems (terrestrial, freshwater and coastal);
- ✧ Level 2 – Ecosystem types (i.e. woodland, grassland, heathland and scrub);
- ✧ Level 3 – Broad Habitats, based on those of the UK Biodiversity Action Plan (UKBAP);
- ✧ Level 4 – Habitats, including priority habitats; and
- ✧ Level 5 – Habitats, including Annex I habitats.

5.1.4 During the field survey, the habitats in the survey area were mapped to the highest level possible.

5.1.5 Table 5.1 below shows the meta-data used for this survey.

Table 5.1: Habitat survey meta-data

Scope and purpose of the survey	Preliminary Ecological Appraisal (PEA)
Area surveyed	Site boundary
Edition of UKHab used	UKHab-Professional (V2)
Minimum Mapping Unit (MMU)	25m ² for areas, 5m for linear features
Level of UKHab Primary Hierarchy used	Level 5, where possible
List of Secondary Code groups recorded	All secondary codes
Additional attributes recorded	Habitat condition assessment
Map projection and units	Figure 3
Date of survey	5 th July 2024
Organisation and individual undertaking the survey	Nature's Cousins Grace Cousins, MCIEEM, MSc, BSc Hons
References for any existing datasets that have been used	Sussex Environmental Record Centre MAGIC Maps

§.1.6 The dominant and readily identified species of higher plant species from each habitat type within the survey area were recorded and their abundance was assessed on the DAFOR scale:

- ✧ D Dominant;
- ✧ A Abundant;
- ✧ F Frequent;
- ✧ O Occasional; and
- ✧ R Rare.

§.1.7 These scores represent the abundance within the defined area only and do not reflect national or regional abundances. Plant species nomenclature follows Stace (2019).

§.1.8 Target notes were made for any features which were too small to map but were of particular ecological interest.

§.1.9 Incidental records of fauna were also made during the survey and the habitats identified were evaluated for their potential to support protected species and other species of conservation concern, including priority species. However, no specific faunal surveys were undertaken.

6. Desk Study Results

6.1.1 The results of the desk study are summarised below and shown on Figure 3.

Designated Sites

6.1.2 There was one statutory designated site within the study area; Bognor Reef Site of Special Scientific Interest (SSSI), located 1.9km south of the Site.

6.1.3 There was one non-statutory designated sites within the study area, this is the Brooks Local Nature Reserve (LNR). Details of the designated sites are given in Table 6.1 below.

Table 6.1: Designated sites within the study area

Statutory Site	Central Grid Reference	Distance from Site	Description
Bognor Reef SSSI	SZ 912982	1.9km South	A strip of vegetated shingle, a rare habitat, with a small remnant area of dune which supports long-winged conehead grasshopper (<i>Conocephalus discolor</i>) and the nationally endangered childing pink (<i>Petrorhagia nanteuili</i>).
The Brooks LNR	SU 934 014	1.8km North	A small site comprising meadow, reedbed, ditch, permanent and ephemeral ponds, and newly planted floodplain woodland habitats supporting amphibians and wetland birds.

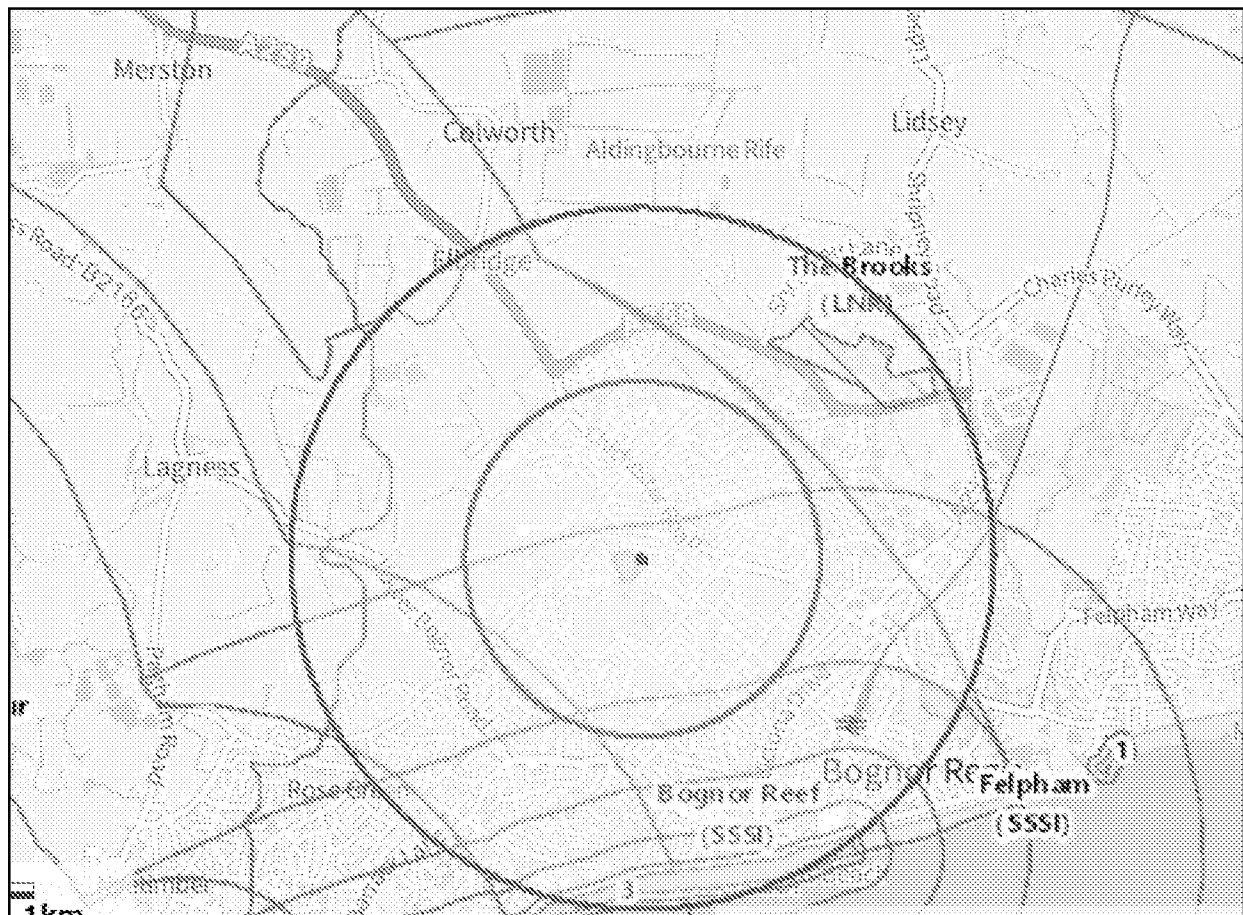


Figure 2: Designated sites within a 2km radius of the site

Ancient Woodland Outside Designated Sites

6.1.4 No parcels of ancient woodland were recorded within the study area.

Other Priority Habitats Outside Designated Sites

6.1.5 One type of priority habitat was identified within the study area; this included coastal floodplain grazing marsh, as summarised in Table 6.2. The locations are shown on Figure 2.

Table 6.2: Priority habitats within the study area

Priority Habitat type	Grid Reference of nearest parcel	Distance to site of nearest parcel (km)	Description
Coastal and Floodplain Grazing marsh	SU924012	0.95km	There is one parcels of coastal and floodplain grazing marsh within 1km

Protected Species and Species of Conservation Concern

- 6.18 A total of 145 protected species and species of conservation concern records were identified within the study area, the majority of which were bird species records. Details of the most notable species are given in Table 6.3. The records shown are those that have been submitted within the last fifteen years and occur within 1km. Grid references are provided for a maximum 100m resolution or reduced to this resolution when a higher accuracy grid was included.

Table 6.3: Species records derived from the desk study

Common name	Scientific name	CHSR ¹⁰ Schedule 2 or 5	WCA ¹¹ Schedule 1, 5 or 8	National Priority Species ¹²	Red Data Book/ BoCC ¹³	Year of most recent record	Grid Ref.	Distance from Site (km)	Source
Reptiles									
Slow Worm	<i>Anguis fragilis</i>		Schedule 5			2021	SZ92339993	0.6 S	Sussex BRC
Mammals									
European Water vole	<i>Arvicola amphibius</i>		Schedule 5	✓		2018	SU92650097	1.4 NE	Sussex BRC
European Hedgehog	<i>Erinaceus europaeus</i>			✓		2020	SU927002	0.6 SW	Sussex BRC
Western barbastelle	<i>Barbastella barbastellus</i>	✓	Schedule 5	✓	VU	2015	SU9101	1.4 NW	Sussex BRC
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	✓	Schedule 5			2011	SZ92099	-	Sussex BRC
Soprano pipistrelle	<i>Pipistrellus pumeaus</i>	✓	Schedule 5			2011	SZ91699	-	Sussex BRC

¹⁰ Conservation of Habitats and Species Regulations 2017, as amended¹¹ Wildlife and Countryside Act 1981, as amended¹² Species of Principal Importance within the relevant country of the United Kingdom¹³ Birds of Conservation Concern 5: the status of all regularly occurring birds in the United Kingdom, Channel Islands and the Isle of Man (Stanbury *et al.*, 2021)

Common name	Scientific name	CHSR ¹⁰ Schedule 2 or 5	WCA ¹¹ Schedule 1, 5 or 8	National Priority Species ¹²	Red Data Book/ BoCC ¹³	Year of most recent record	Grid Ref.	Distance from Site (km)	Source
Invertebrates									
Stag beetle	<i>Lucanus cervus</i>		Schedule 5	✓		2015	SU916011	0.51 N	Sussex BRC

Invasive Non-Native Species

6.1.7 There is one record for invasive non-native species (INNS) recorded within 1km of the survey area. These records are summarised in Table 6.4.

Table 6.4: Invasive non-native species

Common name	Scientific name	WCA Schedule 9 or Invasive Alien Species Order 2019	Year recorded	Source
Japanese knotweed	<i>Fallopia japonica</i>	WCA9_Mod	2016 (1km resolution record)	Sussex BRC

7. Habitat Survey Results

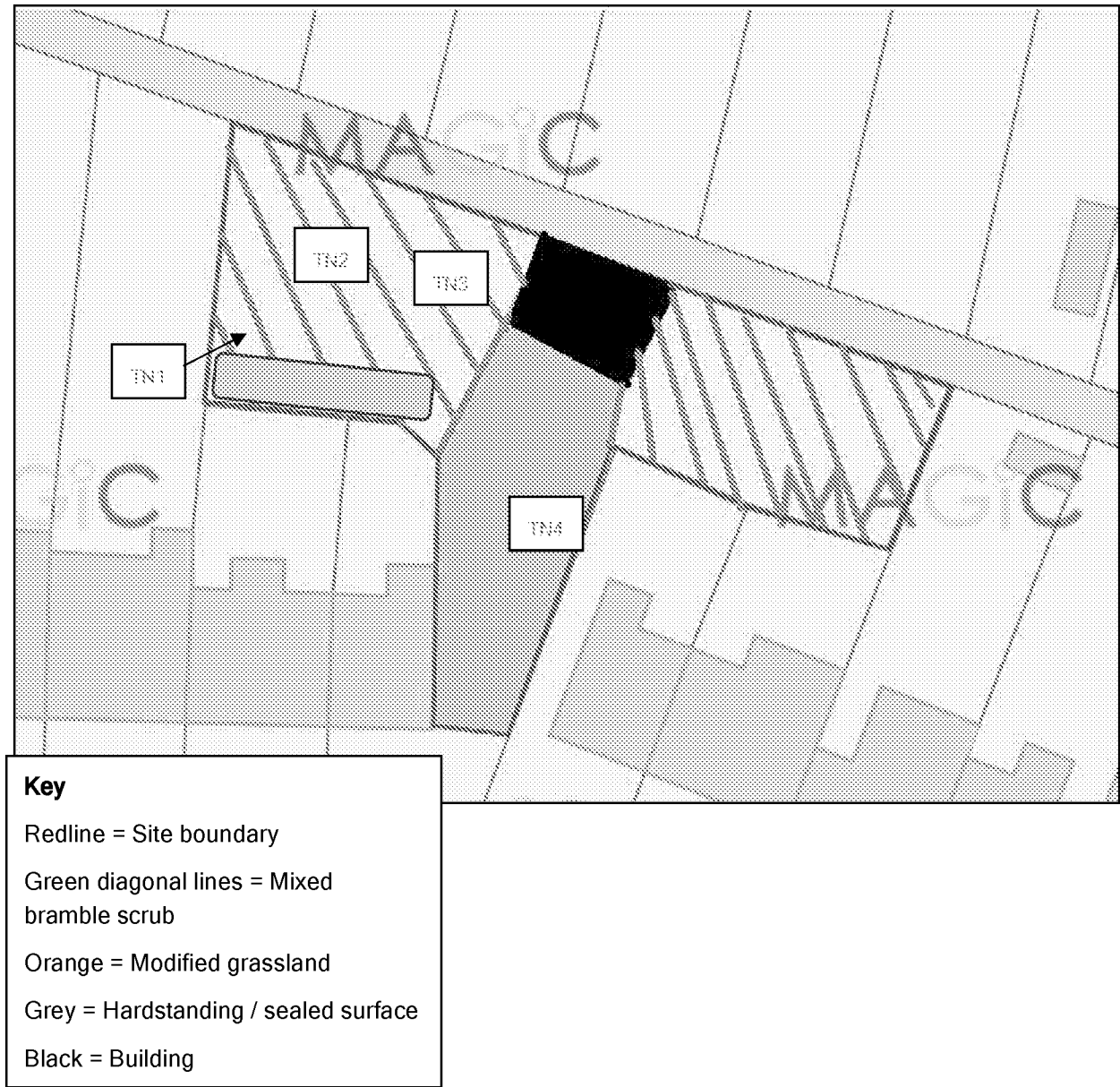
Habitats and Flora

7.1.1 The following UKHab habitat types were identified:

- ✧ u1b – Developed land, sealed surface (Appendix 1, Photograph 1);
- ✧ u1b5 – Building (Appendix 1, Photograph 2)
- ✧ h3d - Mixed Bramble Scrub (Appendix 1, Photograph 3)
- ✧ g4 – Modified Grassland (Appendix 1, Photograph 8)

7.1.2 These habitats are described below and their distribution is given on Figure 3.

Figure 3: UK Hab Results



u1b - Developed land, sealed surface

7.13 There is an area (approximately 168.6m² of developed land sealed surface (hardstanding) (u1b on Figure 3) in the entrance to the site and across the centre, previously used as a driveway to access the outbuilding (Appendix 1; Photographs 1 and 2). No species were recorded on the hardstanding and it scores 0 Biodiversity credits and cannot be given a condition score.

u1b5 - Buildings

- 7.1.4 There is an area (approximately 48.9m²) of building (u1b5 on Figure 3) to the north of the survey area. It is a dilapidated workshop and garage outbuilding in a poor state of repair, (Appendix 1; Photograph 2). The outbuilding was assessed for bats but has negligible potential to support roosting bats due to its dilapidated nature, damp and open exposure to the elements.

Hd3 – Mixed bramble scrub

- 7.1.5 There are two larger parcels of recently cleared bramble scrub (both approximately 187.1m²) to the east and west corners of the site (Figure 3). Dominant species recorded was bramble (*Rubus fruticosus agg*) with occasional nettles (*Urtica dioica*) and Abundant buddleia bush and arrow bamboo (both introduced non-native species). Condition of these parcels was Poor due to the presence of invasive species and lack of diversity.

g4 – Modified grassland

- 7.1.6 There is an area (approximately 68.2m²) of modified grassland (g4 on Figure 3) in the west of the survey area, associated with a former garden extension of 21 Greencourt Drive. The parcel had white clover (*Trifolium repens*), ribwort plantain (*Plantago lanceolata*), cock's-foot (*Dactylis glomerata*), meadow grass sp. (*Poa sp.*), daisy (*Bellis perennis*), broadleaf dock (*Rumex obtusifolius*), Yorkshire fog (*Holcus lanatus*) within the parcel. Species estimates were made from limited remaining boundary vegetation (Appendix 1, Photograph 8). Condition assessment of this grassland was poor.

Fauna

- 7.1.7 No fauna was recorded during the survey.

Target Notes

- 7.1.8 There are four target notes as shown on Figure 3.

- ✧ TN1 – Rubble pile
- ✧ TN2 – cleared vegetation pile
- ✧ TN3 – Buddleia & arrow bamboo
- ✧ TN4 – wood pile

7.2 Potential of the Site to Support any Protected Species

- 7.2.1 The former cleared Grassland and bramble scrub, and now the above target notes refugia piles would've had the potential to provide the following:

- ✧ Foraging, basking and commuting opportunities for common reptiles such as Slow worm;
- ✧ Foraging and commuting opportunities and shelter for hedgehog and other small mammals; and

- ✧ Foraging and nesting opportunities for common nesting birds.

7.2.2 However, since the site has already been cleared the current opportunities for reptiles and nesting birds are very limited. There is still potential for hedgehogs to reside in the site and rubble piles and wood piles and cleared vegetation piles. Care should be taken when dismantling and removing these piles from site. The outbuilding should be visually checked for nesting birds prior to its demolition.

8. Constraints, Opportunities and Recommendations

8.1 Designated Sites

- 8.1.1 It is very unlikely that the proposed works will have a direct effect on any of the designated sites identified during the desk study. This is because of their distance from the site and the absence of direct connectivity via habitat corridors or potential pollution pathways.

8.2 Priority Habitats

- 8.2.1 It is unlikely that the proposed works will have an effect on any of the priority habitats identified during the desk study. This is because of their distance from the site and the absence of direct connectivity via habitat corridors or potential pollution pathways.
- 8.2.2 Nonetheless, pollution from the construction phase of the development should be avoided, as dust and potential chemical spill from plant could enter the environment, so precautionary measures such as dampening down and spill kits should be used to minimise risk of environmental pollution.

8.3 Protected Species and Species of Conservation Concern

Great crested newt

- 8.3.1 The desk study returned no records for great crested newt, within 1km of the site, although the desk study identified the presence of waterbodies within the 500m search area that could provide suitable breeding sites for amphibians. There were no waterbodies present on site, therefore no suitable breeding opportunities for great crested newt, it is therefore unlikely they will be present on site or impacted by the proposed works.
- 8.3.2 Great crested newts are protected under the Habitats Regulations as described in Section 3 and Appendix 1, which means it would be an offence to kill or injure individual newts or to damage or destroy breeding sites or resting sites.

Badger

8.3.3

Hazel Dormouse

- 8.3.4 The desk study returned no records for hazel dormouse within the 1km study area and since clearance there is also no suitable habitat on site for them. The site is isolated from connected suitable habitat (such as woodland or hedgerows) for dormice therefore they have not been considered further.

Reptiles

- 8.3.5 The desk study returned two records of slow worm within the 1km study area, these were associated with a receptor site from a previous development project, located approximately 0.6km south of the site. Suitable habitat (in the form of former scrub and rubble piles) for reptiles was recorded to be present on the site but no reptiles were observed during the habitat survey. The legal protection afforded to reptiles is summarised in Section 3 and Appendix 1.
- 8.3.6 Removal of habitat suitable for supporting reptiles could result in the killing or injury of reptiles which would be an offence in the absence of appropriate mitigation.

Birds

- 8.3.7 Records of over 100 notable and protected bird species were returned in the desk study, these have not been mapped but current habitat on site is very limited for nesting birds. There is potential for common bird species, such as woodpigeon to nest within the dilapidated outbuilding, therefore a pre-check is recommended prior to demolition. As summarised in Section 3 and Appendix 2 all bird species are protected, including active nests.

Bats

- 8.3.8 Three bat species records were found within the 1km study area, these included flight records for common and soprano pipistrelle and a barbastelle bat which was captured and radiotracked in a neighbouring village. There were no trees recorded on the site with the potential to support roosting bats. A Preliminary Ground Level Roost Assessment (PGLRA) of the outbuilding shows negligible potential, due to a lack of features, access points, roosting points, and open, exposed and damp nature of the dilapidated building. Any lighting associated with the new bungalows should be kept to a minimum to avoid disturbance to foraging and commuting bats in the local area, and keep in-fitting with the neighbouring properties ambient light levels.
- 8.3.9 The legal protection afforded to bats is summarised in Section 3. Killing or injury of bats would be an offence, as well as damage or destruction of a roosting site.

Hedgehog

- 8.3.10 There were multiple records of hedgehog (*Erinaceus europaeus*) returned within the desk study within a 1km radius. Although hedgehog is not a protected species it is a species of conservation concern, suitable habitat for hedgehog was recorded on the site (on Figure 3) in the form of the target noted areas (rubble pile, wood pile, cleared vegetation piles) which may be suitable nesting sites for hedgehog and hibernation sites, therefore appropriate recommendations will be made with regard to hedgehog to carefully dismantle the piles prior to removal in case of any hedgehogs present. If any hedgehog (or other small mammals) are found residing in the rubble piles, they can be removed to neighbouring suitable habitat. Within the new bungalow gardens, a small hole (13cm by 13cm) should be installed within the boundary fences to allow free roaming access for hedgehogs.

Invertebrates

- 8.3.11 The desk study records were noted nearby for stag beetle. No suitable habitat was found on site at the time of the survey (since clearance), but further recommendations and enhancement suggestions have been made for this species, as they are known in the locality. The installation of a stag beetle hotel within the new garden is recommended to encourage the rare species.

8.4 Invasive Plant Species

- 8.4.1 The desk study found records for the presence of INNS within 1km of the survey area. These included Japanese Knotweed recorded to 1km resolution, so exact location is unknown. No evidence of Japanese Knotweed was recorded on site at the time of the survey. Two species of INNS was recorded on site during the habitat survey, these were Arrow bamboo (*Pseudosasa japonica*) and Buddleia bush (*Buddleja davidii*), recorded as Target Note 4 (Appendix 1; Photographs 5 and 6) . However, both these species had already been removed from site. Measures should be put in place to avoid further spread of these plants, and careful removal of their vegetative waste should be considered to avoid contamination of further ground.


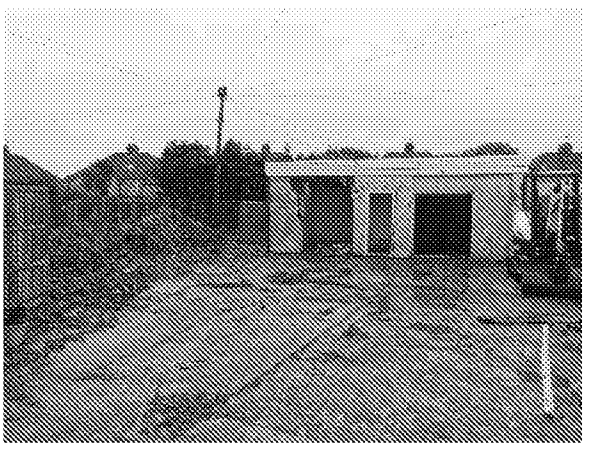


9. Summary of Recommendations & Enhancements


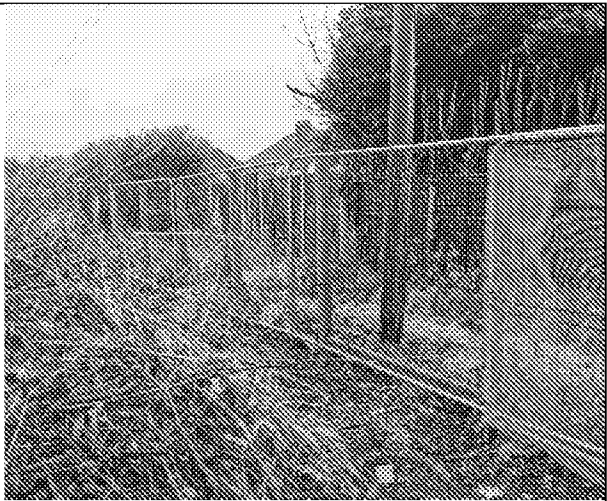
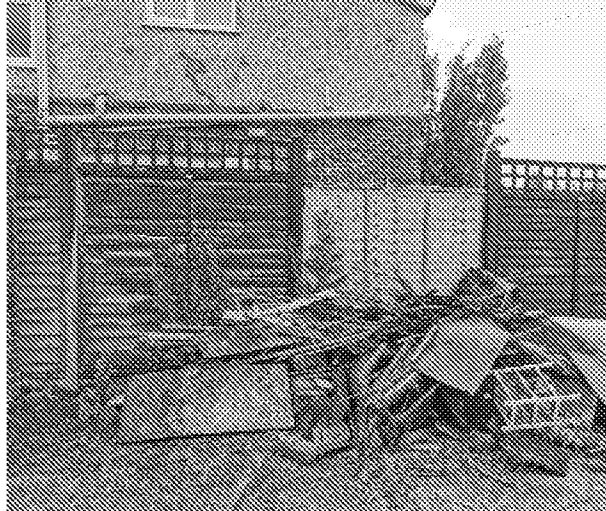

- 9.1.1 The Site may have had potential to support common reptile species. The site has since been cleared but individuals may be able to recolonise from the neighbouring gardens. Prior to the works taking place, it is recommended that the site is kept clear and unsuitable for reptiles to avoid risk of future disturbance and potential injury.
- 9.1.2 Check the outbuilding prior to demolition for the presence of any nesting birds
- 9.1.3 Minimise future lighting to avoid disturbance to foraging and commuting bats
- 9.1.4 Careful removal of remaining rubble piles and refugia piles from site to avoid disturbance to any reptiles, small mammals or hedgehogs that could reside in the piles.
- 9.1.5 Enhancement measures include the installation of hedgehog access holes, a stag beetle hotel (can be buried into the new gardens), the installation of bird boxes post development to provide additional nesting opportunities.
- 9.1.6 Plant as many local native species as possible within the new bungalow gardens and include these within a detailed landscape plan document in order to achieve 10% Biodiversity Net Gain. Hedgerow species are recommended around the boundary perimeter of the site and smaller standard trees within the gardens. A diverse grassland mix could be used for the gardens to further enhance biodiversity and opportunities for wildlife. If this is not possible within the current plans, then options could be made to provide off-site enhancement elsewhere, in order to meet the 10% net gain requirement.

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Appendix 1: Site Photographs

	
Photograph 1: Site entrance and hardstanding	Photograph 2: Dilapidated outbuilding
	
Photograph 3: Former cleared bramble scrub	Photograph 4: TN1: Rubble Pile

	
<p>Photograph 5: TN2: cleared vegetation pile</p>	<p>Photograph 6: TN3: Buddleia and arrow bamboo</p>
	
<p>Photograph 7: TN4: Rubbish and wood pile</p>	<p>Photograph 8: Evidence of former grassland</p>

Appendix 2: Plant Species and Abundance

u1b - Developed land; sealed surface

Common Name	Scientific Name	Abundance
Buddleia	<i>Buddleja sp.</i>	R

g4 – Modified Grassland

Common Name	Scientific Name	Abundance
Red clover	<i>Trifolium pratense</i>	O
White clover	<i>Trifolium repens</i>	O
Ribwort plantain	<i>Plantago lanceolata</i>	O
Cock's-foot	<i>Dactylis glomerata</i>	O
Meadow grass sp.	<i>Poa sp</i>	O
Daisy	<i>Bellis perennis</i>	O
Broadleaf dock	<i>Rumex obtusifolius</i>	O
Yorkshire fog	<i>Holcus lanatus</i>	O
Common ragwort	<i>Jacobaea vulgaris</i>	O
Creeping thistle	<i>Cirsium arvense</i>	R
Dandelion	<i>Taraxacum sp</i>	R

H3h – Bramble Scrub

Common Name	Scientific Name	Abundance
Common Bramble	<i>Rubus fruticosus (agg)</i>	D
Arrow bamboo	<i>Pseudosasa japonica</i>	A
Butterfly bush	<i>Buddleja davidii</i>	A

Appendix 3: Protected Species Legislation

Protected Species

Rare and declining plant and animal species in the UK are generally protected under national legislation

Species protected under the Habitat Regulations¹⁴ receive the highest level of protection in the UK. These species can be considered to be of international importance because they are rare or declining in Europe as well as in the UK. These species are not only protected from killing and injury, but their breeding sites and resting places are also protected. These species include:

- ✧ **great crested newt** (*Triturus cristatus*), **natterjack toad** (*Epidalea calamita*) and **pool frog** (*Pelophylax lessonae*);
- ✧ **sand lizard** (*Lacerta agilis*) and **smooth snake** (*Coronella austriaca*);
- ✧ **all bat species**;
- ✧ **hazel dormouse** (*Muscardinus avellanarius*) and **otter** (*Lutra lutra*);
- ✧ **large blue butterfly** (eggs, caterpillars, chrysalises and adults)
- ✧ **Fisher's estuarine moth** (eggs, caterpillars, chrysalises and adults)
- ✧ **little ramshorn whirlpool snail**

For the species listed above the Habitats Regulations, makes it an offence to:

- ✧ deliberately kill, injure, disturb or capture them;
- ✧ deliberately take or destroy their eggs;
- ✧ damage or destroy their breeding sites and resting places¹⁵; and
- ✧ possess, control or transport them (alive or dead).

The WCA also offers protections. In addition to the species listed above, which also receive some protection under the WCA (Section 9 (1)), protection under this legislation is given to prevent intentional (or reckless in Scotland) killing and injury¹⁶ of:

- ✧ **common lizard** (*Zootoca vivipara*), **slow worm** (*Anguis fragilis*), **adder** (*Vipera berus*) and **grass snake** (*Natrix helvetica*);
- ✧ **all wild birds**; and
- ✧ **water vole** (*Arvicola amphibius*).

The WCA also provides additional protection for some species also protected under the Habitats Regulations. These species include **GCN, sand lizard, smooth snake, bats, dormouse, otter, large blue butterfly, Fisher's estuarine moths, little ramshorn whirlpool snails** whereby it is also an offence under the WCA to intentionally or recklessly:

- ✧ disturb while they occupy a structure or place used for shelter or protection; and

¹⁴ These species are often referred to as European Protected Species (EPS) because the requirement to protect them under national legislation originally derives from the fact that these species are listed under the European Habitats Directive

¹⁵ This applies even if the species is not present at the time when the damage or destruction occurs.

¹⁶ The WCA also protects many species from activities related to their sale, including: Selling, offering for sale, possessing or transporting for the purpose of the sale or publishing advertisements to buy or sell a protected species (WCA Section 9 (5)).

- ✧ obstruct access to a place of shelter or protection.

In the case of **birds**, as well as birds being protected from killing or injury, it is also an offence to take, damage or destroy a nest that's in use or being built, and to take or destroy eggs. Additional protection applies to specific birds listed in Schedule 1 of the WCA, meaning it is also an offence to intentionally or recklessly disturb these species when: on, or near a nest containing eggs or young; when it's building a nest; or when the nest is active with dependent young.

Badger (*Meles meles*) receive protection under the **Protection of Badgers Act 1992**. Whereby it would be an offence to: take, injure or kill a badger - or attempt these actions; treat a badger cruelly; interfere with a badger sett; possess or control a live badger; mark or ring a badger.

Other mammal species including **rabbit** (*Oryctolagus cuniculus*), **fox** (*Vulpes vulpes*) and **hedgehog** (*Erinaceus europaeus*) are protected under the **Wild Mammals (Protection) Act 1996**, which makes it an offence to inflict any unnecessary suffering, including crushing or asphyxiation of a wild mammal..

Some plants are listed on schedule 5 of the Habitat Regulations. For these species it is an offence to: deliberately pick, collect, cut, uproot or destroy them; or possess, control or transport them (alive or dead).

Species of conservation concern

Other rare or declining species may not receive strict legal protection but may be recognised on published lists as species of conservation concern that should be protected as a matter of best practice.

Under Section 41 of the NERC Act, the Secretary of State must, publish a list of the living organisms which in the Secretary of State's opinion are **species of principal importance** for the purpose of conserving biodiversity. Planning authorities are required to have particular regard to these species and treat them as a material consideration in the planning process. Consideration of species of conservation concern during development projects is a requirement of the NERC Act which states that any "public authority must, in exercising its functions, have regard ... to the purpose of conserving biodiversity" and "conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat."

Most protected species are also listed as species of principal importance.

Species of principal importance or species listed on Local Biodiversity Action Plans (LBAPs) are often referred to as 'priority species'.

Species of amphibian not protected from killing and injury under the WCA but listed as species of principal importance include: **common toad** (*Bufo bufo*).

All native **reptile species** in England are species of principal importance.

Otter, water vole, hazel dormouse, several species of bats are listed as species of principle importance under Section 41 of the NERC Act.

Rare or declining **bird species** are listed as red or amber in **Birds of Conservation Concern (BOCC)** (Stanbury *et al.*, 2021) a list that is periodically updated. Some wild birds are listed as

species of principal importance under Section 41 of the NERC Act and species may also be listed in Local Biodiversity Action Plans.

Invasive Non-Native Plant Species

Invasive non-native plants are those listed as species of special concern because they cause severe problems for native UK plants and the environment.

The relevant legislation on invasive plant species is:

- ✧ Schedule 9 of the WCA; and
- ✧ Schedule 2 of the Invasive Alien Species (Enforcement and Permitting) Order 2019, which gives effect to EU regulations on the prevention and management of the spread of invasive alien species.

Both make it an offence to “plant or otherwise cause to grow in the wild” any plant species listed.

Appendix 4: The Statutory Biodiversity Metric & Net Gain Pre Calculations

As the site has already been cleared (prior to the survey) an estimated pre-calculation has been made in order to establish the site's baseline biodiversity value. This has been done using the following methodology:

Methods

The Statutory Biodiversity Metric quantifies losses and gains in biodiversity in terms of biodiversity units.

The metric calculates the biodiversity value by multiplying the area or length (hectares or kilometre), distinctiveness (habitat type), condition (quality) and strategic significance (local significance for biodiversity) of each habitat parcel. To calculate the biodiversity units which may be achieved post-development, risk multipliers are also introduced to account for difficulty of habitat creation (delivery/risk factor) and time for created habitats to reach target condition (time to target factor). The calculations were carried out using the statutory biodiversity metric calculation tool for calculating biodiversity net gain values (Defra, 2023a).

The baseline biodiversity unit calculation in this report represents the biodiversity value of the site as it currently stands. The anticipated future biodiversity units for the site, following habitat creation and enhancement, have also been determined. The net change in biodiversity units was then calculated by subtracting the number of baseline biodiversity units from the future number of post-development biodiversity units to get the number of biodiversity units that will be created or lost by the proposed works. If this number is positive, the development has achieved biodiversity net gain. If the number is negative, there is a loss.

Area based habitats, hedgerow habitats and river habitats are considered separately in the tool to account for the differences in their ecological values and functions.

Baseline Formula

The baseline biodiversity value calculation represents the pre-development biodiversity value of the site as it was at the time that the baseline habitat survey was undertaken.

To calculate the baseline biodiversity value, habitat distinctiveness and condition are given numerical 'scores' which are multiplied with hectares or kilometres of habitat. The formula for calculating baseline biodiversity units is as follows:

Where:

- A = Area (ha) or Length (km)
- D = Distinctiveness
- Q = Condition

- S = Strategic Significance
- AHBU = Area or Length-based Habitat Biodiversity Units

Distinctiveness

Each habitat parcel is assigned a multiplier based on habitat distinctiveness. This includes '*consideration of species richness and rarity; the extent to which the habitat is protected by designations; and the degree to which a habitat supports species rarely found in other habitats*' (Defra, 2023b).

Habitats such as hard standing and buildings are assumed to have very low distinctiveness and are not included.

Condition

10.1.12 To enable the calculation of BNG units, an assessment of the condition of each habitat was made in the field in accordance with the statutory biodiversity metric condition assessments (Defra, 2023c). These sheets provide a series of condition assessment criteria, specific to each habitat type. Once all applicable criteria have been assessed, a condition score of good, moderate or poor is applied, based on the scoring instructions provided within the condition sheets.

10.1.13 **The condition of habitats such as hard standing and buildings is not assessed**

Strategic Significance

The location of habitat parcels is factored into the calculation based on whether it has been identified as significant for nature conservation within local plans and strategies.

10.1.14 Following the field survey, the data was used to carry out a biodiversity metric calculation using the statutory biodiversity metric calculation tool for calculating biodiversity net gain values published by DEFRA: <https://www.gov.uk/government/publications/statutory-biodiversity-metric-tools-and-guides>

1.2 Results

A summary of the baseline Biodiversity Metric Tool is shown on Table 10.1.

Table 10.1 On-site baseline biodiversity units

Existing Area Habitats			Distinctiveness	Condition		Strategic significance	Required Action to Meet Trading Rules	Ecological Baseline			
Parcel	Habitat Type	Irreplaceable Habitat	Area (ha)	Distinctiveness	Score	Condition			Strategic Significance		Total Habitat Units
H3d	Bramble scrub	No	0.037	Medium	4	Poor	1	Area/ compensation not in local strategy	1	Same broad habitat or a higher distinctiveness habitat required (\geq)	0.15
G4	Modified Grassland	No	0.007	Medium	4	Poor	1	Area/ compensation not in local strategy	1	Same broad habitat or a higher distinctiveness habitat required (\geq)	0.13

Therefore the total biodiversity units of the site (pre development) are:

Sealed surface / hardstanding & buildings = 0 (can't be assessed under the metric)

Mixed scrub & modified grassland = **0.28**

The on-site baseline biodiversity unit value is currently 0.28 habitat units, a total of 0.308 units will be required in order to achieve the 10% biodiversity net gain.

Further BNG Recommendations:

Based on the current proposed plans (July, 2024) and the space available on site, it is unlikely that the 10% net gain can be achieved on site, and therefore off-site biodiversity offsetting is recommended. (Environment Bank can be contacted to make land purchase for biodiversity offsetting credits) in order to be compliant with legislation & local planning policy. Please note, a landscape plan was not available at the time of assessment.

In order to achieve a higher net gain score, it is recommended that the existing boundary fence is replaced and planted with native hedgerow species and the gardens of both the proposed bungalows are seeded with a species rich grassland seed mix of local provenance to the area. Additional standard trees are also recommended to be planted such as Field Maple and Cherry trees.