

**LA CASA, COASTAL ROAD, EAST PRESTON,
LITTLEHAMPTON, WEST SUSSEX**

ECOLOGICAL IMPACT ASSESSMENT

Final Document (Revision 1)

November 2020

Preliminary Ecological Appraisals • Protected Species Surveys and Licensing • NVC • EclA • HRA • Management Plans
Habitats • Badger • Bats • Hazel Dormouse • Birds • Reptiles • Amphibians • Invertebrates • Riparian and Aquatic Species

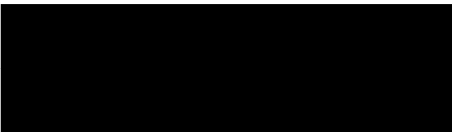
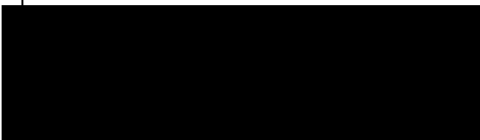
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ECOLOGICAL IMPACT ASSESSMENT

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EXECUTIVE SUMMARY

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by St Charles Homes Ltd to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of La Casa, East Preston. The site is located in East Preston, West Sussex and comprises a residential house and garden. The proposals entail the demolition of the existing property for the construction of a replacement dwelling.

The main findings of the Ecological Impact Assessment are:

- The Ecological Impact Assessment identified scattered scrub and scattered trees as being the habitats of greatest ecological importance in the context of the site.
- Habitats on site provide suitability for a range of protected species including foraging and commuting bats, badger, breeding birds, reptiles, great crested newt and European hedgehog.
- Adverse impacts on these ecological features have been identified and mitigation measures proposed including sensitive timings of works and precautionary working methods in relation to reptiles and great crested newt.
- The site will be enhanced for a range of species through the provision of new landscape planting and through the installation of bat and bird boxes.
- If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 18 months of the date of the most recent relevant survey.

1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been appointed by St. Charles Homes Ltd to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of La Casa, Coastal Road, East Preston, Littlehampton, West Sussex BN16 1SN (hereafter referred to as the site).

1.2 The Site

The site is located in East Preston, West Sussex, centred on National Grid Reference (NGR) TQ 0782 0157 (**Map 1**). The Phase 1 habitat map (**Map 2**) depicts the boundary of the site.

The site covers approximately 0.1 hectares and comprises a residential house and garden. Coastal Road forms the northern site boundary with further residential properties located to the east and west. To the south lies an area of open green space which then leads to Kingston Beach and the south coast.

The surrounding landscape is dominated by residential development associated with East Preston, Goring-By-Sea and Littlehampton. North of Coastal Road, agricultural fields separate the surrounding towns. A railway line is located some 1.3 kilometres north of the site and the Ferring Rife watercourse lies 1.2 kilometres east.

1.3 Aims and Scope of Report

The information within this report is based on a field survey and desktop study and relevant species-specific surveys carried out between July 2020 and September 2020. The report describes the habitats and species (hereafter referred to as ecological features) within the site's Zone of Influence (Paragraph 3.2), and provides a detailed assessment of potential ecological effects of the proposed development of the site. It identifies the need for any measures to avoid, mitigate or compensate for significant adverse effects¹ ecological features and outlines enhancements to the site's ecology to be implemented as part of the development. The objectives of the assessment are:

- To provide baseline information on ecological features within the site's Zone of Influence and determine the importance of these features;
- To assess, characterise and quantify the effects on ecological features, including cumulative effects, and identify significant effects in the absence of any mitigation;

¹ For the purposes of this assessment a 'significant' adverse effect is one which will have an adverse effect on the ecological feature at the site level or higher.

- To set out measures to avoid, mitigate and compensate for significant ecological effects in accordance with the 'mitigation hierarchy'²;
- To provide an assessment of the significance of any residual effects;
- To outline opportunities for enhancement in order to achieve a net gain for biodiversity; and
- To set out the requirements for any post-construction monitoring.

1.4 Site Proposals

The proposals entail the demolition of the existing house and the construction of a replacement residential dwelling with new landscaping.

The Ecological Impact Assessment is based on the Proposed Site Layout & Landscaping, Street Scene, Parking Plan produced by St. Charles Homes Ltd, dated 16th June 2020 (**Appendix 1**).

Planning permission is being sought during October 2020 with construction proposed to commence soon after permission has been granted.

² In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2018) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

2.0 PLANNING POLICY CONTEXT

2.1 Introduction

This section summarises the planning policy in relation to ecology and biodiversity within the Arun District Council administrative area. This information is then used to assess the compliance of the scheme in relation to relevant planning policy and where necessary make recommendations for mitigation, compensation and enhancements (see Section 5.0).

2.2 National Policy

The National Planning Policy Framework (NPPF) sets out the government's requirements for the planning system in England. The original document was published in 2012 with a revised NPPF published in February 2019. A number of sections of the NPPF are relevant when taking into account development proposals and the environment. As set out within Paragraph 11 of the NPPF *"Plans and decisions should apply a presumption in favour of sustainable development"*. However, Paragraph 177 goes on to state that *"The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site."*

The NPPF sets out that development proposals should not only minimise the impacts on biodiversity but also to provide enhancement. Paragraph 170 states that the planning system should contribute to and enhance the natural environment by *"...minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures..."*.

A number of principles are set out in Paragraph 175, including that where harm cannot be adequately avoided then it should be mitigated for, or as a last resort, compensated for. Where impacts occur on nationally designated sites, the benefits must clearly outweigh any adverse impact and incorporating biodiversity in and around developments should be encouraged. Specific reference is also made to the protection of irreplaceable habitats³, including ancient woodland⁴. Where loss to irreplaceable habitats occurs planning permission would normally be refused unless there are wholly exceptional reasons and an adequate compensation strategy is in place. Paragraph

³ The NPPF defines irreplaceable habitats 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."*

⁴ Natural England defines ancient woodland as *"An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS)."*

175 also states “*development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity*”. Protection of sites proposed as SPAs, SACs and Ramsar sites or acting as compensation for SPAs, SACs and Ramsar sites, should receive the same protection as habitat sites.

In addition to the NPPF, Circular 06/05 provides guidance on the application of the law relating to planning and nature conservation as it applies in England. Paragraph 98 states “*the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat*”. Paragraph 99 states “*it is essential that the presence or otherwise of a protected species, and the extent that they may be affected by the Proposed Project Development, is established before planning permission is granted*”.

2.3 Local Policy

Local planning policy within Arun District is provided by the saved policies within the Arun District Local Plan 2011-2031. These are summarised below:

Policy ENV SP1: Natural Environment

- Development will be permitted where it protects the following sites that are recognised for the species and habitat contained within them: Pagham Harbour Ramsar site, SPA and SSSI, Arun Valley SAC and SPA, Solent and Dorset Coast SPA, Bognor Reef SSSI, Felpham SSSI and Climping Beach SSSI.

Policy ENV DM1: Designated Sites of Biodiversity or Geological Importance

- Proposed development likely to have adverse effects on the designated sites mentioned above, will not normally be permitted, unless:
 - There is no alternative solution;
 - There are reasons of public health or public safety;
 - There are benefits of primary importance to the environment; or
 - There are imperative reasons of overriding public interest.

Policy ENV DM2: Pagham Harbour

- Development within 0-400 metres of the site will only be permitted in exceptional circumstances where the developer is able to demonstrate there will be no detrimental effects on Pagham Harbour. New residential development within 0-5 kilometres of the site will be required to make developer contributions towards the agreed strategic approach, and/or create easily accessible new green spaces for recreation.

Policy ENV DM3: Biodiversity Opportunity Areas

- Development shall retain and sympathetically incorporate locally valued and important habitats, including wildlife corridors and stepping stones, and be designed in order to minimise disturbance to habitats. Where a development scheme would result in habitat loss, mitigation measures will be proposed and agreed with the LPA prior to determination of any planning application.

Policy ENV DM5: Development and Biodiversity

- Development schemes shall, in the first instance, seek to achieve a net gain in diversity and protect existing habitats on site. They shall also incorporate elements of biodiversity including green walls, roofs, bat and bird boxes as well as landscape features. Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species and consideration of potential impacts.

3.0 METHODS

3.1 Introduction

This section details the methods employed during the Ecological Impact Assessment. Any significant limitations to the assessment are also considered.

3.2 Zone of Influence

To define the total extent of the study area for this assessment, the proposed scheme was reviewed to establish the spatial scale at which ecological features could be affected⁵. The appropriate survey radii for the various elements of the assessment (i.e. desktop study, field survey and species-specific surveys) have been defined in the relevant sections below. These distances are determined based on the professional judgement of the ecologist leading the appraisal, taking into account the characteristics of the site subject to assessment, its surroundings and the nature of the proposals.

3.3 Scoping

Protected species considered within the Ecological Impact Assessment are those species/species groups considered likely to be encountered given the geographical location and context of the site. Where the site was found to be suitable to support these species/species groups, and adverse effects cannot be avoided from the outset, further species-specific surveys are undertaken. These are discussed within the results section (Section 4.0) of the current report. Where such a species is unlikely to be present on site a justification for likely absence is provided. Species considered likely absent from the site are not then considered in the assessment of ecological effects and mitigation/compensation measures section (Section 5.0) of this report.

3.4 Desk Study

A full biological record centre desktop study was not undertaken as part of this assessment. This was not considered necessary given the limited scale of impacts and the nature of on-site and surrounding habitats.

3.4.1 Multi-Agency Geographic Information for the Countryside

The Multi-Agency Geographic Information for the Countryside (MAGIC) database (DEFRA, 2020) was reviewed on 29th September 2020 to establish the location of statutory designated sites located within the vicinity of the site. This included a search for all internationally and nationally designated sites such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Wetlands of International Importance (Ramsar sites), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs) within one kilometre of the site. See

⁵ The Zone of Influence (Zoi), as defined by CIEEM, is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities (CIEEM, 2018).

Appendix 2 for details. Where appropriate, the desk study search area has been extended to take account of any appropriate statutory designated sites which need consideration in terms of potential in-direct effects and which support particularly mobile species, particularly those specifically mentioned in local planning policy. The Impact Risk Zones (IRZ) were also obtained from MAGIC, which are used to help guide and assess planning applications for likely effects on SSSIs.

Sites within two kilometres of the site boundary where European Protected Species Mitigation (EPSM) licences have been granted were reviewed. This information allows a greater understanding of the potential for European protected species to be present in the local area.

3.4.2 Other Sources of Information

Online mapping resources, at an appropriate scale, were used to identify the presence of habitats such as woodland blocks, ponds, watercourses and hedgerows, in the vicinity of the site. These habitats may offer resources and connectivity between the site and suitable habitat in the local area, which may be exploited by local species populations.

The presence of ponds or other waterbodies within a 500 metre radius of the site in particular are noted in relation to great crested newt. The 500 metre radius is a standardised search radius to assist in the assessment of the suitability of a site and its surrounding habitat to support this species, based on current Natural England guidance (English Nature, 2001).

3.5 Field Survey

3.5.1 Survey Methods

The field survey broadly followed standard Phase 1 habitat survey methodology (JNCC, 2010) and included a search for evidence of, and an assessment of the site's suitability to support, protected and notable species as recommended by CIEEM (CIEEM, 2017). The field survey covered all accessible areas of the site, including boundary features. Habitats described in Section 4.0, have been mapped (**Map 2**) and photographs provided, where relevant. For ease of reference, Target Notes (TN) depict locations of particular ecological interest or features which are too small to map.

Phase 1 Habitat Survey

An assessment was made of all areas of vegetation within the site based on the standardised Phase 1 habitat survey methodology (JNCC, 2010)⁶. This involved

⁶ The standard JNCC Phase 1 habitat survey methodology involves the production of a Phase 1 map showing the location and extent of habitat types, however, given the limited size and complexity of the site surveyed a Phase 1 habitat map has not been produced in this instance.

identification of broad vegetation types, which were then classified against Phase 1 habitat types, where appropriate. A list of characteristic plant species for each vegetation type was compiled and any invasive species⁷ encountered as an incidental result of the survey recorded.

Protected and Notable Species Appraisal

A preliminary appraisal of the site's suitability to support legally protected and notable species was carried out. Specific methods for species/species groups considered during the appraisal are provided in **Appendix 4**.

3.5.2 Survey Details

The field survey was carried out by Helen Butt, Ecologist of ECOSA on 16th July 2020. The weather conditions were dry with approximately 40% cloud cover, an ambient temperature of 20°C and a moderate breeze.

During the survey, the surveyor was equipped with a ladder, 10x40 binoculars, a high powered torch and a digital camera.

3.5.3 Field Survey Limitations

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The field survey has therefore not produced a complete list of plants and animals and in the absence of evidence of any particular species should not be taken as conclusive proof that the species is absent or that it will not occur in the future.

Online mapping resources provide an indication of habitat features present in the wider area, but do not provide a detailed assessment of habitat types.

Not all potential bat roosting features are accessible to the surveyor, e.g. gaps beneath roof materials or holes or cracks in trees, and therefore assessments are based upon the potential for these features to provide suitable roosting opportunities.

During the survey no internal access was possible to the internal, unoccupied areas of the building as the building is in a poor state of repair and would be dangerous to enter. As such, an external inspection only was undertaken.

It is not always possible to provide definitive assessments of a species' presence/likely absence at a site and so in the absence of direct evidence, assessments and recommendations are based on the presence of suitable habitat within/adjacent to a site and the results of species records within the desk study data.

⁷ Plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). The survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

3.6 Bat Survey

3.6.1 Survey Methods

Bat Emergence Survey

A single dusk emergence survey was undertaken in order to ascertain the presence/likely absence of roosting bats from within the building. Where the presence of roosting bats is confirmed the data also allows for an assessment of the status of the roost present.

The dusk emergence survey commenced approximately 15 minutes before sunset until approximately two hours after sunset.

The surveys were carried out by three experienced ECOSA surveyors, positioned at previously identified vantage points around the building. These vantage point locations allowed a sufficient coverage of the Potential Roosting Features identified on the building impacted by the proposals.

During the survey surveyors recorded the time, species, location and direction of flight for each bat encountered, with particular attention paid to establishing bat access/egress locations to any roosts within the building.

3.6.2 Survey Details

Bat Emergence Survey

The bat emergence survey was undertaken on 22nd September 2020. **Table 1** provides details of the emergence survey.

Table 1: Bat emergence survey details

Survey Date	Survey Type	Survey Timings	Weather Conditions	Sunset/ Sunrise Time
22 nd September 2020	Emergence	Start: 18:46 End: 20:31	General conditions: Dry Start temp: 17.5°C End temp: 12.5°C Cloud Cover: 100-20% Wind Speed: WF4-2	19:01

During the bat emergence survey the surveyors were equipped with Pettersson D240x time expansion bat detectors. The Pettersson detectors were connected to Edirol R-05 recorders for the full duration of the survey. Recordings made with the detectors were later analysed using Sonobat® (v2.9.7) to confirm the identity of any species encountered.

The bat emergence/re-entry surveys were coordinated by Helen Butt, Ecologist, of ECOSA (Natural England Bat Licence 2019-43016-CLS-CLS) assisted by suitably qualified and experienced ECOSA surveyors Hugh Turner (Natural England Bat Licence 2017-32632-CLS-CLS), David Miller and Hannah Gunn.

3.6.3 Survey Limitations

Some bat species, e.g. long-eared bats *Plecotus* species⁸, generally emerge from their roosts in total darkness and do not produce strong echolocations, and therefore these bats can be difficult to observe and record during bat surveys, leading to under-recording.

As a result of the time of year which the survey was commissioned it was not possible to complete a single emergence survey within the peak bat survey season of May to August (inclusive) as recommended within the Bat Conservation Trust guidelines. As such, there is a greater risk that bats will have left summer roosts and may not have been recorded during the survey.

The quality of hand-held bat detector recordings is based, to a large extent, on the proximity of a bat to the detector's microphone. Obstructions such as vegetation or environmental variables such as rainfall and wind noise from vegetation will all influence the quality of sound reaching the microphone and thus some bat echolocation recordings are of insufficient quality for specific identification. Bats routinely alter their echolocations in relation to behaviour and their environment. It is not always possible to make a robust identification of every bat recording.

The use of bat detectors is likely to result in the under-recording of a percentage of bats present, such as those flying at height (Collins & Jones, 2009), which would be out of the recording range for the detectors.

3.7 Criteria used to Assess Ecological Value

The evaluation criteria used in this report are based on ECOSA's professional judgement and publicly available publications, survey data and other sources as referenced in the main text. The evaluation is based on a sliding scale of importance as follows; international and European, national, regional, county, local and site. There are a wide range of characteristics which contribute to the importance of ecological features, and these may justify an increase or reduction in the value of an ecological feature. Where deviations occur, these will be explained in the evaluation section of

⁸ There are two species of long-eared bat, the brown long-eared bat *Plecotus auritus* and the grey long-eared bat *Plecotus austriacus*. These species can only be separated by examination of physical characteristics and Phylogenetic Analysis Identification of bat droppings. Unless confirmation of identification has been made by visual identification the two species shall be referred to in this report as long-eared bat. The brown long-eared bat is the commonest of the two species typically being found roosting within large roof voids although small voids and trees are also utilised. The grey long-eared bat is rare and confined to southern England and like the brown long-eared typically roosts in roof voids.

this report (Section 4.0). Current published relevant guidance, including information sources such as A Nature Conservation Review (Ratcliffe, 1977) and Guidelines for Ecological Impact Assessment in the United Kingdom (CIEEM, 2018) have also been used to inform the assessment.

4.0 BASELINE ECOLOGICAL CONDITIONS AND EVALUATION

4.1 Introduction

This section details the results of the Ecological Impact Assessment undertaken for the site. It assesses the baseline ecological conditions of the site at the time the desktop study was completed and based on the findings of the field survey and subsequent protected species surveys. This section also provides an assessment of the ecological value of ecological features present at the site.

4.2 Statutory Designated Sites

4.2.1 Baseline Ecological Conditions

There are no statutory designated sites of nature conservation interest situated within one kilometre of the site boundary.

4.3 Habitats

4.3.1 Baseline Ecological Conditions

Desktop Study Results

A review of MAGIC revealed the presence of a number of notable habitats within one kilometre of the site boundary including coastal vegetation shingle located 40 metres south associated with Kingston Beach and deciduous woodland 360 metres north-east.

Field Survey Results

Habitats within the site are shown on the Phase 1 Habitat Map (**Map 2**), Target Notes and photographs have been provided as appropriate, Target Notes are cross referenced to **Map 2**. Habitats are described in general terms using standard Phase 1 habitat survey terminology, with reference to dominant, characteristic and notable species in each vegetation type. The main habitats recorded on site during the Phase 1 habitat survey were as follows:

Scattered Scrub

Scattered scrub is present across the overgrown garden to the rear of the property (**Figure 1** and **Figure 2**). Scrub habitat is dominated by bramble *Rubus fruticosus* with creeping thistle *Cirsium arvense* also present.

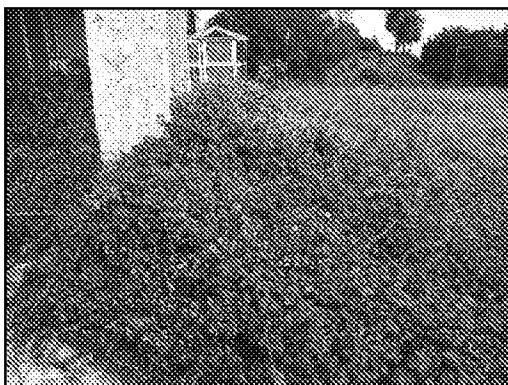


Figure 1: Bramble scrub adjacent to the house

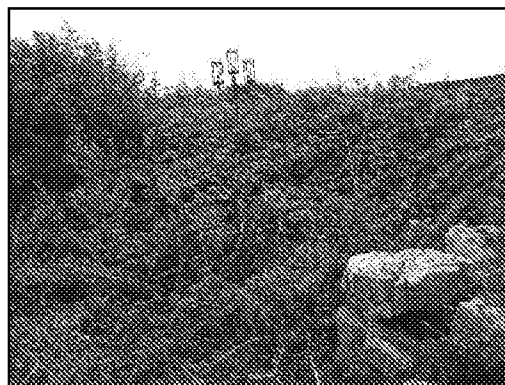


Figure 2: Overgrown scrub at the rear of the garden

Scattered Trees

A Leyland cypress *Cupressus x leylandii* is present in the north-western corner of the site (**Figure 3**). A number of palm trees *Arecaceae* species are present within scrub at the southern site boundary (**Figure 4**).



Figure 3: Leyland cypress



Figure 4: Palm trees at the southern boundary

Amenity Grassland

The rear and front gardens comprise amenity grassland which has previously been mown but is still tussocky in places (**Figure 5** and **Figure 6**). Species recorded include perennial rye-grass *Lolium perenne*, annual meadow grass *Poa annua*, ivy *Hedera helix*, ox-eye daisy *Leucanthemum vulgare*, creeping thistle, field bindweed *Convolvulus arvensis*, birds-foot trefoil *Lotus corniculatus* and rosebay willowherb *Chamerion angustifolium*.

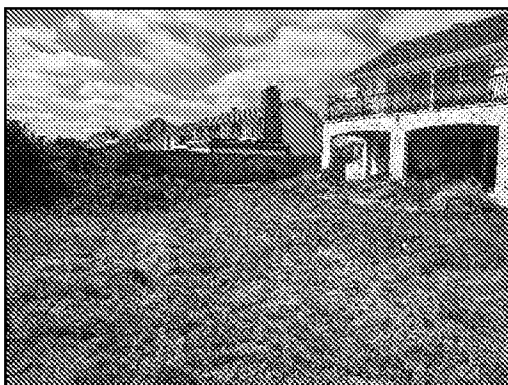


Figure 5: Rear southern garden

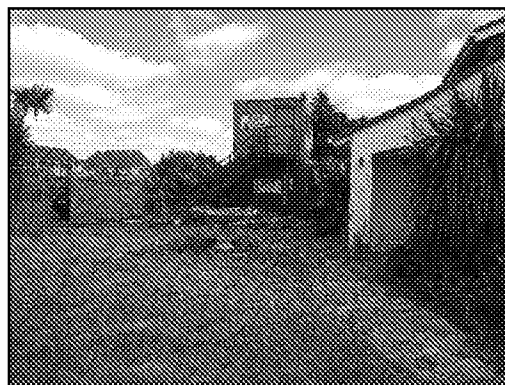


Figure 6: Northern front lawn

Introduced Shrub

Flower beds within the overgrown garden contains a mixture of native and non-native shrubs and flowering plants including ox-eye daisy, rosebay willowherb and a range of ornamental grasses (**Figure 7**). There are also a number of palm trees planted around the building (**Figure 8**).



Figure 7: Overgrown flower beds

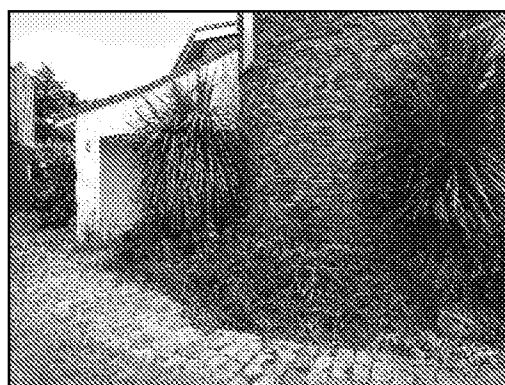


Figure 8: Planted palm trees

Buildings and Hardstanding

The site supports a single residential two-storey dwelling (**Figure 9**) and a small greenhouse within the rear garden. A paved walkway leads from Coastal Road to the north to the front entrance and round to the rear garden and a driveway is located at the northern boundary. A more detailed description of the on-site building is provided in Paragraph 4.4.1.



Figure 9: Southern elevation of house

Other Habitats

A brick wall forms the eastern and western site boundaries (**Figure 10**), while Heras fencing is present at the southern and northern boundaries. A former ornamental water feature is present within the garden on the western boundary. This is now a rockery overgrown with vegetation (**TN1**) (**Figure 11**).



Figure 10: Brick wall on western boundary



Figure 11: Former water feature

4.3.2 Evaluation

The habitats present on site comprise scattered scrub, scattered trees, amenity grassland, introduced shrub, buildings and hardstanding. These habitats are common and widespread and are of low ecological value.

4.4 Bats

4.4.1 Baseline Ecological Conditions

Desktop Study Results

A review of MAGIC did not reveal the presence of any granted EPSM licences in respect of bats within two kilometres of the site boundary.

Field Survey Results

Building Assessment

A single residential dwelling is present on site (**Figure 9**). The building is a two-storey property currently disused and in a poor state of repair internally. The building has white rendered walls with some exposed brick and stone walls. The main structure has a pitched Roman clay tile roof with open gable ends. A 'catslide' roof and garage extension is present on the northern elevation with a large dormer window above (**Figure 12**). Fascia boarding and soffit boxes that surround the house are plastic and a turret at the north-western corner of the property has a circular roof with clay pan tiles (**Figure 13**). A large balcony overhangs a patio area at the southern elevation. Two welfare units are also present on site.



Figure 12: Garage lean-to extension on northern elevation

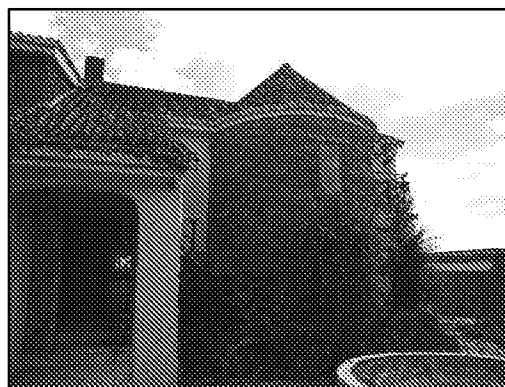


Figure 13: Domed section of building

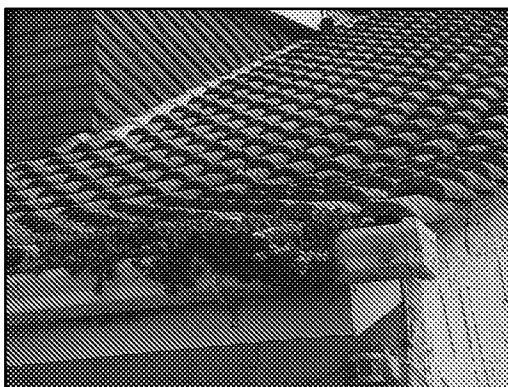


Figure 14: Gaps beneath Roman roof tiles

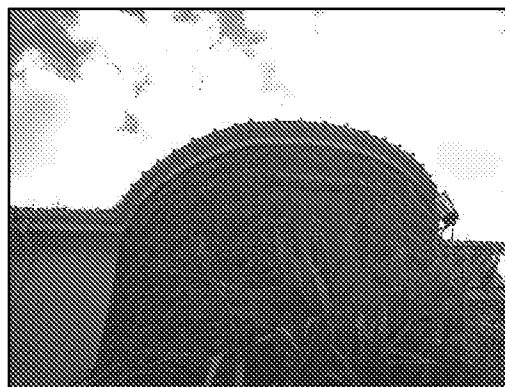


Figure 15: Plastic fascia boarding around turret

No evidence of roosting bats was recorded during the survey, however Potential Bat Roosting Features are present across the building:

- Gaps beneath Roman roof tiles on northern and southern elevations (**Figure 14**);
- Gaps around lead flashing around dormer window;
- Gaps around the plastic fascia boarding on the domed section of the building (**Figure 15**);

- Gaps in mortar around roof tiles which is crumbling away.

These features offer suitable roosting opportunities for crevice dwelling bats or may allow access to an internal roof void. No internal access to the property was possible during the survey as the building was deemed to be structurally unsafe (see Paragraph 3.5.3 for survey limitations). However, it is understood that an internal roof void is present. Overall, the building is assessed as having **low suitability** for roosting bats.

Tree Assessment

On-site trees were assessed from ground level during the initial field survey for their suitability for supporting roosting bats. None of the trees contain any Potential Bat Roosting Features such as rot holes, callous rolls or woodpecker holes. As such, all on-site trees are assessed as having negligible suitability for roosting bats.

Foraging and Commuting Habitat

The site provides some suitable habitat for foraging and commuting bats in the form of scrub, trees and ornamental planting. The surrounding area supports further residential gardens with similar planting and it is possible that the area is used by small numbers of bats. As the site is positioned adjacent to the coastline, the area is quite exposed to high winds, which may prevent large numbers of bats utilising the area frequently for foraging. Overall, the site is assessed as having low suitability for foraging and commuting bats.

Bat Emergence/Re-entry Survey Results

No bats were recorded emerging from the building during the bat emergence survey completed on 22nd September 2020, and no bats were recorded foraging or commuting on or around the site. However, the fact that no bats were recorded during the survey may be due to the fact that the survey was carried out outside of the peak survey season. Therefore, it is not possible to rule out roosting, foraging or commuting bats.

4.4.2 Evaluation

Foraging and Commuting Bats

Habitats on site provide limited suitability for foraging and commuting bats however bats cannot be ruled out completely as the emergence survey that was carried out was outside of the peak survey season. As such, it is considered likely that small numbers of bats may utilise the site or pass over it on occasion. Fields and areas of woodland located to the north of the site and positioned slightly further inland are more likely to be used as a foraging resource. As such, habitats on site are assessed as being of no more than site value to foraging and commuting bats.

4.5 Otter

4.5.1 Baseline Ecological Conditions

Field Survey Results

There are no watercourses, drainage ditches or waterbodies on or adjacent to the site, therefore it is considered unlikely that otter *Lutra lutra* will be present. Furthermore, the site does not provide any hydrological or terrestrial connectivity between suitable otter habitat. The habitat on site is unsuitable for otter and therefore the species is not considered further in this report.

4.6 Badger

4.6.1 Baseline Ecological Conditions

Field Survey Results

No evidence of badger *Meles meles* was recorded during the initial field survey. There is some habitat present on site that is suitable for badger in the form of scattered scrub, tussocky grassland and overgrown planting. The site is well-connected to other residential gardens in the area and it is possible that badger may pass through the site on occasion. The site is not suitable for sett construction.

4.6.2 Evaluation

Given the geographical context of the site located within an area dominated by residential gardens and agricultural fields to the north, the on-site habitats are assessed as being of no more than site value to badger.

4.7 Hazel Dormouse

4.7.1 Baseline Ecological Conditions

Desktop Study Results

A review of MAGIC did not reveal the presence of any granted EPSM licences in respect of hazel dormouse *Muscardinus avellanarius* within two kilometres of the site boundary. However, this does not confirm the absence of the species in the local area.

Field Survey Results

The only habitat present on site that is suitable for hazel dormouse is the scattered scrub in the overgrown garden, however this habitat is isolated in nature and not linked to any suitable hazel dormouse habitat in the surrounding landscape. As such, hazel dormouse is considered likely absent from the site and is not considered further in this report.

4.8 Water Vole

4.8.1 Baseline Ecological Conditions

Field Survey Results

There are no watercourses, drainage ditches or waterbodies on or adjacent to the site, therefore it is considered unlikely that water vole *Arvicola amphibius* will be present. Furthermore, the site does not provide any hydrological or terrestrial connectivity between suitable water vole habitat or any habitat suitable for burrow construction. The habitat on site is unsuitable for water vole and therefore the species is not considered further in this report.

4.9 Birds

4.9.1 Baseline Ecological Conditions

Field Survey Results

Goldfinch *Carduelis carduelis* and the red listed⁹ species house sparrow *Passer domesticus* and herring gull *Larus argentatus* were recorded on-site or flying over during the initial field survey. The site provides some suitable habitat for breeding birds in the form of trees, scrub and introduced shrub. These habitats are likely to support common species of bird during the breeding season. Kingston Beach 40 metres south may support wintering species, waders and waterfowl. However, the site itself is not suitable for these species.

4.9.2 Evaluation

Breeding Birds

Given the nature of the habitats on site and the small scale of the site, habitats are assessed as being of no more than site value to breeding birds.

4.10 Reptiles

4.10.1 Baseline Ecological Conditions

Field Survey Results

The site supports some habitat that is suitable for reptiles in the form of tussocky grassland and scrub that may be used for shelter and foraging as well as piles of cleared vegetation and rock piles that may be used for hibernation. The site is connected to other residential gardens in the wider area, therefore it is considered

⁹ The UK's birds are split into three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. Red List criteria include species which are: globally threatened; have been subject to historical population decline in UK during 1800–1995; are in severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period, or; subject to severe (at least 50%) contraction of UK breeding range over last 25 years, or longer-term period.

possible that small numbers of common reptiles such as slow-worm *Anguis fragilis* may be present on occasion.

4.10.2 Evaluation

Given the small scale of the site and the extent of suitable reptile habitat in the wider area, on-site habitats are assessed as being of no more than site value to reptiles.

4.11 Great Crested Newt

4.11.1 Baseline Ecological Conditions

Desktop Study Results

A review of MAGIC did not reveal the presence of any granted EPSM licences in respect of great crested newt *Triturus cristatus* within two kilometres of the site boundary. However, this does not confirm the absence of the species in the local area.

OS online mapping and aerial imagery identified the presence of a single standing waterbody and a number of drainage ditches located within 500 metres of the site. The waterbody is situated within a farm complex 260 metres north-east of the site with drainage ditches situated north of this.

Field Survey Results

If the waterbody situated 260 metres north-east of the site supports breeding great crested newt, it is possible that low numbers of individuals may pass through the overgrown garden during their terrestrial phase or utilise habitats for hibernation. Tussocky grassland and scrub may be used for shelter and foraging while piles of cleared vegetation and rock piles that may be used for hibernation. However, there is more suitable habitat for great crested newt located closer to the waterbody including fields, small areas of woodland and hedgerows some 100 metres north-east of the site itself.

4.11.2 Evaluation

Given the small scale of the site and the extent of more suitable great crested newt habitat in the wider area, on-site habitats are assessed as being of no more than site value to the species.

4.12 Invertebrates

4.12.1 Baseline Ecological Conditions

Field Survey Results

Habitats present on site are considered likely to support common and widespread invertebrate species and assemblages. The site does not support habitats that may be

used by any rare or notable invertebrate species. For this reason, the species group is not considered further in this report.

4.13 Other Relevant Species

4.13.1 Baseline Ecological Conditions

Field Survey Results

Habitats on site are suitable for supporting European hedgehog *Erinaceus europaeus* in the form of tussocky grassland and scrub. Furthermore, the site is well connected to other residential gardens in the surrounding area where hedgehog may pass through on occasion.

4.13.2 Evaluation

Given the small scale of the site and the extent of suitable habitat in the wider area for hedgehog, on-site habitats are assessed as being of no more than site value to the species.

5.0 ASSESSMENT OF ECOLOGICAL EFFECTS AND MITIGATION/COMPENSATION/ENHANCEMENT MEASURES

5.1 Introduction

This section assesses the ecological effects of the proposed development scheme on the identified ecological features as identified in Section 4.0. Methods for addressing potential impacts on ecological features have been approached in accordance with the mitigation hierarchy¹⁰ with avoidance of impacts prioritised where possible. Where significant adverse effects cannot be avoided other forms of mitigation are prioritised over compensation. Enhancement measures have been detailed, where relevant, in order to not only minimise the impacts on biodiversity but also to provide enhancement in accordance with Paragraph 170 of the NPPF (Paragraph 2.2). It is anticipated that mitigation, compensation and enhancement measures will be secured through the planning process.

5.2 Scheme Design

The proposed development entails the demolition of the existing building for the construction of a replacement residential dwelling. The new dwelling will be three-storeys with a glass façade facing south over the coast. A large skylight will be present across the top of the building with two smaller roof windows on the eastern section. Access will remain the same from Coastal Road to the north however the original crossover will be adapted to accommodate two car parking spaces at the northern boundary. A new pedestrian walkway will also be created at the front of the property. The existing garden will be retained but will be relandscaped with new ornamental planting, lawn and raised deck terrace. New boundary walls will be built along the eastern and western site boundaries ranging from two metres to one metre in height. No new external lighting is proposed.

The potential ecological impacts and effects of these proposals, in the absence of mitigation, are described for each ecological feature below. For each ecological feature, measures to mitigate and/or compensate for significant effects are described.

5.3 Habitats

5.3.1 Potential Impacts and Effects

The footprint of the existing building is approximately 200 square metres. The new dwelling will largely cover the same footprint and therefore limited habitat loss is anticipated. In the garden, scrub habitat will be removed along with the Leyland cypress and palms and replaced with new tree and shrub planting. The area of lawn will be

¹⁰ In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2018) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

replaced like for like with a raised terrace above. As such, no significant impacts on habitats are anticipated as a result of the proposals.

5.3.2 Mitigation Measures

Given that no significant impacts on habitats have been identified, no mitigation measures are required.

5.3.3 Significance of Residual Effects

No residual effects are anticipated as a result of the proposals.

5.3.4 Compensation

New tree and shrub planting within the garden will compensate for any small loss of habitat and will result in an enhancement for the site. New planting will comprise a mixture of flowering plants and shrubs that are suitable for invertebrates. The following species are initially proposed: *Hebe* 'Red Edge', *Pittosporum tenuifolium* 'Variegatum', *Pittosporum tenuifolium* 'Tom Thumb', flax lily *Phormium* 'Sundown', golden-twigg dogwood *Cornus Sericea* 'Flaviramea', dogwood *Cornus sanguinea* 'Midwinter Fire', feather reed grass *Calamagrostis x acutiflora* 'Karl Foerster', spiny bear's breech *Acanthus spinosus*, golden variegated sweet flag *Acorus gramineus* 'Ogon', brown-eyed susan *Rudbeckia triloba*, African lily *Agapanthus africanus*, Russian sage *Perovskia* 'Blue Spire' and lamb's ears *Stachys byzantina* 'Big Ears'.

If possible, the lawn will be sown with a native wildflower lawn mixture such as Emorsgate EL1 flowering lawn mixture that contains slow-growing grasses with a selection of wildflowers that respond well to regular mowing.

5.3.5 Enhancement

New landscape planting will result in an enhancement for the site overall.

5.3.6 Monitoring

No future monitoring in relation to habitats is required at the site.

5.4 Bats

5.4.1 Potential Impacts and Effects

Although unlikely, roosting bats within the building could not be ruled out completely due to the time of year the emergence survey was completed. As such, it is possible that bats may be harmed during the demolition of the building. In the absence of mitigation, there is a risk that foraging and commuting bats will become disturbed by construction related activities which produce noise, vibration and lighting. No additional external lighting is proposed post-development, therefore no long-term impacts on foraging and commuting bats are anticipated.

In England, bats and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, all bat species are protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 3** for details.

5.4.2 Mitigation Measures

Contractors on site will maintain a watching brief throughout the roof stripping works and demolition. If any bats are found during the work, it will be necessary to cease further work and contact a licenced ecologist. Work would not be able to continue until a Protected Species licence can be obtained from Natural England.

All construction related activities will be carried out during daylight hours so as not to disturb foraging and commuting bats at night.

5.4.3 Significance of Residual Effects

In the absence of compensation, there will be an overall loss in habitat suitable for roosting bats at the site due to the loss of the building.

5.4.4 Compensation

In order to compensate for the loss of suitable bat roosting features, two integrated bat roosting units will be incorporated into the fabric of the new building, such as Build-in Woodstone Bat Box (or similar design). These measures are considered to be suitable compensation for the loss of existing roosting features which are suitable for small numbers of common species.

5.4.5 Enhancement

The site will be enhanced for foraging and commuting bats through the provision of that will attract insect prey.

5.4.6 Monitoring

No future monitoring in relation to bats is required at the site.

5.5 Badger

5.5.1 Potential Impacts and Effects

There will be no loss in suitable badger habitat at the site in the long-term and no direct impacts on badger are anticipated during the construction phase.

5.5.2 Mitigation Measures

Given that no impacts on badger are anticipated, no mitigation measures are required.

5.5.3 Significance of Residual Effects

No residual effects on badger are anticipated as a result of the proposals.

5.5.4 Compensation

No compensation measures in relation to badger are required.

5.5.5 Enhancement

No enhancements in relation to badger are proposed.

5.5.6 Monitoring

No future monitoring in relation to badger is required at the site.

5.6 Birds

5.6.1 Potential Impacts and Effects

In the absence of mitigation, it is possible that breeding birds may be harmed/disturbed during the building demolition and scrub/vegetation clearance, if undertaken within the breeding season of March to August (inclusive). There will be no loss in habitat suitable for breeding birds in the long-term due to the replacement building and tree/shrub planting.

All birds, their nests, eggs and young are legally protected, with certain exceptions, under the Wildlife and Countryside Act 1981 (as amended). Refer to **Appendix 3** for details.

5.6.2 Mitigation Measures

Building demolition and scrub/vegetation clearance will be undertaken outside of the breeding season of March to August (inclusive) to avoid harm to breeding birds during the construction phase. If this is not possible (or if timings are combined with recommendations made in relation to reptiles below), the building and vegetation will be checked immediately prior to works by a suitably qualified ecologist. The ecologist will check for evidence of active nesting and any active nests will be left undisturbed until nesting ends naturally and chicks have fledged; possibly causing a delay to the works.

5.6.3 Significance of Residual Effects

Assuming that the mitigation measures outlined above are implemented, no residual effects on breeding birds are anticipated as a result of the proposals.

5.6.4 Compensation

New tree and shrub planting will compensate for the minor loss in vegetation proposed.

5.6.5 Enhancement

New tree and shrub planting will result in an enhancement for breeding birds at the site. In addition, it is recommended that a single nest box is installed at the site, such as

Vivara Pro Woodstone Open Nest Box (or similar design). This will increase nesting opportunities further for birds at the site.

5.6.6 Monitoring

No future monitoring in relation to breeding birds is required at the site.

5.7 Reptiles

5.7.1 Potential Impacts and Effects

In the absence of mitigation, it is possible that small numbers of slow-worm may be harmed/killed during site clearance and/or building demolition, if present. There will be no overall loss of suitable reptile habitat in the long-term. The rockery is also due to be retained as part of the proposals.

Widespread reptile species (slow-worm, common lizard *Zootoca vivipara*, grass snake *Natrix helvetica* and adder *Vipera berus*) are protected under the Wildlife and Countryside Act 1981 against harm. Refer to **Appendix 3** for details.

5.7.2 Mitigation Measures

Due to the small scale of the site and limited extent of suitable reptile habitat present, further reptile surveys were no considered necessary. Instead, a precautionary method of works will be implemented at the site during the construction phase to prevent harm to reptiles. This will involve a suitably qualified ecologist being present during site clearance/vegetation removal/turf stripping to check for reptiles. In the unlikely event that any reptiles are encountered, these will be carefully removed from the construction area and placed within the tussocky grassland bordering the footpath immediately west of the site. Site clearance will be undertaken between the months of April to September when reptiles are active.

5.7.3 Significance of Residual Effects

Assuming that the mitigation measures outlined above are implemented, no residual effects on reptiles are anticipated as a result of the proposals.

5.7.4 Compensation

New landscape planting and new lawn will compensate for the loss of suitable reptile habitat at the site.

5.7.5 Enhancement

No enhancement measures in relation to reptiles are proposed.

5.7.6 Monitoring

No future monitoring in relation to reptiles is required at the site.

5.8 Great Crested Newt

5.8.1 Potential Impacts and Effects

In the absence of mitigation, it is possible that great crested newt (if present) may be harmed during site clearance and/or building demolition, although the risk levels are considered to be very low. There will be no overall loss of suitable great crested newt habitat in the long-term.

In England, great crested newt and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, this species is protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 3** for details.

5.8.2 Mitigation Measures

As the likelihood of great crested newt being present is very low, a precautionary method of works will be implemented at the site during the construction phase. This will follow methods described in Paragraph 5.7.2 in relation to reptiles. In the unlikely event that a great crested newt individual is encountered, works will cease immediately and a licence from Natural England may need to be obtained. In this scenario, the suitably qualified ecologist will be consulted on how to proceed.

5.8.3 Significance of Residual Effects

Assuming that the mitigation measures outlined above are implemented, no residual effects on great crested newt are anticipated as a result of the proposals.

5.8.4 Compensation

New landscape planting and new lawn will compensate for the loss of suitable great crested newt habitat at the site.

5.8.5 Enhancement

No enhancement measures in relation to great crested newt are proposed.

5.8.6 Monitoring

No future monitoring in relation to great crested newt is required at the site.

5.9 Other Relevant Species

5.9.1 Potential Impacts and Effects

There will be no loss in suitable habitat for European hedgehog at the site in the long-term. There will be no direct impacts on any other species during the construction phase.

5.9.2 Mitigation Measures

Given that no impacts on European hedgehog or any other species are anticipated, no mitigation measures are required.

5.9.3 Significance of Residual Effects

No residual effects on European hedgehog or any other species are anticipated as a result of the proposals.

5.9.4 Compensation

No compensation measures are required.

5.9.5 Enhancement

No enhancement measures in relation to European hedgehog are proposed.

5.9.6 Monitoring

No future monitoring in relation to European hedgehog is required at the site.

5.10 Cumulative Effects

Assuming that the mitigation and compensation measures outlined in the paragraphs above are implemented, no significant residual effects are anticipated. As such it is considered unlikely that the proposals will contribute to cumulative adverse effects in association with other proposals in the local area.

6.0 CONCLUSIONS

6.1 Conclusion

The Ecological Impact Assessment identified the following habitats as being of the greatest ecological value within the context of the site: scattered scrub and scattered trees. Habitats on site provide suitability for a range of protected species including foraging and commuting bats, badger, breeding birds, reptiles, great crested newt and European hedgehog. Adverse impacts on these ecological features have been identified and mitigation measures proposed including sensitive timings of works and precautionary working methods in relation to reptiles and great crested newt. The site will be enhanced for a range of species through the provision of new landscape planting and through the installation of bat and bird boxes.

6.2 Updating Site Survey

If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 18 months of the date of the most recent relevant survey.

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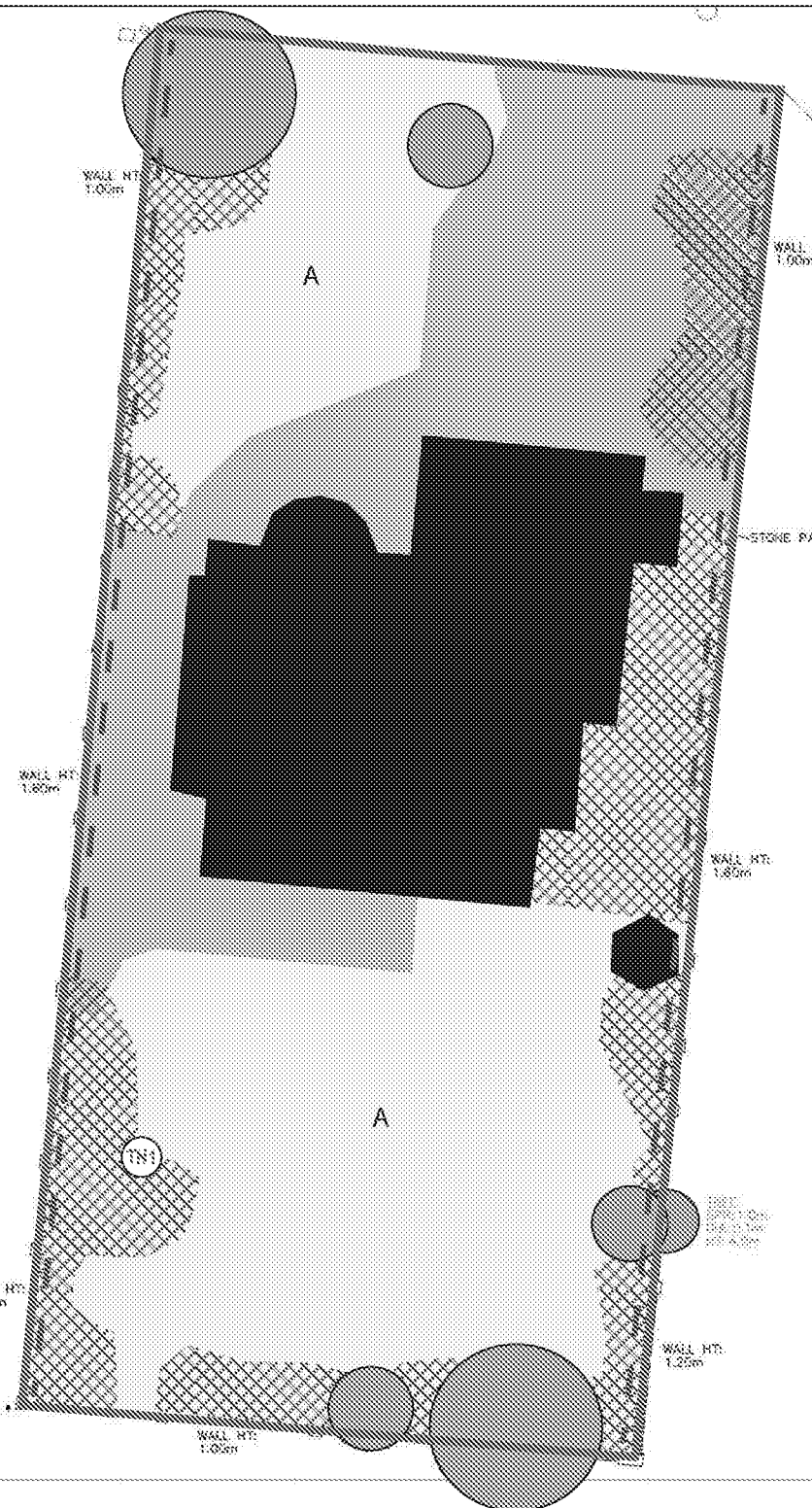
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Map 1 Site Location Plan

Map 2 Phase 1 Habitat Map



1:100 Site Plan as existing



ARUN DISTRICT COUNCIL K/55/20/PL

La Casa, Coastal Road

Arch. Grygorieva A.

St. Charles Homes

LA CASA, COASTAL ROAD, EAST PRESTON, WEST SUSSEX

ECOLOGICAL IMPACT ASSESSMENT

Map 2 - Phase 1 Habitats

Client:	St. Charles Homes Limited
Date:	November 2020
Status:	Final

KEY

	Site Boundary
	Target Note
	Scattered Scrub
	Scattered Broadleaved Trees
	Amenity Grassland
	Introduced Shrub
	Buildings
	Hardstanding
	Wall

Habitat features not to scale.

Basemap reproduced from Proposed Site Layout & Landscaping, Street Scene, Parking Plan produced by St. Charles Homes Ltd, dated 18th June 2020



ECOSA

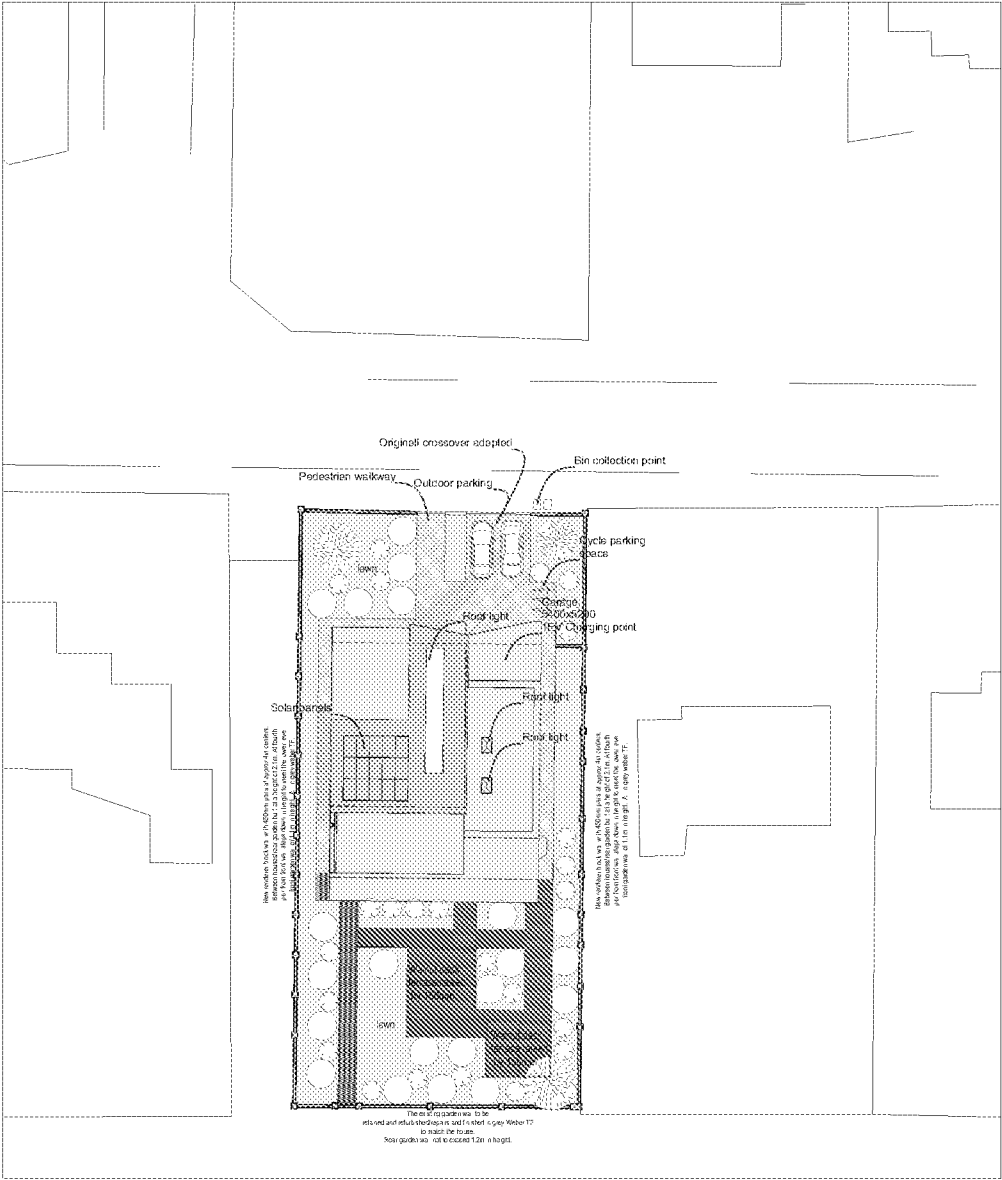
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Appendix 1 Proposed Site Layout



1:200

Lawn

Front Drive Paving

Full Soda hard surface including drainage gullies and soakaways. Hidden slot drain to drive crossover. Use Granite by Marshalls to drive and crossover joining neatly to road. This high-quality combined concrete paving range is the ideal choice for pedestrianised public spaces such as retail parks, but it's also suitable for occasional overrun by HGVs and other loading requirements.



Parking for 4 cars and 2-4 bicycles, more can be accommodated on site should the need arise.



- Group 1
- 1.Hierac Red Edge
 - 2.Pittosporum Tenuifolium Variegatum
 - 3.Pittosporum Tenuifolium Yoni Thumb



- Group 2
- 4.Phloxum Sundowner fax lily
 - 5.Cornus Sericea Flaviamed
 - 6.Cornus Sericea Midwinter Fire
 - 7.Celtis occidentalis multiflora Kent Foster



- Group 3
- 8.Acorus Spinosus
 - 9.Acorus Gracilior - Ogon
 - 10.Rubus Rex Trilob
 - 11.Acorus Albicorus
 - 12.Pervinca Bie Spire
 - 13.Stachys Byzantina big weed

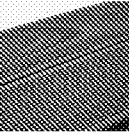
Lawn

L72 lawn suitable for Coast

Walnut composite decking

Garden Paving

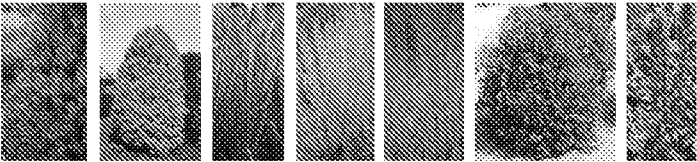
Hard surfaces covered with highly durable and reversible anti-slip decking, made entirely from recycled material and does not splinter, making it safe for you and your family to enjoy, with slot drainage at entrance of doors to building and set at floor height of house to provide good disabled access throughout. Hyperion Decking composites are highly durable.



Decorative granite chippings pebbles

Granite chippings

Marked area to fill with grey granite chippings approx 1-2cm sized. The stone chips prevent erosion, help soil retain moisture, and they don't attract ants and other insects.



Plants as list number 1 to 13 from top left to right.



For ST Charles Homes LTD	
Drawing Proposed Site Layout & Landscaping, Street Scene, Parking plan	
Project Le Clee, 57 Coastal Road, West Kingston East Preston BN16 1BN	
Scale	1:200 on A1
Date	16.08.2020
Made by Arch: Grygerieva A.A.	

Appendix 2 Sites Designated for Nature Conservation

Statutory Sites

Internationally Designated Sites - Ramsar Sites, Special Areas of Conservation and Special Protection Areas

Special Protection Areas (SPA) and Special Areas of Conservation (SAC) form a network of protected sites across the European Union called Natura 2000 sites. In the United Kingdom the primary legislative protection is afforded to these sites under the Conservation of Habitats and Species Regulations 2017 (as amended).

Ramsar sites are designated as wetlands of international importance which are afforded similar legislative protection to Natura 2000 sites.

SACs are sites which support intentionally important habitats or internationally important assemblages or populations of species. SPAs are designated for supporting internationally important populations of birds listed in the annexes of the Birds Directive. SACs, SPAs and Ramsar sites are generally also designated as Sites of Special Scientific Interest.

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) there is a legal requirement that competent authorities, such as local planning authorities, need to consider whether plans or projects are likely to have a significant adverse effect on Natura 2000 sites or Ramsar sites, either alone, or in combination with other plans or projects. In the event that a likely significant effect cannot be ruled out, on the basis of objective information, then the competent authority must undertake an “Appropriate Assessment” to fully assess the plan or project against the site’s conservation objectives. Unless certain defined derogation tests can be met, the competent authority may not authorise nor undertake any plan or project which adversely affects the integrity of a Natura 2000 site or Ramsar site.

Nationally Designated Sites – Sites of Special Scientific Interest and National Nature Reserves

Sites of Special Scientific Interest (SSSI) receive legal protection under the Wildlife and Countryside Act 1981 (as amended). Such sites are designated to protect specific areas of biological or geological interest of national importance. Such sites also generally receive strict protection through the planning system.

National Nature Reserves (NNR) are also usually designated as SSSIs and are specifically managed for their wildlife value. They receive legal protection through the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended). As with SSSIs, these sites generally receive strict protection through the planning system.

Locally Designated Sites – Local Nature Reserves

Local Nature Reserves (LNR) are designated by local authorities under the National Park and Access to the Countryside Act 1949. These are generally designated not only for their local wildlife value but also for education, scientific and recreational purposes. These sites generally receive protection from development through the planning system.

Appendix 3 Relevant Legislation

Bats

All UK bat species are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb any such animal, including in particular any disturbance which is likely:
 - To impair its ability to survive, breed, or rear or nurture their young;
 - To impair its ability to hibernate or migrate;
 - To affect significantly the local distribution or abundance of that species;
- Damage or destroy a breeding site or resting place of any such animal;
- Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection.

In addition, five British bat species are listed on Annex II of the Habitats Directive. These are:

- Greater horseshoe bat *Rhinolophus ferrumequinum*;
- Lesser horseshoe bat *Rhinolophus hipposideros*;
- Bechstein's bat *Myotis bechsteinii*;
- Barbastelle *Barbastella barbastellus*; and
- Greater mouse-eared bat *Myotis myotis*.

In certain circumstances where these species are found the Directive requires the designation of Special Areas of Conservation (SACs) by EC member states to ensure that their populations are maintained at a favourable conservation status. Outside SACs, the level of legal protection that these species receive is the same as for other bat species.

Great Crested Newt

This species is listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb any such animal, including in particular any disturbance which is likely, to impair its ability to survive, breed, or rear or nurture their young, to impair its ability to hibernate or migrate;
- To affect significantly the local distribution or abundance of that species;
- Damage or destroy a breeding site or resting place of any such animal;
- Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any place that any one of these species uses for shelter or protection.

Badger

The Protection of Badgers Act 1992 consolidates previous legislation (including the Badgers Acts 1973 and 1991 Badgers (Further Protection) Act 1991). It makes it an offence to:

- Kill, injure or take a badger;
- Attempt to kill, injure or take a badger; or
- To damage or interfere with a sett.

The 1992 Act defines a badger sett as 'any structure or place which displays signs indicating current use by a badger'.

Breeding Birds

With certain exceptions, all wild birds, their nests and eggs are protected by Section 1 of the Wildlife and Countryside Act 1981 (as amended). Therefore, it is an offence, to:

- Intentionally kill, injure or take any wild bird;
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; or
- Intentionally take or destroy the egg of any wild bird.

These offences do not apply to hunting of birds listed in Schedule 2 subject to various controls. Bird species listed on Schedule 1 of the Act receive further protection, thus for these species it is also an offence to:

- Intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or
- Intentionally or recklessly disturb the dependent young of any such bird.

Reptiles

The four widespread species of reptile that are native to Britain, namely common or viviparous lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix helvetica*, are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and are afforded limited protection under Section 9 of this Act. This makes it an offence to:

- Intentionally kill or injure any of these species.

The remaining native species of British reptile (sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca*) receive a higher level of protection via inclusion under Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations (in England and Wales only) and the Wildlife and Countryside Act 1981 (as amended). The distribution of these species are restricted to only a few sites in England.

Species and Habitats of Principal Importance in England

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The England Biodiversity List is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. There are currently 943 species of principal importance and 41 habitats of principal importance included on the England Biodiversity List.

Appendix 4 Protected and Notable Species Appraisal Methods

Bats

The survey conformed to current Bat Conservation Trust guidelines (Collins, 2016). An assessment was made of the suitability of buildings and trees on the site and immediately on the site boundary to support roosting bats based on the presence of features such as loose or missing roof tiles or lifted lead flashing for buildings and holes, cracks, splits, loose bark and ivy cladding for trees. A detailed external inspection of accessible structures was undertaken to compile information on potential and actual bat entry/exit points; potential and actual bat roosting locations; any evidence of bats found.

An assessment was made of the suitability of the site and the surrounding landscape to support foraging and/or commuting bat species. The assessment of the potential for the site to support roosting, foraging and commuting bat is based on a four-point scale as detailed in **Appendix 5**.

Otter

The otter appraisal was based on an assessment of the suitability of the habitat present within the site to support otter by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), proximity of the site to freshwater and potential important feeding resources (such as fisheries), presence of habitat features which could provide opportunities for resting places and/or holts (such as tunnels, hollows at the base of trees and presence of dense, undisturbed habitat). During the survey attention was paid to the presence of evidence such as spraints, feeding remains, footprints and slides.

Badger

The survey involved a detailed investigation of the site to identify evidence of badger residence, foraging or territorial activity. Particular emphasis was placed on locating badger setts, paths, and signs of territorial activity such as latrine sites both on-site and within immediately adjacent areas where access was possible.

Hazel Dormouse

The appraisal for the potential of the site to support dormouse was based on an assessment of habitat features that may indicate that the species is present. This includes the presence of key food sources such as hazel and bramble, or plants used as nesting material such as honeysuckle and clematis. Additionally, the species requires a continuum of food supply so that habitat structure, diversity and connectivity to adjacent areas of woodland/scrub are important features in determining the potential presence of hazel dormouse.

Water Vole

The water vole appraisal was based on an assessment of the suitability of the habitat present within the site to support water vole by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), bank structure and the bank side

vegetation. Water voles generally require sloping banks in which to burrow and well-developed bank side vegetation to provide shelter and food. During the survey attention was paid to the presence of burrows, latrines, feeding remains, trails and footprints.

Birds

The appraisal of breeding birds on the site was based on the suitability of habitat present to support nesting bird communities, the presence of bird species that may potentially nest within the available habitat and evidence of nesting such as old or currently active nests.

The assessment of wintering birds was based on an assessment of the suitability of the habitat on site to support important wintering bird species and populations. Particular attention was paid to the potential for the site to support wintering farmland bird species, waders and wildfowl.

Reptiles

The reptile appraisal was based on an assessment of the suitability of the habitat present within the site to support a population of reptiles. Reptiles particularly favour scrub and rough grassland interfaces and the presence of these is a good indication that reptiles may be present on-site. In addition, reptiles may utilise features such as bare ground for basking, tussocky grassland for shelter and compost heaps and rubble piles for breeding and/or hibernating.

Great Crested Newt

The appraisal of the site to support great crested newt included establishing the presence of suitable aquatic habitats such as ponds, lakes or other waterbodies within or adjacent to the site and the presence of suitable terrestrial habitat. Waterbodies that are densely shaded, highly eutrophic or that contain fish are likely to be less suitable for this species. The suitability of on-site ponds and terrestrial habitat is considered in relation to the presence of ponds within the wider area, as identified within the desktop study (Paragraph 3.4.2), and their suitability to be used as a network.

Invertebrates

An assessment was made of the site for its potential value to support diverse communities of invertebrates. The assessment was based on the presence of habitat features which may support important invertebrate communities. These features include, for example, an abundance of dead wood, the presence of diverse plant communities, varied woodland structure, sunny woodland edges with a diverse flora, waterbodies and water courses and areas of free draining soil exposures. During the field survey there was no attempt made to identify species present as this is a more specialist area of ecological assessment reserved for targeted surveys.

Other Relevant Species

An assessment was made of site suitability for other notable species such as more rarely encountered protected species, Species of Principal Importance for the Conservation of diversity in England notified under Section 41 of the NERC Act 2006 and as listed in the England

Biodiversity List, and Local Biodiversity Action Plan (LBAP) species¹¹, specific to the study region.

Invasive Species

During the field survey any incidental records of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded. However, it should be considered that the survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

¹¹ LBAPs identify local priorities for biodiversity conservation by translating national targets for species into effective action at the local level and identifying targets for species important to the local area.

Appendix 5 Appraisal Criteria for Bats

The criteria used to assess the suitability of roosting and foraging/commuting habitat for bats is based on industry guidelines and outlined in **Table 2**¹².

Table 2: Criteria used to Assess Suitability of Roosting and Foraging/Commuting Habitat for Bats

Suitability	Description of roosting habitats	Commuting and foraging habitats
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 potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.
Moderate	A structure of 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.	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically/structure that does 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.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerows or un-vegetated stream, but isolated (i.e. not very well connected to the surrounding landscape by other habitat). Suitable, but isolated, habitat that could be used by small numbers of foraging bats such as a lone tree or a patch or scrub.
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.

¹² Table adapted from (Collins, 2016)