Charlotte Dwight Ecology
Ecological Consultants

Stoney Brook Farm, Eastergate Lane, Walberton, Arundel, West Sussex, BN18 0BA

Preliminary Ecological Appraisal

Prepared for: Artisan Planning & Property Services

April 2024

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Details of document preparation and issue:

Version no.	Prepared by	Reviewed by	Issue date	Issue status
0.1	Charlie Dwight CEcol, MCIEEM	Dr Rowenna Baker	09/04/2024	1st draft for client comment
1.0	Charlie Dwight CEcol, MCIEEM	Dr Rowenna Baker	07/04/2024	Final Issue

EXECUTIVE SUMMARY

Charlotte Dwight Ecology was commissioned to undertake a Preliminary Ecological Appraisal (PEA) at Stoney Brook Farm, located in the village of Walberton in West Sussex.

The owner currently runs a commercial joinery business from the farm, and planning consent from Arun District Council is required to permit construction of a new commercial workshop, to replace an existing workshop.

A desk study using records provided by Sussex Biodiversity Records Centre (SxBRC) indicate the site is not located within the boundaries of any designated sites, or within their associated Impact Risk Zones (IRZs). No records of any rare or protected flora and fauna were returned for the site. A chalk stream (priority habitat), Hazel Dormouse, Great Created Newts, and Water Vole have been recorded within 0.5km to the site.

A Habitat Classification (UKHab), habitat condition assessments, a bat daytime walkover (DBW) and bat Preliminary Roost Assessment (PRA) were conducted by two experienced and licensed ecologists.

The site is dominated by poor condition modified grassland, unsealed surface (gravel track and car parking), three built structures, forty-eight individual trees, three species poor hedgerows and a spoil heap.

A chalk stream (priority habitat) is located off-site, and immediately adjacent to the southern site boundary. The associated riparian zone (10m) falls within the footprint of the proposed development.

Evidence (old droppings) of bats, considered likely attributed to pipistrelle spp. were recorded on an internal wall (entrance staircase) within building (B2). Ingress and egress for bats is likely to be via a small gap located between the door lintel and timber vertical cladding. Old evidence (guano) of birds was also visible on the walls and the metal structural supports.

A spoil heap was located within the footprint of the proposed development comprising soil, patches of less intensively managed grassland and tall herbs. Evidence of mammal burrows (likely rabbit and field vole) were present. An area of hay provided suitable habitat (egg laying) for grass snake, hedgehogs, and other small mammals.

Habitats at the site were considered unsuitable within the site boundary for Hazel Dormice, Water Vole, Otter, Great Crested Newts, Stag Beetle, and/or other rare invertebrates or breeding or wintering birds associated with the designated Special Protection Areas (SPAs). To avoid impacts upon the chalk stream, the footprint of the new commercial structure is recommended to be moved outside of the riparian zone, and a range of ecological enhancements have been provided to provide a net gain for biodiversity.

1. INTRODUCTION

1.1 Background

Charlotte Dwight Ecology was commissioned by Artisan Planning and Property Services, hereafter referred to as the client, to undertake a Preliminary Ecological Appraisal (PEA) at Stoney Brook Farm, Eastergate Lane, Walberton, Arundel, West Sussex, BN18 0BA (hereafter referred to as the site).

The ecological baseline for the site is presented within this PEA report to provide information for three proposed developments at the site.

Data presented within this report is valid for 18 months, taken from the date of the field survey.

1.2 Site Location and Context

The site is located within landownership curtailment of Stoney Brook Farm, Eastergate Lane, Walberton, Arundel, West Sussex, BN18 0BA. The site is centred upon Ordnance Survey (OS) grid reference: SU 96048 05993 and what3words (w3w) locator: whirlwind.lengthen.wants.

1.3 Proposed Development & Planning Status

Three separate developments are proposed at the site. All three will require planning consent from Arun District Council (ADC). Detailed design was not available at the time of the PEA, however recommendations in this report have been provided based upon the following outline designs:

- Erection of a new re-cycled single storey commercial structure (kitchen joinery workshop) to be located in an area of modified grassland, in the south-west corner of the site.
- Erection of a new residential dwelling, with improved access and associated car parking, to be located in an area of poor condition modified grassland in the north-east corner of the site.
- Regularisation of an existing residential dwelling, in part of a converted agricultural barn.

1.4 Scope of the report

This report provides the following ecological baseline information:

- Ecological desk study, using data provided by the Sussex Biological Records Centre (SxBRC)
- UK Habitat Classification Field Survey (inc associated habitat condition assessments (HCAs) of individual habitat land parcels

- An assessment of the suitability of habitats to support protected, rare and/or invasive species
- Tree identification and age class classification
- A Bat Preliminary Ecological Assessment (PRA) of all built structures proposed to be impacted by the proposed developments.
- A high-level impact assessment and evaluation of the value of ecological features
- Recommendations for avoidance, mitigation, compensation, and ecological enhancement for the proposed development

This report has been produced with reference to current good practice guidelines issued by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017, 2019 and 2021) and guidelines contained in the British Standards – Code of Practice for Biodiversity and Development BS42020:2013 (British Standards Institute (BSI), 2013).

1.5 National Legislation and Planning Policies

The report has been compiled with reference to the following relevant nature conservation legislation, relevant planning policy and the UK Biodiversity framework from which the protection of habitats and species is derived in England, and includes:

- The Environment Act 2021 - aims to make provision about targets, plans, and policies for improving the natural environment and requires developments to provide a net gain for biodiversity.
- The National Planning Policy Framework (NPPF) 2021, requires local authorities to avoid and minimise impacts on biodiversity and, where possible, to provide a net gain in biodiversity when making planning decisions.
- The Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (commonly referred to as the Habitats Regulations. European legislation provide protection for habitats and species listed under the regulations.
- Wildlife and Countryside Act 1981 (as amended), provides varying levels of legal protection for species named under the act.

1.6 Local Planning Policies

A review of the Arun Local Plan (2018) was conducted, and summary extracts from relevant local planning policies include:

- ENV SP1 – Arun District Council will encourage and promote the preservation, restoration and enhancement of biodiversity and the natural environment through the planning process.

- ENV DM1 Designated Sites: proposed developments likely to have adverse effects on land with designated features will not normally be permitted.
- 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 to minimise disturbance to habitats.
- ENV DM4 Protection of Trees: Development will only be permitted where it can be demonstrated that tree(s) protected by tree preservation order(s) (TPOs), identified as ancient woodland, in a conservation area, or contributing to local amenity will not be damaged or destroyed.
- ENV DM5 – Development and Biodiversity: developments should in their first instance seek to achieve a net gain for biodiversity and protect existing habitats on site.

2. METHODLOGY

2.1 Personnel

A UK Habitat Classification (Butcher et al, 2023), habitat condition assessment field surveys, and protected species assessments were conducted by two experienced ecologists. Charlie Dwight, a Chartered Principal Ecologist (CEcol), and full member of the Institute of Ecology and Environmental Management (MCIEEM). Charlie has over 19 years' ecological consultancy experience, Charlie holds Natural England survey licences for the following species: Bat Mitigation Class Licence (RC145), Bat Class Licence Level 2 (11425-CLS-CLS) and Barn Owl Survey Licence (2016-CL29-00-198).

Dr Rowenna Baker, (PhD), a principal ecologist with over 20 years ecological consultancy experience, specialised in aquatic ecology, protected species, GIS, and habitat digital data collection.

2.2 Desk Study

Biological records for statutory and non-statutory designated sites, rare notable plants, protected species, and Schedule 9 invasive species, within a 2km radius of the site (hereafter referred to as the study area), were provided by the Sussex Biodiversity Records Centre (SxBRC).

In accordance with current bat survey guidelines (Collins, 2023), the search radius for biological records for bats was increased to 10km, to assess potential effects upon Core Sustenance Zones (CSZs) and Special Areas of Conservation (SACs), designated for bats.

Using freely available online digital satellite imagery (Google Earth) connectivity between the site and wider landscape was assessed in terms of the site's potential importance to function as functionally linked habitat or stepping stone habitat for designated sites.

An online search using the Multi Geographical Agency for the Countryside (MAGIC) for Natural England protected species mitigation licences, was conducted to assess the likely presence of protected species on or near to the site.

2.3 UK Habitat Classification Assessment

Habitats were classified (level 4), and mapped, in accordance with the UK Habitat Classification system (UKHab) (Carey & Butcher, 2018 and UKHab, 2023). Secondary codes relating to management or specific habitat features were assigned. Botanical nomenclature followed Stace (2019). And species abundance was assessed using the Dominant Abundant Frequent Occasional Rare (DAFOR) scale.

The area of each habitat feature was assigned a feature identifier (FID) and the area of each FID was calculated for polygon habitats in hectares and kilometres for linear features (hedgerows) using ArcGIS Pro.

2.4 Habitat Condition Assessment

The condition of each habitat feature was assessed in accordance with criteria defined under the Statutory Biodiversity Metric Habitat Condition Assessment (Panks et al, 2023a).

The habitat condition and tree assessments were conducted in accordance with standard methodologies defined by Panks et al (2023a).

2.5 Tree Identification and Age Class Assessment

All trees within the wider landownership boundary were identified, mapped and the circumference of each trunk was measured. In accordance with Panks et al (2023b), each tree was categorised as small, medium, or large, to provide sufficient data required for a Statutory Biodiversity Metric.

2.6 Protected Species Assessment

Habitats present at the site were assessed for their suitability to support protected, rare, or notable species. Each habitat was assigned a potential assessment value of either high, moderate, or low, based upon its characteristics and connectivity to other suitable habitats within the wider landscape.

2.7 Daytime Bat Walkover Assessment and Preliminary Roost Assessment

A Daytime Bat Walkover (DBW) and Preliminary Roost Assessment (PRA) was conducted on the 2 April 2024, by a licensed bat ecologist (11425-CLS-CLS). Habitats present at the site were assessed for their potential to support roosting, foraging and commuting bats.

Buildings subject to alteration were subject to an internal and external inspection to search for suitability and potential evidence of roosting bats.

The assessment was conducted in accordance with current guidance (Collins, 2023). Suitable features increasing the potential for presence of roosting bats included:

- Suitable gaps to provide ingress and egress opportunities.
- Crevices, gaps, splits, and holes providing access to suitable roosting features, and often associated with the roofing features (tiles, chimney flashing), roof void, underground cellars, gable apex, cavity wall, soffits, bargeboards, hanging tiles, cladding, brickwork mortar, windows, doors, guttering and down-pipes
- Splits and cavities within tree trunks and branches, loose bark, ivy vines and artificial nest boxes (including bat, bird, and dormouse nest boxes).

Habitats within the site were also assessed in terms of their suitability for commuting, foraging and swarming bats (refer Table 1)

Table 1: Bat Potential Assessment

Guidance for assessing the potential development site potential for bats, based upon the presence of habitat features within the landscape (extract taken from Table 4.1, Collins, 2023).

Potential Suitability	Roosting Habitats (Trees and Built structures)	Potential Flight-paths and Foraging Habitats
None	No habitat features on site likely to be used by any roosting bats at any time of the year.	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year.
Negligible	No obvious habitat features on site likely to be used by roosting bats, however, a small amount of uncertainty remains, as bats can use small and unsuitable features on occasion.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats, however, a small element of uncertainty remains, to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual opportunistic bats at any time of the year. These potential roost sites do not provide enough space, shelter, protection or appropriate conditions and the suitability of the surrounding habitat to be used on a regular basis or by large numbers of bats. Unlikely to be used for maternity or a classic hibernation site but could be	Habitat that could be used by small numbers of bats as flight-paths (i.e. gappy hedgerow or stream) but isolated and not well connected to the surrounding landscape by other habitat. Suitable but isolated habitat that could be used by small numbers of foraging bats i.e. lone tree (not in a parkland

	used by individual hibernating bats.	situation) or patch of scrub.
Moderate	A structure with one or more potential roost sites, which could be used by bats due to their size, shelter, protection, conditions, and surrounding habitat and unlikely to support roost(s) of high conservation status (i.e. maternity or hibernation) and irrespective of species conservation status which can only be established after presence is confirmed.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as lines of trees, scrub or linked to back gardens. Habitat that is well connected to the wider landscape that is likely to be used by foraging bats for foraging such as trees, scrub, grassland, or water.
High	A structure that with one or more potential roost sites, which are obviously suitable for large numbers of bats on a regular basis and longer periods of time due to size, shelter, protection conditions and surrounding habitat. These structures have the potential to support high conservation status roosts e.g. maternity or classic/cool hibernation site.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths (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 by foraging bats such as broadleaved woodland, tree-lined watercourses, and grazed parkland. Site is close to known roosts.

2.8 Bats: Preliminary Roost Assessment (PRA)

A systematic search for evidence of roosting bats comprised an internal and external inspection of one built structure, likely to be directly or indirectly impacted by the proposed development. The inspection was conducted on 2 April 2024, by a licensed bat ecologist (Natural England Class Licence Level 2).

2.9 Limitations

Every effort has been made to provide a comprehensive and robust assessment of the site. However, the following limitations remained during the assessment:

- Records provided by the SxBRC only provide a snapshot of the species recorded, therefore, likely absence cannot be assumed where lack of record(s) is returned for a particular species. The records combined with the field assessment of habitat suitability is the best scale for assessing potential for protected species.

- The PEA was conducted in a single day and only provides a snapshot of the ecological baseline for the site at the time of the survey. The assessment does not provide individual detailed species lists for plants and animals, which may potentially be present at the site.

- Different plants are more visible at various times of the year. This assessment only provides a snapshot of broad habitat types and does not constitute a detailed botanical survey.

- The protected species assessment assesses the potential likelihood of species being present, based upon the suitability of each habitat type. The assessment does not provide a conclusive result for likely presence or absence.

- A Water Vole survey within an adjacent off-site chalk stream was not conducted.

- Many species are highly mobile and can take up occupancy at a site after an ecological baseline assessment has been completed. Where a lack of evidence is recorded, absence of protected species cannot be assumed.

- Habitats and area data are mapped using GIS, whilst this is largely accurate, small variations in the size of individual habitat parcels can occur, and boundaries are indicative, and based upon shapefiles provided by the client.

The survey was conducted at an appropriate time of the year, and by two experienced terrestrial and freshwater aquatic ecologists, who are trained in UKHab and hold appropriate protected species survey licences. During the field survey, there were no access limitations and results presented within this PEA are considered to provide an accurate summary of the ecological baseline for the site.

3. RESULTS

3.1 Desk Study

Statutory and Non-Statutory Designated Sites

The results are summarised below and within Tables 2 and 3:

- The site does not fall within any statutory designated sites. However, one statutory designated site is located within the study area (refer Table 2).
- The site does not fall within any non-statutory designated sites. However, the following non statutory designated sites and features were within the study area (refer Table 2) and include:
  - four non designated Local Wildlife Sites (LWS)
  - one Local Geological Site (LGS)
  - three Designated Road Verges (DRVs)
- No records of any protected or notable species were returned for the site itself, however, protected, and notable species were recorded within the study area (refer Appendix D).
- No records for the site were returned for Invasive Non-Native Species (INNS).

Pertinent results relevant to the site and its geographic location are summarised below within Table 2 and Appendix D.

Table 2: Statutory Designated and Non-Statutory Designated Sites

Statutory Designated Sites			
Site Name	**Designation**	**Description**	**Proximity to Site**
South Downs National Park	National Park	The SDNP covers an expanse of 162,700 hectares and is dominated by chalk downland and a range of diverse habitats which support rare or notable flora and faunal species.	0.8km North
Non-Statutory Designated Sites			
Ar01 – Fontwell Park Racecourse	LWS	Grassland around the sides and inside the racetrack at Fontwell Park are managed as hay meadow and have very species-rich swards. The flora includes some notable species, such as Adder's-tongue *Ophioglossum vulgatum* and	1.5km West

		a large population of Green-winged Orchid *Orchis morio*.	
AR02 – Binsted Wood Complex	LWS	Binsted Wood is a complex of woodland sites which includes Hundredhouse Copse in the west and Stewards Copse to the east. There is a mixture of ancient woodland, recent woodland, conifer plantation, species rich pasture and old tracks and shaws. The mix of habitats and geology gives rise to a rich and diverse flora. The paths and rides are especially species rich, and Scotland Lane supports an outstanding wet ride flora that includes at least eleven species. of sedge including Long-stalked Yellow-sedge *Carex viridula ssp.brachyrhyncha*, a county rarity as its only recorded West Sussex. This is the largest block of ancient semi-natural woodland south of the South Downs in Sussex.	1.7km East
Ar07 – Rewell Wood Complex	LWS	Rewell Wood is a large ancient woodland complex. It has a diversity of habitats including ancient semi-natural woodland, worked Sweet Chestnut coppice, conifer plantation, Beech plantation and species-rich chalk grassland. Wide rides and glades support a rich flora and butterfly fauna. The disused gravel pits are of entomological importance.	1.7km East
AR09 – Slindon Bottom	LWS	This ancient woodland lies at the junction of two geological types, namely Valley Gravel and Upper Chalk. It consequently has a varied flora. Most of it is semi-natural, though some areas have been replanted with	1.6km North

		conifers. The storm of October 1987 caused severe windblow and as a result large areas have been replanted. The western end, known as Slindon Bottom, is the most interesting part of the Slindon Woods complex.	
Slindon Common Gravel Pit	LGS	Disused sand and gravel quarry where landscaping and restoration has been completed. This area falls into the West Sussex Sites of Nature Conservation Importance and is part of the Rewell Wood Complex. There are several rare species known from the quarry area including various solitary bees and wasps which use the bare sandy area for hunting and nest sites.	2km East
A27 Avisford to Binstead Westbound	DRV	Designated Road Verges are areas of roadside verge that have been designated for their special wildlife interest. They can hold spectacular displays of wildflowers including rare orchids and other plant species indicative of old meadows and can be of great importance to invertebrates and fungi. There is no statutory protection for road verges, but they can be found within both non-statutory and statutory designations	>2km West
A27 Binstead to End of Dual Eastbound	DRV		1.8km East
Cherry Tree Drive	DRV		1km South-West

Protected Habitats

A chalk stream (priority habitat) is located immediately adjacent to the southern site boundary. The associated riparian zone (bank top habitat measured 10m from the edge of the stream) is located on site and falls within the impact area of a new proposed commercial structure.

Protected Species

A search using MAGIC indicated the following European Protected Species licences (EPSM) within the 2km study area, were granted by Natural England for the following species:

- Hazel dormouse – 0.6km north of the site
- Bats – 0.5km south and 2km north-east of the site
- Great Crested Newts – 2km west (west of A29)

No records of protected or notable species (excluding bats and birds) were returned for the site itself, however the following species were recorded within the study area (refer Appendix D).

- Hazel dormouse (immediately adjacent to northern boundary, Walberton Lane)
- Water vole (immediately adjacent to southern boundary (within chalk stream)
- Great crested newts (2km west)
- Slow worm, grass snake, common lizard, and adder (1-2km)
- Stag Beetle (within 1km)
- Zilla diodia (A spider within 0.5km)

A total of 3,203 records were returned for bats within a 10km radius of the site, including all UK species (except lesser horseshoe bats), plus a recent migrant species: Kuhl's pipistrelle bat. No records for bats were returned for the site itself. Bat species recorded within a 2km radius of the site included:

- Greater Horseshoe
- Barbastelle*
- Bechstein's*
- Serotine
- Alcathoe
- Daubenton
- Whiskered
- Whiskered/Brandt's

* These species may be functionally linked to Singleton and Cocking Tunnels bat SAC (UK0030337), located at Ordnance Survey grid reference SU872 144, and outside the 10km study area. The SAC (JNCC) is designated for species referred to as Article 4 of the Directive 2009/147/EC and listed in Annex II of Directive 92/43/EEC and the area is considered to support a significant presence of barbastelle *Barbastella barbastellus* (1308) and Bechstein's *Myotis bechsteini* (1323) bats.

A total of sixty-four species of birds were recorded within the 2km study area. No records of birds were returned for the site itself. Birds afforded protection under the EU Birds Directive include:

- Nightjar
- Golden Plover
- Little Gull
- Mediterranean Gull
- Dartford Warbler*
- Short Eared Owl
- Peregrine Falcon*
- Corncrake*
- Woodlark

* These species are also protected under the UK WCA Sch1

Birds protected under the UK WCA Sch1 include:

- Quail
- Corncrake
- Brambling
- Crossbill
- Dunnock
- Redwing
- Fieldfare
- Barn Owl

3.2 UKHab Field Survey Results

The site is in the village of Walberton and bound to the north by Eastergate Lane, and to the south, east and west by farmland (pasture) and residential dwellings. The site itself is dominated intensively managed modified grassland (refer Appendix A Photograph 1) with 48 (mainly young) scattered trees, unsealed surface (gravel track and car parking, refer Appendix A Photograph 2), three built structures (refer Appendix A Photographs 4, 11, 12), five shipping containers (storage), and three hedgerows.

Modified Grassland with Scattered Trees (UKHab g4 32)
The site is dominated by poor condition (refer Appendix A Photograph 2, low distinct modified grassland, frequently mown, with scattered trees and forbs (UKHab g4 108 32 16). The intensively managed short sword height comprised patches of bare ground. Species composition included:

- Lolium perenne (Perennial Rye-grass) (D)
- Holcus lanatus (Yorkshire-fog) (F)
- Lamium purpureum (Red Dead-nettle) (O)
- Myosotis arvensis (Field Forget-me-not) (R)
- Narcissus pseudonarcissus (Daffodil) (R)
- Taraxacum spp. (Dandelions) (R)
- Trifolium repens (White Clover) (O)
- Stellaria media (Common Chickweed) (O)

A total of forty-eight scattered trees (refer Appendix E) were present at the site with no veteran or ecological valuable trees recorded. Most of the trees were young and classified as small (trunk diameter of 10cm or less) and species comprised:

- Paper Birch
- Silver Birch
- Beech
- Apple Blossum
- Cheery
- Wych Elm
- Whitebeam
- Red Maple

A large Maple Sycamore (refer Appendix B and E T14) and two Weeping Willow trees (refer Appendix B and E and T25 and T26) were categorised as large (trunk diameters 265cm, 65cm, 65cm respectively), and supported bark with deep fissures and cavities suitable for small mammals (bats, rodents, and breeding birds. No trees are proposed to be removed to facilitate the proposed developments.

Chalk Stream (UKHab r2)

A chalk stream (refer Appendix A Photograph 15 and Appendix B), identified as a priority habitat under the S41 of the NERC Act (2021), is located immediately adjacent (offsite) to the southern site boundary. The riparian zone (measured 10m landward from the bank top) is within the site boundaries (refer Appendix A Photograph 16 and Appendix B) and comprised poor condition species poor modified grassland (g4) and poor condition other neutral grassland (g3c) (refer Appendix B, FIDs 9 and 13). The riparian zone comprised part of a spoil heap (refer Appendix A Photograph 13 and Appendix A) which falls within the footprint of the proposed development and will be subject to impacts associated with the construction of a new commercial workshop.

Other Neutral Grassland (UKHab g3c)

A spoil heap comprising a small patch of other neutral grassland, poor condition (refer Appendix B, Target Note 1 and FID 13), is located within the south-west corner of the site. The habitat comprised a mosaic of excavated earth, manure, hay, and other neutral grassland. Evidence of mammal burrows (rabbit and field vole) were recorded (refer Appendix A Photograph 14). The habitat is also suitable for grass snake (egg laying) and hedgehogs. The habitat falls partly within the riparian zone of the chalk stream.

- Holcus lanatus (Yorkshire-fog) (D)
- Lolium perenne (Perennial Rye-grass) (F)
- Urtica dioica (Common Nettle) (A)
- Cirsium vulgare (Spear Thistle) (R)
- Cicerbita macrophylla (Common Blue-sow-thistle) (R)
- Poa annua (Annual Meadow-grass) (F)
- Lolium perenne (Perennial Rye-grass) (O)
- Silene dioica (Red Campion) (R)
- Veronica hederifolia (Ivy-leaved Speedwell) (R)
- Lamium album (White Dead-nettle) (O)

- Veronica filiformis (Slender Speedwell) (R)
- Arum maculatum (Lords-and-Ladies) (R)
- Narcissus pseudonarcissus (Daffodil) (R)
- Myosotis arvensis (Field Forget-me-not) (R)
- Euphorbia lathyris (Caper Spurge) (R)

Non-Native Ornamental Hedgerows (UKHab h2b) and Lines of Trees (UKHab w2c 33 21)

Three species poor, poor condition, non-native ornamental hedgerows (UKHab h2b) and one line of trees (UKHab w2c 33 21) are present on site. No impacts upon the hedgerows or line of trees are required to facilitate the proposed development. The hedgerows and trees comprise the following:

- Western site boundary hedgerow (refer Appendix B FID 14), poor condition and dominated by Fagus sylvatica (Beech) (F), Ilex aquifolium (Holly) (O), Buxus sempervirens (Box) (A), Jasminum nudiflorum (Winter Jasmine) (O). The ground flora is dominated by Hedra helix (Common Ivy) (F)
- Northern boundary hedgerow (refer Appendix A, B, and FID 15), dominated by Buxus sempervirens (Box) (D) and in poor condition.
- Eastern site boundary hedgerow (refer Appendix A, B, and FID 16), dominated by Prunus laurocerasus (Cherry Laurel) (D), in poor condition.
- Southern boundary line of trees, young planted (UKHab 33 21) (refer Appendix B FID 17), dominated by young poor condition leylandii. The tree planting extends into the chalk stream riparian zone.

Artificial Unvegetated Unsealed Surface (UKHab u1c)

An existing vehicular access track and associated car parking comprise artificial unvegetated unsealed surface (gravel access track). Five shipping containers (used for storage) and small areas of ornamental planting sited on the gravel habitat. There was a small paved area located between built structures B1 and B2.

Buildings (UKHab u1b5)

Three built structures are located on site and are proposed to be retained. B1 will be subject to alterations and include the regularisation of a dwelling. Built structures at the site include the following:

- B1 (refer Appendix A Photographs: 4, 5, 6 Appendix B FID 3): former barn, partly converted into residential dwellings (flats). Constructed of brick external vertical timber weatherboarding, with a corrugated metal roof.
- B2 (refer Appendix A Photograph 11 and Appendix B FID 5): existing workshop. A curved single storey structure constructed of breeze block and lined with black bituminous roofing felt.
- B3 (refer Appendix A Photograph 12 and Appendix B FID 8): New single storey agrocutural building, constructed of brick and supporting a corrugated metal slightly pitched roof.

3.3 Protected and Notable Species Potential Assessment

Habitats present within the site were assessed in terms of their suitability to provide habitat for protected or notable species. Except for bats (see bat

DBW and PRA section below), no evidence of any protected or notable species were recorded on site at the time of the survey.

Habitats at the site were of low ecological value overall, except for the following:

- Spoil heap (refer Appendix B FID 13) – hay and grassland suitable for Grass Snake (egg laying and basking) Hedgehogs and evidence of non-protected mammals present (Rabbit and Field Vole)
- A mixed species ornamental hedgerow located along the western boundary south of B1 (refer Appendix B FID 14), three mature trees (refer Appendix B T14 (Maple Sycamore), T25 and T26 (Weeping Willows) and built structure B1, provide potential for roosting bats and breeding birds.

Refer Table 3, protected species assessment.

Table 3: Protected Species Potential Assessment Results

Species	Legal Protection	Habitat Feature	Potential Assessment
Roosting Bats	Hab Dir A4 Hab Reg Sch2 WCA Sch5	Built structure B1 Over three thousand records of bats were returned by SxBRC. None for the site itself.	Moderate (evidence recorded)
Hazel Dormouse	Hab Dir A4 Hab Reg Sch 2 WCA Sch5 NERC S41 UK BAP Priority, Red List GB	Western site boundary hedgerow Records provided by SxBRC indicate Hazel Dormice have previously been recorded in hedgerows along Eastergate Lane (off-site)	Low (no evidence)
Badger	Protection of Badgers Act 1994	Spoil heap (sett building) Modified grassland foraging	Moderate (no evidence)
European Hedgehog	NERC S41 UK BAP Priority, Red List GB	Spoil heap and western boundary hedgerow. Records provided by SxBRC indicate hedgehogs have previously been recorded within the study area (off-site).	Moderate (no evidence)

Otter	Hab Dir A2 & A4 Hab Reg Sch2 WCA Sch5	No aquatic, woodland, or scrub habitats on site No records of otter were provided by SxBRC for the site	Screened out
Water Vole	WCA Sch5 NERC S41 UK BAP Priority Red List GB Sussex Rare	Spoil Heap (grassland), adjacent to chalk stream. Records provided by SxBRC indicate water voles have previously been recorded within the off-site chalk stream.	Low (no evidence found on site)
Great Crested Newt	Hab Dir A2 & A4 Hab Reg Sch2 WCA Sch5 NERC S41 UK BAP Priority	No ponds or suitable terrestrial habitats on site	Screened out
Reptiles (Grass Snake)	WCA Sch5 UK BAP Priority	Spoil Heap provides suitable egg laying habitat. Foraging habitat is limited for reptiles	Low
Schedule 1 Birds (Barn Owl and Kestrel)	WCA Sch1 WCA Sch5	Buit structures are unsuitable. Trees devoid of cavities of sufficient size to support barn owl.	Screened out (no suitable habitats on site)
Breeding Birds (non designated)	WCA Sch5	B2: Built structure, former evidence of breeding/nesting birds.	Low (limited access except potentially for house sparrows)
		Trees (T25, T26) and a mature ornamental hedgerow (H1) located along the western site boundary	High
Summer/Wintering/Migrant Birds (Ramsar, SPA, SAC, SSSI species)	Birds Dir A1 WCA Sch1 WCA Sch5 varies legislation species specific	No suitable habitat and the site is subject to human disturbance on a daily basis	Screened out
Rare Invertebrates and Stag Beetle	WCA Sch5	No suitable habitat (grassland intensively managed and absence of woodland or woody scrub or aquatic features)	Screened out

4. BATS

4.1 DBW

Habitats (built structures, forty-eight trees and three hedgerows) present at the site were assessed for their potential to provide opportunities for bats (roosting, foraging and flights-paths).

The site as a whole is intensively managed and dominated by species poor grassland, three built structures, three species poor hedgerows and 45 (young) trees.

The habitats were assessed and potential for bats is summarised as follows:

- Building B1: agricultural barn partly converted into three flats (residential dwellings) gaps (approx. 10cm length x 2.5cm width), devoid of cobwebs were present between a door lintel and under vertical timber weatherboarding at the southern-eastern end (front), which provide suitable ingress and egress for bats and assessed as Moderate Potential.

- Building B2: a curved brick single storey structure lined with an exposed bituminous roofing liner (currently in use as a joinery workshop). Minor gaps (15cm length c 2cm width) were present in the corners, at the base of the exposed roofing liner, and assessed as Low Potential.

- Building B3: a modern single storey structure, timber cladding and a flat plywood roof (slight pitch), with security lighting and roller shutter doors. Small gaps present under metal flashing on the northern and southern gable ends and assessed as Negligible Potential.

- Trees: T14 (Sycamore Maple), T25 and T26 Weeping Willows supported flaky bark, T14 also supported a cavity (60cm) in the trunk, approximately 2m in height. These trees were assessed as Low Potential.

- All other trees present at the site were young (<10cm in diameter), and devoid of any suitable features for bats.

- Two ornamental hedgerows (eastern and southern site boundaries) were young, species poor and provide limited suitability for foraging and commuting bats.

- A third ornamental hedgerow located along the western boundary supported species poor with a slightly more diverse species mix and

was established (1.5m height). The hedgerow provided Moderate potential for foraging and commuting bats.

4.2 PRA

An internal inspection of the roof void (former hay loft) and a hallway/staircase which provided access into the roof void of B1 was conducted to search for evidence of roosting bats.

No evidence (droppings, scratch marks, urine staining was found within the roof void itself, which is currently used for storage and too light (skylights) which lowered this features potential to support roosting bats. The extension of B1 proposes to impact this area.

Two old (<12 months) pipistrelle bat droppings were recorded on a white painted wall in the hallway/staircase, which provided access into the roof void (refer Appendix A, Photographs 5, 6, 7, 8. Bird guano (old) was also evident on the wall and metal structural supports. A gap located below the door lintel and below the vertical timber weatherboarding (devoid of cobwebs) was the point of access for bats (refer Appendix A Photographs 9, 10). No other evidence of bats was found upon the external walls or areas of hard standing below the potential bat access points.

Based upon the evidence recorded, it is considered that gaps under the metal structural supports or behind a timber plywood feature (above the internal doorway) are used as an occasional roost by an individual pipistrelle species of bat. The roost is likely to be of low significance based upon the evidence recorded and further surveys will be required to confirm the status of the roost.

No impacts to building B2 and B3 are proposed and, therefore, these two structures were not subject to an internal assessment for roosting bats.

5. POTENTIAL IMPACTS AND SITE EVALUATION

5.1 Potential Impacts

In the absence of detailed design, it is not possible to assess all potential impacts and appropriate mitigation. However, based upon the outline designs, the following potential impacts may occur because of the proposed developments:

Construction of New Commercial Workshop:

- Encroachment arising from the footprint of the new workshop within the chalk stream riparian zone (priority habitat), has the potential to reduce the habitat condition score of the chalk stream, resulting in damage to a rare and priority habitat and potential impacts upon Water Voles within the stream.

- Loss of suitable habitat (spoil heap) for grass snake, hedgehog, and other small mammals
- Loss of modified grassland due to reduction of this habitat

Construction of a new Single Dwelling:

- Potential disturbance to breeding birds
- Loss of modified grassland and young trees

Regularisation of Existing Residential Flat (B2):

- Loss of potential bat roosting habitat (likely a low significant roost) for individual/low numbers of pipistrelle species of bats
- Increased risk of disturbance to breeding birds

Operational Phase: New Joinery Workshop and New Single Residential Dwelling

- Increased use of artificial lighting and disruptions to potential bat flight paths

5.2 Site Evaluation

The site is not located within the boundaries of any designated sites, or their associated impact risk zones (IRZs). Whilst records provided by the SxBRC indicate low numbers of Barbastelle and Bechstein's (designated features) bats have been recorded within a 10km radius of the site, potential adverse significant effects upon the integrity or functionality of Singleton and Cocking Tunnels SAC is not considered likely, as habitats within the site are not suitable to support these species of bats for breeding, hibernation, forging or commuting.

Erection of a new workshop which currently falls within the footprint of the riparian zone of a chalk stream (priority habitat) will result in encroachment of the stream, which may potentially reduce the overall habitat condition score of the stream and result in impacts upon Water Voles. Chalk streams are nationally rare habitats, with only two hundred chalk rivers known globally, of which 85% are found in the UK in southern and eastern England (Wildlife Trust (online). The **chalk stream** and **Water Voles** have been assessed and is of importance at **National and County Levels**.

Erection of a new workshop will result in the loss of a spoil heap which potentially provides suitable habitats for **grass snake, hedgehog** and other small (non-protected) mammals. With appropriate mitigation it is likely these impacts can be mitigated on site, and the spoil heap habitat mosaic (**other neutral grassland**) is therefore, considered to be of importance at **Site Level**.

Regularisation of an existing residential dwelling (flat) and alterations into a storage area (loft) within B1 may result in the destruction of a potentially low significance bat roost, used by an individual or low numbers of likely common species of pipistrelle bats. Further surveys will be required to determine the status of the roost, however, based upon the evidence recorded at the time of the survey, the roost is not likely to be used as a maternity or hibernation site and B1 has been assessed and is considered to be important for **roosting bats** at a **Site Level**.

Two Weeping Willow and one Sycamore Maple **mature trees** are present on site, no impacts upon these trees are likely, and the trees are of importance at a **Local Level**.

All other habitats at the site including other **built structures, ornamental hedgerows, modified grassland, and young trees** provide low ecological value in their current conditions and are of importance at a **Site Level.**

6. RECOMMENDATIONS & CONCLUSIONS

6.1 Recommendations

The avoid impacts upon habitats and protected species at the site, and to provide a net gain for biodiversity in accordance with the Environment Act 2021, the following recommendations are provided below.

Construction of a New Workshop:

1. The proposed footprint of the new proposed workshop falls within the riparian zone of a chalk stream (priority habitat), which will result in encroachment to the riparian zone and potential degradation of the chalk stream and potential adverse impacts upon Water Voles. The location of the new workshop is recommended to be moved outside of the riparian zone (moved at least 12m north). Temporary protective (netlon) fencing is recommended to be erected around the riparian zone during construction, to prevent damage. All plant, equipment, chemicals, and materials should be stored in at least 15m from the watercourse and no materials should be stored within the riparian zone.

2. A Biodiversity Net Gain (BNG) assessment is recommended and must be quantified using the Statutory Biodiversity Metric (Panks et al, 2023b). The BNG assessment will quantify all habitat changes, losses, and gains, by calculating the on-site habitat baseline with the post intervention development. A minimum 10% BNG will be required for both habitats and hedgerows. The overall landownership site currently provides excellent opportunities for ecological enhancements to deliver BNG, and the following enhancements are recommended to be focused on the southern end of the site:

i. Enhancement of existing modified grassland to species rich, less intensively managed, other neutral grassland (area required to be determine through initial Statutory Biodiversity Metric calculations)

ii. Removal of young leylandii tree saplings within the chalk stream riparian zone, and enhancement of modified grassland to less intensively managed species rich other neutral, with a varied sword height, to create a rich mosaic (microclimates) of habitats, more in keeping with the chalk stream, to increase terrestrial and aquatic invertebrate interest in the stream and provide suitable habitat for Water Vole.

iii. Creation of a new wildlife pond with native submerged and marginal plants and grassland species, to increase the overall wildlife value of the site for amphibians, reptiles, invertebrates, and foraging bats.

iv. Creation of a new species rich native hedgerow to run parallel with an existing line of young leylandii (line of trees). The new hedgerow should be located outside the chalk stream riparian zone and connect to the wildlife pond and enhanced grassland mosaic to provide a dispersal corridor for protected species and a BNG for hedgerows. Species to include beech, maple, hawthorn, dogrose, hazel, holly, English oak. An artificial hedgehog house (refer Example of Artificial Nest Boxes) is recommended to be provided under the hedgerow to compensate for the on-site loss of suitable habitat (spoil heap).

3. To provide compensation for the loss of a spoil heap and refugia, creation of log piles (adjacent to the new wildlife pond), to comprise soil, wood, large stones and seeded with a native species rich grassland mix, is recommended to provide compensatory habitat for grass snakes, other reptiles, invertebrates, and small mammals.

4. Following the creation of suitable compensatory habitat at the site, the spoil heap is recommended to be removed via the following process:
    - Stage 1: vegetation cut down to a height of 200mm
    - Stage 2: vegetation cut down to down level
    - Stage 3: soil carefully excavated and subject to a final soft scrap by contractors using an excavator fitted with a wide toothed bucket

    This process will provide species with sufficient time to disperse of their own accord into retained adjacent habitats on-site. In the unlikely event any individual Grass Snakes or Hedgehogs are encountered during habitat manipulation, they should be captured (by hand) by a suitably qualified ecologist and relocated into suitable on-site habitats. Habitat clearance must avoid the Grass Snake egg

laying season August to mid-September (breeding) and the Hedgehog hibernation period (Mid-October – April), as disturbance during these times can adversely impact survivorship.

Regularisation of Existing Residential Dwelling (B1):

The following recommendations are provided for regularisation and alteration of an existing residential dwelling (B1):

- The presence of two old bat droppings within B1 indicate the likely presence of a low significance bat roost, used by an individual or low numbers of bats. To determine the status of the roost, further surveys will be required. In accordance with current guidelines (Collins et al, 2023). Three dusk emergence surveys are recommended to be conducted by two experienced surveyors (to include at least one licensed bat ecologist). The surveys should be spaced a minimum of three weeks apart and conducted May – August.

- The results of the survey along with recommendation for licencing, mitigation and enhancement for bats should be detailed within a bat survey report. No alterations to B1 should be conducted until the survey has been completed, and an appropriate derogation licence is in place from Natural England.

- To provide compensatory roosting habitats for bats and breeding birds, a range of nest boxes (refer Examples of Artificial Nest Boxes) are recommended to be erected on the gable ends of B1 and B2, and upon mature trees (Appendix B refer T14, T25 T26). The boxes should be mounted at a height between 3-4m and sited to face a southerly aspect (towards existing hedgerows).

- The use of new artificial lighting at the site should be minimised and new external lighting should be fitted with Passive Inferred Radiance (PIR), so lights are only illuminated for the time required. New lighting should be sited away from any potential bat or bird roosting habitats or potential ingress and egress points (refer Bats and Lighting section below)

5. All compensatory habitats and ecological enhancements are recommended to be detailed within a site wide landscape and management plan.

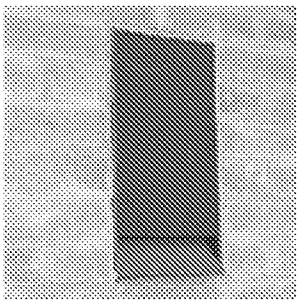
Construction of a new Single Residential Dwelling:

Construction of a new residential dwelling at the site will result in the loss of modified grassland. Ecological enhancement of modified grassland within the remaining northern and central sections of the site, are recommended to create a species rich native other neutral grassland, with varied sword heights, to create a more diverse rich mosaic. Species composition should be detailed within a site wide landscape and management plan.

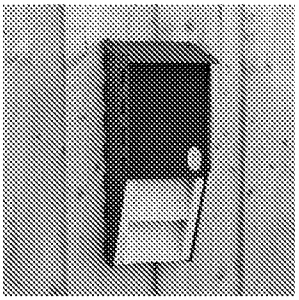
- An integrated bat roost cavity wall box is recommended to be provided on the gable ends of the new dwelling, to provide an ecological enhancement for roosting bats. Integrated bat boxes are recommended to be sited high (4m) on a gable end and face south, west, or east, to provide connectivity to suitable foraging and commuting habitats i.e. trees and hedgerows (refer Example of bat cavity wall integrated box below).

Examples of Artificial Nest Boxes

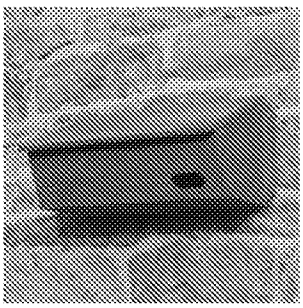
Hedgehog nest box[1]



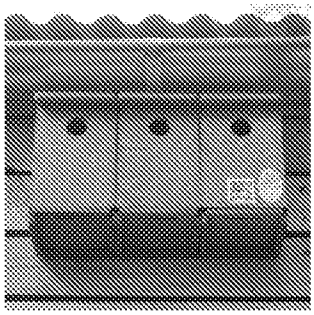
Integrated bat box[2]



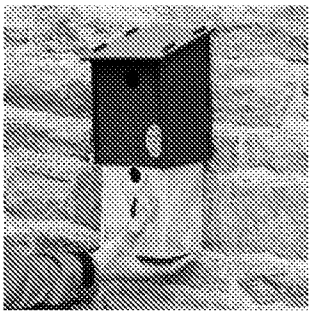
Bat box suitable for trees[3]



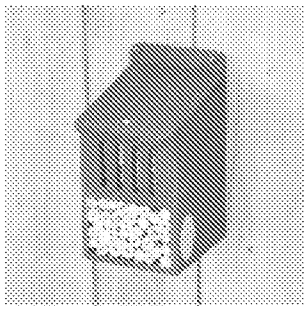
Swift nest box[4]



Sparrow terrace nest box[5]



Small bird nest box (building/trees)[6]



Bug hotel[7]

[1] https://www.nestbox.co.uk/products/hedgehog-nest-box
[2] https://www.nestbox.co.uk/products/integrated-eco-bat-box
[3] https://www.nestbox.co.uk/products/eco-kent-bat-bo
[4] https://www.nestbox.co.uk/products/swift-nest-box
[5] https://www.nestbox.co.uk/products/sparrow-terrace-nest-box
[6] https://www.nestbox.co.uk/products/eco-small-bird-box
[7] https://www.nestbox.co.uk/products/bug-hotel

General Recommendations (All Developments)

Bats and Lighting

- The level of artificial lighting, including flood lighting, should be avoided, or kept to an absolute minimum and only for time required, and set to activate with passive inferred radiance (PIR)
- Where this does not conflict with health and safety and/or security requirements, the site should be kept dark during peak bat activity periods (0 to 1.5 hours after sunset and 1.5 hours before sunrise)
- Lighting required for security or safety reasons should use sensor-activated lamps of no greater than 2000 lumens (150 Watts)
- Lights utilising LED technology are the preferred option as these lights do not emit on the UV spectrum, are easily controlled in terms of direction/spill, and can be turned on and off instantly.
- Avoid the use of sodium or metal halide lamps as these gas lamps require a lengthy period in which to turn off and the diffuse nature of the light emitted makes light spillage a significant problem
- Permanent lighting installed should be directed to where it is needed to minimise light spillage. This can be achieved by limiting the height of the lighting columns and by using as steep a downward angle as possible, and/or should be fitted with a shield/hood/cowl that directs the light below the horizontal plane and restricts the lit area
- Use of artificial lighting should not illuminate any trees, hedgerows or features used by roosting, foraging or commuting bats.

Biosecurity

To prevent the spread of INNS or diseases, all contractors should adhere to strict biosecurity measures and follow the Check-Clean-Dry approach[8] and ensure that all PPE, equipment, and the tires of all vehicles are thoroughly cleaned before entering and leaving the site.

Pollution Prevention Measures

Appropriate mitigation measures should be implemented prior to the construction phase to ensure that the water quality within the chalk stream is not adversely affected through pollution incidents and the release of contaminants from the site

[8] www.nonnativespecies.org/checkcleandry.

and in accordance with pollution prevention measures defined in CIRIA Guidance: Control of water pollution from construction sites (Masters-Williams, 2001[9]).

Minimising the impacts of oil and fuel leaks can be achieved by the following actions:

- Any chemical, fuel and oil stores should be located on impervious bases within a secured bund with a storage capacity 110% of the stored volume.
- Biodegradable oils and fuels should be used where possible.
- Drip trays should be placed underneath any standing machinery to prevent pollution by oil/fuel leaks. Where practicable, refuelling of vehicles and machinery should be conducted on an impermeable surface in one designated area away from any watercourse or drainage (at least 10m).
- Emergency spill kits should be available on site and staff trained in their use.
- Operators should check their vehicles on a daily basis before starting work to confirm the absence of leakages. Any leakages should be reported immediately.
- Daily checks should be conducted, and records kept on a weekly basis and any items that have been repaired/replaced/rejected noted and recorded. Any items of plant machinery found to be defective should be removed from site immediately or positioned in a place of safety until such time that it can be removed.

Silt run off should be prevented by incorporating the following actions:

- Silt curtains, or other appropriate method of silt containment, should be used to prevent silt from the construction works entering the watercourse.
- All silt containment measures should be agreed with the Environment Agency before implementation.
- Water quality downstream of the works should be monitored regularly to detect any changes in water quality that could indicate a pollution incident. Should monitoring indicate potential pollution from the construction activities, works should be stopped, and a solution found to prevent the pollution source entering the watercourse. Monitoring could include:
- Visual monitoring to see if water colour has changed or if a plume is visible indicating sediment input.

[9] Information useful for Toolbox Talks on working near water and pollution prevention.

6.2 Conclusions

The site does not fall within any designated sites, or their associated impact risk zones. Consequently, no significant adverse effects upon the integrity or functionality of the designated sites, within a 2km radius of the site are likely to occur.

Planning consent is required to permit the construction of a new workshop at the southern end of the site. In the absence of appropriate mitigation this development is likely to result in adverse impacts (encroachment) of the riparian zone associated with a chalk stream (priority habitat). These impacts can be avoided by moving the new structure north by at least 12m, and implementing strict protection and pollution control measures, during construction.

Further surveys for bats are required to inform the status of the roost within B1, prior to any alterations of this structure into the roof void (storage area).

The provision of artificial nest boxes for hedgehogs, bats, breeding birds and bugs, and the provision of log piles for reptiles and will provide sufficient compensatory habitat for protected and notable species.

To provide a net gain for biodiversity, ecological enhancements of poor condition modified grassland within the riparian zone, and habitat creation (new wildlife pond and species rich hedgerow) will improve the ecological value of the site, protect and enhance important ecological features (chalk stream and mature trees) and leave the site in a better state for biodiversity than what is currently there, and in accordance with legislation and local planning policies, defined under the NERC Act 2019 and the Environment Act 2021.

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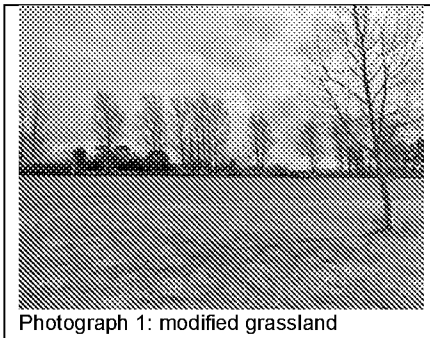
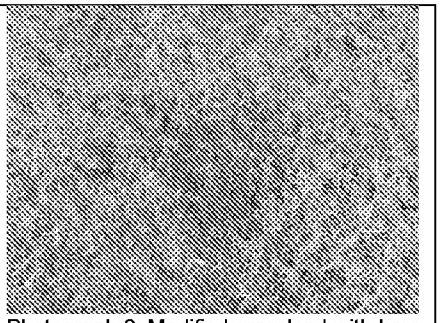
8. Appendices

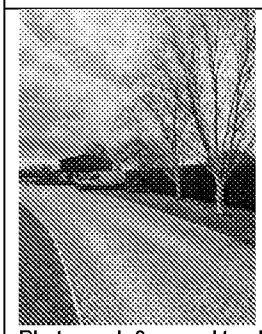
APPENDIX A: PHOTOGRAPHS



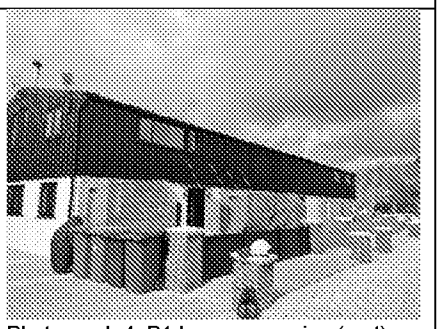
Photograph 1: modified grassland



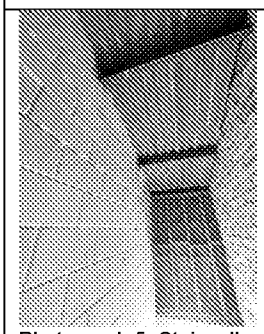
Photograph 2: Modified grassland with bare ground



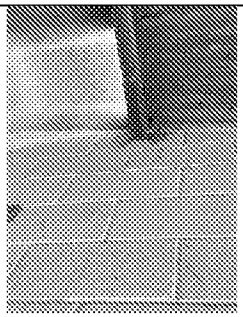
Photograph 3: gravel track



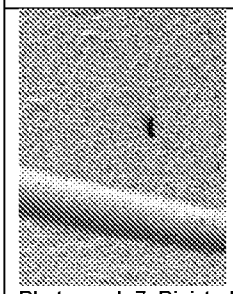
Photograph 4: B1 barn conversion (part)



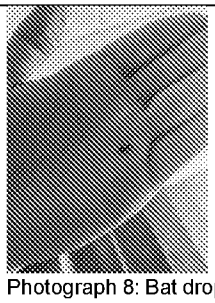
Photograph 5: Stairwell



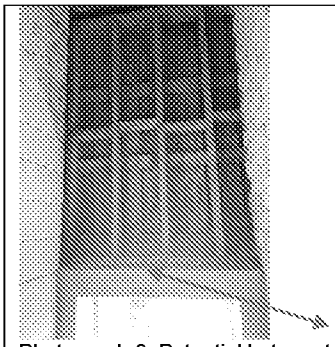
Photograph 6: internal wall/potential bat roost location



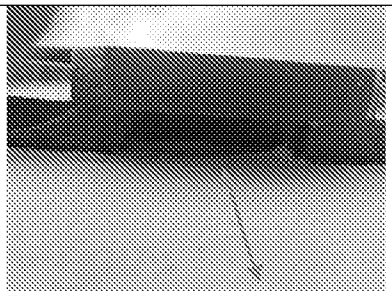
Photograph 7: Pipistrelle spp. bat dropping



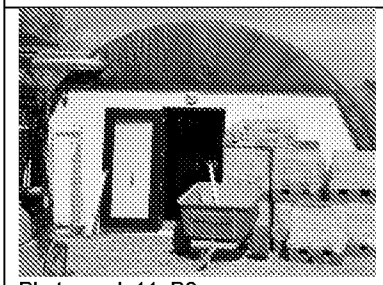
Photograph 8: Bat dropping < 12 months old



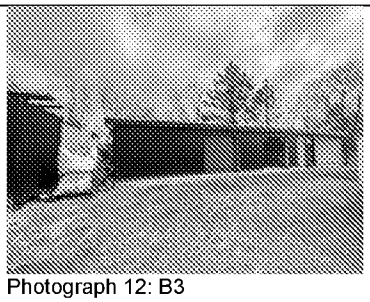
Photograph 9: Potential bat roost location



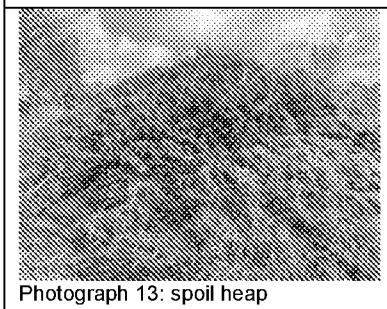
Photograph 10: potential bat access under weatherboarding above door lintel



Photograph 11: B2

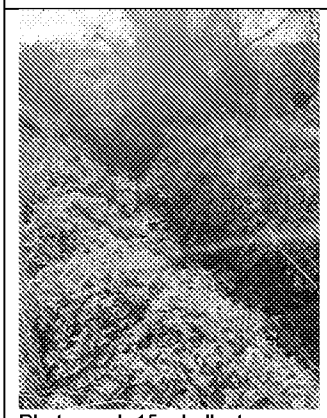


Photograph 12: B3

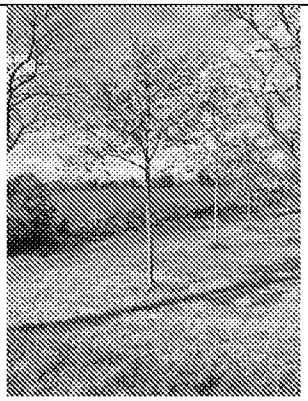


Photograph 13: spoil heap

Photograph 14: mammal burrows

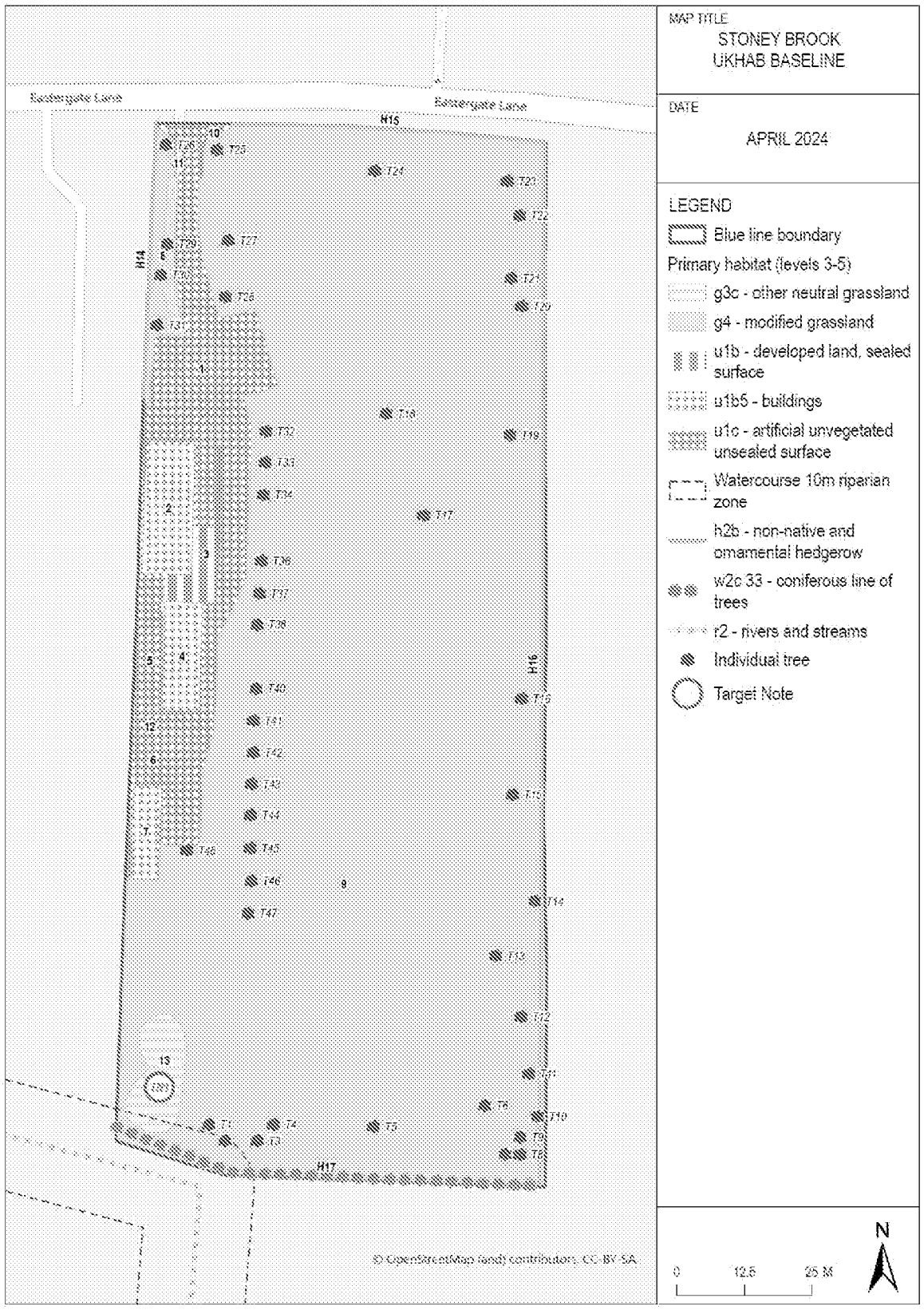


Photograph 15: chalk stream



Photograph 16: chalk stream riparian zone

APPENDIX B UKHAB MAP



APPENDIX C HABITAT CONDITION ASSESSMENT

Table 4: Habitat Condition Scores

FID	UKHab Primary Habitat Classification	UKHab Classification Codes	Habitat Feature Type	Latitude	Longitude	Distinctiveness	Condition Score	Final Condition Score
14	Non-native and ornamental hedgerow	h2b	Linear	50.846525	-0.637177	1	1	Poor
15	Non-native and ornamental hedgerow	h2b	Linear	50.846695	-0.636544	1	1	Poor
16	Non-native and ornamental hedgerow	h2b	Linear	50.845804	-0.636166	1	1	Poor
8	Modified grassland tall forbs scattered trees	g4 16 32	Polygon	50.846481	-0.637145	2	1	Poor
9	Modified grassland scattered trees frequently mown	g4 32 108	Polygon	50.845824	-0.636721	2	1	Poor
13	Other neutral grassland	g3c	Polygon	50.845134	-0.637205	4	1	Poor
17	Other coniferous woodland line of trees young trees	w2c 33 201	Linear	50.84499	-0.636748	2	1	Poor

Table 5: Habitat Condition Criteria Scores

FID	Crit1	Crit2	Crit3	Crit4	Crit5	Crit6	Crit7	Species Total
14								5
15								1
16								1
8	0	0	1	1	1	1	1	5
9	0	0	1	1	1	1	1	8
13	0	1	0	1	0	0		13
17	0	0	0	0	1			0

APPENDIX D: PROTECTED HABITATS AND SPECIES SXBRC RECORDS

Table 6: SxBRC Records

Habitats						
Name		**Protection/Importance**				**Proximity to Site**
Chalk Stream		NERC S41 UK Bap Priority Habitat				Immediately adjacent to the east site boundary
Mammals (ex bats)						
Taxon	**Name**	**International Designation**	**National Designation**	**Other Designation**	**Latest Record**	**Number of Records**
Arvicola amphibius	Water Vole		WCA Sch5 NERC S41	UK BAP Priority, Red List GB Sussex Rare	2022	12
Muscardinus avellanarius	Hazel Dormice	Hab Dir A4	WCA Sch5	UK BAP Priority, Red List GB	2021	142

		Hab Reg Sch2	NERC S41			
Erinaceus europaeus	Western European Hedgehog		NERC S41	UK BAP Priority, Red List GB	2020	56
Bats						
3,203 records returned for a 10km radius of the site. All UK 18 species (except lesser horseshoe bats) and a recent migrant Khul's pipistrelle *Pipistrellus kuhlii* bat, were recorded within a 2km radius of the site include:						
Rhinolophus ferrumequinum	Greater Horseshoe	Hab Dir A4 Hab Reg Sch2	WCA Sch5		2021	2
Plecotus auritus	Brown Long Eared	Hab Dir A4	WCA Sch5		2021	20
Pipistrellus pygmaeus	Soprano pipistrelle	Hab Dir A4 Hab Reg Sch2	WCA Sch5		2022	20
Pipistrellus pipistrellus	Common pipistrelle		WCA Sch5		2021	1
Pipistrellus nathusii	Nathusius pipistrelle		WCA Sch5		2018	1

Myotis nattereri	Natterer's		WCA Sch5		2021	4
Myotis daubentonii	Daubenton		WCA Sch5		2021	3
Myotis bechsteinii	Bechstein	Hab Dir A4 Hab Reg Sch2	WCA Sch5		2021	12
Nyctalus noctula	Noctule		WCA Sch5		2021	1
Eptesicus serotinus	Serotine		WCA Sch5		2021	1
			Birds			
Circus cyaneus	Hen Harrier		WCA Sch1		2011-2022	1
Milvus milvus	Red Kite		WCA Sch1		1996 - 2022	35
Pandion haliaetus	Osprey		WCA Sch1		1992 - 2018	4
Pernis ptilorhynchus	Honey Buzzard		WCA Sch1		2002 - 2003	2

Cygnus columbianus	Tundra Swan		WCA Sch1		2011	1
	Berwick Swan		WCA Sch1		2021	1
Cygnus cygnus	Whooper Swan		WCA Sch1		2011 - 2015	22
Melanitta nigra	Common Scoter		WCA Sch1		2006	1
Spatula querquedula	Garganey		WCA Sch1		1990	2
Upupidae	Hoopoe		WCA Sch1		2020	1
Caprimulgidae	Nightjar	Birds Dir A1		NERC S41	1986 - 2006	15
Vanellinae	Lapwing			NERC S41	1991 - 2021	9
Pluvialis apricaria	Golden Plover	Birds Dir A1			1989 – 2013	4
Hydrocoloeus minutus	Little Gull	Birds Dir A1	WCA Sch1		2014	1
Ichthyaetus melanocephalus	Mediterranean Gull	Birds Dir A1	WCA Sch1		2006 - 2021	6

Larus argentatus	Herring Gull			NERC S41	1998 - 2022	98
Numenius	Curlew			NERC S41	1991 - 2005	10
Numenius phaeopus	Whimbrel		WCA Sch1	Red List GB	1986 - 2022	8
Tringa ochropus	Green Sandpiper		WCA Sch1		1997 - 2019	6
Egretta garzetta	Little Egret	Birds Dir A1			2018 - 2021	2
Ciconia ciconia	White Stork	Birds Dir A1			2010 - 2012	4
Plegadis falcinellus	Glossy Ibis	Birds Dir A1			2012 - 2014	2
Streptopelia turtur	Turtle Dove			NERC S41	2018	8
Alcedo atthis	Kingfisher		WCA Sch1		1995 - 2016	5
Falco columbarius	Merlin	Birds Dir A1	WCA Sch1	Red List GB		1
			Amphibians			
Taxon	**Name**	**International Designation**	**National Designation**	**Other Designation**	**Latest Record**	**Number of Records**

Triturus cristatus	Great Crested Newt	Hab Dir A2 & A4 Hab Reg Sch2	WCA Sch5 NERC S41	UK BAP Priority	2019	5
Lissotriton helveticus	Palmate Newt		WCA Sch5		2009	4
Lissotriton vulgaris	Smooth Newt		WCA Sch5		2009	10
Bufo Bufo	Common Toad		WCA Sch5 NERC S41	UK BAP Priority	2009	13
Rana temporaria	Common Frog		WCA Sch5		2017	27
Reptiles						
Taxon	**Name**	**International Designation**	**National Designation**	**Other Designation**	**Latest Record**	**Number of Records**
Zootoca vivipara	Common Lizard		WCA Sch5	UK BAP Priority	2019	48

Anguis fragilis	Slow Worm		WCA Sch5	UK BAP Priority	2020	76
Natrix helvetica	Grass Snake		WCA Sch5	UK BAP Priority	2022	27
Vipera berus Adder WCA	Adder		WCA Sch5	UK BAP Priority	2022	1
		Invertebrates				
Taxon	**Name**	**International Designation**	**National Designation**	**Other Designation**	**Latest Record**	**Number of Records**
Lucanus cervus	Stag Beetle (coleoptera)		WCA Sch5		2015	7
Boloria euphrosyne	Pearl Bordered Fritillary (butterfly)		WCA Sch5	Red List UK BAP	1997	1
Coenonympha pamphilus	Small Heath (butterfly)			NERC S41 UK BAP Priority	2018	1

APPENDIX E: TREE ASSESSMENT

Table 7: Tree Assessment

Tree Number	Species	Diameter	Size Class
T1- T3	Apple Blossum	8cm	small
T4 – T6	Lime spp	10cm	small
T7 – T11	Beech	10cm	small
T12 – T13	Paper Birch	7.5cm	small
T14	Maple Sycamore	265cm	large
T15	Silver Birch	7cm	small
T16	Red Maple	8cm	small
T17	Whitebeam	17cm	small
T18	Black Walnut	8.5cm	small
T19 – T20	Cherry	9cm	small
T21	Horse Chestnut	7.5cm	small
T22	Paper Birch	12cm	small
T23	Cherry	7.5cm	small
T24	Paper Birch	13cm	small
T25 – T26	Weeping Willow	65cm	medium
T27 – T28	Wych Elm	8cm	small
T29 – T30	Paper Birch	30cm	medium
T31	Cherry	39cm	medium
T32	Beech	12cm	small
T33 – T36	Paper Birch	16cm	small
T37	Beech	12cm	small
T38 – T41	Paper Birch	6cm	small
T42	Beech	5,5cm	small
T43 – T46	Paper Birch	6cm	small
T47	Beech	5.5cm	small
T48	Red Maple	6.5cm	small