



HANBURY PROPERTIES LTD

PHASE 1A,
OLDLAND FARMS,
SHRIPNEY ROAD,
BOGNOR REGIS,
WEST SUSSEX

**Ecological Protection &
Enhancement Plan
Pursuant to
Condition 17 of BE/61/13**

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1. INTRODUCTION

- 1.1 This Ecological Protection and Enhancement Plan (EPEP) has been prepared by Ecology Solutions on behalf of Hanbury Properties Limited, in respect to the Phase 1A area at Land at Oldlands Farm, Bognor Regis, West Sussex (see Plan ECO1). Hereafter referred to as the site.
- 1.2 Ecology Solutions has previously undertake an EPEP for the plot of land adjacent to the Phase 1A area, which has now been developed. Work undertaken in association with this plot is references within this report where considered necessary and beneficial.
- 1.3 Ecology Solutions was commissioned in February 2019 to draft an EPEP to seek to discharge Condition 17 of the existing outline planning consent (planning reference: BE/61/13).

Condition 17 states:

Prior to the commencement of development for a phase an Ecological Protection & Enhancement Plan for that phase shall be submitted to and agreed in writing by the Local Planning Authority. The Plan shall be based on the mitigation measures proposed in Section 6 of the Ecological Appraisal dated June 2013 and Section 4.0 of Additional Protected Species Surveys dated November 2013 prepared by Aluco Ecology and will include a programme of ecological monitoring to inform the long-term management of the site. The Plan will include an Annual Work Programme with clear timelines for each mitigation measure to be carried out for the upcoming 12-month period. The mitigation measures shall be implemented in accordance with the timescales set out in the agreed plan.

- 1.4 This EPEP sets out the management of features of ecological interest due to be retained and created within and adjacent to the site, and describes the wildlife enhancements strategies to be implemented.
- 1.5 This EPEP has been written with reference to published guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM) and in accordance with Natural England guidelines for protected species.
- 1.6 The landscape design strategy (drawing reference: 17650.01.Rev D) that has been developed by Davies Landscape Architects has been ecologically driven and is focused on maintaining and creating habitats to increase the biodiversity value of the site whilst incorporating wildlife features to encourage wildlife use of the site.
- 1.7 As detailed in the wording of the condition previous surveys of the site have been completed by Aluco Ecology in 2013. Given the time elapsed since previous surveys were undertaken, Ecology Solutions undertook a site walkover in March 2019 to ensure the current interest could be recorded and measures taken to ensure these were protected.
- 1.8 This document is set out as follows:

- Ecological baseline and evaluation of important features within the site;
- Objectives of the EPEP in order to maximise the ecological potential of features due to be created within the site;
- Details of the ecological enhancement and mitigation strategies to be employed;
- Management prescriptions in order to achieve objectives. These include any monitoring requirements; and
- The work programme.

2. ECOLOGICAL BASELINE AND EVALUATION

- 2.1 Habitat surveys completed by Ecology Solutions were based upon an extended Phase 1 survey technique. The habitats and dominant plant species were recorded, together with conspicuous faunal activity and evidence of the presence, or potential presence, of protected species.
- 2.2 During the surveys undertaken, all obvious faunal activity such as birds or mammals observed visually or by call, was also recorded. Specific attention was paid to any potential use of the site by protected species, priority species (formerly known as Biodiversity Action Plan (BAP) species), or other notable species.
- 2.3 Specific surveys for the presence of Badger *Meles meles*, bats, Water Vole *Arvicola amphibius*, Great Crested Newts *Triturus cristatus*, common reptiles, and birds have also been undertaken to establish the existing ecological intrinsic value of the site and wider survey area. The surveys have enabled suitable and appropriate mitigation and enhancement strategies to be formed.

Results

Ecological Features

- 2.4 The habitats that were previously present on site are described in detail within the Aluco Ecology Ecological Appraisal (dated June 2013), submitted as part of the planning application (planning reference BE/61/13).
- 2.5 The site has been subject to change during the interim period, and therefore updated surveys were undertaken by Ecology Solutions in March 2019.
- 2.6 The following habitats were recorded on site and immediately adjacent to the site in March 2019, and are described in more detail below:
 - Recolonising Ground;
 - Semi-improved Grassland;
 - Tall Ruderal and Rough Grassland; and
 - Wet Ditch.

Recolonising Ground

- 2.7 The main habitat type within the site is recolonising ground (see Photograph 1).
- 2.8 The site appears to have previously been subject to a high level of disturbance from likely ground investigations works but has since been left and the site is beginning to be colonised by early colonising and opportunistic species.
- 2.9 These species include Bristly Oxtongue *Picris echioides*, Perennial Rye Grass *Lolium perenne*, Red Fescue *Festuca rubra*, Hard Rush *Juncus inflexus*, Annual Meadow Grass *Poa annua*, Spear Thistle *Cirsium*

vulgare, Willowherb *Epilobium* sp., Stonecrop *Sedum* sp., Common Field Speedwell *Veronica persica*, Broad-leaved Dock *Rumex obtusifolius*, Common Mouse-ear *Cerastium fontanum*, Common Scurvygrass *Cochlearia officinalis* and Butterfly Bush *Buddleja davidii*.

Semi-improved Grassland

- 2.10 A small strip of semi-improved grassland is apparent along the southern boundary of the site (see Photograph 2), as well as along the bank of the wet ditch (see Photograph 3). Species recorded include White Clover *Trifolium repens*, Dandelion *Taraxacum officinale*, Common Field Speedwell, Broad-leaved Dock, Bristly Oxtongue, Ribwort Plantain *Plantago lanceolata*, Cut-leaved Cranesbill *Geranium dissectum*, Common Nettle *Urtica dioica*, Spear Thistle, Creeping Thistle *Cirsium arvense*, False Oat-grass *Arrhenatherum elatius*, Annual Meadow Grass, Cocksfoot *Dactylis glomerata*, Common Ragwort *Senecio jacobaea*, Groundsel *Senecio vulgaris* and Common Fleabane *Pulicaria dysenterica*.

Tall Ruderal and Rough Grassland

- 2.11 A strip of rough grassland interspersed with areas of tall ruderal vegetation is located to the immediate west of the boundary (see Photograph 4). Species recorded in this habitat include Common Reed *Phragmites australis*, Cut-leaved Cranesbill, Bristly Oxtongue, Teasel *Dipsacus sylvestris*, Bramble *Rubus fruticosus*, False Oat-grass, Hedge Mustard *Sisymbrium officinale*, Red Dead-nettle *Lamium purpureum*, Cleavers *Galium aparine* and Spear Thistle.

Wet Ditch

- 2.12 A wet ditch runs adjacent to the northern boundary of the site. The water is approximately 0.5m deep. The ditch and adjacent bank vegetation shows signs of regular management (see Photograph 5).
- 2.13 There is limited emergent vegetation present, however, Brooklime *Veronica beccabunga* and Water-cress *Rorippa nasturtium-aquaticum* are apparent (see Photograph 6). The slope to the ditch is at a steep gradient and is dominated by semi-improved grassland species as described above.

Wildlife Use of the Site

- 2.14 Ecology Solutions appraised the site during the March 2019 to support the following protected / notable species:
- Bats;
 - Badgers;
 - Water Voles;
 - Birds;
 - Common Reptiles; and
 - Amphibians.

Bats

- 2.15 The site supports no suitable roosting opportunities, the habitats present in respect of foraging opportunities are severely limited. The target bat activity surveys conducted by the previous consultancy recorded no activity within the site.

Badgers

- 2.16 No evidence of Badger was recorded within the site during the specific surveys undertaken.
- 2.17 No Badger setts were recorded on site during previous surveys undertaken in 2013.
- 2.18 The site offers negligible opportunities for Badger, therefore the future presence of Badger on site is considered unlikely.

Water Voles

- 2.19 Ecology Solutions undertook a detailed Water Vole survey in 2019 and previously in 2014.
- 2.20 The 2019 survey found a number of burrows along the bank of the ditch to the north of the site, as well as a number of feeding signs. It was not possible to attribute these burrows and feeding signs to Water Vole. Signs of Water Voles were recorded by Ecology Solutions in this ditch in 2014 in the form of burrows, old feeding stations and footprints. It is therefore assumed that Water Voles could present along this ditch and thus require a level of protection.

Birds

- 2.21 The site is considered to offer very limited opportunities for nesting birds, being dominated by recolonising ground. In the absence of management and activity it is possible that the site could be of some attraction for ground nesting species.
- 2.22 None of the species recorded as part of the previous breeding bird or winter bird surveys would be wholly reliant on the habitats within site.
- 2.23 It is considered greater opportunities for nesting birds are present within the rough grassland and tall ruderal vegetation immediately adjacent to the site.

Common Reptiles

- 2.24 The site does not support favourable habitats for common reptile species. The rough grassland and tall ruderal vegetation immediately adjacent to the site offer greater opportunities for this group.

Amphibians

- 2.25 The site does not support any suitable habitats for amphibians during their terrestrial phase. The rough grassland and tall ruderal vegetation

immediately adjacent to the site offers greater opportunities for amphibians during their terrestrial phase.

- 2.26 At the time of the March survey there was no evidence of breeding amphibians within the ditch. However, it is considered that the ditch does provide some limited opportunities for breeding amphibians.

3. ECOLOGICAL ENHANCEMENT OBJECTIVES

- 3.1 The aims and objectives of the EPEP are to maintain and enhance features of ecological interest within the development, in addition to conserving populations of protected species on site, whilst providing for biodiversity enhancements within the proposed development.
- 3.2 Management represents an important component in these areas.
- 3.3 The following objectives have been identified:
- Objective 1: Maintain and enhance retained and newly created habitats within the site;
 - Objective 2: Maintain populations of protected species identified within the site area at a favourable conservation status; and
 - Objective 3: Increase biodiversity by maximising opportunities for flora and fauna.

4. ENHANCEMENT MEASURES

- 4.1 Enhancement prescriptions and monitoring requirements have been described below, in relation to each of the three objectives.

Objective 1: Maintain and Enhance Retained and Created Habitats within the Site

- 4.2 The vast majority of the existing habitats within the site are of negligible nature conservation interest and their loss to the proposed development is of limited concern. Through habitat creation utilising a diverse range of native species, it is expected that the proposals shall provide biodiversity gains over the current situation.

Unimproved Grassland Sward

- 4.3 An unimproved grass sward will be created along the western and northern boundary of the site.
- 4.4 This wildflower grassland will be sown with a species-rich wildflower seed mix (Germinal Seed Mix WFG4 or similar).
- 4.5 The provision of species-rich native grassland shall enhance the floristic diversity within the site over the current situation, and provide biodiversity gains through additional opportunities for invertebrates, ground-nesting birds and any herpetofauna if they should colonise the site.
- 4.6 It is considered that the loss of the species-poor recolonising ground and semi-improved grassland shall be more than offset through the provision of species-rich native wildflower grassland.
- 4.7 The unimproved grassland will be subject to a relaxed management regime to allow a longer sward to develop. The grassland will be cut once annually in the late autumn. All arisings are to be removed from site to prevent nutrient enrichment which could encourage undesired species.

Native Hedgerow, Hedges, Scrub, Trees and Buffer Planting

- 4.8 New native hedgerow, along with scrub, tree and buffer planting shall increase the floristic diversity of the site over the existing situation. This planting will provide additional foraging and nesting opportunities for birds and enhanced foraging opportunities for local bats.
- 4.9 The native hedge mix includes Hazel *Corylus avellana*, Dogwood *Cornus sanguinea*, Hawthorn *Crataegus monogyna*, Holly *Ilex aquifolium*, Honeysuckle *Lonicera periclymenum*, Blackthorn *Prunus spinosa*, and Dog Rose *Rosa canina*. Other native species are included within the tree planting, hedges and buffer planting.
- 4.10 Planting of new trees and areas of scrub will be undertaken during the autumn, winter or spring, with subsequent monitoring required in order to identify any potential gaps where plants have not survived. Any failed trees or sections of scrub planting will be replaced with native species of local provenance.

- 4.11 A weed-free ring (500 mm) will be maintained around each tree planted for the first five years to reduce competition from weed-species for light and nutrients. This can be achieved with appropriate weed-killers or, preferably, by maintaining a layer of mulch around the base of each tree. Regular health checks of the trees will also be undertaken during periods of dry weather, to ensure that the trees are not affected by drought.
- 4.12 Crown thinning of trees within the site shall be undertaken as required to remove inward growing, crossing, rubbing, dead or damaged branches or thinning to remove secondary and small live branch growth evenly throughout the crown.
- 4.13 Hedgerows to be cut mechanically to a minimum height of 2 metres to ensure that the structure is not significantly altered to compromise their value for associated wildlife.
- 4.14 Only those hedgerows backing on to development to be cut annually whilst all other hedgerows shall be cut on a bi-annual basis (once every two years) on a rotational basis to ensure sufficient habitat for birds and availability of winter foraging.
- 4.15 Trees in hedgerows shall be allowed to develop which shall increase song posts within the hedgerow, and also improve the foraging opportunities along this new linear feature.
- 4.16 The field layer at the base of hedgerows and a margin of 1 metre either side is to be left unmaintained to provide habitat for small mammals. No cutting or herbicide applications are to take place within these margins, except if required to control noxious weeds.
- 4.17 Future arboricultural management will be carried out outside the bird nesting season (March to July inclusive) to avoid any potential offence, or only during this period after a suitably qualified ecologist has undertaken checks to ensure no nesting birds are present.
- 4.18 The areas of native scrub shall be managed to maximise their biodiversity, as such periodic checks will be completed for any dominant Bramble and addressed as required. Should any gaps or weak structure of the scrub be identified these shall be planted with a mixture of native species during the next suitable planting season.

Objective 2: Maintain Populations of Protected Species at a Favourable Conservation Status

- 4.19 As part of the proposals, habitat creation and the introduction of a management regime will provide a net ecological enhancement in the quality of habitat present on site. This will be of benefit to key species, such as bats and birds.

Bats

- 4.20 The site is currently of negligible value to foraging or commuting bats as shown from the recent site walkover along with the previously completed activity surveys, the site is also absent of any roosting opportunities.

- 4.21 The proposed new tree planting associated with unimproved grassland and new areas of scrub planting shall diversify existing habitats at the site and encourage an increase in the invertebrate food source for foraging bats over the existing situation.
- 4.22 As the new trees reach maturity it is likely that new roosting opportunities shall develop across the site. Although it is acknowledged that arboriculture shall be required to accord with public health and safety requirements, where possible dead wood shall be left to allow natural rot and decay to occur.
- 4.23 The scheme offers limited opportunities to increase the availability of roosting opportunities within the scheme over the planting of tree specimens that in time should be expected to develop suitable opportunities. However, to provide immediate opportunities two bat boxes shall be positioned on the exterior of the proposed units to offer suitable roosting opportunities for a range of bat species. It is recommended that 1FF Schwegler bat boxes are utilised, as these are low maintenance models, and provide suitable roosting opportunities for a number of bat species likely to be present in the local area.
- 4.24 The provision of new foraging opportunities and roosting opportunities within the site for bats shall provide net gains for any locally present population.

Badgers

- 4.25 No Badger setts or other field signs attributed to Badger are present within or immediately adjacent to the site.
- 4.26 The provision of new grassland habitats of high nature conservation value within the site, together with the strengthening of the ditch corridor (through the provision of an unimproved grassland sward and hedgerows) shall provide continued dispersal and foraging opportunities for any locally present social group.

Water Voles

- 4.27 Surveys have established the likely continued presence of a low-density Water Vole population associated with the wet ditch on the northern boundary of the site. This ditch shall be fully protected and retained as part of the proposed development.
- 4.28 The protective measures shall seek to ensure that the ditches and associated banks together with a 2-metre buffer for the top of the banks are retained and protected. Heras fencing, or similar, shall be used to delineate the extent of the buffer and prevent accidental encroachment. Furthermore, any required interceptor fencing / silt traps shall be used to mitigate for any surface run-off laden with silt entering the channel and associated banks.
- 4.29 The provision of an unimproved grassland strip along with a hedge native adjacent to the ditch should offer further seasonal foraging opportunities for this species. Future management should seek to retained continued resources for this species whilst ensure the hydrological requirements for

the ditch are provided. This is likely to against a rotational management regime.

Birds

- 4.30 The creation of new areas of unimproved grassland sward, and native hedgerow (including berry-bearing species) will provide suitable foraging opportunities for birds, while the new trees, hedgerow and scrub will provide new nesting opportunities for birds over the existing situation.
- 4.31 Management of habitats will be undertaken with due consideration for potential use by birds. Any necessary management of vegetation, such as trees, and scrub, which will provide nesting habitats, will be undertaken outside of the bird breeding season (March to July inclusive), or after a suitably qualified ecologist has undertaken checks to ensure no nesting birds are present. The management of the more open areas of grassland shall also be completed with due care and consideration to the potential presence of ground nesting species.
- 4.32 The creation of the areas of unimproved grassland is likely to offer suitable nesting habitat for ground-nesting species such as Skylark *Alauda arvensis* which have been previously recorded at the site. As well as providing suitable foraging habitat for Barn Owl *Tyto alba* which are known to be present in the local area.

Reptiles

- 4.33 The provision of an unimproved grassland will provide suitable foraging and commuting opportunities for common reptiles over the existing situation.
- 4.34 The provision of dead wood piles within the site as part of future tree and scrub management will provide hibernation opportunities which are not currently present on site.

Amphibians

- 4.35 The provision of an unimproved grassland will provide suitable habitat for amphibians during their terrestrial phase. The retention of the wet ditch along with the 2m buffer during construction will ensure that the wet ditch is not subject to either short-term or long-term detrimental effects.

Invertebrates

- 4.36 The provision of dead wood piles within the site as part of future tree and scrub management will provide suitable shelter opportunities for a variety of invertebrates, and offer a dead wood resource for saproxylic species.
- 4.37 In addition, the provision of species-rich habitat types across the site, specifically the area of unimproved grassland to be managed for nature conservation together with the native scrub and hedgerow habitat, shall encourage a significant greater assemblage of invertebrates to frequent and inhabit the site over the current situation.

- 4.38 It is expected that through the implementation of the scheme and drafted landscape proposals there shall be net gains in entomological terms across the site.

Objective 3: Increase Biodiversity by Maximising Opportunities for Flora and Fauna

- 4.39 The creation of new areas of unimproved grassland, scrub, hedgerow and planting of new trees, centred on native species of local provenance, will diversify existing habitats at the site and encourage a range of wildlife over the existing situation.
- 4.40 The species-rich habitats shall be subject to a tailored management regime to maximise the biodiversity interest providing increased opportunities for a variety of species and improve the biodiversity value of the site in the long-term.
- 4.41 Areas of grassland will be sown with wildflower seed mixes and managed appropriately to increase their biodiversity interest (see above).
- 4.42 Additional native tree, hedgerow, and scrub habitat will focus on native species, or those of benefit to wildlife (berry / nut bearing varieties of shrubs and trees).
- 4.43 The provision of unimproved grassland sward adjacent to the ditch will strengthen the green corridor and provide biodiversity gains.
- 4.44 As part of any future tree management measures any required removal of wood should be retained on site, in the form of discrete dead-log piles at the base of native hedgerow / scrub area. The log-piles shall provide suitable hibernacula for reptiles and amphibians, should they colonise the site and offer opportunities for saproxylic invertebrate species.

5. SCHEDULE OF WORKS

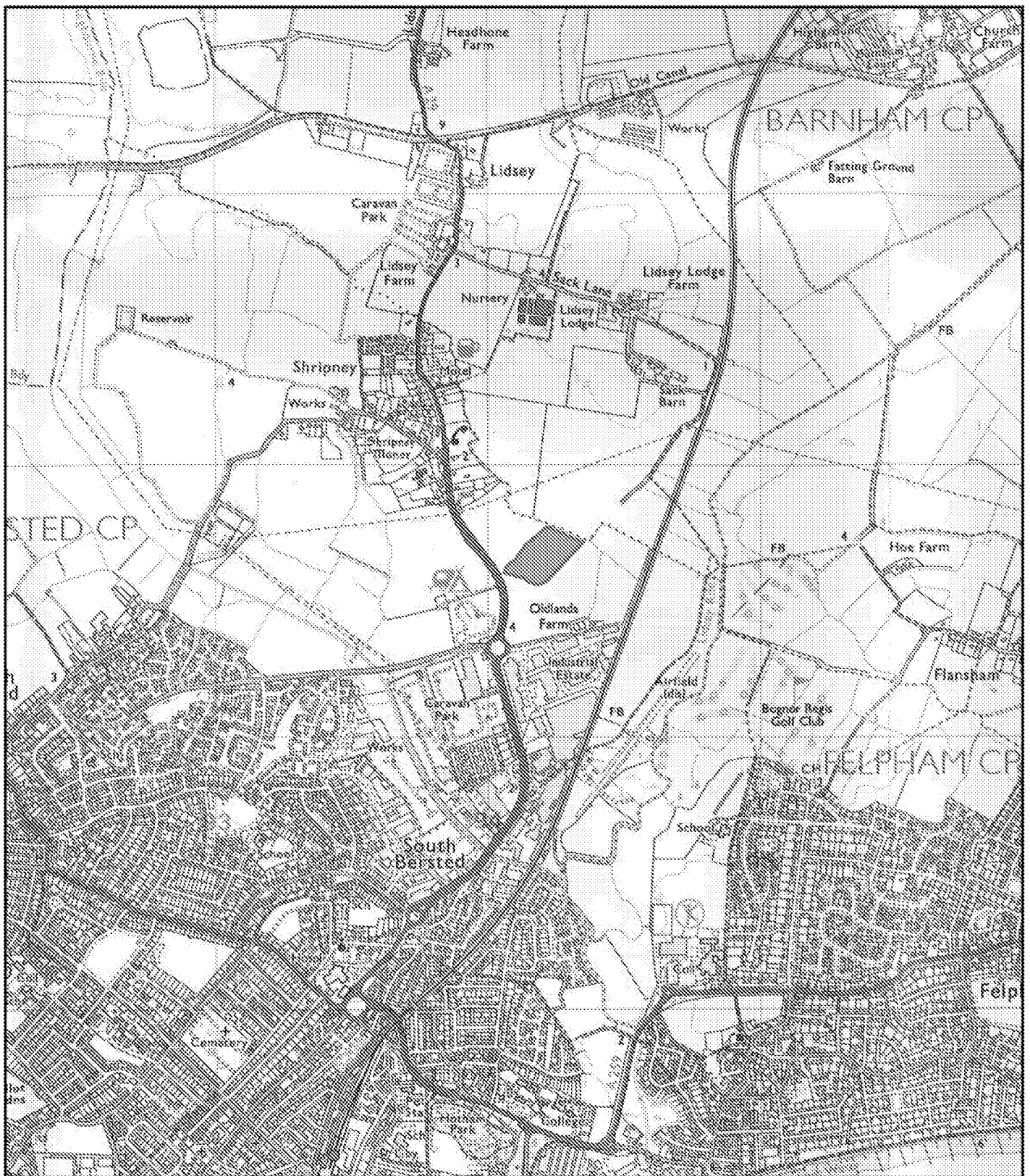
Objective	Receptor	Management Prescription	Timing of Works
1. MAINTAIN AND ENHANCE RETAINED AND CREATED HABITATS WITHIN THE SITE	Unimproved Grassland	New areas unimproved grassland shall be created along the northern and western boundary of the site. These areas shall be sown with a seed mixture suitable for the ground / soil conditions present.	Autumn, prior to completion of development following necessary ground preparation.
		The areas of unimproved grassland will be subject to a relaxed management regime to allow a longer sward to develop. This grassland will be cut annually in the early autumn to allow the grasses and flowers to seed, with some marginal areas left uncut. All cuttings should be removed following a few days for the cut vegetation to drop seed.	Annually late summer / early autumn
	Trees	Planting of new trees along the access road margins.	<u>During autumn, winter or spring, prior to completion of development.</u>
		Regular health checks of the trees will be undertaken.	Annually for first five years after planting.
	Scrub, Hedges and Hedgerow	Provision of new planting, utilising a range of fruit bearing species.	Prior to completion of development or in first planting season thereafter.
		For the first five years after planting, regular health checks of the hedgerows will be undertaken especially during periods of dry weather, to ensure that the hedgerows are not affected by drought.	Annually for first five years after planting.
		All scrub cutting is to be undertaken outside of the main bird breeding season (March – July inclusive).	Annually

2. MAINTAIN POPULATIONS OF PROTECTED SPECIES AT A FAVOURABLE CONSERVATION STATUS	Bat	New tree and scrub planting will provide additional foraging, as well as creating potential roosting opportunities in the future once trees reach maturity. Bat boxes to be provided to provide new roosting opportunities within the site.	Prior to completion of development or first planting season thereafter. On completion of development.
	Badger	Complete check surveys prior to commencement of any development to ensure no badger setts have been excavated in the interim period.	Prior to commencement of development.
	Birds	New tree, unimproved grassland, and native scrub planting will provide additional nesting/foraging opportunities.	Avoid undertaking management work on suitable bird nesting habitat from 1 st March to 31 st July annually.
3. INCREASE BIODIVERSITY BY MAXIMISING OPPORTUNITIES FOR FLORA AND FAUNA	Unimproved Grassland	New areas of unimproved grassland will result in a net gain in floristic diversity, as well as provide opportunities for a ranges of species and groups.	Autumn, prior to completion of development following necessary ground preparation.
	Scrub and hedgerow planting	New sections of scrub and hedgerows will provide additional opportunities for nesting and foraging birds and foraging bats.	Prior to completion of development.
	Trees	New tree planting (including berry / nut bearing species) will provide additional opportunities for nesting and foraging birds, and foraging bats.	Prior to completion of development or first planting season thereafter.
	Log-piles	Log piles created from wood sourced from within the site from future arboricultural works, to provide suitable hibernacula for amphibians and invertebrates.	As part of long-term management of tree and scrub planting.

PLANS

PLAN ECO1

Site Location



KEY:



SITE LOCATION



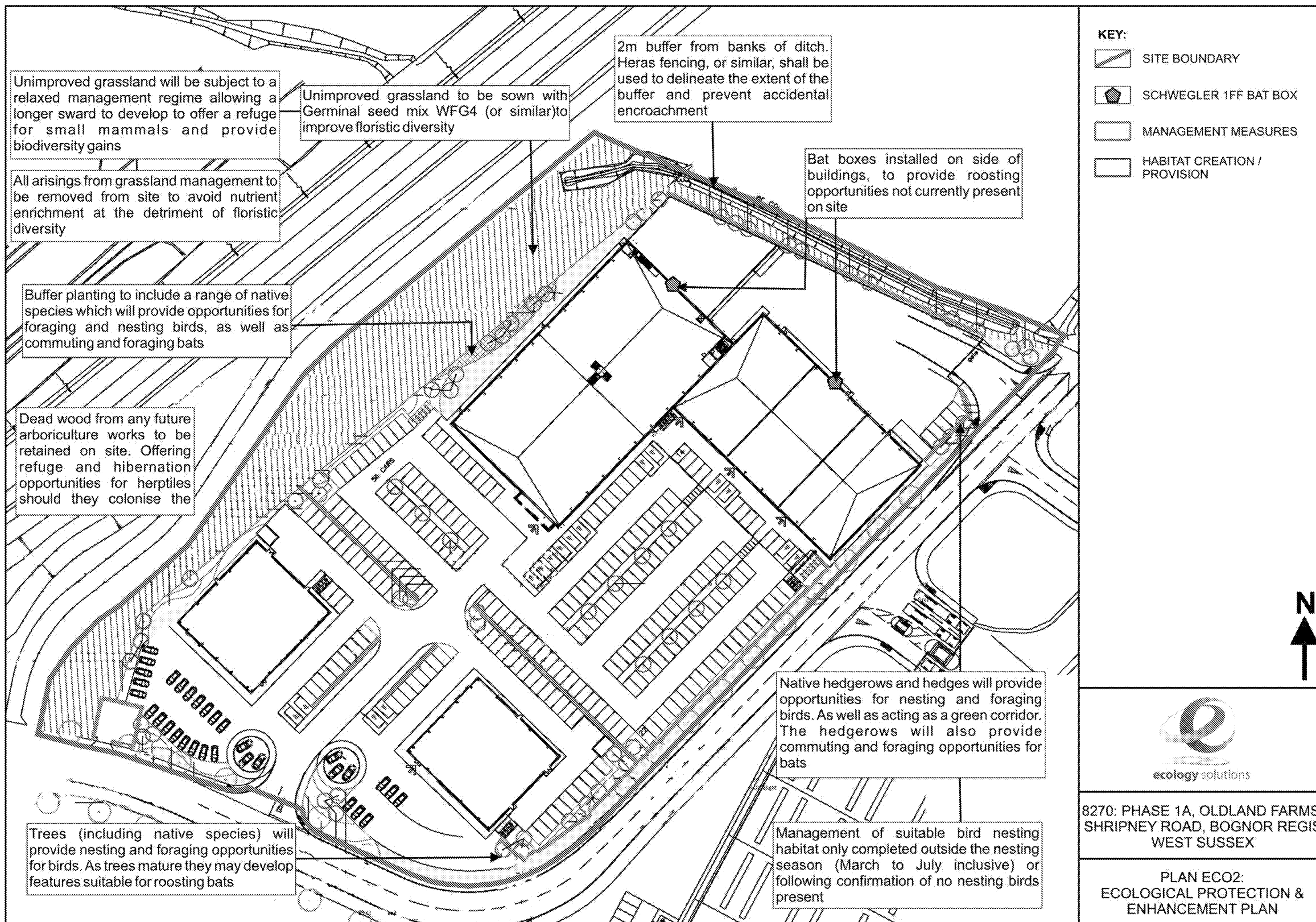
ecology solutions

8270: PHASE 1A, OLDLANDS FARM,
SHRIPNEY ROAD,
BOGNOR REGIS, WEST SUSSEX

PLAN ECO1: SITE LOCATION

PLAN ECO2

Ecological Protection & Enhancement Plan



8270: PHASE 1A, OLDLAND FARMS, SHRIPNEY ROAD, BOGNOR REGIS WEST SUSSEX

PLAN ECO2: ECOLOGICAL PROTECTION & ENHANCEMENT PLAN

PHOTOGRAPHS

PHOTOGRAPH 1: Recolonising Ground



PHOTOGRAPH 2: Semi-improved Grassland



PHOTOGRAPH 3: Semi-improved Grassland Along Ditch



PHOTOGRAPH 4: Rough Grassland



PHOTOGRAPH 5: Ditch



PHOTOGRAPH 6: Vegetation Along Ditch



