



LIZARD

Landscape Design and Ecology

ROFFEY HOMES LTD

Manor Nursery, Angmering, West Sussex

- Preliminary Ecological Appraisal Survey Report
- Protected Species Assessment

Planning Issue

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SUMMARY

Lizard Landscape Design and Ecology has been commissioned by Roffey Homes Ltd to undertake a preliminary ecological appraisal and protected species assessment of Land at the former Manor Nursery, Angmering, West Sussex (*Grid Reference: TQ 076 042 – hereafter referred to as 'the site'*). A preliminary ecological appraisal (PEA) was undertaken of the site on 12th September 2017 to appraise the existing ecological resource within the site and surrounding area.

The site consists of a former nursery and garden centre. The majority of the buildings, grow beds and glasshouses on the site have been demolished. This has resulted in large areas of hard surface, and bare ground now colonised by tall ruderal and scattered scrub vegetation. The boundaries are lined with mature introduced shrubs, dense scrub and trees. The site is fenced to other aspects and is fully enclosed.

The construction zone and immediate surroundings are largely formed of hard surfaces, common ruderal and scrub species, introduced shrubs and common trees, with no rare or unusual species noted. The site is generally considered to be of '*low ecological value*'.

The mature trees, introduced shrubs and dense scrub present to the site boundaries provide good nesting opportunities for common bird species. All birds, their nests, eggs and chicks are protected under *The Wildlife and Countryside Act 1981 (as amended)*. Clearance of vegetation should be undertaken outside the nesting season (*nesting season: March - August*) or following inspection by an ecologist to ensure no active nests are present.

The areas of tall ruderal and dense scrub vegetation, and sections of the allotment offer '*good*' habitat potential for widespread species of reptile. A reptile presence / absence survey has been undertaken during September-October 2017.

The design of the proposed development should consider ecological enhancements for the benefit of wildlife in line with the *National Planning Policy Framework* and *Local Planning Policy*. Recommendations for ecological enhancements are provided in Section 7.0 below.

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1.0 INTRODUCTION

- 1.1 Lizard Landscape Design and Ecology has been commissioned by Roffey Homes Ltd to undertake a preliminary ecological appraisal and protected species assessment of Land at the former Manor Nursery, Angmering, West Sussex (*Grid Reference: TQ 076 042 – hereafter referred to as 'the site'*).
- 1.2 A preliminary ecological appraisal (*PEA*) was undertaken of the site on 12th September 2017 to appraise the existing ecological resource within the site and surrounding area. The *PEA* was comprised of a baseline survey conforming broadly to the *JNCC Phase 1 Habitat Survey* protocol to identify the existing habitats. In addition, a protected species assessment was undertaken to identify the potential for *European and nationally protected species* within and adjacent to the site.
- 1.3 The field survey data and analysis contained within this report were undertaken and prepared by George Sayer (*BSc(Hons) PgDip; Assistant Ecologist; Lizard Landscape Design and Ecology*). The report has been reviewed by Joe Jackson; (*Director; Landscape Architect BA (Hons) LA DipLA CMLI; Lizard Landscape Design and Ecology*).

Site Information

- 1.4 The site consists of a former nursery and garden centre. The majority of the buildings, grow beds and glasshouses on the site have been demolished. This has resulted in large areas of hard surface, and bare ground now colonised by tall ruderal and scattered scrub vegetation. The boundaries are lined with mature introduced shrubs, dense scrub, and trees. The site is fenced to other aspects and is fully enclosed. Soils on site are described as *freely draining, slightly acid loamy soils*.

- 1.5 Several water bodies exist within 500.0 m of the site. Firstly, approximately 90.0 m to the east of the site, to the opposite side of the A280 are the lakes and formal ponds of Ecclesden Manor. 337.0 m to the north-east of the site is a farm pond of approximately 370.0 m². 380.0 m to the north-west of the site is a large ornamental pond of approximately 1450.0 m². The ponds are small formal ponds whilst the lakes are naturalistic lakes of approximately 1500 m² and 300m², surrounded by grassland and woodland. Macrophytes such as reeds and waterlilies appear to be present. The nearest area of woodland is 796.0 m to the north of the site.

Surrounding Landscape

- 1.6 The site is located to the east of the village of Angmering, which itself is in an agricultural setting just north of the A27, and outside of the heavily built-up coastal plain. The local area contains a mixture of land uses, dominated by arable agriculture to the east and north, and residential areas to the west and further south. The site is approximately 2.7 km from the coastline.
- 1.7 The local area is sparsely wooded to the south, and more densely wooded further north; the nearest area listed on *The National Forest Inventory* is *Groom's Copse*, a 7.97 ha plot of broadleaved woodland also designated as *Ancient Woodland*. The surrounding area is largely arable land, with trees being present mainly within hedgerows.

Development Proposals

- 1.8 The development proposals consist of the construction of a residential development within the site. It is anticipated that dwellings would be of a style commensurate with other local residential dwellings. The dwellings would be accompanied by associated hard landscape access road and footpaths, soft landscape areas and gardens.
- 1.9 It is anticipated that the majority of the site would require redevelopment.

2.0 SCOPE OF THE SURVEY

2.1 The aim of the preliminary ecological appraisal survey has been:

- *To identify and display the main habitat types and plant communities;*
- *To provide a species list for the major habitats;*
- *To identify habitats with potential for protected species;*
- *To provide recommendations for surveys of protected species and / or ecological enhancement / compensation.*

2.2 The aims of the protected species assessment were;

- *To identify the potential for protected species such as roosting bats;*
- *Identify areas where future detailed survey effort would be required and should be focused;*
- *To establish whether other habitat features for different species groups exist to warrant further investigation.*

3.0 METHODOLOGY

3.1 A preliminary ecological appraisal survey was undertaken on 12th September 2017 and the site subjected to an ecology survey using guidelines set out in the *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit (JNCC, 2003)*. This has resulted in a Site Habitat Plan (*Figure No. 01*); Species Lists for Habitat Parcels (*Table No. 02*); and Target Notes for Protected Species (*Table No. 03*).

3.2 Habitats within the site were classified and the presence, or potential presence, of certain protected and / or notable species of flora and fauna were identified. A summary description of the habitat within the site following the ecology phase 1 habitat survey methodology is presented in *Section 4.0*.

3.3 Due to the field survey consisting of only one site visit, certain species particularly some of the flowering plants may not have been visible or may have been otherwise inconspicuous at the time of survey and hence overlooked. These are accepted constraints associated with the standard ecology phase 1 habitat survey methodology.

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- 3.4 Habitats within and immediately adjacent to the site were assessed for their potential for uncommon and protected fauna including mammals, birds, reptiles and amphibians. This involved identifying features that may be used by protected species, potential foraging areas and other signs of use. Stones, dead wood and rubble were turned over and any dug holes studied for recent activity by mammals. Water bodies were recorded wherever possible within 500.0 metres of the proposed development site.
- 3.5 The results are summarised and accompanied in part by photographic evidence contained in *Appendix No. 01 – Site Photographs*. Recommendations for further investigation and survey are made in the following report.

Day-Time Bat Roost Assessment Survey

- 3.6 A day-time bat roost assessment survey of buildings and trees within the site was undertaken on 12th September 2017 by an experienced bat surveyor. Trees within and surrounding the site were assessed for their bat roost potential. The inspection was carried out using binoculars, torch and endoscope as appropriate. The bat surveyor assessed the remaining existing buildings visually and searched for evidence such as;
- *Staining beneath or around a hole caused by natural oils in bat fur;*
 - *Bat droppings beneath a hole, roost or resting area;*
 - *Bat droppings and / or insect remains beneath a feeding area;*
 - *Audible squeaking from within a hole;*
 - *Insects (especially flies) around a hole;*
 - *Dead bats.*
- 3.7 Trees were visually identified from the ground, using binoculars where necessary, for features that could be used by bats such as:
- *Woodpecker Holes;*
 - *Knot Holes;*
 - *Tear-outs;*
 - *Flush Cuts;*
 - *Double Leaders;*
 - *Dense Ivy Covering.*

- 3.8 Once features had been assessed, trees were then categorised in accordance with *Table 8.4* of the *Bat Conservation Trust's Good Survey Guidelines*:

'High': Trees with multiple highly suitable features capable of supporting large numbers of bats;

'Moderate': Trees with definite bat roost potential supporting fewer features than moderate trees;

'Low': Trees with no obvious features but of a size and age conducive to supporting a bat roost.

4.0 RESULTS

4.1 Desk Study – Background information

Designated Sites and Habitats

- 4.1.1 The following section outlines the ecological context of the development site, describing any designated nature conservation sites in the vicinity of the development site. The following designated sites and habitats are not necessarily representative of the existing site's ecology, but are indicative of the ecological context of the surrounding area; a factor that may be important when assessing the presence / absence potential of certain species groups.

Statutory Protected Sites

- 4.1.2 The only statutory protected site within 2.0 km of the proposal site is the *South Downs National Park*, which is almost immediately adjacent to the eastern boundary of the site. The site is separated from the *South Downs National Park* by the A280 link road, which clearly delineates the built-up areas outside of the *South Downs National Park* from the more rural areas of the *South Downs National Park* itself.
- 4.1.3 The development falls within the Impact Risk Zones (*IRZ*) of *Climping Beach SSSI*. The development is not of a type and scale which would require consultation with *Natural England*.

Non-Statutory Protected Sites

- 4.1.4 *Sites of Nature Conservation Importance (SNCI's)* are non-statutory designations given to areas of high, local conservation value.
- 4.1.5 The following non-statutory protected sites are located within 2.0 km of the proposal site:

Table No. 1: Non-Statutory Protected Sites within 2.0 km of the Proposal Site

Site Name	Reason for Designation	Distance from Site
<i>Highdown Park North Field.</i>	<i>Chalk Downland with a good flora, including orchids.</i>	<i>1190.0 m E</i>
<i>Ferring Rife and Meadows SNCI.</i>	<i>A wide channel between two high grassy banks, which also includes grassy fields beyond the banks.</i>	<i>1810.0 m NW</i>
<i>Kingston Park.</i>	<i>A grassland park with a number of mature trees and small copses.</i>	<i>2000.0 m N</i>

UK Priority Habitats

- 4.1.6 UK Priority Habitats within 2.0 km of the site include *coastal and floodplain grazing marsh; good quality semi-improved grassland; lowland calcareous grassland; deciduous woodland; ancient and semi-natural woodland and traditional orchard*. The site is surrounded by a large swathe of *good quality semi-improved grassland*, and small section of the site to the north is included within this Priority Habitat. The site is largely previously developed land; the semi-improved grassland on-site is very limited in extent and does not appear to be diverse or historic. This would suggest that there will be no impact upon UK Priority Habitats.

UK Priority Species

- 4.1.7 UK Priority Species within West Sussex include mammals such as badger (*Meles meles*) and water vole (*Arvicola amphibious*), bats such as common pipistrelle (*Pipistrellus pipistrellus*) and reptiles such as slow-worms (*Anguis fragilis*). The local area is likely to contain these species but limited to undeveloped areas such as woodlands and hedgerows.

4.2 Field Survey

- 4.2.1 The following habitats and features were recorded within the development site and the extended survey area. The general site character has been described along with a brief description of the habitat's physical characteristics. These are shown on the Site Habitat Plan in *Figure No. 1*; Target Notes are listed in *Table No. 03*. Species List for Site Habitats Parcels have been listed within *Table No. 02*.

- 4.2.2 Habitats within and adjacent to the development site area include:

- *Hard Surfaces;*
- *Semi-improved Grassland;*
- *Dense Scrub;*
- *Scattered Scrub;*
- *Scattered Trees;*
- *Intact Ornamental Hedgerows;*
- *Ephemeral and Short Perennial Vegetation;*
- *Tall Ruderal Vegetation;*
- *Introduced Shrubs.*

Site Description - (Refer to Appendix No. 01 – Site Photographs)

- 4.2.3 The majority of the development site is formed of the remnant of a disused nursery and garden centre. The main buildings, glasshouses and display areas have all been dismantled. This has resulted in the majority of the site now being occupied by mixed hard surfaces. To the site entrance this is formed of tarmac parking and access. To the east this is formed of several large concrete slabs from the previous buildings. Gaps and patches of loose surfacing have been colonised by ephemeral and short perennial vegetation, such as common fleabane (*Pulicaria dysentaria*) (Refer to Photographs Nos. 01-03 – Appendix No. 01).
- 4.2.4 To the north-east of the site is a large area of pea shingle, where it is assumed plants were once either grown or displayed. To the west, the pea shingle has become heavily overgrown by a tall ruderal vegetation dominated by bristly oxtongue (*Helminthotheca echioides*). To the east, the shingle has developed an open scrub habitat dominated by bramble (*Rubus fruticosus*), Canadian fleabane (*Erigeron canadensis*) and a willow assemblage, dominated by goat willow (*Salix caprea*) but including other species such as eared willow (*Salix aurita*). The gravel is still relatively exposed and a number of small introduced plant species such as vervain (*Verbena bonariensis*) and ladies' mantle (*Alchemilla mollis*) were noted (Refer to Photographs Nos. 04-05 – Appendix No. 01).
- 4.2.5 Along the eastern boundary of the site is an area which would originally have represented grassland. The vegetation has developed into a semi-improved grassland and tall ruderal community dominated by bristly oxtongue (*Helminthotheca echioides*). The habitat displays some degree of structure and may be suitable for reptiles. To the north of this habitat is a small pile of rubble, overgrown with common reed (*Phragmites australis*) (Refer to Photographs Nos. 06-07 – Appendix No. 01).

- 4.2.6 To the north-west of the site, adjacent to the entrance is a patch of semi-improved grassland. The sward is dominated by grasses such as common bentgrass (*Agrostis stolonifera*) and holds some potential for reptiles. (Refer to Photograph No. 08 – Appendix No. 01).
- 4.2.7 To the south-east of the site is an area of formerly bare ground, which has become dominated by a tall ruderal vegetation dominated by the introduced species Canadian fleabane (*Erigeron canadensis*) and Buddleia (*Buddleia davidii*). This patch is dense but obviously very immature; it is lacking in structure with a fairly uniform height and bare earth still visible below (Refer to Photograph No. 09 – Appendix No. 01).
- 4.2.8 The site is bounded by coniferous hedgerows to the north and south-west. The treelines are composed of Leyland cypress (*Cupressus x leylandii*) which provide screening to the site, but offer little wildlife habitat potential. To the east and south, the site is bounded by a mixture of trees such as sycamore (*Acer pseudoplatanus*) and dense, continuous scrub, dominated by bramble (*Rubus fruticosus*). (Refer to Photographs Nos. 10-12 – Appendix No. 01).
- 4.2.9 To the western boundary is a dense, continuous line of ornamental introduced shrubs. These were heavily overgrown by bramble and contained several small, self-seeded trees such as elder (*Sambucus nigra*) (Refer to Photograph No. 13 – Appendix No. 01).
- 4.2.10 Ornamental introduced shrubs were also found within large planter areas to the centre of the site. The plants were dense and largely overgrown by Wisteria (*Wisteria sp.*) (Refer to Photograph No. 14 – Appendix No. 01).

Bat Roost Assessment – Trees

- 4.2.11 No trees within the site, or affected by the development have been identified as offering bat roost potential. The boundary vegetation offers limited bat foraging and commuting potential. Larger deciduous trees and treelines outside of the site offer bat roosting, foraging and commuting potential.

Bat Roost Assessment – Buildings

- 4.2.12 **Building B1** is an old utility building, constructed of blockwork. The building originally had a corrugated roof which has been removed. The building internally is exposed and damp and totally unsuitable for bats. **Building B1** offers 'negligible' bat roost potential (*Refer to Photograph No. 15 – Appendix No. 01*).
- 4.2.13 **Building B2** is the old toilet block, constructed of timber with a shallow-pitched roof. The building is clad in weatherboarding, which was generally well-fitting. No void was apparent. The building was in poor condition but due to its size and lack of thermal mass or bat roosting opportunities, was deemed to offer 'negligible' bat roost potential (*Refer to Photograph No. 16 – Appendix No. 01*).

Fauna

- 4.2.14 The site is heavily used by rabbits (*Oryctolagus cuniculus*) and foxes (*Vulpes Vulpes*). The taller introduced shrubs, dense scrub and treeline were well used by a variety of small bird species, such as wren (*Troglodytes troglodytes*). Gregarious birds such as goldfinch (*Carduelis carduelis*) were also observed in groups within the vegetation. A number of bees, spiders and butterflies were noted using the vegetation on-site, although no rare or unusual species were noted.

5.0 EVALUATION

- 5.1 The construction zone and immediate surroundings are largely formed of hard surfaces and common habitats. The species identified were common species indicative of immature, ruderal habitats. The site is generally considered to be of 'low ecological value'.
- 5.2 The mature trees, dense scrub and introduced shrubs hold good potential for nesting birds, given the tall, dense growth form and connectivity to other sites. All birds, their nests, eggs and chicks are protected under *The Wildlife and Countryside Act 1981 (as amended)*. Clearance of vegetation should be undertaken outside the nesting season (*nesting season: March - August*) or following inspection by an ecologist to ensure no active nests are present.

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- 5.3 The semi-improved grassland; tall ruderal; and scattered scrub were considered to offer 'good' habitat potential for widespread species of reptile. Further reptile surveys should be undertaken during the reptile active season (*mid-March - October*) during appropriate weather conditions, to ascertain whether reptiles are present within the site, and their population size. Should reptiles be found on site a suitable mitigation strategy would need to be devised and implemented to avoid harm to any protected species (*a detailed reptile survey within the site area has been undertaken during September-October 2017*).
- 5.4 There are no buildings or trees on-site offering significant bat roost potential; The site would represent some limited bat foraging and commuting potential, particularly over the taller vegetation. The larger deciduous trees and treelines, surrounding but outside of the site would represent the most significant bat foraging and commuting habitat locally, and would not be affected; the impact upon bats is determined to be '*negligible*'. No further survey with regards to bats is recommended.

6.0 PROTECTED SPECIES – CONCLUSIONS AND RECOMMENDATIONS

Reptiles

- 6.1 The semi-improved grassland, tall ruderal and scattered scrub were considered to offer 'good' habitat potential for widespread species of reptile. Further reptile surveys are currently being undertaken during the reptile active season (*mid-March - October*) during appropriate weather conditions, to ascertain whether reptiles are present within the site, and their population size. Should reptiles be found on site a suitable mitigation strategy would need to be devised and implemented to avoid harm to any protected species.

Badgers

- 6.2 No evidence of badgers using the site or surrounding area were noted, and the site presents limited foraging resources for badgers. No further survey with regards to badgers is required for this site. Should evidence of badgers or their setts be discovered during construction, work should cease and a Suitably Qualified Ecologist be consulted.

Bats

- 6.3 There are no or trees offering bat roost potential within the site; the larger deciduous trees and treelines, surrounding but outside of the site would represent the most significant bat foraging and commuting habitat locally. Lighting proposals could have the potential to impact bats commuting and foraging along trees and treelines surrounding but outside of the site; lighting design should therefore be sensitive and aim to project light down and into the site, away from vegetation.

Birds

- 6.4 No rare or protected bird species were seen or heard during the site visit, however a number of common species were noted. Areas of dense scrub, trees and hedgerows are considered to offer 'good' bird nesting potential. It is advised that any site clearance work of vegetation should take place outside the bird nesting season (*March-August*) or after thorough inspection by a Suitably Qualified Ecologist.

Great Crested Newts

- 6.5 There is some potential terrestrial habitat for amphibians within the site area. There are several water bodies within 500.0 m of the site. The lake at *Ecclesden Manor* appears very suitable for great crested newts, however the lake is reportedly well stocked with fish. The *Ecclesden Manor* ponds are small formal garden ponds offering little suitable habitat.
- 6.6 The farm pond to the north and ornamental pond to the north-west are of a size suitable for great crested newts. It is possible that these ponds contain great crested newts, however the ponds are relatively isolated from the site by roads and properties, and are also surrounded by suitable terrestrial habitat. There are no records of great crested newts in the local area, although this may be due to a lack of survey effort. The likelihood of encountering great crested newts on the proposal site is overall considered to be '*negligible*'. No further surveys, or assessment of the watercourses with regards to great crested newts is required.

Dormice

- 6.7 The dense scrub to the east of the site borders dense woodland planting on the roadside embankments of the A280 link road. This planting is relatively recent and isolated from areas known to contain dormice. It is possible that dormice use the area however the habitat on the site itself is considered suboptimal and extremely limited in extent. The site has previously been heavily disturbed. The likelihood of encountering dormice on the site is considered to be '*negligible*'. No further survey with regards to dormice is required.

7.0 ECOLOGICAL ENHANCEMENTS

- 7.1 The design of the proposed development should consider ecological enhancements for the benefit of wildlife in line with the *National Planning Policy Framework* and *Local Planning Policy*.
- 7.2 Recommendations for ecological enhancements that could be considered as part of development proposals could include:
- *The seeding of leftover areas of the site and open spaces with a wildflower mix appropriate to the local soil and hydrology;*
 - *The use of flowering shrubs as listed within the RHS 'Perfect for Pollinators' plant list to provide year-round interest for invertebrates;*
 - *Incorporation of native trees and shrubs within the development proposals which reflect the trees and habitats found in the surrounding area, and provide a foraging resource for birds, bats and invertebrates;*
 - *Planting of hedges with native species, and reinforcement or replacement of coniferous species with those of greater ecological value;*
 - *Shrub and tree species which could be utilised include: alders (*Alnus* spp.); alder buckthorn (*Frangula alnus*); cherry (*Prunus* sp.); hazel (*Corylus avellana*); holly (*Ilex aquifolium*); field maple (*Acer campestre*); *Sorbus* species (*Sorbus aria*; *Sorbus aucuparia*; *Sorbus intermedia*); willows (*salix* spp.); dogwood (*Cornus sanguinea*); field maple (*Acer campestre*); hawthorns (*Crataegus monogyna*; *crataegus laevigata*);*
 - *Incorporation of bird boxes within retained trees or buildings themselves, to provide nesting opportunities for birds;*
 - *Incorporation of bats boxes to buildings and trees, to provide potential roosting habitat for bats;*
 - *Incorporation of invertebrate nesting opportunities in the form of bug hotels or insect towers, to provide habitat for invertebrates and foraging potential for birds and bats;*
 - *Design of a sensitive lighting scheme, with lighting on sensors or timers and pointed downwards into the site, to minimise the impact on bats commuting past the site.*

8.0 REFERENCES

JNCC: Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit; (2003)

Mitchell-Jones and McLeish: Bat Workers Manual; JNCC, 3rd Edition (2004)

Streeter, D.: The Most Complete Guide to the Flowers of Britain and Ireland; Harper Collins, London (2010)

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Manor Nursery, Angmering

Table No. 02 – Species List - Preliminary Ecological Appraisal Survey

Semi-Improved Grassland

Common Name	Scientific Name	DAFOR
Bedstraw	<i>Galium sp.</i>	LF
Bramble	<i>Rubus fruticosus</i>	O
Bristly Oxtongue	<i>Helminthotheca echinoides</i>	LF
Canadian Fleabane	<i>Erigeron canadensis</i>	R
Common Bentgrass	<i>Agrostis stolonifera</i>	D
Common Daisy	<i>Bellis perennis</i>	R
Common Fleabane	<i>Pulicaria dysenterica</i>	LF
Common Thistle	<i>Cirsium vulgare</i>	R
Common Yarrow	<i>Achillea millefolium</i>	LA
Creeping Buttercup	<i>Ranunculus repens</i>	O
Creeping Thistle	<i>Cirsium arvense</i>	LF
Dandelion	<i>Taraxacum officinale</i>	O
Dovesfoot Cranesbill	<i>Geranium molle</i>	O
Ivy	<i>Hedera helix</i>	O
Ragwort	<i>Jacobaea vulgaris</i>	O
Rose	<i>Rosa sp.</i>	R
Willowherb	<i>Epilobium sp.</i>	R
Yorkshire Fog	<i>Holcus lanatus</i>	LA

Trees / Hedges

Common Name	Scientific Name	DAFOR
Blackthorn	<i>Prunus spinosa</i>	LF
Common Elder	<i>Sambucus nigra</i>	LA
Dogwood	<i>Cornus sp.</i>	LF
Eared Willow	<i>Salix aurita</i>	R
English Elm	<i>Ulmus minor</i>	LF
Goat Willow	<i>Salix caprea</i>	LA
Grey Willow	<i>Salix cinerea</i>	O
Indian Bean Tree	<i>Catalpa bignonioides</i>	O
Italian Cypress	<i>Cupressus sempervirens</i>	R
Leyland Cypress	<i>Cupressus x leylandii</i>	LD
Lime	<i>Tilia sp.</i>	R
Osier	<i>Salix viminalis</i>	R
Spruce	<i>Picea sp.</i>	R
Sycamore	<i>Acer pseudoplatanus</i>	LA

D – Dominant; A – Abundant; F – Frequent; O – Occasional; R – Rare; L – Locally

Manor Nursery, Angmering

Table No. 02 – Species List - Preliminary Ecological Appraisal Survey

Continued

Tall Ruderal

<i>Common Name</i>	<i>Scientific Name</i>	<i>DAFOR</i>
Black Medick	<i>Medicago lupulina</i>	O
Black nightshade	<i>Solanum nigrum</i>	LF
Bramble	<i>Rubus fruticosus</i>	LA
Bristly Oxtongue	<i>Helminthotheca echinoides</i>	LD
Broadleaved Dock	<i>Rumex obtusifolius</i>	LF
Buddleia	<i>Buddleia davidii</i>	LA
Canadian Fleabane	<i>Erigeron canadensis</i>	LD
Cleavers	<i>Galium aparine</i>	R
Coltsfoot	<i>Tussilago farfara</i>	R
Common Nettle	<i>Urtica dioica</i>	LA
Common Reed	<i>Phragmites australis</i>	LA
Creeping Thistle	<i>Cirsium arvense</i>	F
Dovesfoot Cranesbill	<i>Geranium molle</i>	O
Flowering Rush	<i>Butomus umbellatus</i>	R
Ivy	<i>Hedera helix</i>	LA
Ladies' Mantle	<i>Alchemilla mollis</i>	O
Meadow Buttercup	<i>Ranunculus acris</i>	O
Mint	<i>Mentha sp.</i>	LF
Procumbent Yellow Sorrel	<i>Oxalis corniculata</i>	O
Purple Toadflax	<i>Linaria purpurea</i>	O
Ragwort	<i>Jacobaea vulgaris</i>	F
Rose	<i>Rosa sp.</i>	R
Square-Stalked St John's-Wort	<i>Hypericum tetrapterum</i>	LF
Traveller's Joy	<i>Clematis vitalba</i>	LA
Vervain	<i>Verbena bodnariensis</i>	O
White Clover	<i>Trifolium repens</i>	O
Yorkshire Fog	<i>Holcus lanatus</i>	LA

D – Dominant; A – Abundant; F – Frequent; O – Occasional; R – Rare; L – Locally

Manor Nursery, Angmering

Table No. 02 – Species List - Preliminary Ecological Appraisal Survey

Continued

Dense Scrub

<i>Common Name</i>	<i>Scientific Name</i>	<i>DAFOR</i>
Blackthorn	<i>Prunus spinosa</i>	R
Bramble	<i>Rubus fruticosus</i>	LD
Buddleia	<i>Buddleia davidii</i>	LA
Dogwood	<i>Cornus sp.</i>	F
Common Elder	<i>Sambucus nigra</i>	LA
Goat Willow	<i>Salix caprea</i>	LA
Hawthorn	<i>Crataegus monogyna</i>	O
Ivy	<i>Hedera helix</i>	LA
Rose	<i>Rosa sp.</i>	O
Sycamore	<i>Acer pseudoplatanus</i>	A

Introduced Shrubs

<i>Common Name</i>	<i>Scientific Name</i>	<i>DAFOR</i>
Bamboo	<i>Subfamily Bambusoideae</i>	LF
Buddleia	<i>Buddleia davidii</i>	A
Cypress	<i>Cupressus sp.</i>	LA
Dogwood	<i>Cornus sp.</i>	LF
Flowering Rush	<i>Butomus umbellatus</i>	R
Fuschia	<i>Fuschia sp.</i>	F
Himalayan Honeysuckle	<i>Leycesteria formosa</i>	F
Indian Bean Tree	<i>Catalpa bignonioides</i>	O
Italian Cypress	<i>Cupressus sempervirens</i>	R
Ornamental Spurge	<i>Euphorbia sp.</i>	O
Japanese Maple	<i>Acer palmatum</i>	R
Ladies' Mantle	<i>Alchemilla mollis</i>	O
Oleaster	<i>Eleagnus x ebbingei</i>	LD
Pyracantha	<i>Pyracantha sp.</i>	O
Rose	<i>Rosa sp.</i>	LF
Rosemary	<i>Rosmarinus officinalis</i>	LF
Smokebush	<i>Cotinus coggygria</i>	O
Vervain	<i>Verbena bodnariensis</i>	O
Wisteria	<i>Wisteria sp.</i>	LD

D – Dominant; A – Abundant; F – Frequent; O – Occasional; R – Rare; L – Locally

Manor Nursery, Angmering

Table No. 02 – Species List - Preliminary Ecological Appraisal Survey

Continued

Scattered Scrub

<i>Common Name</i>	<i>Scientific Name</i>	<i>DAFOR</i>
Bramble	<i>Rubus fruticosus</i>	LA
Bristly Oxtongue	<i>Helminthotheca echioides</i>	LA
Buddleia	<i>Buddleia davidii</i>	F
Canadian Fleabane	<i>Erigeron canadensis</i>	LA
Common Fleabane	<i>Pulicaria dysenterica</i>	LF
Eared Willow	<i>Salix aurita</i>	R
English Elm	<i>Ulmus minor</i>	O
Goat Willow	<i>Salix caprea</i>	LA
Grey Willow	<i>Salix cinerea</i>	R
Himalayan Honeysuckle	<i>Leycesteria formosa</i>	LF
Holm Oak	<i>Quercus ilex</i>	R
Ladies' Mantle	<i>Alchemilla mollis</i>	F
Osier	<i>Salix viminalis</i>	O
Purple Toadflax	<i>Linaria purpurea</i>	R
Pyracantha	<i>Pyracantha sp.</i>	R
Rose	<i>Rosa sp.</i>	O
Square-Stalked St John's-Wort	<i>Hypericum tetrapterum</i>	LF
Sycamore	<i>Acer pseudoplatanus</i>	F
Vervain	<i>Verbena bodnariensis</i>	O

D – Dominant; A – Abundant; F – Frequent; O – Occasional; R – Rare; L – Locally

Manor Nursery, Angmering

Table No. 02 – Species List - Preliminary Ecological Appraisal Survey

Continued

Ephemeral/Short Perennial Vegetation

<i>Common Name</i>	<i>Scientific Name</i>	<i>DAFOR</i>
Smooth Sow-Thistle	<i>Sonchus oleraceus</i>	O
Common Thistle	<i>Cirsium vulgare</i>	R
Mosses	<i>Mosses spp.</i>	LA
Willowherb	<i>Epilobium sp.</i>	O
Common Fleabane	<i>Pulicaria dysenterica</i>	LF
Yorkshire Fog	<i>Holcus lanatus</i>	O
Dandelion	<i>Taraxacum officinale</i>	O
Redshank	<i>Persicaria maculosa</i>	R
Ragwort	<i>Jacobaea vulgaris</i>	R
Common Daisy	<i>Bellis perennis</i>	R
Ground Ivy	<i>Glechoma hederacea</i>	O
Scarlet pimpernel	<i>Anagallis arvensis</i>	R
Ivy-Leaved Toadflax	<i>Cymbalaria muralis</i>	LF
Fescue	<i>Festuca sp.</i>	O
Selfheal	<i>Prunella vulgaris</i>	R
Bristly Oxtongue	<i>Helminthotheca echioides</i>	LA
Buddleia	<i>Buddleia davidii</i>	F
Canadian Fleabane	<i>Erigeron canadensis</i>	LA
Common Nettle	<i>Urtica dioica</i>	O
Mint	<i>Mentha sp.</i>	

D – Dominant; A – Abundant; F – Frequent; O – Occasional; R – Rare; L – Locally

Manor Nursery, Angmering, West Sussex

Table No. 03 – Target Notes (TN) for Ecology Phase 1 Habitat Survey and Protected Species Assessment

TN	Feature	Description	Protected Species	Potential
<i>TN 01</i>	Vegetation	Introduced shrubs, scrub and trees which provide some ecological value within the site. These offer good bird nesting potential.	<i>Nesting Birds</i>	<i>‘High’</i>
<i>TN 02</i>	Semi-Improved Grassland	Semi-improved grassland offering potential for reptiles.	<i>Reptiles</i>	<i>‘Moderate’</i>
<i>TN 03</i>	Tall Ruderal Vegetation	Dense vegetation which offers limited reptile habitat.	<i>Reptiles</i>	<i>‘Low’</i>
<i>B1 and B2</i>	Buildings	The buildings on-site are not of a size, construction or condition which would offer bat roosting habitat.	<i>Bats</i>	<i>‘Negligible’</i>

Appendix No. 1 – Preliminary Ecological Appraisal – Site Photographs

ROFFEY HOMES LTD
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LLD1275-ECO-REP-001-PEA-Rev00-24_10_17

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 01 - View of the site looking north, showing overgrown hard surfaces.



Photograph No. 02 - The site contained a mixture of hard surfaces.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 03 - Patches of hard surface were heavily overgrown with ephemeral and short perennial species.



Photograph No. 04 - Shingle overgrown with tall ruderal vegetation.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 05 - Shingle overgrown with scattered scrub.



Photograph No. 06 - A patch of common reed to the east of the site.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 07 - Semi-improved grassland which is developing into a tall ruderal vegetation. The habitat held some potential for reptiles.



Photograph No. 08 - A small patch of semi-improved grassland with some potential for reptiles.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 09 - Dense but immature tall ruderal vegetation to the south-east of the site.



Photograph No. 10 - Mixed coniferous and deciduous trees and treelines border the site.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 11 - Coniferous treeline bordering the site to the south-west.



Photograph No. 12 - Deciduous trees and dense scrub lining sections of the site.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 13 - Mature introduced shrubs within large planting beds.



Photograph No. 14 - Mature introduced shrubs within large planting beds.

APPENDIX NO. 1 - SITE PHOTOGRAPHS



Photograph No. 15 - Building B1 which offered '*negligible*' bat roost potential.



Photograph No. 16 - Building B2 which offered '*negligible*' bat roost potential.