



Land at Holly Acre

Littlehampton

West Sussex

**

Extended Phase 1 Habitat Survey

Code for Sustainable Homes

December 2012

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LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living creatures are capable of migration and whilst protected species may not have been located during the survey duration, their presence may be found on a site at a later date.

The views and opinions contained within this document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to or during works.

1.0 Introduction

Background

- 1.1 PJC Consultancy Ltd (PJC) was commissioned by Wilmington Homes Ltd to undertake an ecological appraisal of land at Holly Acre, Littlehampton. The assessment included an extended Phase 1 habitat survey and Code for Sustainable Homes.
- 1.2 This report presents the findings of the ecological surveys in an around the site, which aims specifically to assess the sites potential to support protected species and habitats. Potential mitigation measures and recommendations for the site will be included within this report.
- 1.3 Section 2 of this report sets out the methodology of PJC's survey. In Section 3 the results of the desk and field survey are presented. The discussion and implications for development are found in section 4. The Code for Sustainable Homes assessment can be found in section 5. Finally, conclusions are provided in Section 6.

Site Context and Status

- 1.4 The site is located on the outskirts of the West Sussex town of Littlehampton. The site is approximately 2km south of the A27 and approximately 2.5km north of the English Channel. The site is currently an old nursery that has been left for a number of years with associated industrial buildings and hard standing. The area of buildings and hard standing are currently in use by a number of different businesses.

Description of the Proposed Development

- 1.5 The design of the proposed development has as yet not been finalised.

Planning Policies

1.6 National and local planning policies may have an affect on the proposed development. The following paragraphs identify relevant planning policies and discuss these in the context of the site.

1.7 The United Kingdom Biodiversity Action Plan (UK BAP), published in 1994, is the national response of the Convention on Biological Diversity signed in Rio de Janeiro in 1992. The key objective of the UK BAP is avoidance of harm to 'Species of Conservation Concern'. The site is does not contain any BAP habitats.

1.8 Under the CROW Act (2000) it is now the duty of every Government department in carrying out its functions "*to have regard, so far as it is consistent with the proper exercise of those functions, to the purpose of conserving biological diversity in accordance with the Convention*".

1.9 National policy guidance is provided by National Planning Policy Framework (NPPF), which sets out the Government's planning policies for England and how they should be applied. Whilst there is no clear definition for sustainable development, the NPPF does now include the UK Sustainable Development Strategy's five guiding principles of sustainable development (Box pg 2), namely:

- Living within the planet's environmental limits;
- Ensuring a strong, healthy and just society;
- Achieving a sustainable economy;
- Promoting good governance; and
- Using sound science responsibly.

1.10 Section 11 of the document is entitled 'Conserving and Enhancing the Natural Environment'. This section highlights the following:

'The planning system should contribute to and enhance the natural and local environment by:

- *protecting and enhancing valued landscapes, geological conservation interests and soils;*
- *recognising the wider benefits of ecosystem services;*
- *minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;*
- *preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability; and*
- *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate'*

1.11 In addition to this the following paragraphs are also considered to be relevant:

'In preparing plans to meet development needs, the aim should be to minimise pollution and other adverse effects on the local and natural environment. Plans should allocate land with the least environmental or amenity value, where consistent with other policies in this Framework.'

And;

'Planning policies and decisions should encourage the effective use of land by re-using land that has been previously developed (brownfield land), provided that it is not of high environmental value. Local planning authorities may continue to consider the case for setting a locally appropriate target for the use of brownfield land.'

1.12 The site comes under the jurisdiction of Arun District Council. The Arun District Local Plan 2013-2028 is in production, so development in Arun District is currently subject to policies of the Draft Local Plan 2012. The following policies have been identified as being relevant to the site and conservation of protected species:

1.13 Policy SP 23 - Natural Environment

'Arun District Council will encourage and promote the conservation and enhancement of biodiversity and the natural environment through policies for the protection of both designated and non-designated sites. Where possible it shall also promote the creation of new areas for habitats and species. In relation to designated sites, development will be permitted where it protects sites listed in Tables 19.1-19.6 that are recognised for the species and habitats contained within them.'

1.14 Policy DM 34 - Designated Nature Sites

'It is the policy of the Council to maintain, protect and where possible enhance the conservation value of International, European, National and Local designated sites as listed in Tables 19.1 - 19.6. Development not directly connected with or necessary to the management of the designated site(s) and which is likely to have an adverse effect on the site(s), will generally not be permitted however such development may be permitted where any of the following can be demonstrated:

- 1. there is no alternative solution (which shall be adequately demonstrated by the developer) or*
- 2. there are reasons of public health or public safety or*
- 3. there are benefits of primary importance to the environment or*
- 4. there are imperative reasons of overriding public interest*

Notwithstanding the above however, the presumption in favour of sustainable development does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined.

Where development is permitted, the use of conditions or planning obligations will be used in order to avoid and minimise harm to the site(s). In any event, any adverse impacts shall be minimised and mitigated or compensated in full as agreed with the planning authority.

Developments shall also be consistent with all other local plan policies.'

1.15 Policy DM 37 - Non Designated Sites

‘Within Biodiversity Opportunity Areas (BOA’s) and the Marine Conservation Zone (MCZ) (see Proposals Map), development shall:

- (i) retain and sympathetically incorporate locally valued and important habitats, including wildlife corridors and stepping stones*
- (ii) be designed in order to minimise disturbance to habitats*

Where development proposals are likely to have an impact on species or habitats within either the BOA’s or recommended MCZ, any application for planning permission shall include a properly conducted survey of the presence of that species and habitat and any impact that development may have on either. Development proposals that do not reasonably address opportunities for enhancing BOA’s and the recommended MCZ through their design, layout and landscaping shall not be permitted. Where a development scheme would result in a habitat loss, mitigation measures shall be proposed as part of the proposed scheme and such measures agreed with the planning authority prior to the determination of any planning application.

Developments shall also be consistent with all other Local Plan policies.’

- 1.16 This report aims to address the requirements as set out in the above policies. The ecology surveys undertaken by PJC have been undertaken to ensure that the nature conservation value of the site has been characterised and enhancements have been considered.

2.0 Methodology

Desktop Study

- 2.1 A desk top study search was completed using two internet-based mapping service (www.magic.gov.uk and www.natureonthemap.org.uk) for statutory designated sites and two internet-based aerial mapping services (www.multimap.com and maps.google.co.uk) were used to understand the habitats present in and around the survey area and habitat linkages and features (such as ponds, woodlands etc) within the wider landscape.

Site Inspection

2.2 PJC ecologist Tom Rothero BSc (Hons) MSc GradIEEM undertook an extended Phase 1 habitat survey, which included assessing the site for the potential for badgers, common reptiles and other protected species on 14th December 2012. The surveyors identified the habitats present, following the standard 'Phase 1 habitat survey' auditing method developed by the Nature Conservancy Council (NCC). The site was surveyed on foot and the existing habitats and land uses were recorded on a map. In addition, the dominant plant species in each habitat were recorded, as was any evidence of protected species and the habitat suitability for reptiles. The potential for the site to support protected species was also assessed.

2.3 The likelihood of occurrence of a particular species is ranked as follows and relies on the current survey:

- Unlikely – while presence cannot be absolutely discounted, the site includes very limited or poor quality habitat for a particular species or species group. The site may also be outside or peripheral to known national range for a species
- Low – on-site habitat of poor to moderate quality for a given species/species group. Presence cannot be discounted on the basis of national distribution, nature of surrounding habitats, habitat fragmentation, recent on-site disturbance etc
- Medium – on-site habitat of moderate quality, providing all of the known key-requirements of given species/species group. Factors limiting the likelihood of occurrence may include small habitat area, habitat severance and fragmentation, disturbance
- High – on site habitat of high quality for a given species/species group. Good quality surrounding habitat and good connectivity
- Present – presence confirmed from the current survey or by recent, confirmed records

Badger Survey

2.4 A badger survey was conducted to assess the level of badger activity on site and locate any badger setts both within the site boundary and if possible within a 30m radius of the site.

- 2.5 The evaluation of badger activity was based on methodology developed for the National Survey of Badgers (Creswell *et al.*, 1990) and includes searching for badger field signs such as setts, badger pathways, tracks (pawprints), dung piles with latrines, badger hairs and feeding signs such as snuffle holes. Particular attention was paid to areas where the vegetation and/or the topography offered suitable sett sites such as embankments and wooded areas.

Tree Assessment for Bats

- 2.6 As well as roosting in buildings, bats can use trees to rest, give birth, raise young and/or hibernate. Roosts may be found in the following features:

- Woodpecker holes, natural cracks and rot holes in trunks and branches
- Frost cracks.
- Trunk and branch splits.
- Hollow sections of trunk and branches.
- Loose bark.
- Cavities beneath old root buttresses and coppice stools.
- Dense epicormic growth.
- Dense ivy cover.

- 2.7 Veteran trees typically exhibit many of these features and should usually be regarded as sites with clear potential, but any tree possessing one or more such feature, may host bats. Any tree species can be suitable but oak and beech often seems to be the preferred option. However, bats rarely restrict themselves to one tree. They change their roost sites frequently, sometimes every two to three days, looking for small differences in temperature and humidity.

- 2.8 Roosts of bats in trees may be identified from the following field signs:

- Black stains beneath cracks, splits and other features where bat dropping have fallen;
- Dark marks at entrance points where bats have rubbed against the wood and left natural body oils;
- Feeding remains beneath roosts, such as insect wings;
- Chattering of bats;

- Bat droppings under access points;
- Scratch marks around a feature (cavity or split) caused by bat claws;
- Urine stains below the entrance or end of split;
- Large roosts or regularly used sites may produce an odour;
- Flies around the entrance, attracted by the smell of guano.

2.9 Trees were recorded as having high, medium or low potential following standard practise where:

- High potential = upward developing holes, splits and crack and woodpecker holes. Old trees with complex growth forms are of particular interest.
- Medium potential = downward developing holes, splits and cracks, features which could support several bats or a group of bats.
- Low potential = ivy covering only, few or no holes, splits or crevices.
- Confirmed roosts = evidence of use by bats (bats chattering, seen flying in and out of roost, presence of droppings etc).

Habitat Suitability for Reptiles

2.10 Habitat surveys were carried out to assess the potential of the site to hold populations of reptile species. This involved looking for the presence of factors that would increase the suitability of the site for reptiles such as:

- Scrub and grassland (long sward) mosaic across the site;
- Features that can be potential hibernation sites for common reptiles such as log piles;
- Grass tussocks within the grassland that can act as shelter and burrowing sites;
- Water bodies or damp places on site (grass snakes);
- Compost heaps or decaying vegetation (slow worms);
- Features that can act as refugia on the ground such as disused roofing felt.

Habitat Suitability for Great Crested Newts

2.11 Habitat surveys were carried out to assess the potential of the site to hold great crested newts (*Triturus cristatus*). This involved looking at the wider landscape using Google Maps and Nature on the Map to types of habitat in the wider landscape. This also

involved looking for the presence of factors that would increase the suitability of the site for great crested newts such as:

- The presence of suitable breeding places (water bodies) on site and within 500m of the site in the wider landscape;
- Habitat connectivity between ponds (if present) in the wider landscape and on site;
- The condition of the ponds and whether there were factors that would render them unsuitable for GCN's such as fish;
- Land uses surrounding the site that may effect the potential of the site to hold GCN's such as agriculture;
- Type of suitable habitat on site such as scrub/grassland mosaic;
- Patches of woodland in the wider landscape that can provide terrestrial habitat;
- Any barriers between known populations of GCN's such as motorways and roads;
- Hibernation features on site for great crested newts such as log and rubble piles.

Other Species

2.12 The site was inspected for indications of the presence of protected species as follows:

- Relevant habitat for dormice such as dense deciduous woodland, coppice and thick shrubbery
- The presence of suitable freshwater habitat for white-clawed crayfish
- Suitable habitat for reptile species
- Ponds and associated habitat suitable to support great crested newts
- The presence of ditches for water voles
- The presence of fresh water stream/rivers for otters
- Suitable nesting places for birds
- Other potential protected species

Limitations

2.13 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no single investigation could ensure the complete characterisation and prediction of the natural environment.

- 2.14 The protected species assessment provides a preliminary view of the likelihood of protected species occurring on site, based on the suitability of the habitat and any direct evidence on site. It should not be taken as providing a full and definitive survey of any protected species group. The assessment is only valid for the time when the survey was carried out. Additional surveys may be recommended if, on the basis of this assessment it is considered reasonably likely that protected species may be present.

3.0 Results

Desk Study

- 3.1 The site does not fall within any statutory designated areas. Further designated sites can be found within the local area. Sites within the local area include:

- Arun Valley Ramsar¹, SPA² & SAC³ – approximately 9km north of the site;
- Fairmile Bottom SSSI⁴ & LNR⁵ – approximately 6km north west of the site;
- Arun Banks SSSI⁴ – approximately 5.5km north of the site;
- Arundel Park SSSI⁴ – approximately 3.7km north of the site;
- Amberley Mount to Sullington Hill SSSI⁴ – approximately 7.2km north of the site;
- Amberley Wild Brooks SSSI⁴ – approximately 9km north of the site;
- Climping Beach SSSI⁴ – approximately 3.2km south of the site;
- Felpham SSSI⁴ – approximately 9.8km south west of the site;
- Westbeach LNR⁵ – approximately 3.2km south west of the site;
- Stubbs Copse, ancient & semi-natural woodland – approximately 2km north of the site;
- Beech Copse, ancient & semi-natural woodland – approximately 1.7km north of the site;
- Decoy Pond Wood, ancient & semi-natural woodland – approximately 2.5km north of the site;

¹ Ramsar – Wetland of International Importance

² SPA – Special Protection Area

³ SAC – Special Area of Conservation

⁴ SSSI – Site of Special Scientific Interest

⁵ LNR – Local Nature Reserve

- South Downs National Park – approximately 1.8km north of the site.

Site Visit

Please refer to habitat map in Appendix 2

- 3.2 The site consists of a variety of habitat types such as: (1) Semi-improved grassland, (2) scrub, (3) tall ruderal vegetation and (4) tree lines. There were also buildings and large areas of hard standing on site.
- 3.3 The dominant species in the areas of semi-improved grassland included species such as perennial rye grass (*Lolium perenne*), ribwort plantain (*Plantago lanceolata*), Yorkshire fog (*Holcus lanatus*), meadow grass (*Poa spp*), cock's foot (*Dactylis glomerata*), red fescue (*Festuca rubra*), dandelion (*Taraxacum agg*), creeping thistle (*Cirsium arvense*), spear thistle (*Cirsium vulgare*), herb robert (*Geranium robertanum*) and creeping buttercup (*Ranunculus repens*).
- 3.4 The dominant species in the area of tall ruderal vegetation included species such as curled dock (*Rumex crispus*), bristly ox-tongue (*Picris echioides*), creeping buttercup (*Ranunculus repens*), dandelion (*Taraxacum agg*), creeping thistle (*Cirsium arvense*), Canadian fleabane (*Conyza canadensis*), ragwort (*Senecio jacobea*), buddleja (*Buddleja davidii*), umbelifer spp and broad-leaved dock (*Rumex obtusifolius*).
- 3.4 The dominant species in the area of scrub on site included species such as bramble (*Rubus fruticosus agg*) and common nettle (*Urtica dioica*).
- 3.5 The dominant species of tree found on site included species such as cherry (*Prunus spp*), silver birch (*Betula pendula*), sycamore (*Acer pseudoplatanus*), apple (*Malus spp*), cypress (*Cupresses spp*), cedar (*Thuja spp*), elder (*Sambucus nigra*), and eucalyptus spp.

Badger Survey

- 3.6 There were no badger setts found on site at the time of the survey. There was also no further evidence, such as latrines, snuffle holes or mammal paths found on site.

- 3.7 In term of suitable badger habitat on site it was limited. However, there is a large area of dense scrub located offsite adjacent to the eastern border. This area was not surveyed due to it being located on another landowner's property.

Tree Surveys and Buildings Assessment for Bats

- 3.8 There were some mature trees present around the edge of the site. These trees are thought to have low to negligible potential for roosting bats as they had very limited roosting opportunities and few features associated with roosting bats. The trees lacked features such as rot holes or cracks and deep fissures in the bark, which are associated with roosting bats.
- 3.9 Bats are likely to use the tree lines along the boundary of the site for foraging and commuting. Bats are known to use linear features such as tree lines for commuting between roosting sites and foraging habitats.
- 3.10 All of the buildings on site where industrial buildings of metal or wooden construction without roof voids. All the buildings on site had very shallow pitched roofs of either metal or timber and felt construction. None of the buildings on site offered suitable roosting opportunities to bats and lacked features such as a steeply pitched tiled roof that bats find favourable.

Habitat Suitability for Reptiles

- 3.11 The areas of semi-improved grassland on site look to be well maintained and mown except for the thin strip running along the southern border adjacent to the railway line. This area had a long sward height and was of a tussocky nature creating an area that offered good opportunities for foraging and cover for common reptiles.
- 3.12 The large area of ruderal vegetation on site is growing on the area that was formally the polly-tunnels for the nursery. This whole area is covered in a layer of gravel through which the ruderal vegetation has grown up. This has created an area with a long sward height but no vegetation at ground level offering little opportunities for cover of foraging for common reptiles.

Habitat Suitability for Great Crested Newts

- 3.13 There were no ponds found on site at the time of the survey. Further to which, there are also no ponds in the wider landscape within 500m of the site.

Other Species

- 3.14 Birds are likely to use the trees on and around the site for foraging and breeding. It is recommended that any works on the trees present on site be carried out outside of the breeding season, which is March-September.

4.0 Discussion

Ecological Value of the Site

- 4.1 The site is located to the north of the town of Littlehampton, approximately 2km south of the A27. There are different habitat types on the site including: semi-improved grassland; tall ruderal vegetation; tree lines; scrub; buildings and hard standing. The habitats found on site are thought to be of ecological value at site level only.
- 4.2 There were a number of designated sites found within 10km of the site during the desktop study. Due to the lack of habitat with ecological value on site and none of the designated sites being within 2km of the site, development of this area is not thought to have a potential impact on these designated sites.

Badgers

- 4.3 There were no badgers setts found on site at the time of the surveys, there was no other evidence of badger activity such as snuffle holes, latrines and mammal paths found on site.
- 4.4 It is thought possible that badgers may use the site for foraging and commuting. Due to the relative abundance of suitable habitat in the local area around the site, it is not thought

that development of the site would have a significant effect on the local badger population. This site is not considered to be constrained by badgers.

Tree and Building Assessment for Bats

- 4.5 There were several mature trees lining the site but none of them exhibited the distinct features that are associated with roosting bats, features such as rot holes and large cracks or fissures in the bark. The trees bordering the site are thought to have low potential for roosting bats.
- 4.6 Bats are known to use linear landscape features for commuting and foraging and the tree lines around the site provide good opportunities for bats. These tree lines are also connected to the wider landscape ensuring that bats can move with ease across this area. The site is not an isolated area of habitat and so bats should be able to continue activity as normal without being impacted by any development on site. The proposed development does not isolate or fragment significant or important habitats. Therefore it is considered that the proposed development will not be constrained by the presence of bats within the trees on site.
- 4.7 All of the buildings on site were industrial buildings of metal or wooden construction without roof voids. All the buildings on site had very shallow pitched roofs of either metal or timber and felt construction. None of the buildings on site offered suitable roosting opportunities to bats and lacked features such as steeply pitched tiled roofs that bats find favourable. Therefore it is considered that the proposed development will not be constrained by the presence of bats within the buildings on site.

Habitat Suitability for Reptiles

- 4.8 The areas of semi-improved grassland found on site consisted largely of maintained areas of mown grassland, which did not offer any opportunities for cover or foraging for common reptiles. There was one strip of grassland located along the southern border of the site adjacent to the railway that was unmaintained and exhibited features favourable to common reptiles such as a long sward height with a tussocky composition. This area

however is small and fragmented from any other areas of suitable habitats and is thought unlikely to support a population of common reptiles.

- 4.9 The large area of ruderal vegetation on site is growing on the area that was formally the polly-tunnels for the nursery. This whole area is covered in a layer of gravel through which the ruderal vegetation has grown up. This has created an area with a long sward height but no vegetation at ground level, with the gravel acting as mulch, offering little opportunities for cover of foraging for common reptiles. Therefore the site is considered to be under any constraints from common reptiles.

Habitat Suitability for Great Crested Newts

- 4.10 There were no ponds found within the site boundary at the time that the survey was conducted. Further analysis of the wider landscape surrounding the site also shows that there are no ponds within 500m. 500m, is the natural range of GCNs from their breeding ponds during their terrestrial phase. The site is not considered to be under any constraints from GCNs.

Other Species

- 4.11 Breeding birds are likely to use the tree lines surrounding the site as nesting habitat. The UK breeding season for most bird species takes place between March and September. It is recommended that any works affecting the trees on and around the site be carried out outside of this period.

Ecological Enhancements

- 4.11 A number of enhancements can be made to the site as a whole to help reduce potential ecological impacts. It is important to utilise native species of local provenance in landscaping schemes to enhance the ecological value of a development.
- 4.12 Bird boxes may be hung on mature trees to increase the number of breeding opportunities throughout the site. Recommended boxes include:
- Schwegler 1N Deep Nest Box – give added nest protection from predators

- Schwegler 1B Bird Box – general purpose bird box, suitable for many species
- 4.13 Any trees that are removed should be replaced with the same elsewhere on the site or with other native species such as: spindle, wayfaring tree, honeysuckle, dog rose, hazel, beech and cherry.
- 4.14 Installation of bat boxes will also enhance the number of roosting opportunities for bats in the local area. Boxes should be hung on mature trees and have clear flight paths and should be located on trees along the northern boundary of the site adjacent to the playing fields. Recommended boxes include:
- Schwegler 2F – This box simulates crevices inside to allow suitable habitats for crevice-dwellers
 - Schwegler 1FD – This box is a larger version of the 2F
 - Schwegler 1FW – This box is suitable for maternity or hibernation roosts
- 4.15 Using species, which are native in the new planting scheme, is considered to be the most important enhancement on such a site. Grass mixes can be used which have a higher species diversity than amenity grassland. These are recommended for any grass area in the new scheme.
- 4.16 Climbing plants can be used to enhance the buildings themselves, making them of some value to wildlife within the built environment. Climbing plants provide excellent habitat opportunities on the vertical plane and provide connectivity between the ground level and rooftops, which can be particularly beneficial in urban areas where roof tops, whether seeded or not, can provide habitat opportunities for some invertebrate and bird species. A combination of species, such as honeysuckle (*Lonicera periclymenum*), jasmine (*Jasminum officinale*) or ivy (*Hedera helix*) could be used. Bird and insect boxes could be positioned on walls so that climbing vegetation eventually surrounds them. This will provide a wider range of habitat niches.
- 4.17 Native trees can be incorporated into the landscaping scheme. Species, which can be used, includes: beech (*Fagus sylvatica*), hazel (*Corylus avellana*), field maple (*Acer campestre*), wayfaring tree (*Viburnum lantana*), pedunculate oak (*Quercus robur*).

- 4.18 Areas proposed for new landscaping works should make use of predominantly native species. This will allow additional species to be introduced to the site, raising the ecological value. Areas suitable for hedging will provide a visual and acoustic barrier. A mixture of suitable shrub and tree species that are suitable for hedging include beech (*Fagus sylvatica*), hazel (*Corylus avellana*), field maple (*Acer campestre*), box (*Buxus sempervirens*), dogwood (*Cornus sanguinea*), elder (*Sambucus nigra*), hawthorn (*Crataegus monogyna*), spindle (*Eunonymus europaea*), wild privet (*Ligustrum vulgare*), wayfaring tree (*Viburnum lantana*), guelder rose (*Viburnum opulus*), yew (*Taxus baccata*) and holly (*Ilex aquifolium*).

5.0 Code for Sustainable Homes

Code for Sustainable Homes

- 5.1 The Code for Sustainable Homes (the Code) is an environmental assessment method for rating and certifying the performance of new homes. It is a national standard for use in the design and construction of new homes with a view to encouraging continuous improvement in sustainable home building. The Code for sustainable homes covers nine categories of sustainable design including ecology.
- 5.2 The Code assigns one or more performance requirements (assessment criteria) to all of the environmental issues. When each performance requirement is achieved, a credit is awarded. The total number of credits available to a Category is the sum of credits available for all the issues within it.
- 5.3 This report uses information gathered during the Phase 1 habitat survey carried out by PJC.
- 5.4 The report has been reviewed by Vicky Hale BSc (Hons) CEnv MIEEM. As a full member of the Institute of Ecology and Environmental Management she is defined as a 'Suitably Qualified Ecologist'.

Eco1 – Ecological Value of Site

- 5.5 One credit is available if the area of development is classed as land of low or insignificant ecological value.
- 5.6 The habitats on site are common and widespread throughout the UK. The area of land is a former nursery and industrial buildings with associated hard standing. The former nursery area of the site has been left unmaintained for some time. This can be classed as land of low ecological value. **One credit may be awarded for Eco1.**

Eco2 – Ecological Enhancement

- 5.7 A number of recommendations have been made within section 4 of this report. These include:
- The planting of native species rich hedgerows around the perimeter of the site;
 - Installation of artificial wildlife refuges such as insect and bird boxes;
 - The use of nectar rich climbing plants on vertical planes;
 - The planting of native tree species within the landscaping scheme.
- 5.8 If these recommendations are incorporated into the final landscaping scheme then one credit can be awarded.

Eco3 – Protection of Ecological Features

- 5.9 The development of the site will not affect any features of ecological value. The site is classified as having low ecological value, with no prominent features, mature trees, or valuable habitats.
- 5.10 As the site supports no features of ecological value as classified by the phase 1 habitat survey, **one credit may be awarded for Eco 3.**

Eco4 – Change in Ecological Value of the Site

- 5.11 The following figures have been calculated from PJC's site visit. Post development calculations have been based on the recommendations given above and PJC's interpretation of the consultation and making use of small level enhancements.
- 5.12 The post-development figures indicate a score that can be achieved if PJC Ecology recommendations are followed.

Table 1: Habitats present at the site prior and post development. Total Area of the site is 17696.7m²

Plot type	Before Development			Post Development		
	Area (m2)	No. species	Species Richness	Area (m2)	No of species	Species Richness
Buildings	1123.2	0	N/A	N/A	N/A	N/A
Hardstanding	1892.3	0	N/A	N/A	N/A	N/A
Ruderal Vegetation	11682.6	10	6.6	N/A	N/A	N/A
Semi-improved grassland	2478.9	11	1.54	N/A	N/A	N/A
Trees/Scrub	519.7	8	0.24	N/A	N/A	N/A

Ecological value of the site before development: $6.6 + 1.54 + 0.24 = 8.38$

Ecological value of the site post development: Not Available

The final landscaping plans were not available at the time of writing this report and so the change in ecological value could not be calculated.

Eco5 – Building footprint

- 5.13 One credit is available for Eco5 if the ratio of the internal floor area to the building footprint area is 2.5:1 or greater. A second credit is available if the ratio is 3:1 or greater.
- 5.14 The ratio is calculated by the architect.

6.0 Conclusions

- 6.1 The habitats found on site are common and widespread throughout the UK and are considered to be of limited ecological value at a site level only.
- 6.2 There were no badger setts found on site at the time of the survey. There were also no other signs of badger activity found on site. The site is not considered to be constrained by badgers.
- 6.3 There were several mature trees along the boundary of the site, however they are thought to have low potential for roosting bats due to the lack of features associated with bat activity. None of the buildings on site exhibited features that are associated with roosting bats and are thought unlikely to support roosting bats. The site is considered to be under any constraints from bats.
- 6.5 The site does contain a small area suitable habitat for common reptiles but it is thought unlikely that the site supports a population of common reptiles due to its isolation from any other areas of suitable habitat.
- 6.6 There were no suitable habitats found on site for GCNs. There was also no suitable habitat found within 500m of the site within the wider landscape. The site is not considered to be under any constraints from GCNs.
- 6.7 Potential ecological enhancements that can be implemented into development plans have been recommended within the report. Recommendations include use of native species within landscaping schemes and the installation of bat and bird boxes on site.
- 6.8 The site is of low ecological value. A number of points have been awarded within the Code for sustainable home assessment. However, the final calculations are dependant on the final landscaping plans with species to be planted and the number of recommendations taken up.

7.0 References

CIRIA C567 (2005) *Working with wildlife – site guide*. CIRIA, London.

Defra (2007) *Hedgerow survey handbook*. A standard procedure for local surveys in the UK. Defra. London

Mitchell-Jones, A.J. (2004) *Bat Mitigation Guidelines*. English Nature, Peterborough.

Bat Conservation Trust (2007). *Bat Surveys – Good Practice Guidelines*. Bat Conservation Trust, London.

Magic Interactive Map: www.magic.gov.uk

Multimap: www.multimap.com

Appendix 1: Photographs

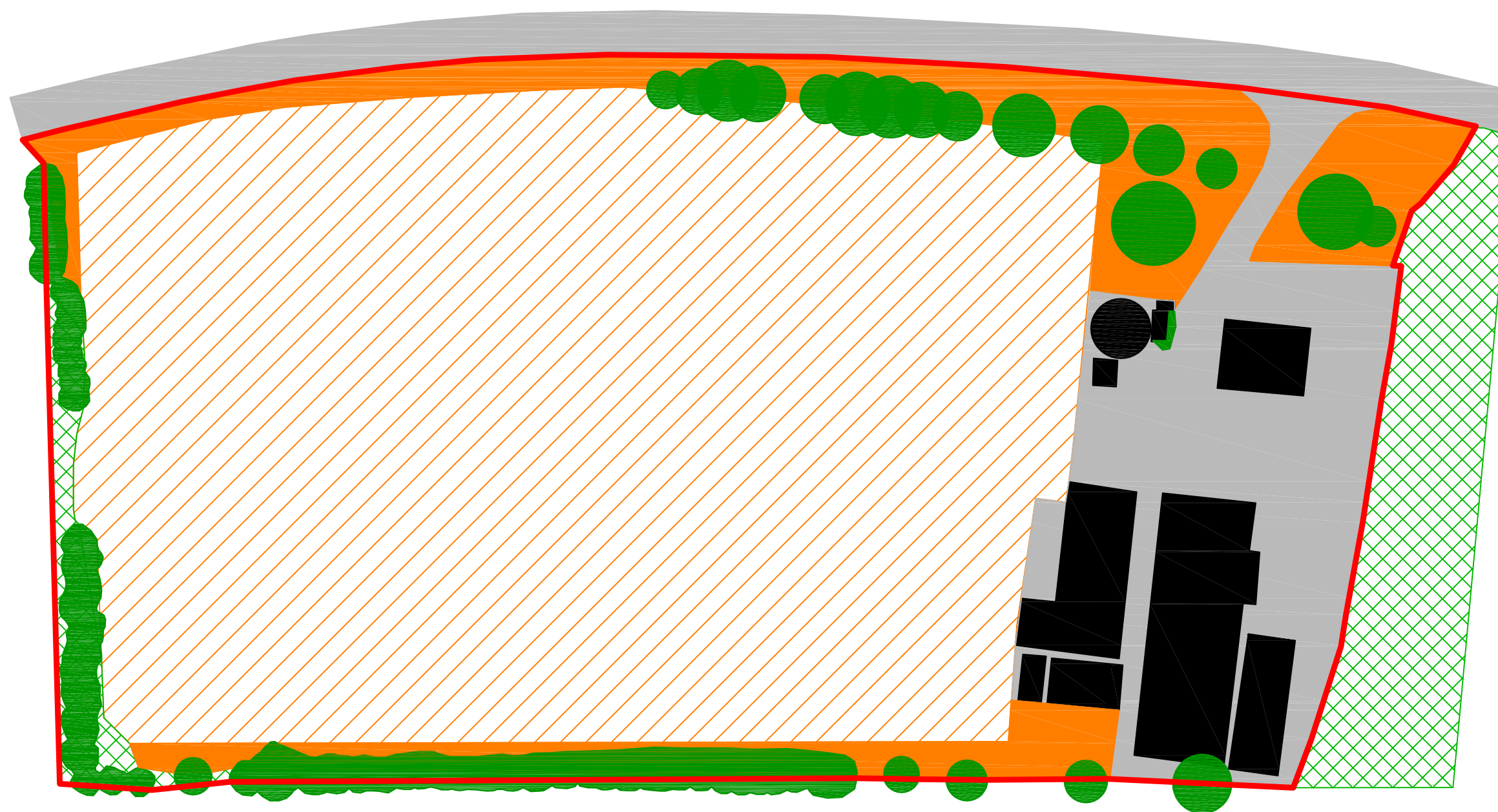
Photograph 1: Area of maintained semi-improved grassland running along the northern border of the site	
Photograph 2: Large area of ruderal vegetation	
Photograph 3: Shingle substrate which was acting as a mulch in the large area of ruderal vegetation where the nursery's polly-tunnels once stood	
Photograph 4: Single story metal roofed industrial building	

Photograph 5: Single story metal roofed industrial building	
Photograph 6: Single story metal roofed industrial building	
Photograph 7: Areas of maintained semi-improved grassland	
Photograph 8: Area of maintained semi-improved grassland with trees	

Photograph 9:
Treeline with scrub understory



Appendix 2: Habitat map



Key

-  Tall Ruderal Vegetaion
-  Semi-improved grassland
-  Scrub
-  Trees
-  Hard Standing
-  Buildings
-  Site Boundary

Site: Holly Acre, Littlehampton

Client: Wilmington Homes

Surveyor: T. Rothero

Survey Date: 14th December 2012

Drawing Title: Phase 1 Habitat Map



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Approved for PJC by: Alexia Tambllyn MA (Oxon) MSc MIEEM FRGS, Managing Director

Date: 20/12/12

	Code for Sustainable Homes – November 2010	
	Ecology Report Template	

Please read the following before completing the report:

- This report template is to be used by Suitably Qualified Ecologist's providing reports which address Ecology 1, 2, 3 and 4 issues. It is a mandatory requirement that this document is completed in a Code for Sustainable Homes submission of evidence.
- The appointed, licensed Code assessor is to pass this document to the appointed ecologist who conducted/ will conduct the ecology work.
- The appointed ecologist is to complete all sections of this report and return it completed with all relevant documentation in the Appendix to the assessor.
- An ecologist may have been appointed to carry out ecological site surveys and to produce an ecology report without being aware that a Code assessment has been, or is to be conducted. In this instance, the ecologist should fill in the relevant details required for the Code in this report template.
- The assessor is to use this report in conjunction with the latest version of the relevant Code Guidance and information provided by the developer / client, to carry out the assessment for the Ecology Category issues stated above.
- There are 6 sections (sections A - F) in this document.
- Section A1 requires contact details for the ecologist and developer / client; section A2 requires the development details.
- Section B1 determines whether the appointed ecologist is 'suitably qualified' (under the Code); and if not, section B2 determines whether the report has been verified by an ecologist who is 'suitably qualified'.
- Section C determines whether the findings of the report have been based on data collected from site surveys conducted at appropriate times of the year to determine whether different species are evident.
(Note: If 'No' is recorded for either Section B or C then the contents of the ecology report cannot be used to determine compliance with the Code requirements).
- Section D provides the assessor with the necessary information to base the assessment on for the various Ecology credits.
- Section E provides details of the documentation / information to be included within the appendix of this guidance.
- Section F requires the signature of the appointed ecologist who has completed this document.

	Code for Sustainable Homes – November 2010	
	Ecology Report Template	

Section A1: Contact Details

Ecologist's Details

Company name: [PJC Ecology Ltd](#)

Company address: [Chapter House, Priesthawes Farm, Hailsham Road, Polegate BN26 6QU](#)

Contact name: [Vicky Hale](#)

Contact telephone number: [01323 768 155](#)

Ecology Report Reference: [Holly Acre, Littlehampton Extended Phase 1 Habitat Survey and Code for Sustainable Homes Assessment Report](#)

Developer / Client Details

Company name: [Wilmington Homes Ltd](#)

Company address: [Amelia House, Crescent Road, Worthing, West Sussex, BN11 1QR](#)

Contact name: [Charles Wiggins](#)

Contact telephone number:

Section A2: Development Details

BRE Reference Number:

Client Reference Number:

Development Name:

Development Address:

	Code for Sustainable Homes – November 2010	
	Ecology Report Template	

Section B1: Suitably Qualified Ecologist's Qualifications

Do you hold a degree (or equivalent qualification, e.g. N/SVQ level 5) in ecology or related subject?

Yes ☒ No ☐

If Yes, please provide details:

BSc (Hons) Ecology

Are you a practising ecologist with a minimum of 3 years relevant experience within the last 5 years?

Relevant experience must clearly demonstrate a practical understanding of factors affecting ecology in relation to construction and the built environment and will include acting in an advisory capacity to provide recommendations for ecological protection, enhancement and mitigation measures, e.g. ecological impact assessments.

Yes ☒ No ☐

If Yes, please provide details:

I have worked in the field of ecology since leaving university in 2000, working for both the public and private sector. Previous to working for PJC Consultancy, I worked as an ecologist / senior ecologist for a multidisciplinary consultancy for 6 years

Are you bound by a professional code of conduct and subject to peer review*?

A full member of one of the following organisations will be deemed suitable: Chartered Institution of Water and Environmental Management (CIWEM); Institute of Ecology and Environmental Management (IEEM); Institute of Environmental Management and Assessment (IEMA); Landscape Institute (LI).

Yes ☒ No ☐

If Yes, please provide details :

Chartered Environmentalist CEnv and a full member of the Institute of Ecology and Environmental Management (IEEM)

**Peer review is defined as the process employed by a professional body to demonstrate that potential or current full members maintain a standard of knowledge and experience required to ensure compliance with a code of conduct and professional ethics.*

Note: If the answer to any question in Section B1 is 'No' then the ecologist writing the report does not meet the requirements of a *Suitably Qualified Ecologist* under the Code. The ecology report therefore cannot be used in the Code assessment unless it is verified by a 'Suitably Qualified Ecologist'. If this is the case, proceed to Section B2.

If the ecologist does meet the requirements of a *Suitably Qualified Ecologist*, proceed to Section C.

	Code for Sustainable Homes – November 2010	
	Ecology Report Template	

Section B2: Report Verification

If the appointed ecologist does not meet the requirements of a *Suitably Qualified Ecologist*, the report must be verified by an individual who does meet these requirements. Otherwise the ecology report cannot be used in the Code assessment.

1. The person who verifies the report must provide written confirmation that they meet the requirements of a Suitably Qualified Ecologist in accordance with Section B1 above.
2. Details on verifying an ecology report for a Code assessment:
 - The individual verifying the report must provide written confirmation that they comply with the definition of a Suitably Qualified Ecologist (as detailed above in Section B1).
 - The individual verifying the report must confirm in writing they have read and reviewed the report and found it to:
 - represent sound industry practice
 - report and recommend correctly, truthfully, and objectively
 - be appropriate given the local site conditions and scope of works proposed
 - avoid invalid, biased, and exaggerated statements.

Written confirmation from the third party verifier on all the points detailed under 1 and 2 above (for Section B2) must be included in the Appendix to this report (see Section E).

	Code for Sustainable Homes – November 2010	
	Ecology Report Template	

Section C: Site Survey

Have the findings of the ecology report been based on data collected from a site survey(s)?

Yes ☒ No ☐

If yes, please provide details to confirm this (e.g. date(s) and scope of site survey(s))

[An extended Phase 1 Habitat survey was undertaken at the site on 14th December 2012](#)

Note: If 'No' has been answered to Question 1 of Section C the ecology report cannot be used to determine compliance with the requirements of the relevant Code credits.

On what date did/ will initial site preparation works commence? / /

Note: If the site survey was carried out after initial site preparation works commenced, the ecology report cannot be used to determine compliance with the requirements of the relevant Code credits.

Note to Suitably Qualified Ecologist and the Code assessor: The contents of the ecology report must be representative of the site's existing ecology immediately prior to the commencement of initial site preparation works.

Section D: Details from the Site Survey

Eco 1 Ecological Value of Site

Is the construction zone of low or insignificant ecological value?

The construction zone includes any land used for buildings, hard standing, landscaping, site access and any other land where construction work is carried out (or land being disturbed in any way), plus a 3 metre boundary in either direction around these areas. It also includes any areas used for temporary site storage and buildings.

Yes ☒ No ☐

If yes, is there any land outside the construction zone but inside the development site of ecological value?.

Yes ☐ No ☒

Please give details:

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If yes, is it possible for all areas / features of ecological value to remain undisturbed by the construction works?

Yes ☐ No ☐

Eco 2 Ecological Enhancement

Has the developer / client required you to provide advice and recommendations for enhancing site ecology?

Yes ☒ No ☐

If yes, please provide a brief statement outlining all of your KEY recommendations*:

Inclusion of native species of local provenance within the masterplan

All works to the trees on site to be undertaken outside of the bird breeding season (as detailed in the ecology report)

If yes, please provide a brief statement outlining all of your ADDITIONAL recommendations*.

Erection of bird and bat boxes on proposed buildings

Seeding of the proposed lawn with a wildflower seed mix

Creation of a green wall using native plants

Planting of native and /or berry bearing shrubs within the site

* The client / developer will be required to adopt / implement all KEY recommendations and 30% of ADDITIONAL recommendations.

Eco 3 Protection of Ecological Features

Note: Eco 3 looks at protecting all existing features / areas of ecological value on the site and boundary area. If a feature of ecological value is to be removed as part of the development works, e.g. site clearance, then this credit cannot be achieved. If you have deemed the whole development site to be of poor ecological value then there will be no features of ecological value to protect. If the construction zone is of low ecological value but the wider site is not, give protection measures here. If there is an area(s) or feature(s) of low or insignificant ecological value you wish to advise be retained and enhanced / improved, e.g. a species-poor hedgerow to a species-rich hedgerow, then full details of this advice should be entered as a recommendation under *Eco 2 Ecological Enhancement*.

Are there any existing features/ areas of ecological value on the site or at the boundary of the site?

Yes ☐

No X

If yes, please provide a brief statement outlining the advice/ recommendations given for protecting all existing features and areas of ecological value:

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Are any ecological features to be relocated on the site?

Yes ☐

No X

If yes, please provide a brief statement outlining the reasons for relocation and recommendations for protecting the ecological features:

.....

.....

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.....

Are there any species present on site that are protected by UK and EU law?

Yes ☐No ☐

Low potential for breeding birds within the trees on site

Where there are species present on site protected by UK and EU law, have recommendations been provided to the developer in order to protect such species in order to comply with UK and EU law?

Yes X

No ☐

Eco 4 Change of Ecological Value of Site

Are you able to provide the following information for before and after construction: habitat types and an estimate of the number of floral species present per habitat type (based on appropriate censusing techniques and confirmed planting regimes)?

Yes

☐

No X

If yes, please provide the following information:

a. A brief description of the landscape and habitats surrounding the development site

b. The total site area (*this will be the same both before and after development*):

c. Provide details of the site before development in the table below:

Habitat Type*	Area of habitat type (m ²)	Number of species per habitat type

d. Provide details of the site after development in the table below:

Habitat Type*	Area of habitat type (m ²)	Number of species per habitat type

* Habitat types will include natural areas, e.g. various grasslands and woodlands; as well as areas of the built environment, e.g. buildings, hard landscaping. The area of each habitat type when added together must always equal the total area of the development site.

Has your client / developer requested you to carry out the calculation for Eco 4 Change in Ecological

Value of Site? *The calculation must be carried out in line with the methodology provided in the most current version of the Code Guidance.*

Yes No **X**

If yes, please complete the tables below:

Calculation of the Ecological Value of the Site Before Development

Plot Type	Area of Plot Type [m ²]		Species [No.] (from Table 2 or a SQE*)		Species x Area of Plot Type
		X		=	
		X		=	
		X			
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
(1) Total site area =				(2) Total =	
Species before development = Total species x area of plot type / Total site area = (2)/(1) =					

Calculation of the Ecological Value of the Site After Development

Plot Type	Area of Plot Type [m ²]		Species [No.] (from Table 2 or a SQE*)		Species x Area of Plot Type
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	
(1) Total site area =				(2) Total =	
Species after development = Total species x area of plot type / Total site area = (2)/(1) =					

* SQE = Suitably Qualified Ecologist

Section E: Appendix

The required documentation to be included within the appendix of this guidance document will include: the ecology report; written confirmation from the verifier of the ecology report (where necessary); and any supplementary documentation, e.g. ecologist's curriculum vitae; maps, plans, drawings, letters / emails of correspondence, etc. Please include these details along with the appropriate reference to each document in the table below:

Document	Reference
Holly Acre, Littlehampton Extended Phase 1 Habitat Survey and Code for Sustainable Homes Assessment Report	
Appendix 1: Habitat Map	

Section F: Signature of Validation

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Name of ecologist Vicky Hale

Signature of ecologist:

Date 14/12/2012