

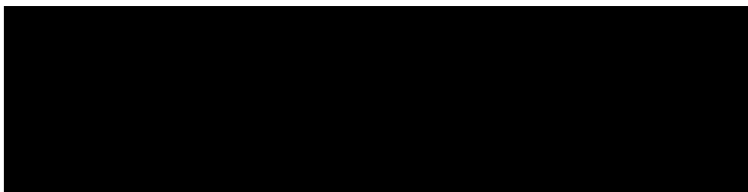


Barratt Homes

**A087545 Pound Nursery, Roundstone
Lane, Angmering**

Ecological Mitigation Plan

The Pavilion, 1st Floor, Botleigh Grange Office Campus, Hedge End, Southampton, Hampshire, SO30 2AF





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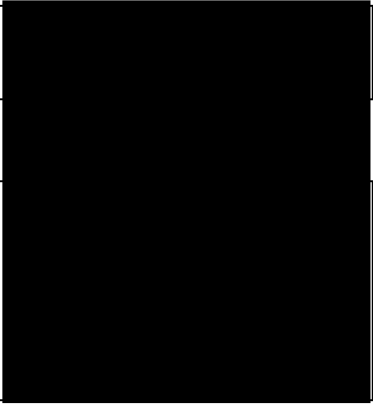
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Prepared by:	Emily Hare Consultant Ecologist	Signed:	
Checked and Verified by:	Clare May Associate Ecologist	Signed:	
On behalf of:	Clare Wilmer Director of Ecology		

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Contents Page

1.0	Introduction.....	1
2.0	Ecological Baseline	2
3.0	Roles and Responsibilities	8
4.0	Update Ecological Walkover	10
5.0	Pre-Construction Mitigation	12
6.0	Construction Phase Mitigation and Management.....	14
7.0	Post Construction Mitigation.....	16
	References	18

Appendices

Appendix A – Figures

Appendix B – Bat Boxes



1.0 Introduction

1.1 Background

WYG was commissioned by Barratt Homes in October 2014 to prepare an Ecological Mitigation Plan for Pound Nursery, Roundstone Lane, Angmering, West Sussex as per the recommendation made in the Ecological Appraisal (Aluco Ecology, 2012) and Condition 14 of the planning conditions application reference A/135/12/.

Condition 14 states:

No development or preparatory works to be undertaken until an ecological mitigation report, as outlined in section 7.0 of the supporting Ecological Assessment (December 2012), has been submitted to and approved by the Local Planning Authority; mitigation shall be implanted in accordance with the approved details and timing of works, unless otherwise approved in writing by the local planning authority.

1.2 Location

The site, which is located to the west of Angmering, comprises part of a disused nursery. To the north of the site lies a residential property and associated gardens, to the east fields of semi-improved grassland, to the south lies Worthing Rugby Football Club and to the west is Roundstone Lane beyond which lie residential properties. The site is centred on OS grid reference TQ075040.

1.3 Development Proposals

Barratt Homes have been granted planning permission to erect 46 residential properties with access, landscaping, open space and associated works. The details of the proposals for this development are shown within the proposed site layout (Figure 1, Appendix A).



2.0 Ecological Baseline

Table 1 provides a summary of the baseline ecological work that was completed to support the planning application.

Table 1: Survey and Month Undertaken

Survey Type	Report Date	Summary of Results
Ecological Assessment	December 2012 – Series of visits December 2010 – July 2011 and July 2012	Aluco Ecology (2012) completed an ecological appraisal of the site between December 2010 and July 2011, which was updated in July 2012. The site comprises a partially abandoned nursery which has reverted to low quality semi-improved grassland. Herb abundance is high but species diversity is low. The southern boundary is fenced and to the immediate south of the fenceline is a line of planted conifers with planted poplars interspersed. These form a high boundary feature to the sports pitches further south. The ground flora is dominated by bare ground and nettles. To the north is the boundary with the dwelling and property 'Pound Place'. This has dense non-native fir hedges surrounding the proper with occasional mixed native and ornamental trees. The site boundary is denoted mostly by wooden fencing in front of these hedges. The boundaries to the east and west are fenced. The nursery on site is largely disused and the growing tunnels have started to become invaded with grasses and ephemeral flowers. Paved and gravel hard standing under the growing tunnels has become encroached by grasses. The grasslands on site are improved grassland with small area of semi-improved habitat in peripheral areas around the disused nursery. The grasslands are considered to be on value within the zone of influence. The hedgerow



Survey Type	Report Date	Summary of Results
		features on site are generally of value within the zone of influence, other areas of the site are of negligible value.
Reptile presence / likely absence survey	December 2012 – Nine surveys visits completed between May – July 2011	No reptiles were recorded on-site between 12 th May and the 20 th July 2011 over nine visits to the site.
Bat activity survey	December 2012 – Four bat activity survey visits between June and July 2011.	The bat activity surveys were completed on 12th / 13th June and dusk surveys were carried out on the 27th and 30th June 2011 and the 19th July 2011. A total of five species of bat were recorded in low numbers in the area; common pipistrelle and soprano pipistrelle were the most frequently recorded species, favouring the northern boundary of the site for foraging, with occasional records of brown long-eared (known to be roosting in Pound Place to the north) and noctule also recorded on site. Serotine and a Myotis species (considered to be a whiskered bat) recorded just of site to the north.
Breeding bird survey	December 2012 – Eight surveys were completed on-site between May – June 2011.	A total of eleven species of Birds of Conservation Concern (BoCC) were recorded using the Pound Nursery site of which four are red listed and seven are amber listed; of these species the red listed species of house sparrow, starling, linnet and song thrush as well as the amber listed species of Dunnock are also of BAP priority. Dunnock was the only species confirmed as breeding on-site, however song thrush was deemed likely to be breeding on site but more likely in adjacent off-site vegetation.
Invertebrate survey	December 2012 – Series of visits between December 2011- July 2012 *	A total of nine species were noted on-site situated predominantly within the south-west corner of the Pound Nursery site and along hedgerows. The stag beetle was the only species identified on-site as a UK BAP species as well as listed under Schedule 5 of the Wildlife & Countryside



Survey Type	Report Date	Summary of Results
		Act 1981 (as amended).
Badger survey	December 2012 - Series of visits December 2010 – July 2011 and July 2012	No signs of badger were noted during the site survey. A number of holes are located on the Pound Nursery site, primarily along the northern boundary and the eastern end. All holes on site relate to rabbit, and no signs of badgers were noted from them.

*No dedicated invertebrate surveys were undertaken on-site, all information concerning invertebrates noted on-site was recorded during survey work for other species groups.



3.0 Relevant Wildlife protection Legislation

3.1 Wildlife Legislation Relevant to the Site

3.1.1 Bats

All 18 British bat species are listed in Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended) and under Schedule 2 of the *Conservation of Habitats and Species Regulations 2010* (as amended), as European protected species. Furthermore, the *Countryside and Rights of Way Act 2000* (Schedule 12, Paragraph 5) has amended Section 9 of the 1981 Act. They are, therefore, fully protected under Section 9 of the 1981 Act and under Regulation 41 of the *Conservation of Habitats and Species (Amended) Regulations 2012* which transposes the Habitats Directive into UK law.

This makes it an offence to:

- ✧ Deliberately capture, injure or kill any bat;
- ✧ Deliberately disturb bats, in particular where it is likely to:
 - Impair their ability to breed or reproduce, or to rear or nurture their young;
 - Impair their ability to hibernate or migrate; or
 - Affect significantly the local distribution or abundance of bats.
- ✧ Intentionally or recklessly damage, destroy or obstruct the access to the place of shelter or protection; and
- ✧ Damage or destroy a bats breeding site or resting place.

Unmitigated removal of linear corridors such as sections of hedgerows and increases in habitat disturbance (through lighting, noise and vibration impacts) during construction and operational phases of a proposed development could indirectly impact bats that use the site to forage and commute.

Furthermore direct impacts to bats may occur through road traffic mortalities in the operational phase of a proposed development. Such indirect and direct impacts could result in an offence being committed.

All birds, their nests and eggs are protected by the *Wildlife and Countryside Act 1981 (as amended)*, Part 1. It is therefore an offence to intentionally:

- ✧ Kill, injure or take any wild bird;
- ✧ Take, damage or destroy the nest of any wild bird while it is in use or being built;
- ✧ Take or destroy the egg of any wild bird:
- ✧ (Intentionally or recklessly) disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

3.1.3 Reptiles

It is therefore a criminal offence to carry out works on site that may result in the death or injury of a native reptile species where these species are known to be present.



3.1.4 Invertebrates

A number of invertebrate species are protected by European and UK legislation, such as those listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and in the Conservation of Species and Habitats (Amended) Regulations 2012. As a result, some species are protected from some or all of the following (amongst others): (i) killing, injuring or taking; (ii) possession or control; (iii) damage to, destruction of or obstruction of access to any places used for shelter or protection; and (iv) disturbance while using such a structure. Following a review in 2007 of species listed on the UK Biodiversity Action Plan (BAP), there has been a significant increase in the number of invertebrates included. The current UK BAP now lists 411 invertebrate species.

Section 11 of the National Planning Policy Framework (2012) states that the planning system should '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' Therefore, where developments requiring planning permission may affect protected or notable species, such as those invertebrate species listed on the UK BAP, it is preferable that an appropriate mitigation strategy is produced to ensure they are protected from the adverse effects of development and options to negate the impact should be considered, together with opportunities for enhancement.

Stag beetles are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); this legislation affords them protection from:

- damage to, destruction of, obstruction of access to any structure or place used by a scheduled animal for shelter or protection, and;
- disturbance of animal occupying such a structure or place.

In addition they are a UK BAP Priority Species; are also listed under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and are regarded as a material consideration in planning permission applications.



4.0 Roles and Responsibilities

4.1 Construction

The Ecological Mitigation Plan will be distributed to all relevant personnel involved with the construction phase of the development including Barratt Homes and any contractors who may be working on the site. It will be the responsibility of the main contractor to distribute this document (where relevant) to all other (sub) contractors and visitors to the site as appropriate, who will in turn be bound by the terms therein.

It will be the responsibility of the Ecological Clerk of Works (to be appointed by Barratt Homes) to provide advice to the construction teams during all phases of the scheme on all pertinent ecological issues and to check that the ecological protection and mitigation measures, as specified in this document, are implemented. Recommendations will be passed to Barratt Homes who will be responsible for ensuring implementation.

The Ecological Clerk of Works will have specific responsibilities which will include:

- ✦ Provision of advice on the location of protected species e.g. stag beetles, breeding birds, and the type and location of protection or mitigation required;
- ✦ To supervise and monitor the implementation and maintenance of protective or mitigation measures in accordance with legal requirements or the terms set out in this document; and
- ✦ Liaison with the main contractor's site manager and others relevant stakeholders as appropriate.

Specific responsibilities of the client, Barratt Homes, in relation to this Ecological Mitigation Plan will include:

- ✦ adhering to the relevant provisions made within this document;
- ✦ complying with the advice of the Ecological Clerk of Works as appropriate;
- ✦ ensuring that this Ecological Mitigation Plan is distributed to all relevant parties; and,
- ✦ ensuring that all persons working within the area covered by this Scheme are briefed on relevant aspects. Once the initial tool box talk has taken place (prior to works commencing on the site), briefing notes will be left on site for future visitors/contractors.



4.2 Post Construction

Post construction management will be the responsibility of Barratt Homes.



5.0 Update Ecological Walkover

WYG were appointed in August 2014 to complete an updated ecological constraints survey of the site. WYG Ecologist, Emily Hare, completed the update survey and the findings are summarised below and Ben Cooke updated the survey on 24th October 2014 as WYG were informed the grass had been cut.

The majority of the Pound Nursery site was very overgrown with scrub and tall ruderal vegetation. The polytunnels that were previously present on the site have now collapsed and have vegetation growing through them; species present include bramble (*Rubus fruticosus*) and buddleia (*Buddleja davidii*). Scattered trees are also present amongst the polytunnels comprising willow (*Salix* sp.) species and laurel (*Laurus* sp.). Very tall grassland, approximately 1m tall with bramble scrub was present in the eastern extent of the site during the August site visit, however during the October site visit the grass was cut and the bramble had been cut to ground level. The species within the area include; hogweed (*Heracleum sphondylium*), dock sp., thistle, common nettle (*Urtica dioica*), rosebay willowherb (*Chamerion angustifolium*) and bramble. It is understood that the vegetation within this area was shorter at the time of the survey completed between December 2010 and July 2011 and during July 2012

5.1.1 Bats

There are no buildings present within the site boundary and all of the trees on site and within the boundary hedgerows are considered to be relatively young and free from damage and hence all trees are considered to offer negligible potential to roosting bats.

5.1.2 Breeding birds

There is limited suitable habitat on site for nesting birds; much of the site is largely former nursery with species poor semi-improved grassland. The site provides some nesting and foraging opportunities along the hedgerows for a number of common species.

5.1.3 Reptiles

As it has been three years since the completion of reptile survey by Aluco Ecology (2012) an updated walkover survey was completed by WYG during 2014 to assess the suitability of the on-site habitat and vegetation to support reptiles. The updated assessment identified the habitats on-site as relatively unaltered compared to the initial descriptions of the site, however the vegetation has become slightly



longer albeit the eastern half of the site cut in October. As such a precautionary approach involving a supervised destructive search is recommended prior to construction - see section 6 below.

5.1.4 Invertebrates

The habitat did not appear optimal for stag beetles given that there is little dead wood. However, Aluco Ecology (2012) recorded stag beetles and hence a precautionary approach is recommended. See section 6.

5.1.5 Badgers

During the update walkover the site was searched for signs of badgers, however no evidence of this species was identified within the site boundary.

5.1.6 Dormice

The habitats on site are considered to be of negligible to low potential for dormice as the hedgerows within the site are not connected to suitable habitat off site such as other hedgerows/woodlands.

5.1.7 Great crested newts

No waterbodies suitable for newts are present within the site boundary. It is understood that the closest waterbody is a recently constructed pond within Ecclesden Manor which lies over 500m to the site and on the opposite side of the Angmering bypass which is considered to act as a barrier to migrating great crested newts. Therefore no further surveys are recommended in relation to this species.



6.0 Pre-Construction Mitigation

6.1 Fauna

6.1.1 Bats

There are no features on site considered suitable to support roosting bats.

6.1.2 Breeding Birds

Removal of any trees and scrub on site will take place outside of the bird-breeding season (i.e. during October to February). In the event that removal takes place within the breeding season, an Ecological Clerk of Works will check the trees in advance. If any active nests are found these will be left *in situ* and an appropriate buffer around the nest established for that species until all the young have fledged. The Ecological Clerk of Works will advise on buffer size and the likely timescale of fledging.

6.1.3 Reptiles

Although there were no records of reptiles during the course of the surveys completed on-site by Aluco Ecology (2011) or any sighting during the update walkover survey, as the habitat does hold some potential to support reptiles, a precautionary approach will be undertaken. This will involve a variety of methods including the modification and removal of suitable habitat through the careful strimming of the vegetation to a height of no shorter than 15cm. Subsequently a thorough hand-search will be undertaken to check for reptiles. Following which, a destructive search will be undertaken for the site. It has been agreed in principal with the approval required from the case officer that these works can commence in October 2014 to avoid delays to the development as reptiles hibernate during the winter months. It is likely these methods will be completed alongside the archaeological pre-commencement works which are required at the site. All trial pits which will be created for the geological / archaeological works will be back-filled following the works on the same day. In the unlikely event that reptiles are found, these will be moved to the boundaries which are being retained and reptile exclusion fencing erected to protect these species during construction.



6.1.4 Stag beetles

No dead wood is present on site. However, during the Ecological Clerk of Works areas will be checked for stag beetles. If any stag beetles are found during the Ecological Clerk of Works, these will be relocated alongside the retained south western boundary.



7.0 Construction Phase Mitigation and Management

7.1 Tool Box Talks

A general talk relating to all the biodiversity issues on the site including nesting birds, reptiles and stag beetles will be delivered to contractors working on site.

7.2 Habitats and Vegetation

The Site Manager will be responsible for ensuring that the contractors are aware of the areas of grassland and hedgerows to be retained and not impacted by construction activities, including storing of materials. It will be the responsibility of Barratt Homes to install tree protection fencing in line with BS5837:2012.

7.3 Fauna

7.3.1 Bats

During the construction phase, security lighting will be at a low level and positioned so as not to directly illuminate boundary habitats and areas of retained semi-improved grassland/scrub habitat on-site. In addition, works on site will cease prior to sunset. This will help to avoid disturbing foraging and commuting bats that use these habitats.

7.3.2 Breeding Birds

If any further vegetation clearance is required during the construction phase within the breeding bird season (March to September inclusive) then suitable nesting habitat will be checked for nests by the appointed Ecological Clerk of Works, immediately prior to its removal. If nests are found, removal of the structure will be delayed until young have fledged and left the nest. A buffer zone will be established to prevent disturbance of the nest until the young have fledged. The size of buffer required will be species dependant.

7.3.3 Reptiles

In the event a reptile is found during the works, all works must cease and a WYG Ecologist contacted immediately.



7.3.4 Stag beetles

If any stag beetles are found during the construction works, these will be relocated alongside the retained south western boundary as detailed above.



8.0 Post Construction Mitigation

This section provides details of the ongoing mitigation and management post construction. It will be implemented by the management company appointed by Barratt Homes. The management of the site will be undertaken in perpetuity.

8.1 Habitats and Vegetation

Following completion of development, ongoing habitat management will aim to promote structural and species diversity, in particular within the semi-natural retained habitats (as shown within Figure 1, Appendix A).

These processes will include:

- ✧ The retention of all boundary features will provide a long term benefit to the ecology of the site and wider area. Additional planting with native hedgerow species to increase the density and diversity of the western boundary.
- ✧ A new native hedgerow will be planted along the eastern boundary to provide additional connectivity to a more mature hedgerow to the north.
- ✧ The use of wildflower seeding and management in areas adjacent to the tree / hedgerow planting to increase the diversity within the development in particular adjacent to the boundaries especially in the Public Open Space. The diversity of the grassland species will be enhanced through the use of WFG18 Butterfly an Honey bee and WFG7 Free Draining Soils mixes through the central semi-improved corridor. WFG8 seed mix to be used for shaded areas alongside retained and planted tree and hedgerow edges.

8.2 Fauna

8.2.1 Bats

To enhance the site for bats a range of bat roost units will be incorporated on trees within the development. These boxes will enhance the site for roosting bats. The locations of these proposals for this development are shown on the associated plan (Refer to Figure 1, Appendix A).



On-going management of the habitats on-site including the retention of hedgerows and trees and wildflower seeding will help to create structurally diverse habitats benefiting the bat species located on-site.

The scheme has aimed to minimise lighting spill onto retained hedgerow boundary features of the site as these function as foraging areas and local movement corridors. Lighting close to the green corridors will be directional to try to minimise light spill.

8.2.2 Breeding Birds

A similar post-construction mitigation strategy to the one outlined for bats will also be utilised for the bird species located within and in close proximity to the site. Eight mixed bird boxes will be installed throughout the site on existing and newly planted trees (Refer to Figure 1, Appendix A).

As mentioned previously within the above section the on-going management of the habitats on-site will help to create structurally diverse habitats which will benefit the species located on-site.

8.2.3 Invertebrates

Enhancement measure for invertebrates will include the provision of dead wood piles on site (from any woody vegetation to be removed around the site access).



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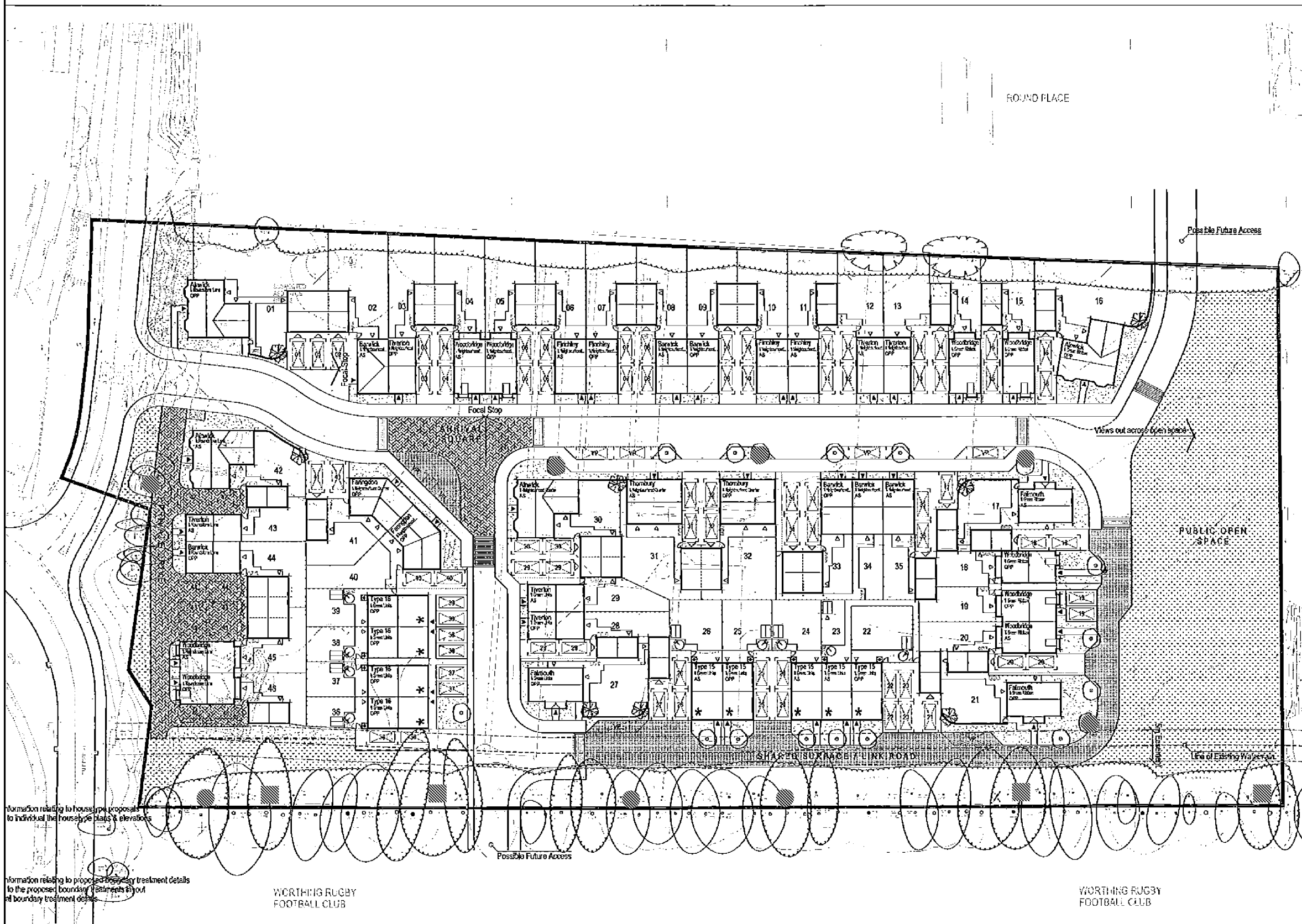


Appendix A - Figures



Legend

- Proposed bat box location
- Proposed bird box location



Information relating to house type proposals
to individual house type plans & elevations

Information relating to proposed boundary treatment details
to the proposed boundary treatment details
of boundary treatment details

Information relating to Code for Sustainable Homes
please refer to data sheet

Information relating to proposed road surface materials etc
engineers drawings

The Pavilion, 1st Floor
Botleigh Grange Office Campus
Hedge End
Southampton
Hants
SO30 2AF

Tel: 02382 022800
email: ecology@wyg.com



WYG Planning & Environment

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**Pound Nursery, Roundstone Lane,
Angmering**

**Proposed site layout and locations of bird
and bat boxes**

Scale at A3:	Drawn by: Date:	Checked By: Date:	Approved By: Date:
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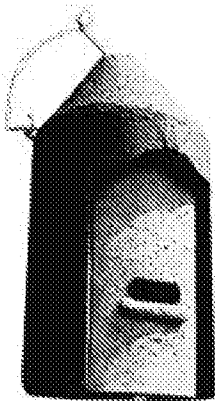
Base map provided by Barratt Homes



Appendix B - Bat Boxes



BAT BOXES FOR TREES



Woodcrete boxes have the highest rates of occupation of all box types. The 75% wood sawdust, concrete and clay mixture allows natural respiration, stable temperature, and durability. They are long lasting (approx. 25 years) and are rot- and predator-proof. Hang from a tree branch near the trunk, or fix to a trunk with the supplied 'tree-friendly' aluminium nail. This box is attractive to the smaller British bats.

Material: Woodcrete (75% wood sawdust, concrete and clay mixture)

Diameter: 16cm

Height: 33cm

Weight: 4kg

HIBERNATION BOX FOR CREVICE DWELLING SPECIES



This box is designed to provide a protected environment, particularly through the cold winter months when bats hibernate. It has three internal wooden panels imitating crevices.

Schwegler woodcrete boxes have the highest rates of occupation of all box types. The 75% wood sawdust, concrete and clay mixture allows natural respiration, stable temperature, and durability. They are extremely long lasting and rot- and predator-proof.

This very heavy box (30kg) is supplied complete with special fixing brackets. It is important to fit it very securely if mounting above the ground, and to site it well away from public areas. `