



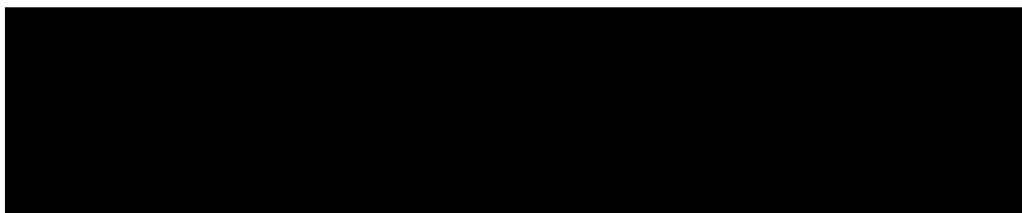
David Wilson Homes

Hook Lane, Westergate

**Ecological Mitigation and Management Plan
(EMMP)**

20 June 2016

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Contents Page

1.0	Introduction.....	1
1.1	Background	1
1.2	Site Location and General Description.....	1
1.3	Proposed Development.....	2
1.4	Context of the Management Plan	2
1.5	Priority Setting	2
2.0	Ecological Baseline	3
3.0	Relevant Wildlife Protection Legislation	5
3.1	Wildlife Legislation Relevant to the Site	5
3.2	Government Policy	7
3.3	Local Policy	8
4.0	Roles and Responsibilities	9
4.1	Construction	9
4.2	Post Construction	10
5.0	Toolbox Talk.....	11
6.0	Habitat Mitigation	12
6.1	Improved Grassland	12
6.2	Dense Scrub	13
6.3	Hedgerow	14
6.4	Tall Ruderal	14
7.0	Protected Species Mitigation	16
7.1	Badgers	16
7.2	Bats	17
7.3	Great Crested Newts	19
7.4	Hedgehogs	20
7.5	Breeding Birds	22
7.6	Reptiles	23
8.0	Timing Summary	1
9.0	References	1

Appendix Contents

Appendix A – Figures

Appendix B – Wildlife Boxes

Appendix C – Great Crested Newt Non-Licensed Method Statement





1.0 Introduction

1.1 Background

WYG was commissioned by David Wilson Homes to produce an Ecological Mitigation and Management Plan (EMMP) for a proposed development at Hook Lane, Westergate ('the site'). It addresses the following items with a view to maintaining and enhancing the biodiversity value of the site in the long-term:

- Mitigation for the protected and notable habitats and species that may be impacted by the proposals;
- Management of retained, enhanced and created habitats.

Please note that the EMMP is intended to be a working document that will be updated as further information is collected regarding ecology either pre-commencement or during the construction phase. This document will be agreed with the LPA to the commencement of works on-site with any amendments discussed with them as appropriate.

The basis for the EMMP is derived from information gathered on the site through a suite of protected species surveys carried out by ecological consultancies beginning in 2013. Following these initial surveys only the extended Phase 1 habitat has been updated. The bat activity, bat emergence/ return, great crested newt and reptile surveys have not been repeated. Whilst enhancement is not a legal requirement, it has been incorporated into the design as it helps to meet the government objectives for planning to protect and enhance biodiversity, in accordance with the *National Planning Policy Framework (NPPF)*. This commitment to biodiversity augmentation is a central facet of the design.

1.2 Site Location and General Description

The site is located at the western extent of the village of Westergate approximately 6.4km north of Bognor Regis in the Arun District of West Sussex (Ordnance Survey grid reference SU 93585 04673). The site is bound to the north by a public footpath with an arable field beyond and to the south by small grassland field divided into separate compartments. The site is bordered by a combination of residential properties and Aldingbourne Primary School to the east.

The site comprises a single field of unmanaged improved grassland, formerly utilised as pasture, along within the residential property of Oakdene and associated garden situated west of the field. The improved



grassland field is delimited by fences, ditches and hedgerow with areas of scrub and ruderal vegetation around the boundary edges of the site. Oakdene is separated from the field by a fenceline and small area of dense scrub, with the rest of the grounds of the residential property consisting of hardstanding and amenity grassland.

1.3 Proposed Development

It is proposed to develop the site for 79 residential properties with associated infrastructure. Areas of green open space will be created throughout the development alongside the construction of an attenuation pond within the south eastern corner of the site. A children's play area will also be constructed centrally within the site.

1.4 Context of the Management Plan

This EMMP is based on the results of the previous surveys and reports carried out by FPCR and WYG at the site. The surveys conducted to inform this plan are as follows:

- Extended Phase 1 Habitat survey – (FPCR, June 2013 and WYG, January 2016);
- Bat activity and emergence/return surveys (FPCR, June 2013);
- Great crested newt survey (FPCR, June 2013)
- Reptile presence/absence survey (FPCR, May 2013).

1.5 Priority Setting

Priorities in accordance with the National Planning Policy Framework and Biodiversity & Geological Conservation (Office of the Deputy Prime Minister - ODPM, 2005), especially those given protection under UK or European wildlife legalisation include:

- Protecting and enhancing habitats or species of importance,
- Ensuring no net loss of biodiversity, and
- Improving habitats within the final design to enable, where possible, biodiversity gain.



2.0 Ecological Baseline

Table 1 below provides a summary of the baseline ecological work that was completed by FPCR and WYG to support the planning application. This information has helped inform the design of the masterplan.

Figure 1, Appendix A shows the location and extent of the existing ecological features on site. These features will either be:

- Protected;
- Appropriately mitigated for where directly impacted.

All retained/created ecological features will be:

- Appropriately managed;
- Where necessary monitored.

Table 1: Survey completed and Month conducted

Survey Type	Month Surveys Conducted	Summary of Results
Bat Activity and Emergence/Return Survey	May and June 2013	A total of three buildings are situated on-site, B1 (stable/garage), B2 (stable) and B3 (residential property Oakdene), none of which were found to contain roosting bats. Buildings B1 and B2 were considered to be of negligible potential, with the external features present B3 was assessed as having low potential for roosting bats. Three species including common pipistrelle, soprano pipistrelle and noctule were found to be foraging and commuting on-site. The site was considered to be of low conservation value at the district scale. All of the trees on-site were assessed as having negligible potential to be used by roosting bats.
Extended Phase 1 Habitat Survey	March 2012 Updated: January 2016	The site comprises predominantly of improved grassland with areas of tall ruderal habitat and scrub. The site is fenced around its entirety with hedgerows along the western, northern and eastern boundary. The tall ruderal



Survey Type	Month Surveys Conducted	Summary of Results
		habitat is situated in small patches within the northern half of the site and adjacent to the entirety of the southern and the majority of the western and eastern boundary. Areas of dense scrub are located adjacent to the boundary of the western and eastern boundaries. The residential property, Oakdene situated along the western boundary comprised exclusively of amenity grassland and hardstanding.
Great Crested Newt Presence/ Likely absence Survey	May and June 2013	A total of three great crested newts (GCN), with a peak count of two GCN were recorded during surveys completed. At the time of writing the report only two of as total of six surveys had been completed. GCN were identified within two offsite ponds approximately 150m and 180m west of the site boundary. No GCN or signs of GCN were identified within the on-site ditch or ditches within 500m.
Reptile Presence/ Likely Absence Survey	April and May 2013	The surveys recorded a low population of slow-worms. Boundary habitat (rough grassland and scrub) is to be retained in the masterplan along the northern, southern and western boundary where the reptile population were found to be concentrated on-site.



3.0 Relevant Wildlife Protection Legislation

3.1 Wildlife Legislation Relevant to the Site

3.1.1 Reptiles

All British reptiles receive protection under the *Wildlife and Countryside Act 1981* (as amended). The four more common species of reptile; slow worm, common lizard, grass snake and the adder receive protection from Section 9(1) and all of Section 9(5) of the *Wildlife and Countryside Act, 1981* (as amended), which makes it an offence to intentionally kill or injure an animal, sold or traded in any way.

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.

The two rare species of British reptile, the smooth snake and the sand lizard are listed in Schedule 5 of the *Wildlife and Countryside Act, 1981* (as amended) and under Annex IV of the *Conservation of Natural Habitats and of Wild Fauna and Flora Directive, 1992* ('the Habitats Directive') as a European Protected Species. Furthermore, the *Countryside and Rights of Way Act, 2000* (Schedule 12, paragraph 5) has amended Section 9(4) of the 1981 Act to include the term 'reckless'. Consequently, it is an offence to intentionally kill, injure or take a smooth snake(s) and sand lizard as well as intentionally or recklessly damage, destruct or obstruct the access to the place of shelter or disturb the animal while it is occupying it. These species are therefore fully protected under Section 9 of the 1981 Act and under Regulation 39 of the *Conservation of Habitats and Species Regulations 2010* (as amended) which transposes the Habitats Directive into UK law.

3.1.2 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 Regulations 2010* (as amended) 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.

3.1.3 Birds

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.

The presence of breeding birds should be considered a constraint to development if vegetation clearance is carried out during the bird breeding season (usually considered to be March – September inclusive). If



presence of breeding birds is confirmed then the development timetable will have to be revised to take account of this and delay vegetation clearance.

3.2 Government Policy

The Government sets out its objectives for conserving and enhancing biodiversity in the NPPF (2012). General guidance within the body of the NPPF includes the following statements;

- ✧ *"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."*
- ✧ *"Local planning authorities should set criteria-based policies against which proposals for any development on or affecting protected wildlife or geodiversity sites or landscape areas will be judged."*
- ✧ *"When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity"*
- ✧ *"If significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused".*

Where more detailed guidance is required than is given within the NPPF, local planning authorities will continue to rely on ODPM 06/2005: Biodiversity and Geological Conservation – Statutory Obligations and their impact within the Planning System (the guidance document that accompanied the now redundant Planning Policy Statement 9 (PPS9): Biodiversity and Geological Conservation (2005)). In the case of European Protected Species such as bats, planning policy emphasises that strict statutory provisions apply



(including the *Conservation of Habitats and Species Regulations 2010* (as amended), to which a planning authority must have due regard.

Where developments requiring planning permission are likely to impact upon protected species, it is necessary that protected species surveys are undertaken and submitted to meet the requirements of paragraph 98 of ODPM Circular 06/2005 which states that;

- ❖ *“The presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat.”*

3.3 Local Policy

Arun District Council Local Plan 2003, general policy 29 – Nature Conservation across the District stated:

- Development will only be permitted on sites which contain semi-natural habitats, features of nature conservation interest, or within wildlife corridors, where these can be largely retained and sympathetically incorporated into the scheme. Legal agreements maybe used to offset the loss of, or impact on, any nature conservation resource present on the site prior to development.



4.0 Roles and Responsibilities

4.1 Construction

The Ecological Mitigation and Enhancement Plan will be distributed to all relevant personnel involved with the construction phase of the development including Barratt David Wilson and any contractors who may be working on the site. It will be the responsibility of the main contractor (Barratt David Wilson) 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 David Wilson) 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 David Wilson Homes who will be responsible for ensuring implementation.

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

- ✦ Applying for European Protected Species Licences as required;
- ✦ Deliver an initial tool box talk to introduce site staff to this document, and detail protected species that may be encountered on site, and the protection measures required;
- ✦ Provision of advice on the location of protected species e.g. reptiles 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;
- ✦ Liaison with the main contractor's site manager and others relevant stakeholders as appropriate; and
- ✦ Monitoring of the created and retained habitats on site

Specific responsibilities of the client, David Wilson Homes, in relation to this Ecological Mitigation and Management 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 and Management Plan is distributed to all relevant parties; and,
- » ensuring that all persons working within the area covered by this Plan 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 David Wilson Homes or an appointed management agent.



5.0 Toolbox Talk

Contractors working on the site will be given a site briefing (tool box talk) with regards to working methods, and protection of habitats and species during works (in particular reptiles), before they begin working on the site. This will include general avoidance measures including; noise management, lighting, access and parking, storage of materials and cleaning.



6.0 Habitat Mitigation

The development of the site will retain some habitats, and create new habitats. The management/creation of habitats at the site will include the following:

- Improved Grassland
- Dense Scrub
- Ditch
- Hedgerows
- Tall Ruderal

6.1 Improved Grassland

6.1.1 Protection

Existing grassland along the majority of the southern boundary will be protected via the installation of tree protection fencing as part of the Root Protection Areas (RPA) located on-site. Additional areas of grassland will be retained principally along the southern boundary and centrally within the site although there will be small areas of grassland retained along the northern boundary hedgerow.

6.1.2 Mitigation

Not applicable.

6.1.3 Enhancement

Initial works should be completed on the construction of the attenuation pond within the area of grassland habitat within the south of the site. Once works have concluded the pond should be left undisturbed and grass allowed to grow. The remaining areas of retained grassland habitat throughout the site will also be left undisturbed and allowed to grow.



6.1.4 Monitoring and Management

The establishment of the grassland will be monitored for competitive weeds, which will be spot sprayed where necessary or hand pulled.

The areas of grassland retained as reptile habitat during the construction phase will be managed to maintain suitable habitat for reptiles on site post-development. Management will consist of a single grass cut in August/September to a minimum height of 150mm. The grass should be cut by a large wheeled vehicle that drives slowly over the site, and the flail cutter is set to cut the grass no shorter than 150 mm from the ground to prevent the killing or injuring of reptiles (alternatively hand tools such as strimmers may be used, ensuring that the correct height is achieved). Grass should not be cut during wet weather as the machinery may damage the soil structure. The arising will be left on the grassland floor for a few days and before being removed, to allow the seed to drop back into the grassland.

6.2 Dense Scrub

6.2.1 Protection

Existing areas of scrub with the exception of the area through which the access road will be constructed will be retained along the boundaries of the site in particular along the majority of the southern site boundary where the tree protection fencing will be installed as part of the Root Protection Areas (RPA) on-site.

6.2.2 Mitigation

Not applicable.

6.2.3 Enhancement

Not applicable.

6.2.4 Monitoring and Management

Retained areas of dense scrub will be managed as per the hedgerows on site (see 6.3.4).



6.3 Hedgerow

6.3.1 Protection

Tree protection fencing will be erected along the southern boundary and the eastern boundary within the residential development of Oakdene. This will protect existing hedgerows from impacts during the construction phase of the development.

6.3.2 Mitigation

Not applicable.

6.3.3 Enhancements

Infill planting of existing hedgerows will take place, in particular along the north and west boundaries of the site. Species planted will include hornbeam (*Carpinus betulus*), field maple (*Acer campestre*), hazel (*Corylus avellana*), dogwood (*Cornus sanguinea*), hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*) and elder (*Sambucus nigra*). These will be planted according to the Soft Landscape Specification (ACD Landscape, 2016a).

6.3.4 Monitoring and Management

Any new or infill hedgerow planting which fails will be replaced during the next suitable planting period for that species. General management measures will be followed including watering, pruning and litter removal as per the Soft Landscape Management and Maintenance Plan (ADC Landscape, 2016b). Hedgerows will be managed using mechanical cutters and management will be timed to avoid the nesting bird season (March to September).

6.4 Tall Ruderal

6.4.1 Protection

Existing tall ruderal vegetation along the majority of the southern site boundary will be protected via the installation of tree protection fencing as part of the Root Protection Areas (RPA) located on-site. Additional areas of tall ruderal habitat with the exception of the area upon which the access road will be created will be retained.



6.4.2 Mitigation and Management

Not applicable.

6.4.3 Enhancement

Not applicable.

6.4.4 Monitoring

Tall ruderal habitats in the southern extent of the site will be managed alongside the rank grassland managed for reptiles (see 6.1.4).



7.0 Protected Species Mitigation

7.1 Badgers

7.1.1 Protection

A pre-commencement badger survey will be undertaken within one month prior to development commencing on-site to check that no new badger setts have been created which may be impacted by the works area.

In the event badger setts are present and the proposed development will be impact these species, a Natural England development licence will be required, however this is not derailed in this report as this is not envisaged at this stage.

Full protection measures are to be informed following completion of a pre-commencement survey.

7.1.2 Mitigation

As part of the toolbox talk prior to works commencing, best practice methods will be implemented on the site to avoid any impacts to commuting and foraging badgers, these will include:

- Consideration should be given to the placement of any topsoil storage, or piles of materials that may create mounds suitable for sett creation. Any such piles are placed well away from identified badger activity, and are checked on a daily basis by construction staff to ensure that no badger activity has taken place. If mounds are to be in place for a significant period of time, the earth will be temporarily fenced to ensure that badgers cannot access the fresh soil.
- There will be no night working to avoid disturbance to badgers, any works within 30m of a sett will cease at least two hours before sunset. There will be no lighting along the eastern boundary of the site to avoid any light spill where badger activity has previously been recorded.
- If any excavations are left open overnight, an earth ramp will be created or a wooden ramp installed to allow any animals that fall in to escape.
- Any pipes that need to be left over night on-site will be capped to avoid animals becoming trapped.



7.1.3 Enhancement

The retention and enhancement of the hedgerow and grassland margins will provide badger commuting routes and foraging areas are maintained across the development area. The proposed landscaping and habitat creation works within the site, including new hedgerow and tree planting will compensate for the loss of foraging habitats as a result of the development and bolster commuting routes surrounding the development site.

7.2 Bats

7.2.1 Protection

The installation of tree protection fencing adjacent to all retained trees outside of the proposed construction will prevent damage and unnecessary loss of further trees.

The tree protection fencing is to be maintained throughout the consultation phase, with no works to take place within these exclusion zones in order to protect root systems of retained trees and associated bat foraging and commuting habitat.

7.2.2 Mitigation

Bat Activity

The main access into the site will be off the eastern boundary through the current footprint of the residential property Oakdene and will utilise a section of the eastern field boundary comprised exclusively of fencing. Therefore the creation of the access route within this area of the site will not result in the disturbance or removal of suitable bat habitat.

Infill planting of the gaps within the boundary hedgerows, in addition to supplementary planting to bolster the hedgerows utilising native species, which will enhance these hedgerow and hence loss of bat commuting/ foraging habitat will not be significant.

Commuting and/ or foraging bats may be killed when flying across roads, in particular those that sever linear corridors such as hedgerows. Where the access road bisect the western field boundary, the existing trees will be retained either side of the gap through which access road will be constructed. The retention of these trees will encourage bats to fly up and over the breach.



Lighting

The lighting across the development footprint has been sensitively designed with bats in mind, so that valuable foraging and commuting areas are retained and existing/new roost sites are not impacted by ambient light. Light spill is restricted adjacent to all the boundary features on-site (i.e. treelines and hedgerows) where light spill will not exceed 1 Lux.

Roosts

The previous surveys conducted on the buildings on-site provided no indication that bats were roosting in the buildings.



7.2.3 Enhancement

Two Schwegler 2FN bat boxes will be installed on trees along the southern boundary at a minimum height of 4m.

7.2.4 Monitoring

Not applicable.

7.3 Great Crested Newts

7.3.1 Protection

No great crested newts were recorded on-site within the ditch situated along the eastern boundary as this was found to be dry during the optimal breeding season. As ponds within 500m of the site boundary are confirmed to contain GCN in combination with the suitable habitat currently located on-site in the form of tall ruderal vegetation, scrub and hedgerows all works will be carried out under a non-licenced method statement. For further information see Appendix A, Land to the East of Hook Lane, Westergate, Non-licenced Method Statement.

7.3.2 Mitigation

A finger tip search across the tall grassland, ruderal and scrub/hedgerow habitat will be conducted by a licenced surveyor (or an accredited agent) following the strimming of vegetation to a minimum of 15cm. Any vegetation or debris will be checked and removed from the working area.

A WYG ecologist will subsequently complete and supervise a focussed destructive search within areas of suitable habitat:

- Destructive search – Excavators should only work on scarped areas and not on undistributed grass
- Using a medium sized excavator (approx. 8-12 tonnes) with a toothed bucket carry out a gradual scrape of the top one to two inches (25-50 mm) of top soil. Both the area from where the soil is removed from and the area where the scraped soil is moved to should be checked for great crested newts.
- Carry out deeper scrapes where necessary;



- All excavated material must be immediately removed from the site or used to backfill excavations

As a precaution, all site clearance staff will be made aware of the low risk of finding great crested newts during works during the toolbox talk. The following procedure will be followed by all staff throughout the duration of works should a great crested newt be found:

- Stop all works activities immediately
- Do not to handle the great crested newt
- Contact the project ecologist/ make the ecological clerk of works (ECoW) on-site aware
- Wait for further instruction from the ecologist before proceeding with any further works

7.3.3 Enhancement

Enhancements for amphibians including GCN have been incorporated into the development site in order to increase the habitat suitability and provide commuting routes through the site, in the event that they move onto this land in the future.

The creation of an attenuation pond within the south western corner of the site will increase the availability of aquatic habitats for amphibians on site. The area of open space along the southern boundary will maintain the areas of tall ruderal vegetation and dense scrub; this will provide suitable commuting and foraging habitat for amphibians as will retained hedgerows along the boundaries which will be in-filled with native species.

7.4 Hedgehogs

7.4.1 Protection

To prevent the potential or injury of hedgehogs on-site as a result of construction phase of the development heras fencing will be installed around the working areas. This will prevent construction traffic from entering or damaging areas where hedgehogs may be present. The installation of the fencing however must not exclude hedgehogs from their foraging areas on or adjacent to the site where the layout of the development allows.



Prior to the removal of brash or vegetation piles on-site these features should be checked for the presence of hedgehogs as they may provide suitable habitat for this species. These checks should be undertaken prior to the wintering period (November to March) to prevent hedgehogs from utilising these features for hibernation.

7.4.2 Mitigation

Construction phase night work should be kept at a minimum to avoid disturbance to hedgehogs, however if works do extend beyond daylight hours, any lighting utilised should not be directed at vegetation with hooded lighting utilised to avoid light spill.

All excavations and/or trenches will not be left uncovered overnight to ensure that hedgehogs in addition to other species do not become trapped. Although if it is not feasible for excavations and/or trenches to be covered overnight an escape route or mammal ramp suitable for hedgehogs (and other species) must be provided.

Further measures to prevent hedgehogs from becoming trapped on-site include the blocking or capping of pipes stored on-site. This measure will be carried out on all stored pipes and will be checked daily.

A sensitive lighting scheme (see 7.2.2) for the proposed scheme and lighting strategy for the relief road will be put in place to ensure that vegetation suitable for hedgehogs is not illuminated and to reduce habitat fragmentation

Areas of woodland and grassland utilised as foraging areas by hedgehogs adjacent to southern boundary will be retained as part of the landscape design of the site.

7.4.3 Enhancement

Not applicable.

7.4.4 Monitoring

Not Applicable.



7.5 Breeding Birds

7.5.1 Protection

The installation of barriers in the form of tree protection fencing adjacent to all retained trees outside of the proposed construction, all Root Protection Areas (RPA) will be fenced to prevent damage and unnecessary loss of further trees.

The tree protection fencing is to be maintained throughout the consultation phase, with no works to take place within these exclusion zones in order to protect root systems of retained trees and associated bird nesting habitat.

7.5.2 Mitigation

Removal of any vegetation will take place outside of the bird-breeding season (i.e. during October to February). In the event that removal must take place within the breeding season, an Ecological Clerk of Works will check the vegetation in advance for nests. 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 Clerks of Works will advise on buffer size and the likely timescale of fledging.

Where possible the buildings will be removed outside of the nesting bird season and during the bat hibernation season (November – March), specifically buildings 1 and 2 which were found to contain non-active nests. Where this is not possible a pre-commencement nesting bird check will be undertaken of the building by a suitably qualified ecologist a maximum of 48 hours prior to the demolition works being undertaken. If any nesting birds are found during this check, the nest building will be retained in-situ until all of the young have fledged.



7.5.3 Enhancements

The addition of residential dwellings will also increase the amount of bird feeding activity in the area, as residents are likely to erect bird feeders within gardens, providing a new source of food principally for passerine birds.

Eight bird boxes will be installed on site comprising 2 sparrow terraces, 2 open-fronted bird boxes and 4 hole-fronted bird boxes.

7.5.4 Monitoring

Not applicable.

7.6 Reptiles

7.6.1 Protection

In order to prevent impacts to reptiles during construction, a displacement exercise will be carried out to encourage reptiles to move from the construction area to the retained boundary habitats.

The displacement will involve the following:

- Any rubble or log piles will be removed by hand and under the supervision of an ECoW in September and possibly October (dependent upon weather conditions). Any reptiles found will be moved to the retained habitats;
- The remaining grass will be cut to a height of 150 mm in September and October using a wheeled vehicle with a flail cutter. Cutting will take place in a phased manner from south to north to encourage reptiles to move to the reptile receptor area and arisings will be removed from site. An ECoW will then complete a hand search of these areas. If any reptiles are found they will be relocated to the reptile receptor site. Following the hand search, a further cut to a height of 30mm will be made using the same method.

7.6.2 Mitigation

Not applicable.



7.6.3 Enhancement

The following enhancements of the receptor areas will be completed:

- Reptile habitat will be retained along the southern boundary of the site, maintaining the areas of tall ruderal vegetation which offers foraging and hibernation opportunities for reptiles (see 6.1.4).
- Hedgerow creation and infill planting of existing hedgerows providing areas of foraging potential and habitats corridors for dispersal around the site and to adjacent areas.
- Creation of an attenuation pond within the south western corner of the site.

The areas of grassland retained as reptile habitat during the construction phase will be managed to maintain suitable habitat for reptiles on site post-development. Management will consist of a single grass cut in August/September to a minimum height of 150mm. The grass should be cut by a large wheeled vehicle that drives slowly over the site, and the flail cutter is set to cut the grass no shorter than 150 mm from the ground to prevent the killing or injuring of reptiles (alternatively hand tools such as strimmers may be used, ensuring that the correct height is achieved). Grass should not be cut during wet weather as the machinery may damage the soil structure. The arising will be left on the grassland floor for a few days and before being removed, to allow the seed to drop back into the grassland.

7.6.4 Monitoring

Not applicable.



8.0 Timing Summary

Table 2: Timing and frequency of pre, during and post-construction management measures

Activity	Pre-construction	During Construction	Post-Construction: Year											
			1	2	3	4	5	6	7	8	9	10	Ongoing	
Supervised directional clearance to disperse reptiles														
Erection of construction exclusion zone fencing														
Nesting bird checks														
Hedgerow planting and infilling														
Tree removal														
Replacement of failed introduced planting (i.e. trees and hedgerows)														
Pre-commencement badger check														
Badger/hedgehog mitigation measures														
Erection of bat boxes (2) <i>Enhancement for bats.</i>														
Erection of bird boxes (8) <i>Enhancement for birds.</i>														
Management of on-site hedgerow: cutting														
Management of reptile receptor area: cutting														



Table 3: Annual timing of maintenance works.

WORK SCHEDULE	Month											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supervised directional clearance to disperse reptiles												
Erection of construction exclusion zone fencing												
Nesting bird checks												
Hedgerow planting and infilling												
Tree removal												
Replacement of failed introduced planting (i.e. trees and hedgerows)												
Pre-commencement badger check												
Badger/hedgehog mitigation measures												
Erection of bat boxes (2) <i>Enhancement for bats.</i>												
Erection of bird boxes (8) <i>Enhancement for birds.</i>												
Management of on-site hedgerow: cutting												
Management of reptile receptor area: cutting												



9.0 References

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Appendix A – Figures

N



Path (um)

Legend

-  Retained Reptile Habitat
-  Hedgerow Infill Planting
-  Proposed Bat Box
-  Proposed Hole Fronted Bird Box
-  Proposed Open Fronted Bird Box
-  Proposed Sparrow Terrace

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WYG Planning & Environment

creative minds safe hands

Land to the East of Hook Lane

Ecological Mitigation Plan

	Drawn by: Date:	Checked By: Date:	Approved By: Date:
	MW 20/06/16	DW 20/06/16	DW 20/06/16
Project No:	Office	Type	Drawing No.
A096082	45	94	Figure 1
			Revision

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Appendix B – Wildlife Boxes



Introduction

The information in this appendix relates to bat and bird boxes that will be incorporated into the design to enhance the ecology of the site.

Including bat and bird boxes throughout the development site has a number of benefits:

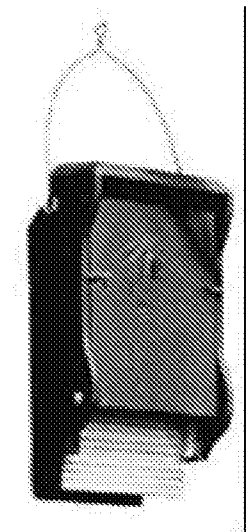
- ✦ Any roosting or resting places lost as a result of the work will be replaced;
- ✦ The ecological value of the site will be enhanced;
- ✦ Priority species within the UK and local Biodiversity Action Plans (BAPs) will be encouraged.

Bats

Bat Box

This type of box is made of woodcrete and is expected to last approximately 25 years. It has a narrow crevice-like internal space to attract Pipistrelle and Noctule bats. Woodcrete (75% wood sawdust, concrete and clay mixture).

Width: 27cm; Height: 43cm; Weight: 8.3kg.

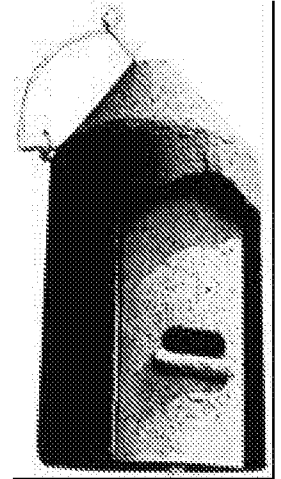




For Trees

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. Attractive to smaller British bats.

Material: Woodcrete (75% wood sawdust, concrete and clay mixture); Diameter: 16cm; Height: 33cm; Weight: 4kg.



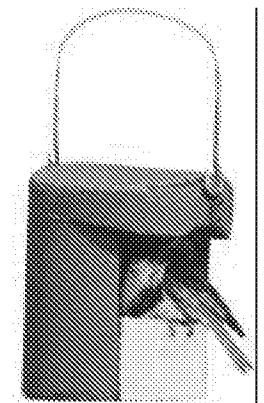
Bird Boxes

A variety of bird box designs could be installed throughout the development site to attract a diversity of species. Open fronted boxes will attract species such as robins, pied wagtails and spotted flycatchers, while boxes with entrance holes will attract tits, wrens and tree sparrows. Roost pockets will be used by roosting birds over the winter and by smaller species, such as wrens, for nesting in the spring.

Open Fronted Boxes

This box is attractive to robins, pied wagtails, spotted flycatcher, wrens and black redstarts and is best situated on the walls of buildings with the entrance on one side.

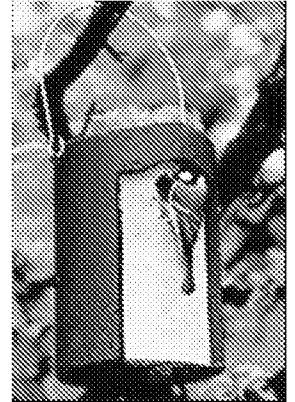
These woodcrete boxes are designed to mimic natural nest sites and provide a stable environment for chick rearing and winter roosting. They can be expected to last 25 years or more without maintenance.



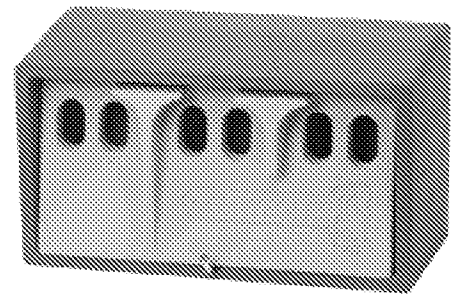


Boxes with Entrance Holes

This box is attractive to smaller birds such as tits, wrens and tree sparrows.



Sparrow terraces are designed to attract the red-listed house sparrow which are social birds preferring to nest in colonies.





Appendix C – Great Crested Newt Non-Licensed Method Statement



David Wilson Homes

Hook Lane, Westergate

**Great Crested Newt: Non-Licensed Method
Statement**

20 June 2016

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Document Control

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Client: David Wilson Homes

Job Number: A096082

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Issue	Date	Status
1	June 2016	Final
2		
3		
4		

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Contents Page

1.0	Introduction	4
1.1	Background	4
1.2	Proposed Development.....	6
2.0	Legislation	7
3.0	Evaluation.....	8
4.0	Recommended Avoidance Measures	9
4.1	Toolbox Talk.....	9
4.2	Hand & Destructive Search	9
4.3	Working Methods.....	10
5.0	What to do if a Newt is Found?	11
6.0	References.....	12

Appendix Contents

Appendix A - Figures



1.0 Introduction

1.1 Background

WYG was commissioned to provide ecological advice for the development at Hook Lane, Westergate.

To support the planning application for the site, suite of ecological surveys were completed including an updated extended Phase 1 habitat survey (WYG, 2016).

As part of the updated extended Phase 1 habitat survey, a ditch on-site which runs along the eastern boundary was assessed for its value to support breeding great crested newts which are as follows:

Ditch 1 is situated within the hedgerow H2 which comprises the majority of the eastern site boundary. During the initial extended Phase 1 habitat survey in May 2013, the ditch was approximately 50 -70cm and found to be dry along the entirety of its length with no aquatic vegetation present. During an update survey completed in January 2016, the ditch was found to be wet and still devoid of aquatic vegetation.

Beyond the site boundary there are two ponds and three ditches within 500m of the development site, these have also been assessed below:

Ditch 2 is a shallow roadside ditch along Hook Lane, with no aquatic vegetation. The ditch was almost completely shaded and had a depth of approximately 10-15cm.

Ditch 3 is a v-shaped ditch approximately 1m wide with sloping sides running adjacent to residential properties along Hook Lane. No aquatic vegetation was present with the depth of water within the ditch at approximately 20cm.

Ditch 4 is a shallow ditch running adjacent to Hook Lane; no flow: no aquatic vegetation: approximately 80% shaded

Pond 1, it is known that a great crested newt low population is present within the waterbody which lies approximately 140m to the west of the site. Pond 1 is located within the grounds of the Farplants Group Fleurie Nursery therefore access to the pond was not available at the time of the Phase 1 and a HSI could not be conducted.

Pond 2, the pond is also known to contain a low population of great crested newts, which is situated approximately 120m to the west of the site. Pond 2 is located within the grounds of a private property adjacent to the north of Fleurie Nursery as with Pond 1 described above access was unavailable at the time of the assessment of the other waterbodies within 500m of the site.



All the waterbodies on-site and within 500m of the site boundary of which access was available was subjected to a Habitat Suitability Index assessment. These are presented in Table 1 below.

Table 1: HSI Score for two ditches on-site and one ditch directly to the south of the site.

Suitability Index	Ditch 1	Ditch 2	Ditch 3	Ditch 4
Field Location	1.0	1.0	1.0	1.0
Pond Area	0.15	0.05	0.06	0.07
Pond Drying	0.10	0.10	0.10	0.10
Water Quality	0.01	0.67	0.67	0.67
Shade	0.20	0.20	0.40	0.40
Fowl	1.0	1.0	1.0	1.0
Fish	1.0	1.0	1.0	1.0
Ponds	1.0	1.0	1.0	1.0
Terrestrial habitat	0.67	0.67	0.67	0.67
Marcophytes	0.31	0.31	0.31	0.31
HSI Score:	0.30	0.41	0.45	0.46
Pond Suitability:	Poor	Poor	Poor	Poor

All four ditches (Ditches 1-4) were assessed as being of Poor suitability for GCN. As such no waterbodies suitable for GCN exist on-site however some suitable terrestrial habitat for newts is present on-site; this comprises tall ruderal vegetation, scrub and hedgerow on-site which provide potentially suitable terrestrial habitat for this species.



1.2 Proposed Development

It is proposed to develop the site for 79 residential properties with associated infrastructure. Areas of green open space will be created throughout the development alongside the construction of an attenuation pond within the south eastern corner of the site. A children's play area will also be constructed centrally within the site.



2.0 Legislation

The great crested newt is listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to:

- Intentionally or recklessly kill, injure or take a great crested newt;
- Possess or control any live or dead specimen or anything derived from a great crested newt;
- Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt;
- Intentionally or recklessly disturb a great crested newt while it is occupying a structure or place which it uses for shelter or protection.

The great crested newt is also listed on Schedule 2 of the Conservation of Species and Habitats Regulations 2010 (as amended), which implements the EC Directive 92/43/EEC in the United Kingdom. This enforces the existing offences as well as introducing three new offences:

- Deliberately take or destroy the eggs of a great crested newt;
- Damage or destroy a breeding site of a great crested newt; and
- Transport, sell or exchange, or offer for sale or exchange, any live or dead great crested newt, or any part of, or anything derived from a great crested newt.

The legalisation applies to all life stages of great crested newts.



3.0 Evaluation

As described above the ditch on-site (Ditch 1) was subject to a HSI assessment and was classified as being of Poor suitability and hence considered unsuitable to great crested newts. Ponds 1 and 2 have been confirmed to support a low population of GCN in surveys conducted in 2013. The two waterbodies described above are located to the west of the site and are not connected to the site by any direct or indirect habitat corridors. Instead the ponds are separated from the site by Hook Lane and other residential properties within Westergate.

There were no GCN breeding ponds identified on-site and although confirmed breeding ponds were situated 150m and 180m to the west of the site these were separated by amenity grassland, residential properties and Hook Lane. These ponds were found to contain only small populations of GCN with a peak count of two during the suite of surveys conducted. It is considered unlikely that the GCN contained within these ponds would migrate outside of the immediate area surrounding the ponds as there is a lack of connecting habitat in conjunction with the presence of sub-optimal GCN habitat which comprises the majority of the site. These factors suggest that GCN would likely be absent from the site.

This is supported by research undertaken by Natural England (Cresswell & Whitworth 2004) suggest that GCNs will rarely move further than 200-250m from a breeding pond, with reduced migratory distances recorded when surrounding habitats are more suitable. This research also states: "...since although a maximum routine migratory range has been estimated at approximately 250m from a breeding pond (Franklin, 1993; Oldham and Nicholson, 1996; Jehle, 2000). Jehle determined a terrestrial zone of 63m, within which 95% of summer refuges were located. In addition, following the breeding season recorded 64% of newts within 20m of the pond edge (Jehle and Amtzen, 2000).

The construction phase of the development is therefore not considered to have a detrimental impact on individual GCNs utilising the ponds within 500m of the site boundary and the loss of on-site habitat would not affect the future conservation status of this species within the local area. Therefore the development is considered likely to have a **negligible** effect on the local GCN population.



4.0 Recommended Avoidance Measures

The following activities would be undertaken and the contents of this document would be made available to contractors.

4.1 Toolbox Talk

All site operatives, including contractors, sub contractors will receive a briefing by a Natural England licensed ecologist. The briefing would include details of the legal protections of great crested newts, the precautionary methods of working (outlined in this document); pictures will be shown to make contractors/ sub-contractors familiar with great crested newt characteristics, contractors will be made aware of the optimal newt habitat at the site and the procedures to follow in the event great crested newts are discovered during the works.

4.2 Hand & Destructive Search

No development works will be permitted at the site until suitable areas of the site have been strimmed to 6 inches and subsequently hand searched comprising a finger tip search this will focus on grassland tussocks, ruderal and scrub/ hedgerow habitat by a surveyor holding a Natural England survey licence (or accredited agent under such a licence).

Areas of suitable habitat where the ground is uneven providing potential hibernacula for great crested newts; a targeted top soil strip will be undertaken by suitably qualified ecologist:

- Excavators should only work on scraped areas and not on undisturbed grass.
- Using a medium sized excavator (approx. 8-12 tonnes) with a toothed bucket carry out a gradual scrape of the top one to two inches (25- 50mm) of top soil. Both the area from where the soil is removed from and the area where the scraped soil is moved to should be checked for great crested newts.
- Carry out deeper scrapes where necessary;
- All excavated material must be immediately removed from the site or used to backfill excavations

- Access to the site will be from the existing access via footpath, off Hook Lane
- Where possible, tracked vehicles of up to 8- 12 tonnes will be used on-site
- Works will only be undertaken on-site during daylight hours.



5.0 What to do if a Newt is Found?

The following points will be followed by all staff throughout the duration of works in the event any great crested newt is found:

- Stop all work activities immediately.
- Do not attempt to handle the great crested newt.
- Contact the project ecologist/make the Ecological Clerk of Works (ECoW) present on-site aware.
- Await further instruction from the ecologist before proceeding with any further works.

If great crested newt has been discovered all works must stop. The ecologist will firstly contact the client and subsequently contact Natural England directly but a European Protected Species development licence may need to be obtained from Natural England.



Hook Lane, Westergate: GCN Non-Licenced Method Statement

6.0 References

Langton, T.E.S., Beckett, C.L. and Foster, J.P. (2001). Great Crested Newt Conservation Handbook. Froglife, Halesworth.