

**BIODIVERSITY MITIGATION
AND MANAGEMENT**

**LAND AT MANOR FARM
AND COPSIES NURSERIES**

MAY 2013

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1.0	INTRODUCTION	1
1.1	Background	1
1.2	Previous Ecological Work	1
1.3	Structure of Report	1
2.0	LEGISLATION, POLICY & PLANNING CONDITIONS	2
2.1	Relevant Legislation and Policy	2
2.2	Planning Conditions	3
3.0	BACKGROUND TO THE SITE ECOLOGY AND SCHEME DESIGN	4
3.1	Site Location and Background	4
3.2	Ecology of the Site	5
3.3	Details of the Development	5
4.0	MITIGATION FOR PROTECTED SPECIES	8
4.1	Introduction	8
4.2	Mitigation for Mammals	8
4.3	Mitigation for Reptiles	9
4.4	Mitigation for Birds	11
4.5	Mitigation for Bats	11
4.6	Mitigation for Vegetation	11
4.7	Summary	12
5.0	MANAGEMENT OF RETAINED AND CREATED HABITATS ON SITE	16
5.1	Introduction	16
5.2	Eastern Open Space	16
5.3	Co-ordination with Landscape Plan	21
6.0	CONCLUSIONS	21
7.0	REFERENCES	22

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1.0 INTRODUCTION

1.1 Background

- 1.1.1 Aluco Ecology Ltd. was commissioned by Barratt David Wilson Homes (Southampton) Ltd to provide detailed mitigation and management plan for the residential development at land at Manor Farm & Copsies Nurseries, Denvilles, Hampshire.
- 1.1.2 A detailed planning permission for the southern half of the development and outline permission for the northern half was granted in April 2013. This was subject to a number of conditions including a conditions relating to ecology.
- 1.1.3 This report provides detailed mitigation and management proposals for the site in order to fulfil the condition relating to ecology.

1.2 Previous Ecological Work

- 1.2.1 Aluco Ecology has undertaken ecological survey work on the site during 2011-13 (; Aluco Ecology 2013, 2013a), and a detailed assessment was provided to Havant Borough Council to provide supporting information for the planning application. These two reports are the basis of the mitigation and management proposals detailed in below

1.3 Structure of Report

- 1.3.1 This report is divided into four further sections: two summarising the background information; mitigation for protected species recorded during survey work; and management of retained habitats on site.

2.0 LEGISLATION POLICY AND PLANNING CONDITIONS

2.1 Relevant Legislation and Policy

- 2.1.1 Species and habitat are protected by a number of legal and policy mechanisms. The features of potential ecological importance that are the subject of the current report are protected by the following legislation and policy. Namely the Conservation (Natural Habitats &c.) Regulations 1994 in relation to the protection of European sites (Special Protection Areas SPA, and Special Areas of Conservation SAC) and European protected species (eg bats, great crested newts) (**Technical Appendix 1**) and the Wildlife & Countryside Act 1981 (as amended) and Countryside & Rights of Way Act (CROW) 2000 for protected species and the designation and protection of Sites of Special Scientific Interest (SSSIs) (**Technical Appendix 2**). The Protection of Badgers Act 1992 gives protection to Badgers *Meles meles*.
- 2.1.2 The Government sets out its objectives for conserving and enhancing biodiversity in the new National Planning Policy Framework that also makes reference to the existing ODPM Circular 06/2005. The Government's objectives for planning and biodiversity are that '...the planning system should seek not just to protect, but where possible to enhance biodiversity – making sure we don't just have isolated pockets of wildlife, but rich and connected green spaces for all kinds of species to thrive.'
- 2.1.3 The Framework goes on to state that at the heart of the planning system is a presumption in favour of sustainable development.
- 2.1.4 In addition that outlined above, strategic and local planning policies further implement the legal and national policy. The Havant Borough Council Local Development Framework Core Strategy was adopted in March 2011 and contained policies related to ecology and biodiversity. These policies are set out in **Technical Appendix 3**.
- 2.1.5 Under the Governments duty to conserve Biodiversity, a number of Biodiversity Action Plans have been prepared for habitats and species of conservation concern, including national and local action plans such as a Biodiversity Action Plan for Hampshire (HCC, 1998).
- 2.1.6 The following mitigation and management strategy has been produced to ensure that the construction and operation of the site is undertaken in accordance with legislation and policy provisions at a national and local level.

2.2 Planning Conditions

- 2.2.1 The planning permission for the site has provided a number of proposed planning conditions that the developers must satisfy prior to construction and/or operation. One of these conditions relates directly to the mitigation and management of biodiversity, protected species and habitats on the site:

22	Clearance of suitable bird nesting habitat (including vegetation and buildings) shall only take place between September to mid-March (inclusive). If this is not possible then a pre-clearance check for occupied birds nests shall be undertaken by a suitably experienced ecologist. Work shall cease in any areas where occupied nests are identified and an exclusion zone of 5m maintained around such nests, until such time as those nests become unoccupied of their own accord. Reason: To avoid impacts to nesting birds and having due regard to policy DM8 of the Havant Borough Local Plan Core Strategy which forms part of the Local Development Framework, and the National Planning Policy Framework, March 2012.
24	Prior to development commencing on site, a detailed plan for the creation, establishment and long-term maintenance of features for biodiversity enhancements at the site, including specification and location of bat roosting features, shall be submitted to and approved in writing by the Local Planning Authority. The approved details shall be fully adhered to and the site managed in accordance with the approved plan. Reason: to conserve and enhance biodiversity and having due regard to policy DM8 of the Havant Borough Local Plan Core Strategy which forms part of the Local Development Framework, and the National Planning Policy Framework, March 2012.

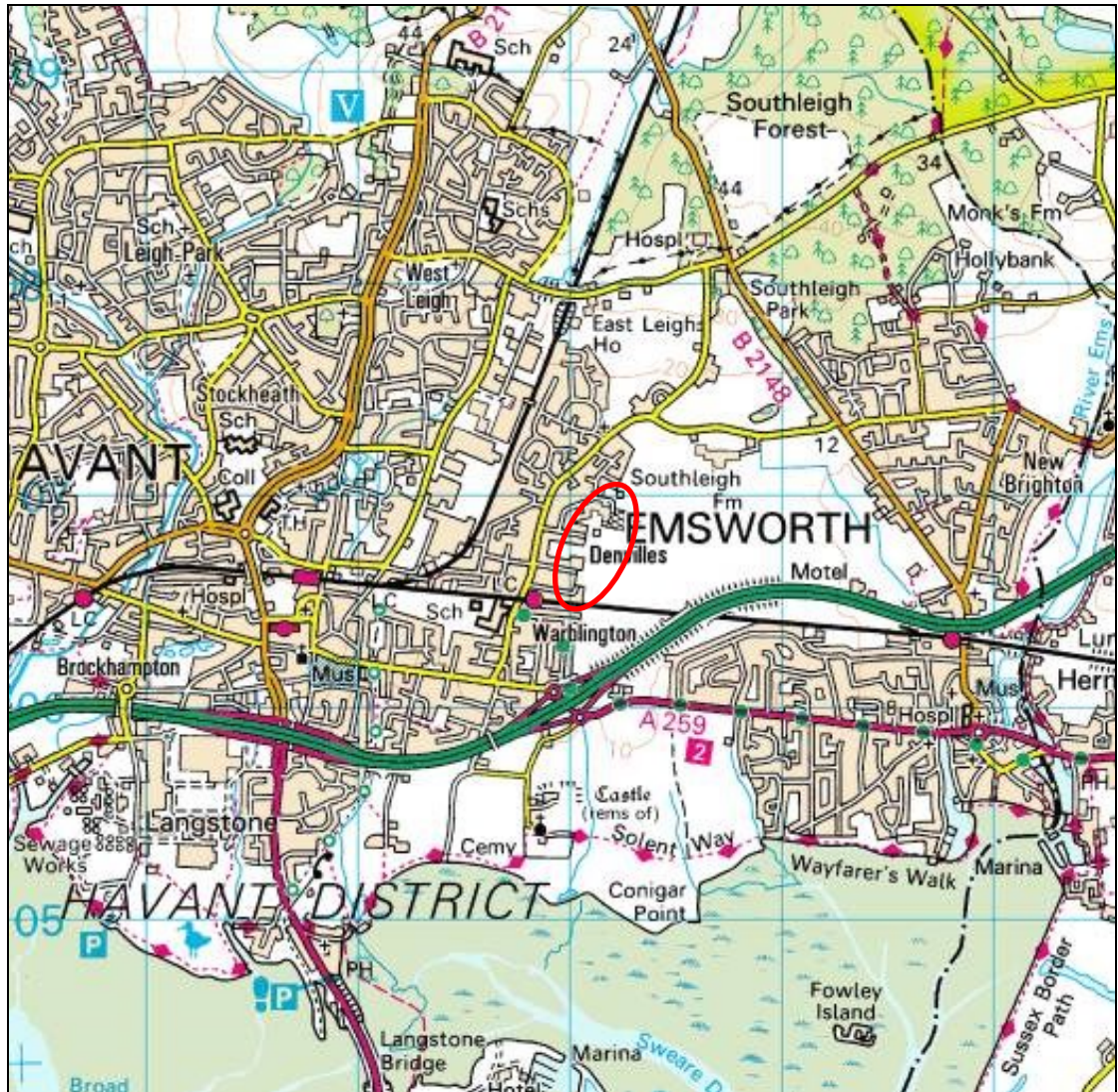
Planning Permission Conditions Relating to Ecology

- 2.2.2 This report provides the detail necessary to fulfil these Conditions.

3.0 BACKGROUND TO THE SITE ECOLOGY AND SCHEME DESIGN

3.1 Site Location and Background

- 3.1.1 The development site is located on the suburban edge of Denvilles. Its location is shown at **Figure 1** below.



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Figure 1: Location of the Site

- 3.1.2 A site Masterplan has been provided at **Figure 2** below, with **Figure 2a** an updated Reserved Matters plan for the northern half of the site.

3.2 Ecology of the Site

Introduction

- 3.2.1 A brief introduction to the ecological features of the site is provided below. For further detail see the report on previous survey work undertaken by Aluco Ecology (2013).

Vegetation and Habitats

- 3.2.2 The site is made up of a mosaic of farmyard, formal gardens and the edges of farm fields. Around the farmyards and buildings on site are areas of rougher grassland and some scrub. This is generally species poor. A number of mature trees are present in the scheme, some are to be retained as part of the development.

Protected and Notable Species

- 3.2.3 Survey work in 2011 has provided information on the presence of protected and notable species and other ecological features on the site. The following protected and notable features have been recorded:

- A number of common nesting birds within the woody vegetation/farmyard and garden features on site;
- Evidence of former use of the site by Foxes, but the farm also controls their presence;
- No bat roosts have been recorded on site in either buildings or trees, but the site is used for foraging by bats;
- Presence of a low population of Slow Worm *Anguis fragilis* on site and Grass Snake *Natrix natrix* in the wider countryside;
- The site provides a range of rough grassland and woodland edge habitats suitable for a range of commoner invertebrates, including Stag Beetle *Lucanus cervus*;

3.3 Details of Development

Introduction

- 3.3.1 The overall development that has been granted permission (including both Manor Farm and Copsies Nurseries) is for the construction of 191 dwellings with public open space and landscaping.

- 3.3.2 **Figure 2** shows the details of the proposed development. The development footprint is over the majority of the site but there are areas to be retained. Details of the operations and construction are provided below.

Pre Construction Site Clearance

- 3.3.3 The site will be need to be cleared of existing ground vegetation, which will be removed and ground re-profiled within the development area (see **Figure 2**) and for the northern

half of the site **Figure 2a**, which includes glass houses and creation of grasslands and allotments within the eastern half of the site.

Construction

- 3.3.4 The development will include creation of foundations, foul sewers and drainage and a new road network. This will include extensive excavation works within the development area. Parts of the retained areas, particularly along the eastern boundary vegetation, will not be directly disturbed, except for some landscaping prescriptions.
- 3.3.5 A Landscape Strategy and a detailed planting plan have been prepared for the site (ACD, 2013). This provides for formal landscaping within the main development footprint and some landscaping and native species planting around the edges of the development adjacent to the wider countryside and within the retained open space areas. This has been informed by the mitigation and prescriptions outlined below and in Aluco Ecology 2013.

Operation

- 3.3.6 The retained areas of the site in the eastern edges are designed to fulfil a dual purpose of nature conservation and public open space. Some existing boundary ditches and hedgerow/tree features are to be retained. Additional planting has been provided in the management strategy (see ACD 2013 for detailed native and formal species planting in the various formal in informal open area locations on site, and for long term maintenance of these features).





Figure 2(a) Reserved Matters Information for Copsies Nurseries Phase, June 2013

4.0 MITIGATION FOR PROTECTED SPECIES

4.1 Introduction

- 4.1.1 The construction of the development has the potential to affect a number of species that are afforded protection under the legislation and policy outlined in Section 2 above. The Condition of the planning permission also requires a detailed methodology for development construction to ensure that legal and policy provisions are taken into account. This section provides details for each protected species group, to ensure that construction follows best practice and protected species are taken into account.

4.2 Mitigation for Mammals

Location of Fox Earths

- 4.2.1 Survey work has provided the positions of an old Fox earth within the development footprint. The locations are shown on **Figure 3**. During a site visit in late winter 2013 this Earth appears to be not in use, but during site supervision for other protected species works the potential areas where Foxes could be present will be monitored to ensure no new Earths are created.

Closure of Fox Earths

- 4.2.2 If a new Fox Earth is located then the following guidelines will apply relative to the development site: Fox earths within 20m of the development will be closed and the animals encouraged to move to retained earths via the following strategy:

- Potential Fox Earths will be checked regularly for signs of use;
- Holes will be part, then fully soft blocked and monitored for a period of up to two weeks;
- Where monitoring and discouragement of use is applied successfully and no evidence of further use is made, the holes will be destructively searched;
- Where continued use is made, the installation of one way gates will be necessary with a further period of monitoring;
- Exclusion of Foxes from holes will only take place outside the breeding period (ie closure can occur during June – Jan depending upon local circumstances).

- 4.2.3 Site monitoring will also check for potential for Badger *Meles meles* use of the site, although no evidence has been recorded during initial survey work (Aluco Ecology 2013).

4.3 Mitigation for Reptiles

Introduction

- 4.3.1 The following strategy has been devised in order to follow best practice guidance (HGBI, 1998, Froglife, 1999).
- 4.3.2 The reptile populations appear to be restricted mostly to the western edge of the site along Manor Farm farmyard, gardens and also along the boundary with Copsey's Nursery and the dwelling house to the north. Slow Worm *Anguis fragilis* was the only reptile recorded on the development site during survey work, with only a low widely spaced population recorded during the survey work (see **Figure 3**).
- 4.3.3 The main aim of the mitigation strategy is to retain the low population within the local environment as suitable habitat with very low populations has been surveyed and detailed on the site's eastern boundaries. The population within the construction area of the site is low with large areas of unsuitable habitat. This population can be supported by the habitat along the eastern edge of the site, particularly with long term open space creation along this edge of the site. The population within the construction zone will therefore be subject to the translocation methodology outlined below. This site therefore fulfils the criteria as the most suitable translocation site (more details of criteria are provided in **Technical Appendix 4**). This area is shown in **Figure 4**.
- 4.3.4 The long term management of this area will be prescribed to cater for reptiles, as well as other informal recreational activities and nature conservation interests, this is provided in Section 5 below. The amount of suitable reptile edge habitat can be increased through habitat management in the longer term management of the site. The created habitats with native hedge planting and wildflower grasslands on site, and the allotment area, will also in time provide new niches for reptiles to colonise expanding the amount of local habitats for reptile populations.

Translocation Strategy

- 4.3.5 The strategy will involve the following:
- The areas within the construction zone of the site will be sensitively strimmed to c10cm using hand tools, careful not to harm Slow Worms potentially present; Where trees and bushes are also to be removed, due regard will be had to the mitigation strategy for nesting birds below;
 - Reptile protective fencing will be placed along the eastern boundary receptor site (see **Figure 4**). This fencing will be to standard guidelines and the detailed route will have regard to hydrological mitigation to the ditch within this area, and also to future allotment space;

- Refugia will be placed along the construction works area and a relocation of reptiles will be made based on the strategy outlined in **Technical Appendix 4** to the retained habitat that has been fenced from the construction zone;
- Following 3-5 negative visits in suitable conditions a destructive search will be undertaken of the works area by a suitably qualified ecologist. The construction area will be phased to allow for progressive destructive searches through the site to tie in with construction area phases;
- The fencing will continue to provide protection of the retained habitat from construction intrusion;
- Following construction, the area on the retained side of the fencing will be reconnected with the new open space areas and reptile populations will be allowed to colonise the new habitats over time;
- Long term management proposals are provided in Section 5 below and the management plan (ACD, 2013).

4.3.6 The reptile strategy will be undertaken during the period March-October. Where potential reptile edge habitat is contained within the works area outside this period, no construction works will be undertaken in this habitat.

Other Temporary Fencing During Construction

4.3.7 Working areas will be clearly defined on site. This will be necessary to ensure that construction does not intrude onto retained habitat. The reptile strategy will ensure that construction areas are kept short and thus unsuitable for reptiles. Temporary Heras fencing or similar to protect reptile fencing or mark areas that are out of bounds for construction will be placed along the relevant site areas and will be maintained in areas where construction continues. All contractors on site will be briefed by the site foreman/manager as to reptile (and other ecology) sensitivities. Many of these areas correspond with root protection zones for retained woody features.

4.4 Mitigation for Nesting Birds

Introduction

4.4.1 All birds and their nests are protected from harm under Section 1 of the Wildlife and Countryside Act 1981 (as amended) (see **Technical Appendix 2**). A strategy is provided below to ensure that the construction of the proposed development does not affect any nesting birds. Habitat management for enhancing retained habitat on site for bird use is provided in Section 5 below.

Mitigation for Nesting Birds

4.4.2 All scrub and woody habitat not to be retained on site will be removed outside the nesting bird season where possible. This is considered early March-August. Vegetation clearance will be undertaken in the following way:

- All vegetation clearance will be undertaken with supervision from an ecologist if considered necessary or via an agreed method statement;
- All vegetation will be cleared to just above ground level to remove nesting bird habitat but not disturb the ground in areas where reptiles may be present;
- Where works require some vegetation removal during the nesting season, this will only be possible where the vegetation has been carefully checked and no nesting birds are present. Where trees are involved, this may only be possible by a suitably experienced arborculturalist with tree climbing capabilities. If nesting birds are present, work will be delayed until the species has/have finished nesting. A 5m buffer zone from nests will be set up.

4.4.3 A total of 8 bird nest boxes will be provided within the scheme and open areas of the site. These will be a mixture of small and larger holed boxes, and/or sparrow terraces, House Martin ledges. These will be provided during the construction phase and located on edge dwellings closest to the open space areas (for House Sparrow/House Martin) or on retained trees in the hedges on site. They will be located by a suitably qualified ecologist to ensure location is suitable.

4.4.4 An indicative location of these boxes is provided on **Figure 4** below, final detail will be provided on site by the ecologist.

4.5 Mitigation for Bats

4.5.1 No bat roosts were recorded during the survey work (Aluco Ecology, 2012). The site foreman will be made aware of the duties relating to bats and the law, and in the unlikely event that during the demolition of the buildings on site or larger trees bats are detected, work will stop and the site ecologist will be immediately informed, so that mitigation measures can be put in place through consultation with Natural England.

4.5.2 A total of 12 bat roosting structures will be incorporated into the scheme, using inbuilt and or woodcrete designs (examples frequently used are provided in **Technical Appendix 5** and locations at **Figure 4**). Where roost features are to be incorporated in buildings this should be at the development edge, particularly the eastern edge of the scheme where open space provides links to larger areas of suburban green space. These boxes and features will be located and supervised by a suitably qualified ecologist during site construction and prior to completion and occupation.

4.5.3 Street lighting will be directed away from the open space boundary and the north west open space area to provide dark corridors within the open space on site. MJA have prepared a plan showing proposed street lighting (MJA, 2013).

4.6 Mitigation for Vegetation

Retained Vegetation

- 4.6.1 A number of areas of the site are to be either retained for open space and nature conservation or created open space within the scheme. Within the retained areas are habitats of importance for protected species and for protected trees on site.
- 4.6.2 The development boundary abuts tree root protection areas of retained trees and hedges and these will be marked out to standard root protection methods.

Semi-improved Grasslands

- 4.6.3 Wildflower grassland mixes are proposed for the swales and for the dry grasslands to be created on site, this will include new habitats over the former hard standing of the Nursery buildings. The details are provided in ACD, 2013.

Woody Planting

- 4.6.4 Additional woody planting is to take place over the site. The planting mix is provided in the Landscape Report (ACD, 2013).

4.7 Summary

- 4.7.1 A timetable of the construction mitigation works for ecology is provided below at **Table 1**.

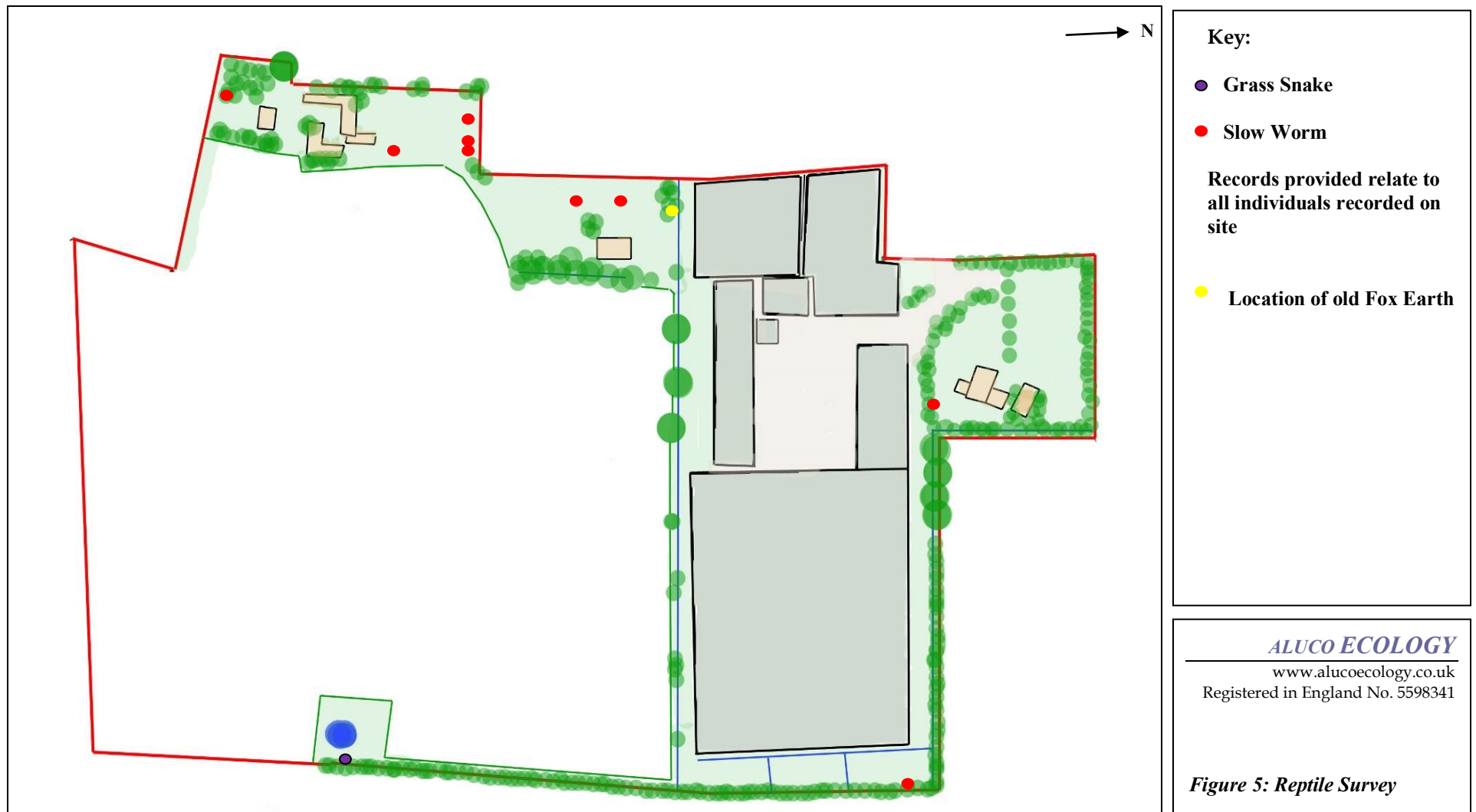




Table 1: Summary of Anticipated Protected Species Mitigation During Construction

Anticipated start 2013 =	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M
Reptiles																							
Cut veg/install fencing																							
Monitor reptiles																							
Translocation																							
Destructive Search																							
Foxes/Mammals																							
Site monitoring																							
Earth Closures																							
Minimize secondary impacts/site induction																							
Nesting Birds																							
Principal Cutting of woody vegetation period																							
Vegetation																							
Plant Native tree/shrubs in retained areas																							
Protect retained vegetation with fencing																							
Topsoil striping, storing and translocate																							
Bat & Bird Box Mitigation																							
Erect Bat & Bird Boxes																							
Install bat mitigation into dwellings																							

5.0 MANAGEMENT OF RETAINED OPEN SPACE HABITATS ON SITE

5.1 Introduction

- 5.1.1 The open space areas of the scheme have been designed and planned according to the Landscape design management plan and mapping (ACD, 2013). This has had regard to ecology survey work undertaken on site.
- 5.1.2 The general strategy is for retention of the eastern boundary thorn hedge around the allotments area, and to the south of the allotments area, and then to provide a new mixed native species hedgerow (specifications in ACD, 2013) around the current open boundary of the remainder of the eastern edge of the site. Inside this boundary hedgerow are wetland features of existing ditches and new swale and pond drainage features created as a result of the scheme. These new features will be seeded with native species wetland mix (ACD, 2013). Outside the wetland features are grasslands that will serve a dual purpose of informal amenity and wildflower grasslands. These are to be created where the former Copsey's Nurseries glasshouses and former Manor Farm were located and will also be seeded with a native species wildflower mix. On the western edge of the open space is a second tree line/hedgerow which will include native species, but also formal planting species suitable for a built development edge. A 1km long informal walkway will also be created in the open space through mowing and upkeep.
- 5.1.3 Once created the open space development and maintenance will be subject to management as prescribed by the Management and Maintenance Plan (ACD, 2013). The sections below provide additional information relating to ecology, to supplement this management plan, and should be adopted as part of the management plan.

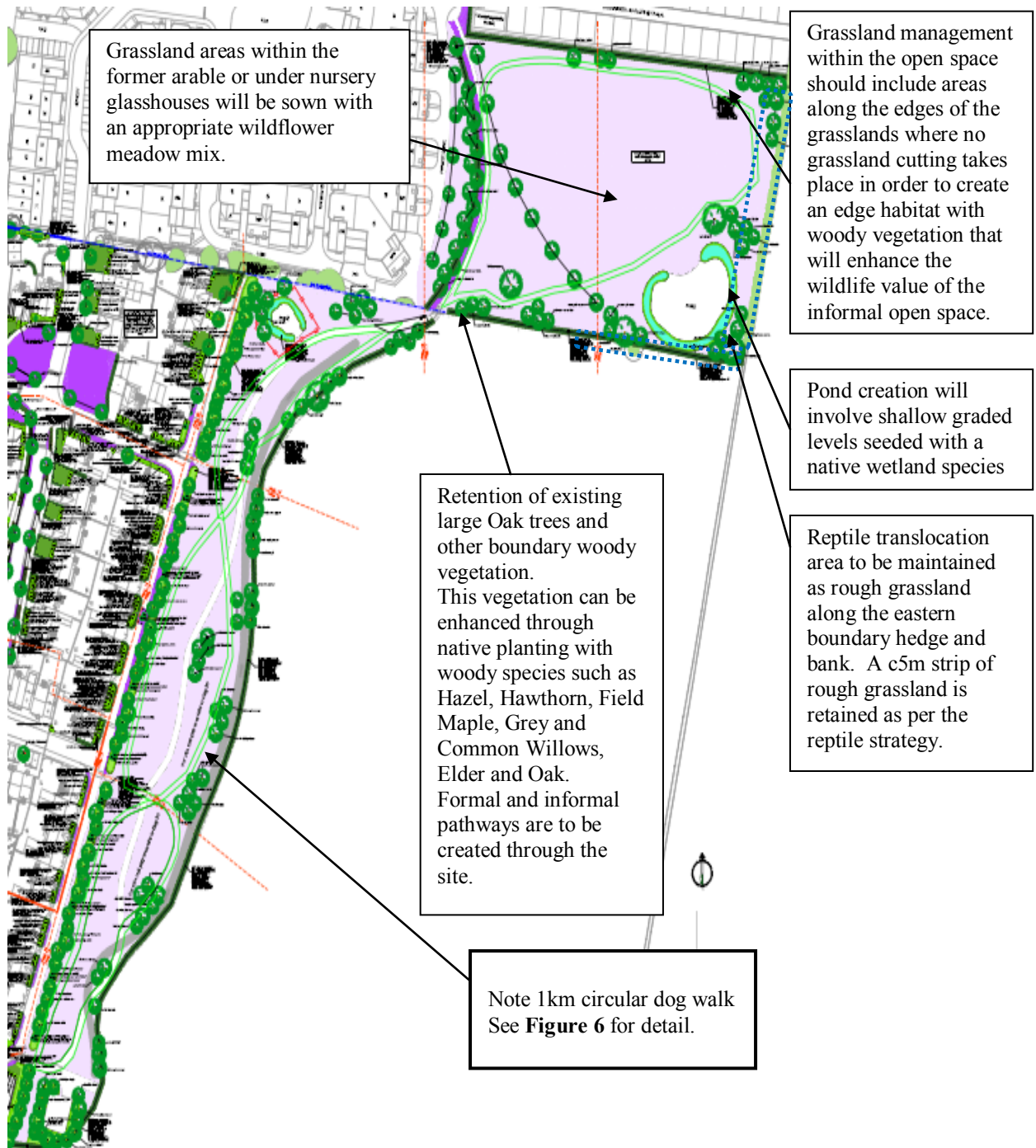
5.2 Eastern Open Space

- 5.2.1 Prescriptions are provided to complement the management plan for landscaping to provide enhancements for ecology features on site as well. These are highlighted in **Table 2 & Figure 5** below. The sub headings relate to the relevant sections of the management plan (ACD, 2013).

Table 2: Additional Ecology Prescriptions

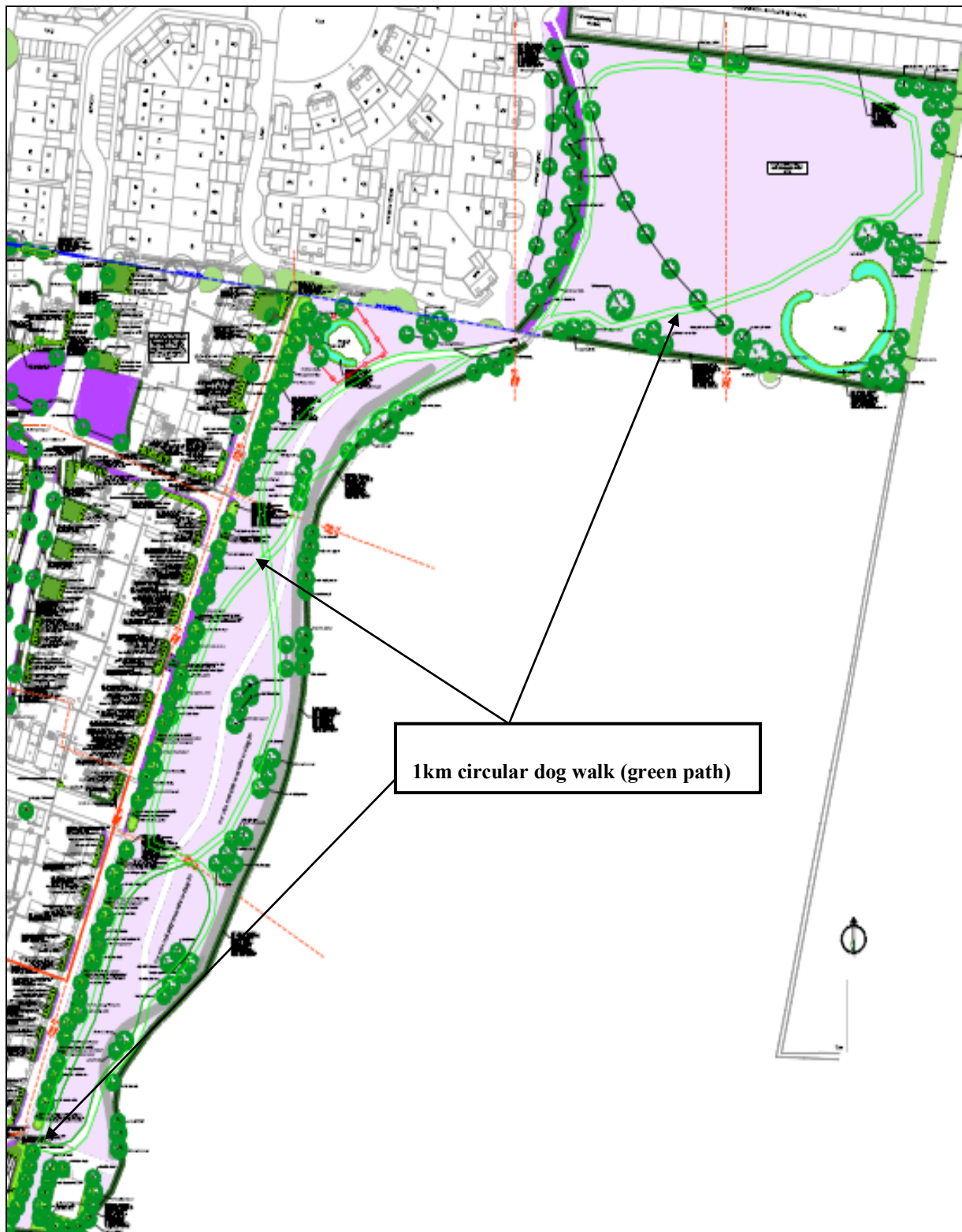
No.	Man Plan Section	Additional Ecology Information
1	General Maintenance	The management company will have regard to their duties under wildlife legislation relating to protected species features recorded within the management area.
2	Proposed & Existing Hedges	Proposed hedges on the eastern boundary of the public open space will be cut every two-three years to allow for a thick hedge growth and provide additional wildlife habitat. Cutting in an 'A' shape, with a wider base to the hedge will provide more benefit for wildlife. Brambles at the base of the hedge will be retained and allowed to develop a low level of scrub habitat to compliment rough grassland below (levels of Bramble/grassland are provided in prescription below).
3	Proposed & Existing Hedges	If use of a tractor mounted flail is proposed regard should be had to reptile habitat at the base of the hedge and a suitable works access corridor should be created having regard to protected species and under ecology supervision.
4	Existing and Proposed Tree planting	Any works to mature trees or trees with bat and bird mitigation boxes should be assessed by a suitably qualified ecologist to ensure that there will be no harm to ecological features as a result of works.
5	Existing and Proposed Tree Planting	The forming of log piles should take place along the eastern boundary hedge line.
6	Public Open Space	Prescriptions are given for open space cutting referring to the open wildflower grasslands. These cutting requirements relate to the main open space grasslands and a reduced requirement for the first 5m around hedges along the eastern boundary and 2m for hedges and shrub features elsewhere within the open space are provided below.
7	Public Open Space	First 5m of hedgerow edge, eastern boundary. The retained area of rough grassland that serves as the reptile release area during construction and any created grassland within this zone will be managed to ensure that the bramble scrub does not take over the rough grassland. The aim will be to provide an annual strim of encroaching bramble to maintain existing bramble/grassland matrix (limits of change are 20-40% bramble, 60-80% rough grassland). The grassland should be retained as rough tussocks. A wavy edge to the bramble scrub should be

		maintained to increase edge habitat that is favoured by reptiles. This cut should take place in the early autumn (Sept/Oct). This will help maintain and increase reptile habitat on site. In order to reduce uniformity a wavy edge to the annual cut grassland and reduced cut rough grassland can also be created.
8	Public Open Space	First 2m of hedge & informal shrubs edges. To reduce cutting to once every 3years and allow a rough grassland edge to woody planting to be created. This will help increase reptile habitat on site. Cutting should take place in third year to 15-20cm at the end of summer/autumn (Aug-Sept)
9	Public Open Space	Dead wood habitats will be provided during the construction phase of the development. These will be located within the first 5m edge of the hedgerow. These should be retained in situ with vegetation allowed to develop over the piles.
10	Public Open Space	An informal path network (see Figure 5 & 6 below) is to be created via mown pathways through the open space wildflower seeded grassland where this pathway does not follow the route of the more formal path network at the edge of the built development. The informal pathways will be inspected regularly through the year and mown as necessary to be retained as an informal walking route for local residents. The route can be varied should areas of grass become waterlogged or damaged. This can be achieved via monitoring of the pathways during other works on site.



ALUCO ECOLOGY

Figure 5: Circular Walk & Management Prescriptions (Plan by ACD, 2013)



ALUCO ECOLOGY

Figure 6: Enlarged to show walk detail (Plan by ACD, 2013)

5.3 Co-ordination with Landscape Management Plan

- 5.3.1 The additional ecology prescriptions provided above generally complement the landscape plan provided by ACD (ACD, 2013) but provide additional detail for ecology management. This section of the mitigation report for the site will be provided to land managers and will accompany the management plan already prepared.

6.0 CONCLUSIONS

- 6.1 The detailed mitigation provided in this report will ensure that the construction of the development given permission accords with legislation relating to protected species. Mitigation strategies have been devised for Foxes, Birds, Bats, Reptiles and other notable features.
- 6.2 On this basis the mitigation and management of the site fulfils legislative requirements for protected species, has regard to planning policy and in the retained sections of the Havant Core Strategy (see **Technical Appendix 3**), and provides the necessary documentation for fulfilment of the Condition of the Planning Permission.

7.0 REFERENCES

ACD (2013) - Manor Farm Denvilles, Landscape Management & Maintenance Plan.
- Drawings BSH17581 11-12, 14, & 16B
- Drawings BSH17581 13, 15, 17-19C

Aluco Ecology (2013) Ecological Assessment, Manor Farm & Copsies Nurseries, Havant

Aluco Ecology (2013a) Information for a Habitat Regulations Assessment, Manor Farm & Copsies Nurseries, Havant

Havant District Council (2013) Core Strategy

Herptofauna Groups of the British Isles (HGBI) Guidelines (1998) "Evaluating Local Mitigation/Translocation Programmes: Maintaining Best Practice and Lawful Standards." HGBI Advisory notes for Amphibian and Reptile Groups (ARGs). HGBI, c/o Froglife, Halesworth, personal collection.

Froglife, 1999. Froglife Advice Sheet 10. Reptile Survey. An introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife, Halesworth, Suffolk.

MJA Consulting (2013) lighting plan

Natural England (2009-13) Standing Advice for Various Protected Species Groups

Technical Appendix 1

Habitats Regulations and Schedule 2 Species

The Conservation (Natural Habitats & c.) Regulations SI 1994/2716 (the Habitat Regulations) partially implement the Habitats Directive. The Regulations contain provisions relating to the protection of European sites and European protected species. European Sites are defined within the Regulations as Special Areas of Conservation (SACs) or Special Protection Areas (SPAs) whether proposed, candidate or classified. European Protected Species are those species listed in Annex IV of the Directive that occur in the UK, and these have been listed in Schedule 2 of the Regulations.

Species listed under Schedule 2 of the Habitat Regulations are afforded protection by Regulation 39. European protected species include the great crested newt, dormice and all species of bats.

(1) The Habitats Regulations makes it an offence;

(a)deliberately to capture or kill a wild animal of a European protected species;

(b)deliberately to disturb any such animal;

(c)deliberately to take or destroy the eggs of such an animal; or

(d)to damage or destroy a breeding site or resting place of such an animal.

(2)It is an offence to keep, transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal of a European protected species, or any part of, or anything derived from, such an animal.

(3)Paragraphs (1) and (2) apply to all stages of the life of the animals to which they apply.

(4)A person shall not be guilty of an offence under paragraph (2) if he shows-

(a)that the animal had not been taken or killed, or had been lawfully taken or killed, or

(b)that the animal or other thing in question had been lawfully sold (whether to him or any other person).

For this purpose "lawfully" means without any contravention of these Regulations or Part I of the Wildlife and Countryside Act 1981.

(5) In any proceedings for an offence under this regulation, the animal in question shall be presumed to have been a wild animal unless the contrary is shown.

(6) A person guilty of an offence under this regulation is liable on summary conviction to a fine not exceeding level 5 on the standard scale.

The Regulations go on to state exemptions and defences that apply to acts that may contravene the Regulation. Such exemptions include those listed in Regulation 40

The granting of a licence under Regulation 44.

In order to carry out a lawful operation (e.g. development work which has full planning permission) that may result in any of the offences above, it is necessary to obtain a licence from Natural England to allow the operation to proceed.

However, in accordance with the requirements of the Habitats Regulations 1994, a licence can only be issued after the following conditions have been satisfied:

- *Regulation 44(3)(a) - that there is no satisfactory alternative, and*
- *Regulation 44(3)(b) - that the action authorized will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.*
- *and Regulation 44(2)(e) – that the action is required in preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;*

Full planning permission is required to apply for a Natural England licence (where such a consent is necessary for the work to be carried out). In addition, a method statement which details the survey results, methodology of work to be undertaken, mitigation and compensation measures, must be submitted to Natural England with the licence application.

Technical Appendix 2

Wildlife & Countryside Act 1981 & Countryside & Rights of Way Act 2000 (CRoW)

Wildlife & Countryside Act

The Wildlife and Countryside Act 1981 (as amended) (WCA) is the principle legislation in Britain for the protection and conservation of our wildlife and its habitats of national importance. The legislation adopts a habitat and species based approach to nature conservation. Habitats and some species are protected in designated Sites of Special Scientific Interest (SSSI). Other species are afforded some protection from harm or disturbance by way of inclusion in either Article 1 (birds), Schedule 1 (specially protected birds), Schedule 5 (specially protected animals) or Schedule 8 (specially protected plants).

(ii) Protection Afforded to SSSIs

The presence of an SSSI on or near to a development is a material consideration, and this is discussed further in policy (see PPS9)

(iii) Law Relating to Protected Species

The WCA provides protection to such species via Section 1 (birds) and Section 9 (animals). These sections provide protection from intentionally:

- killing, injuring or taking any wild bird or taking, damaging or destroying the nest or eggs of a wild bird
- disturbing any wild bird in Schedule 1 whilst building, on or near a nest, or disturbing dependant young of such birds
- damaging, destroying or obstructing access to any structure or place of shelter or protection of a schedule 5 animal, or disturbs any such animal whilst it is occupying a structure or place it uses for that purpose
- killing, injuring or taking any animal listed in Schedule 5
- Having in possession or control any live or dead wild bird or egg, or any wild animal in Schedule 5, or trading in any animal under Schedule 5.

As with European Protected species, there are exemptions from this legislation, and licences for development can be obtained in certain circumstances. Protected species are also a material consideration in planning applications.

Countryside & Rights of Way Act 2000 (CRoW) and Wildlife and Countryside Act 1981

(i) Protected Species & SSSIs

The Countryside and Rights of Way Act 2000 (CRoW Act 2000) adds to protected species legislation in the WCA. The lesser test of 'Recklessness' is added to the protection from disturbance in three circumstances. These are:

- disturbance to Schedule 1 birds and their nests, eggs and dependant young,
- disturbance to Schedule 5 animals in their place of shelter/protection, and
- disturbance to the places of shelter/protection of Schedule 5 animals.

This addition means that any person who deliberately takes an unacceptable risk or fails to notice an obvious risk is falls under the Section irrespective of intention.

The CRoW Act also provides greater protection to SSSIs from operations (and non operations) of owners, occupiers and third party users of an SSSI.

Technical Appendix 3

Local Council Policies

LOCAL DEVELOPMENT FRAMEWORK CORE STRATEGY ADOPTED IN MARCH 2011:

The Nature Conservation policies saved from the former Local Plan are now replaced by the Core Strategy. The following policies now apply:

Policy CS11 Protecting and Enhancing the Special Environment and Heritage of Havant Borough

Planning permission will be granted for development that:

1. Ensures the key landscape and built form principles set out in the Havant Borough Townscape, Landscape and Seascape Character Assessment are protected and where possible enhanced by partnership working with developers, groups and the wider community.
2. Protects and where possible enhances the borough's statutory and non-statutory designated landscape, habitats and features of biological, hydrological or geological interest. Protection and enhancement will be achieved by appropriate adaptation and mitigation measures including wardening, education and information and the creation of new habitats, water bodies/courses planting of new trees and woodland.
3. Has particular regard to the following hierarchy of nature conservation designations within the borough (as identified on the Proposals Map):
 - (i) Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar [International].
 - (ii) Sites of Special Scientific Interest (SSSI) and National Nature Reserves [National].
 - (iii) Sites of Importance for Nature Conservation (SINC), Local Nature Reserves (LNR), other Ancient Woodland not identified in (ii) above [Local].
4. Protects and where appropriate enhances the borough's statutory and non-statutory heritage designations by appropriately managing development in or adjacent to conservation areas, listed buildings, scheduled ancient monuments, historic parks and gardens, archaeological sites, buildings of local historic or architectural interest.
5. Supports an ongoing programme of survey of habitats and species and designation of Sites of Importance for Nature Conservation.
6. Incorporates partnership working with conservation organisations to improve public understanding of biodiversity and to manage public access to designated sites, particularly on the coast, to reduce harm to nature conservation interests.
7. Incorporates partnership working with landowners and developers to ensure land management practices restore, enhance and where appropriate create new valued landscapes, habitats and their soil structure, particularly the ancient woodland remnants of the Forest of Bere and coastal salt marsh.
8. Protects wildlife habitats and wildlife corridors to prevent the fragmentation of existing habitats and to allow species, for example Brent Geese, to respond to the impacts of climate change by making provision for habitat adaptation e.g. coastal managed realignment and species migration.
9. Maintains undeveloped gaps between the settlements of Emsworth/Havant; Havant/Waterlooville; Havant/Portsmouth; Emsworth/Westbourne and Leigh Park/Rowlands Castle as shown on the Proposals Map.
10. Protects the best and most versatile agricultural land that has the greatest potential for local food security.
11. Responds to the emerging evidence from the Solent Disturbance and Mitigation Project, the published recommendations, and future related research.

DM8 Conservation, Protection and Enhancement of Existing Natural Features

Development will only be permitted where it protects and enhances local habitats and landscape distinctiveness and which addresses all of the relevant criteria as set out below:

1. Protects natural features of nature conservation and/or amenity importance on the site, for example trees, woodlands, hedgerows, soils, streams, stream corridors, springs, ditches or ponds from damage, destruction and a deterioration in quality.
2. Sympathetically incorporates existing features into the overall design of the scheme including measures taken to ensure their continued survival.
3. Provides new landscape works that integrate successfully with the local environment and existing natural features, using local materials and plant species and making provision for future maintenance of new landscape works associated with new developments.
4. Ensures sequences of greenspaces are maintained and protects the attractiveness and visual amenity of all green open spaces that contribute to the identity of the borough

DM9 Development in the Coastal Zone

Planning Permission will only be granted for development in the coastal zone which addresses all of the relevant criteria as set out below as shown on the Proposals Map:

1. Has no harmful effects on nature conservation within the Chichester and Langstone Harbour SSSIs and SPA, Solent Maritime SAC and Ramsar site, or any SINC and Local Nature Reserves.
2. Maintains and enhances the appearance and distinctiveness of existing settlements and landmarks along the coast.
3. Contributes positively to the landscape and has regard to best practice on the design of new buildings in coastal locations.
4. Upgrades existing footpaths and ensures that public access is retained and provided to connect existing paths along the waterfront where appropriate.
5. Would result in improvements to or redistribution of moorings, marine berths or launch on demand facilities (dry berths) in the harbours.
6. Would not be detrimental to infrastructure for, and quality of, water-based recreation, or be detrimental to the safety of navigation.
7. Provides recreational opportunities that do not adversely affect the character and appearance of the coast.

Technical Appendix 4

Reptile Translocation Methodology

Translocation of Reptiles

In summary, translocation is the movement of animals, usually deliberately, from one location to another (Gent *et al*, 1998). The receptor site is the site to which reptiles are moved, the donor site (or in this case development site) is where they are moved from.

The aim of the mitigation strategy is to ensure that an 'equivalent population' is maintained to that which existed before (Gent *et al*, 1998). Reptile mitigation strategies usually involve translocations and habitat management which is implemented between March and October once any reptiles on site have emerged from hibernation.

Receptor sites must be assessed prior to the translocation of any reptiles, against criteria provided as good practice guidance. This ascertains the existing population of reptiles on the receptor site and identifies any habitat management needs in order to provide the optimum habitat for translocated reptiles.

HGBI (1998) and Gent *et al* (1998) recommend that 'reasonable effort' should be undertaken to clear a site of reptiles prior to any works being carried out. Interpretation of what 'reasonable effort' translates as in minimum trapping days and capture methodologies is provided in **Table 1** below.

Table A1: Minimum Capture Effort for Common Reptiles

Species	Population size (adult density)	Tin density (tins/ha)	Minimum number of trapping days in good weather
Slow-worm	High (> 100 / ha)	100	All suitable days between March & September or a full year (min. 90 suitable days)
	Medium (> 50 / ha)	100	All suitable days between March & September or a full year (min. 70 suitable days)
	Low (< 50 / ha)	50	60 suitable days

Monitoring is necessary in the medium and long term in order to assess the success or otherwise of the translocation programme.

Capture Areas Assessment

The areas of the site to be developed have either very low or no reptile populations over most parts, and a translocation has already occurred over the main area of the site.

Receptor Area Assessment

A receptor site for reptiles needs to meet certain criteria to ensure that the conservation status of the populations of reptiles on the capture site and any on the receptor site are maintained. In order that a receptor site is sustainable in the long term the following assessment criteria recommended by HGBI (1998) have been used to find a site:

- A receptor site should be local to the donor site, and as close as possible to it (at least within the same county or similar administrative area, with similar geology/habitat);
- Not currently supporting a viable breeding population of the species to be translocated, for known reasons, or be capable of supporting them given suitable habitat management and creation;
- Not be subject to planning or other threats in the foreseeable future;
- Subject to a written, agreed and funded pre- and post-translocation management agreement;
- Subject to a written, agreed and funded pre- and post-translocation monitoring programme.

There have been various translocation programmes which have assessed the populations and carrying capacities of a range of different reptile habitats particularly in relation to slow-worms. It is widely recognised that slow-worms can, in their ideal habitat, regularly occur at 1000+ per hectare but are usually present at lower densities. However it should always be carefully considered that few sites have large areas of continuous good slow-worm habitat capable of supporting such high populations although smaller, localised areas of a site may do so. When estimating the carrying capacity of a release site and considering the number of reptiles to be translocated, a precautionary approach will be used. The mitigation strategy will provide a larger area of suitable habitat at the receptor site than at the capture site.

The receptor site that is most fits the criteria above based on knowledge of populations on site, is the retained public open space woodland area on the site. The long term management of this area can be prescribed to cater for the small populations of reptiles, as well as other informal recreational activities and the other nature conservation interests.

Translocation Methodology

In order to fulfil a translocation of reptiles from the development site to the receptor sites, the animals must be caught, or in the case of a very low population discouraged from the areas of the site to be lost. The most effective method for capture involves the placing of cut up roofing felt or other materials such as corrugated iron sheeting, wood or plastic that snakes and lizards hide under. Refugia/Tins are best placed in locations which will be attractive to reptiles (e.g. 'sun-traps').

The most profitable time for capturing reptiles is generally between late April and late June, and again between late August and late September. The suggested number of days required to catch reptiles for a reasonable effort to remove the population is described in **Table A1** above.

Capture Site Preparation

The development site must be prepared in order to facilitate the successful removal of reptiles. Sheets of roofing felt and tin will be placed across the site to act as refugia for the reptiles. They will be placed at a high density in suitable habitat. Areas of suitable reptile habitat with a high reptile density may have a tin density of up to 5 refugia per 10m², in line with the guidance in **Table A1**. The placement of a higher number of refugia on site will increase the efficiency of capture and can reduce the number of trapping days required to clear the site of reptiles.

Capture Effort

Table A1 above provides the suggested capture effort for Slow Worms, based on good practice guidance, whereby 60 trapping visits can be required to clear common reptiles from a site such as present, during periods of suitable weather conditions (HGBI, 1998). Reptile translocation can require at least one season (March to October), and sometimes longer, to ensure that all reptiles are removed from the development site.

The purpose of this type of translocation is to make reasonable effort to remove all reptiles from a site prior to a development. Where reptile populations are low or on small sites, Natural England often provide additional guidance that reasonable effort has been made and translocation to be considered complete in any area. The capture rate needs to have declined to zero over at least three consecutive trapping visits in suitable weather conditions.

Habitat Manipulation

The areas of habitat affected by the development will be modified to reduce their suitability for reptiles. This will encourage reptile movement within the site to increase capture in key areas around refugia and may also encourage some dispersal to suitable retained habitats. The grass height will be reduced by cutting to no less than 10cm on the first cut and will be phased in bands and habitat areas across the site. The location and timing of this process will be guided by capture rates in the different areas of the site.

Translocation programme

The development site will be inspected regularly and any reptiles will be captured and moved, using the methods described above to the receptor site. For the translocation to be considered complete in any area, the capture rate needs to have declined to zero over at least three consecutive trapping visits in suitable weather conditions.

The guidance on indicative trapping effort that may be required suggests this may take 60 trapping visits (HGBI, 1998). Close monitoring of the capture rate will allow a judgement to be

made of the number of visits considered to be necessary. The site will be walked very slowly in order to search for basking reptiles and by carefully lifting each refugia, an attempt will be made to catch any reptiles basking beneath.

All reptiles will be transported to the receptor site in a secure ventilated container. At the end of each visit all reptiles caught will be released in suitable conditions at the receptor site. Details of all captures and releases will be recorded.

Exclusion Fencing

Reptile fencing will be used where required to prevent reptiles returning to cleared areas, and where populations are considered sufficient to warrant it.

Supervised site clearance

Following the completion of the translocation in any areas of the site, a supervised site clearance will be carried out. This will take place outside of the hibernation season usually between April-early October (November – February is the main hibernation period dependent on weather conditions). The technique is a last method used and requires very careful specialist supervision. Normal destructive search rates are between 0.1 and 1.0 ha per day depending on machine size and habitat type.

The search will begin by dismantling rubble piles and other debris by hand. Reptiles may be found sheltering in these structures. Following this, the vegetation will be stripped using an excavator and bucket. Firstly, the top few centimetres of the ground or first layer of rubble should be removed, to expose reptiles sheltering in crevices just below the surface. At least one experienced reptile handler should be positioned to catch any remaining reptiles as they are disturbed. Following this, larger and deeper excavations can be made, concentrating on areas which afford shelter to reptiles, such as tree stumps and buried rubble. Particular care should be taken when emptying the bucket in case any reptiles are dug up with the spoil. It is not anticipated that many reptiles (if any) are discovered as the reptile populations will have almost completely been moved by this stage.

Prior to starting works, the contractors will be alerted to the presence of protected species on the site and provided with the method statement and plans. The contractors will be shown reptiles, so that they are familiar with their identification, should they come across them during vegetation works.

Monitoring

Following completion of the work, monitoring of the reptile population at the receptor site will be completed by Aluco Ecology during the following two years, in order to determine the success of the translocation project.

Natural England (English Nature, 1998) suggests the following guidance which may determine the 'success' of a mitigation strategy:

- Removal of a 'reasonable proportion' of animals from a development site or no significant impact from development where in situ conservation is involved;
- Establishment and maintenance of a range of suitable habitats: with the presence of 'good' features and absence of 'negative' features;
- Breeding and successful recruitment;
- Re-establishment of animals in a range of habitat or spread of the animals throughout a site or to adjacent sites;
- Establishment of an appropriate age structure in the population;
- Survival of a large proportion of the animals that were moved;
- Establishment of:
 - A viable population
 - An expanding population
 - An 'equivalent' population to that which previously occurred
 - A population that is fluctuating in size within acceptable limits;
- Persistence of individual animals over a number of years.

References

Herpetofauna Groups of the British Isles (HGBI) Guidelines (1998) "Evaluating Local Mitigation/Translocation Programmes: Maintaining Best Practice and Lawful Standards." HGBI Advisory notes for Amphibian and Reptile Groups (ARGs). HGBI, c/o Froglife, Halesworth, personal collection.

Froglife, 1999. Froglife Advice Sheet 10. Reptile Survey. An introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife, Halesworth, Suffolk.

Technical Appendix 5

Bat Mitigation Examples

Ibstock B Roost Unit This roost unit has been designed to meets the characteristic habitat requirements of the types of bats that inhabit buildings. The roost unit can be installed within any external brick walls and can be matched with the brick type or supplied with decorative motif.	
 B	 C
Enclosed Bat Box B Designed specifically for the pipistrelle bat Available in all brick types Several roosting zones are created inside the box Bats are contained within the bat box itself Maintenance free with entrance at the base	Cut to show function of the roost unit Size 215x 290
Soffit Box The soffit bat box utilises the wasted space above the soffit on a standard roof structure. The entrance is formed by cutting away a 20mm slot in the back of the soffit board against the external wall, and a specially designed plate is then screwed through into the bat box to secure it and to make it a tidy finish. Virtually	

