Sinah Lane, Hayling Island

Ecological Mitigation and Management Plan

Barratt Homes

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Glossary

Badger Act	Protection of Badgers Act 1992
CIEEM	Chartered Institute of Ecology & Environmental Management
CRoW Act	Countryside and Rights of Way Act 2000
EcIA	Ecological Impact Assessment
ECoW	Ecological Clerk of Works
EIA	Environmental Impact Assessment
EMMP	Ecological Mitigation and Management Plan
EPSL	European Protected Species Licence
GCN	Great Crested Newt
GradCIEEM	Graduate Member of Chartered Institute of Ecology & Environmental Management
Habitat Regulations	Conservation of Habitats and Species Regulations 2017
Habitat Directive	Conservation of Natural Habitats and of Wild Fauna and Flora Directive 1992
Hedgerow Regulations	Hedgerow Regulations 1997
HPI	Habitat(s) of Principal Importance
LNR	Local Nature Reserve
LPA	Local Planning Authority
MCIEEM	Member of Chartered Institute of Ecology & Environmental Management
NE	Natural England
NERC Act	Natural Environment and Rural Communities Act 2006
NNR	National Nature Reserve
NPPF	National Planning Policy Framework
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
SAP	Species Action Plan
SPA	Special Protection Area
SPI	Species of Principal Importance
SSSI	Site(s) of Special Scientific Interest
W&CA	Wildlife & Countryside Act 1981 (as amended)

1.0 Introduction

1.1 Background

WYG was commissioned by Barratt Homes in May 2018 to prepare an EMMP for Sinah Lane, Hayling Island (hereafter referred to as 'the site'). It addresses the following items with a view to maintaining and enhancing the biodiversity value of the site in the long-term:

1. Mitigation for the protected and notable habitats and species that may be impacted by the proposals;
2. Management of retained, enhanced and created habitats;
3. Long-term monitoring to determine the effectiveness of mitigation and management undertaken.

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 prior 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 ecological surveys conducted between November 2011 and March 2018 in support of this application. It relates only to the residential development area – additional mitigation is set out in the WYG (2018d) Winter Bird Mitigation Strategy.

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.

This EMMP has been produced by Project Ecologist Ben Cooke GradCIEEM.

This issue has been prepared for the resubmission of the scheme alongside all other ecological reports previously completed at the above site. The development proposals for the site remain unchanged (aside from minor non-material changes where ecology is concerned) and no change in conditions on site have been identified (following the completion of ecological surveys in 2018). It was therefore considered that there was no need to complete updated field surveys to support the resubmission.

1.2 Site Location

The site is located within the south west of Hayling Island, centred on OS Grid Reference SZ 70816 99897. The site is located close to the coast with two residential streets separating the site from the shore to the west. South of the site are further residential dwellings, whilst arable fields sit to the north and east. A plan showing the site location can be found in Figure 1.

1.3 Development Proposals

The erection of 195 dwellings, associated open space, pumping station, sub-station with vehicular access via Sinah Lane and change of use of land from agricultural to a Wader and Brent Geese Refuge

1.4 Context of Management Plan

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

- Extended Phase 1 Habitat Survey: Sinah Lane, Hayling Island (WYG, 2018a)
- Sinah Lane, Hayling Island: Bat Survey Report (WYG, 2018b)
- Sinah Lane, Hayling Island: Reptile Presence/ Likely Absence Survey (WYG, 2018c)
- Land off Sinah Lane, Hayling Island: Ecological Appraisal (Taylor Grange, 2018)

2.0 Baseline Conditions

2.1 Designated Sites

Table 1 below provides a summary of the baseline ecological work that was completed to support the planning application. This information has helped inform the design of the masterplan as the reports assesses the location and extent of the existing ecological features on-site. These features will either be:

- Protected; or
- Appropriately mitigated or compensated for where directly impacted.

All retained/created ecological features will be:

- Appropriately managed; and
- Where necessary monitored.

Table 1 Designated Sites within 2km

Survey Type	Date Survey(s) Conducted	Summary of Results
Extended Phase 1 Habitat Survey	17th June 2016	The site is 12.64ha and the habitats identified on site (arable, semi-improved grassland and hedgerow) are common/widespread in the local area. The largest impact will be the loss of the arable field which could reduce foraging area for brent geese (although surveys have shown no use of the development site by brent geese or waders). There is likely to be a loss of or impacts upon semi improved grassland present in the field margins and the hedgerows on site. No priority habitats were identified on site.
Bat Activity Surveys	24th October 2016 – 13th June 2017	At least four, but up to six species of bat were recorded using the habitats across the site. The site is considered to be of importance at up to District level for foraging and commuting bats.
Bat Dusk Emergence/ Pre-Dawn Return Surveys	13th June – 18th July 2017	During the surveys of the trees no bats were recorded emerging or returning therefore it is considered that no bats are roosting within the trees on-site.
Reptile Presence/ Likely Absence Surveys	24th April – 13th June 2017	A low population of slow worms were recorded on site and are considered to represent a breeding population as juvenile slow worms were also noted.
Wintering Brid Surveys	10th November 2011 –17th March 2018	Wintering bird surveys were undertaken in the winters 2011/12, 2012/13, 2015/16 and 2016/17. A peak count of 500 brent geese have been recorded within the northern section of the site to be retained for the species.

Survey Type	Date Survey(s) Conducted	Summary of Results
		No brent geese were recorded within the area for proposed residential construction. No brent geese were recorded during the winters of 2012/13 and 2016/17.

3.0 Relevant Planning Policy & Legislation

3.1 Revised National Planning Policy Framework

The revised NPPF was issued on 19th February 2019 (Ministry of Housing Communities and Local Government, 2019) and currently supplements government Circular *06/2005, Biodiversity and Geological Conservation: Statutory Obligations and their Impact within the Planning System* (Office of the Deputy Prime Minister (ODPM), 2005).

Circular 06/2005 states that the presence of protected species is a material consideration in the planning process. Paragraph 170 of the NPPF also states that:

'*Planning policies and decisions should contribute to and enhance the natural environment by:*

a) *protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan)*
b) *recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland*
c) *maintaining the character of the undeveloped coast, while improving public access to it where appropriate*
d) *minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures*
e) *preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and*
f) *remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.*

The conservation and enhancement of wildlife is also specifically reference re: development within the National Parks or the Broads.

When determining planning applications, local planning authorities should apply the following principles:

a) *if significant harm to biodiversity 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;*
b) *development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*

c) *development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and*
d) *development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.*

Regarding EcIA's and HRA's – any sites identified, or required, as compensatory measures for adverse effects on any Natura 2000/habitats site should also be given the same level as protection as the pSPA's and cSAC's themselves. In addition, when an application is being determined:

"*The presumption in favour of sustainable development does not apply where development requiring appropriate assessment because of its potential impact on a habitats site ….*"

Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should….:

c) *limit the impact of light pollution from artificial light on local amenity, intrinsically dark landscapes and nature conservation.*"

3.2 Biodiversity 2020: A strategy for England's wildlife & ecosystem services

Biodiversity 2020 replaces the previous UK Biodiversity Action Plan and sets national targets to be achieved. The intent of Biodiversity 2020, however, is much broader than the protection and enhancement of less common species, and is meant to embrace the wider countryside as a whole.

The priority species and habitats considered under Biodiversity 2020 are the SPI & HPI detailed under NERC Act.

3.3 Local Plan

The Havant Borough Local Plan 2036 (Havant Borough Council, 2019) includes Policy E14, The Local Ecological Network, which states that:

"*All development in Havant Borough is expected to protect, conserve and enhance the Borough's Local Ecological Network. Planning permission will only be granted where:*

a. The development of one dwelling or more or a new commercial building results in biodiversity net gain;

b. The development avoids the fragmentation of the Local Ecological Network;

c. The applicant has identified and assessed the level of ecological value of the site through adequate and proportionate information and any matters arising have been addressed through an avoidance or mitigation plan; and

d. Any necessary mitigation plan includes provision for ongoing management and maintenance.

In addition to the above, priority habitats in the Borough are afforded protection by specific nature conservation designations. Development proposals which could affect a designated site will need to consider the impact and respond appropriately".

3.4 Species Specific Legislation Relevant to the Site

Based on the findings of our assessment, it is considered that the proposals will need to consider the following legal provisions.

3.4.1 Reptiles

All British reptiles receive protection under the W&CA. 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 W&CA, 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.

3.4.2 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).

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.

3.4.3 Badger

Badgers and their setts are protected under the Badger Act, which makes it illegal for any person to kill, injure or take a badger. It is also an offence to destroy damage or obstruct an entrance to an active badger's sett, or to disturb animals while within a sett. In addition, the likelihood of disturbing a badger sett, adversely affecting badgers' foraging territory or links between them, or significantly increasing the likelihood of road casualties among badger populations, are material considerations in planning decisions (NPPF, 2012).

Works in proximity to an active sett entrance have the potential to affect a sett (Natural England, 2007 and 2009). If works are to be conducted that are considered likely to impact an active badger sett, a badger sett exclusion and/or closure may be necessary. Works which would otherwise cause an offence under current legislation may in some cases be permitted under licence from Natural England. Licences are usually only valid between July and November inclusive of any year to avoid the period when cubs are dependent on the adults.

3.4.4 Birds

All birds, their nests and eggs are protected by the W&CA, 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.

4.0 Roles and Responsibilities

4.1 Construction

The EMMP will be distributed to all relevant personal involved with the construction phase of the development including Barratt Homes and any contractors who may be working on the site. It will be the responsibility of the principal contractor (Barratt Homes) 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 ECoW (to be appointed by Barratt Homes) to provide advice to the construction teams during all phases of the scheme on all pertinent ecological issues and to check that the ecological protection and mitigation measures, as specified in this document, are implemented. Recommendations will be passed to Bargate Homes who will be responsible for ensuring implementation.

The ECoW 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 on 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, Barratt Homes in relation to this EMMP will include:

- Adhering to the relevant provisions made within this document;
- Complying with the advice of the ECoW as appropriate;
- Ensuring that this EMMP 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 of the site will be the responsibility of Barratt Homes or an appointed management company.

An ecologist will be appointed to carry out all necessary post-construction monitoring, provide advice on changes to management prescriptions and undertake the five-year review of this management plan.

5.0 Toolbox Talk

5.1 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, 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. It will also provide an introduction to this document.

6.0 Habitat Mitigation

The development of the site will retain some of the current habitats present in addition to the creation of new habitats. The management/creation of habitats at the site will include the following:

- Hedgerows and Mature Trees
- Grassland
- Attenuation Pond

6.1 Hedgerows and Mature Trees

6.1.1 Protection

Tree protection fencing will be erected adjacent to the retained trees and hedgerows to prevent construction impacts on trees and hedgerows and their root protection zones.

6.1.2 Mitigation

A small section of the eastern boundary habitat will be lost to facilitate vehicular and pedestrian access for the site. This will result in the removal of approximately 5m of species-poor hedgerow. To mitigate for this small loss of hedgerow, additional native species-rich planting will take in the form of a c.83m hedgerow across the northern extent of the development site (Figure 3).

6.1.3 Enhancement

Where possible infill planting and new planting is proposed at the site. The location of infill planting and tree planting is shown on Figure 3.

Scattered trees and shrubs are to be planted throughout the site as part of the soft landscaping which will include:

Trees

- Wild cherry *Prunus avium*
- Silver birch *Betula pendula*
- Field maple *Acer campestre*
- West Himalayan birch *Betula utilis jacquemontii*
- Hazel *Corylus avellana*
- Beech *Fagus sylvatica*
- Midland hawthorn *Crataegus laevigata*
- Siberian crab apple *Malus Baccata*
- European crab apple *Malus sylvestris*
- Whitebeam *Sorbus aria*
- Rosebud cherry *Prunus subhirtella*
- Hornbeam *Carpinus betulus*
- Small-leaved lime *Tilia cordata*
- Oak *Quercus robur*
- Hawthorn *Crataegus monogyna*
- Goat willow *Salix caprea*
- Bay willow *Salix pentandra*

- Bird cherry *Prunus padus*
- Rowan *Sorbus auc*.

6.1.4 Monitoring

Any planting that fails within the new hedgerow and infill planting and for the new tree planting; will be replaced during the next suitable planting period for that species. This will be undertaken annually during October to March inclusive for five years post construction.

6.2 Grassland

6.2.1 Protection

Existing grassland around the boundaries of the site will be protected through the erection of heras fencing which will be in place to protect the adjacent hedgerows as detailed in section 6.1 above.

6.2.2 Mitigation

No mitigation is required; however retaining grassland along the western boundary which currently comprises semi-improved grassland habitat will provide an important invertebrate resource alongside bat and reptile foraging habitat.

6.2.3 Enhancement

New proposed areas of species-rich grassland will be seeded with a grassland mixture of native species and be left undisturbed and allowed to grow. The remaining areas of retained grassland habitat throughout the site will also be left undisturbed and allowed to grow i.e. if there are any areas of bare ground.

6.2.4 Monitoring

The establishment of the meadow will also be monitored for competitive weeds, which will be spot sprayed where necessary or hand pulled. This will be undertaken every two months during the main growing period April to September for two years post sowing.

6.3 Attenuation Pond/ Swales

6.3.1 Protection

n/a

6.3.2 Mitigation

n/a

6.3.3 Enhancement

The attenuation pond and swales will be located to the north of the site. Seeding around the attenuation pond's surrounding grass areas will use a suitable wetland species seed mix, containing native species of local provenance. The use of this seed mix will be used on the grassland surrounding the pond to provide an ecologically valuable habitat.

Tall emergent plants will be planted around the pond margins of both waterbodies. Reeds provide an oxygenating function which maintains water quality as well as benefiting the aquatic ecology. Suitable

emergent vegetation plants will include common reed *Phragmites communis*, common club-rush *Schoenoplectus lacustris*, lesser reedmace *Typha angustifolia* and reedmace (commonly referred to as 'bulrush') *Typha latifolia*. Reed management will be required to prevent reedmace dominating the pond whilst vegetation is establishing.

Grass seed used for re-seeding in the pond's draw area will be a mix suitable for the wet condition it is expected to experience, such as river plain/ water meadow grass seed containing native species of local provenance. This seed mix comprises 95% fine grasses and 5% wildflower seed. Seed will be sown at the appropriate time of year when the ground temperature will be high enough for germination i.e. between April and October.

Biocide or fertilisers on the embankments or drawdown zone will be avoided. Non-native species will not be planted and care will be taken to avoid the accidental introduction of strongly invasive, non-native aquatic plants (especially parrot's feather and Australian swamp stonecrop *Crassula helmsii*).

6.3.4 Monitoring

The attenuation pond will be monitored every year for three years post construction by an ecologist for the presence of Schedule 9 invasive waterweeds.

Should a Schedule 9 invasive plant be identified on-site, a management plan will need to be prepared which will include information on the timing, methodology for the eradication of the invasive species.

7.0 Protected Species Mitigation

7.1 Badger

7.1.1 Protection

A pre-commencement badger survey will be undertaken 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 impact these species, a Natural England development licence will be required, however this is not detailed in this report as this is not envisaged at this stage.

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 the 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.

- It 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 majority of the hedgerows and grassland margins will ensure 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 partly replace the loss of any potential foraging habitats as a result of the development and bolster commuting routes surrounding the development site.

7.1.4 Monitoring

No monitoring is required.

7.2 Bat: Foraging/Commuting

7.2.1 Protection

The root protection fencing not only protects the root protection area of the retained trees but will also protect the trees (and in the event any are bat roosts) from any damage during construction.

7.2.2 Mitigation

Bat Activity

The main access into the site will be off the southern boundary which utilises the existing site entrance.

Infill planting of gaps within the hedgerows, in addition to supplementary planting to bolster the hedgerows throughout the site will utilise native species, which will enhance these hedgerow and hence loss of bat commuting/ foraging habitat will not be significant. Further mitigation and compensation for bats is included in the form of native hedgerow planting along the northern boundary of the site. Additional information in relation to hedgerow management is presented in Section 6.2 above.

Lighting

During the construction phase, security lighting will be positioned to avoid direct illumination of retained or created areas of wildlife value. This will ensure that the bats which use the site for commuting foraging will not be significantly disturbed during the construction.

The lighting across the development footprint is to be sensitively designed with consideration for bats, so that valuable bat foraging and commuting areas are retained as existing/new roosts sites are not impacted by ambient light (at the time of writing, the associated lighting plan had not been finalised however it is understood that the lighting plan will show that light levels will not exceed 1 lux within the retained boundaries). Permanent lighting on-site will be minimised in proximity to the following habitats:

i. Hedgerows;

ii. Mature trees;

iii. Boundary vegetation;

iv. Any new roost sites (e.g. bat boxes installed as part of the scheme)

7.2.3 Enhancement

The incorporation of a diverse collection of tree and shrub planting will comprise native species, which will enhance the site for foraging/ commuting bats. The inclusion of the species will include;

- Common oak *Quercus robur*
- Guelder-rose Vibernum opulus
- Hawthorn *Crataegus monogyna*

The landscape buffers around the retained hedgerows and boundaries will be planted with native species. As such, a matrix of different habitats will be incorporated into the proposed development site, which will support a variety of invertebrates' species, which will in turn benefit foraging bats.

Swales and attenuation ponds have been incorporated into the proposed layout along the northern boundary of the site. The pond will be planted with the following species to enhance invertebrate assemblage and hence encourage foraging bats to use the area.

The plant species will include:

- Marsh-marigold *Caltha palustris*
- Meadowsweet *Filipendula ulmaria*
- Yellow flag-iris *Iris pseudacorus*
- Purple Loosestrife *Lythrum salicaria*
- Water forget-me-not *Myosotis scorpioides*

7.2.4 Monitoring

No monitoring is currently proposed in relation to foraging and commuting bats.

7.3 Bat: Roosts

7.3.1 Protection

The root protection fencing not only protects the root protection area of the retained trees but will also protect the trees (and in the event any are bat roosts) from any damage during construction.

7.3.2 Mitigation

As a precaution, tree 'soft felling' methods will be used for limbs comprising suitable features within all tree classified as low potential under Bat Conservation Trust, 3rd Edition guidelines (Collins, 2016).

Soft felling is generic term used to describe more cautious felling approaches where cross cutting in proximity to cavities or hollows is avoided, and any sections containing cavities are lowered carefully using rope and cushioning techniques to reduce the impact of felling limbs which may have bats within cavities. The felled sections will be left on the ground (preferably for up to 48 hours, but for at least 24 hours) with the openings clear, allowing any remaining bats to escape. Split limbs that are under tension may need to be wedged open to prevent their closure when pressure is released, to avoid trapping bats.

Despite previous surveys providing no indication that bats were roosting in the trees, tree roosts are highly mobile. Therefore trees will be subject to pre-commencement inspection by a suitably licenced ecologist to confirm if bats are present. If bats are confirmed to be roosting within the tree, a NE EPSL will be obtained before any works can commence. The licence will include measures to mitigate the loss of the bat roost, including pruning works to be completed over the winter under the supervision of a bat licenced ecologist, who will inspect features prior to felling. Any bats found will be moved to bat boxes that will have been installed nearby (short and long term mitigation). Long term mitigation may also involve removing limbs from the tree that were found to support roosting bats and installing them on a nearby tree that will be retained.

7.3.3 Enhancement

Ten 2F Schwegler bat boxes or similar will be installed on trees within the proposed development site. Bat boxes will be located away from footpaths and areas subject to disturbance, which will reduce recreational pressure on these new roosting locations. A further 20 buildings will be fitted with Norfolk bat bricks. For the location of these see Figure 3.

7.3.4 Monitoring

Bat boxes are to be installed as an enhancement. Therefore, monitoring of bat boxes is not currently proposed at the site.

7.4 Breeding Birds

7.4.1 Protection

The majority of the hedgerows will be retained as part of the development and fenced off from the development during construction. A retained boundary has been incorporated throughout the site particularly along the eastern boundary this will protect any potential bird nesting habitat during the duration of the construction period.

7.4.2 Mitigation

Wherever possible, any necessary removal of other trees, hedgerows, scrub or buildings within the site will be carried out outside the bird nesting season, which runs from March to September inclusive.

If this is not possible and vegetation removal is required within the nesting season, it will be inspected for the presence of nests by a suitably experienced ecologist beforehand. Should active nests be found, they will be left in-situ with at least a 5m buffer of intact vegetation until all the young have fledged and cease to return to the nest. The buffer will be species dependant.

A wildlife pack will be prepared and given to the local residents to encourage cats to wear collars with bells to prevent increased predation to birds.

7.4.3 Enhancement

Additional enhancements for nesting birds will include (refer to Figure 4 for the location of these features within the development site):

- Installation of 25 GSWB swift nest bricks incorporated onto to buildings within proposed development;
- Ten closed bird boxes with entrance holes will be erected within interior and along the boundaries of the site;
- Ten open fronted bird box will be erected within interior and along the boundaries of the site; and
- Ten sparrow terraces within interior and along the boundaries of the site.

Conversely, 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.

7.4.4 Monitoring

Bird boxes will be installed as an enhancement for nesting birds. Therefore, monitoring of bird boxes is not currently proposed at the site.

7.5 Reptiles

7.5.1 Protection

Temporary reptile-proof fencing will be installed around the periphery of the site as a precaution to prevent reptiles entering the development site and to protect these species and their habitat during the construction period. This is shown in Figure 4.

An ECoW will supervise the installation of the reptile fencing. The fencing will only be installed during suitable weather conditions March to October (weather depending but generally when temperatures are above 5 degrees Celsius).

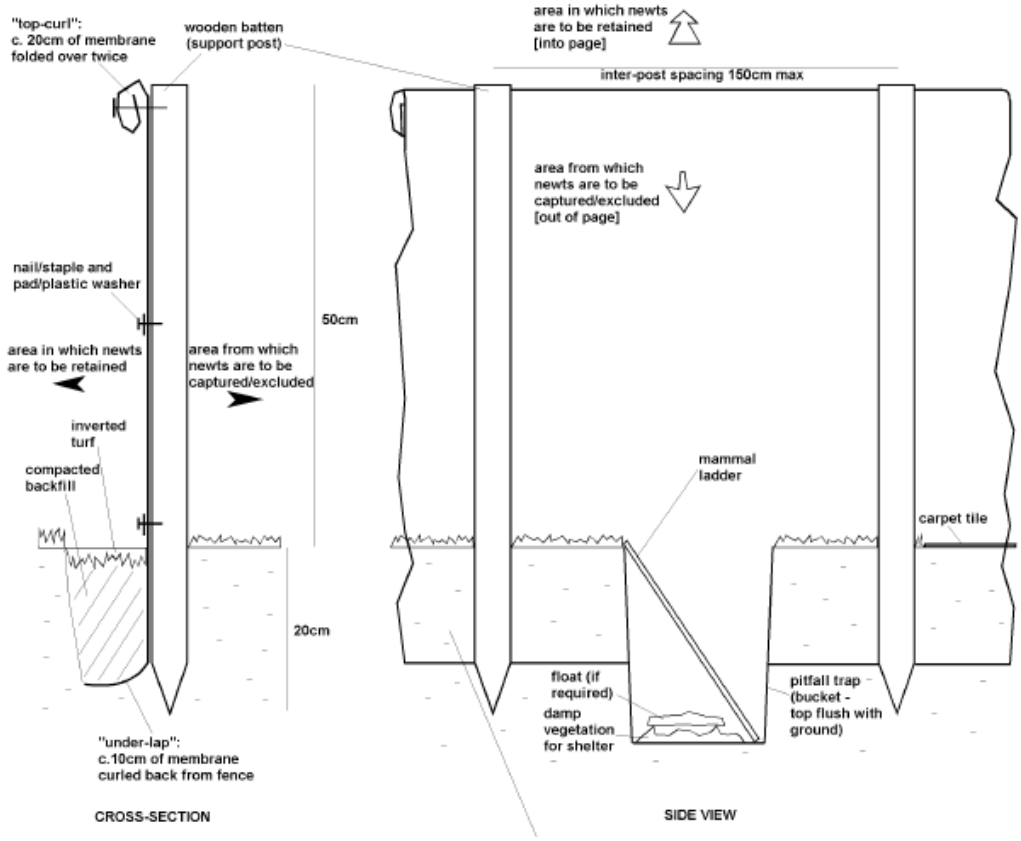
The fencing will either be specifically made reptile fencing or posts with plastic fencing, as detailed below:

- Fence constructed from polythene or similar impermeable material.
- Supported by wooden posts dug at least 300mm into the ground and standing at least 600mm above ground.
- The plastic sheet will be dug 150mm into the ground with a 100mm horizontal 'lip' turning back away from the working area.
- The plastic will be buried with compacted backfill so that no gaps remain.
- The plastic will be nailed to the fence posts and folded over at the top, away from the working area, and stapled to form an overhang.
- The plastic must contain no holes and, at the meeting of two sheets, the join must be secured with 100mm waterproof tape.
- The fence must remain in place around the whole development area for the entire duration of the works phase.
- The areas where fencing is to be installed will be hand searched for reptiles by an ecologist prior to installation of the fence to ensure that no reptiles are harmed during this operation.

- Figure 3 presents a schematic example of reptile fencing.

The fence will remain in place during the period of the works and will be monitored daily by the Site Manager, and repaired if damaged.

Drawing 1 (Taken from the Great Crested Newt Mitigation Guidelines 2001, but also applicable to reptiles)



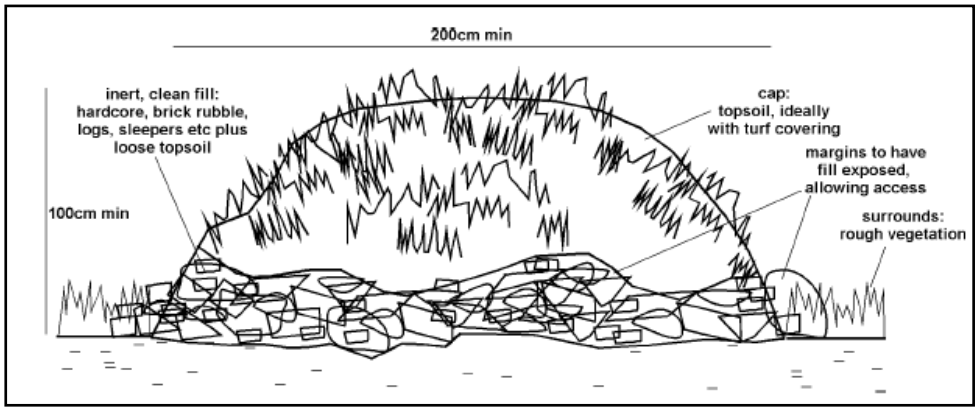
7.5.2 Mitigation

The following reptile mitigation will be completed at the site:

- A hibernaculum will be placed within the open space within the north eastern extent of the site. In the event reptiles are found during the displacement works this will act as a point to release the reptiles and will provide areas for reptiles to hibernate throughout the winter. The design of the hibernaculum will follow that set out in the Great Crested Newt Mitigation Guidelines (English Nature 2001 – Drawing 2 below) and will include the use of brick, rubble, logs and loose top soil, with a covering of turf.

- The hibernaculum will be circa 1 metre in diameter and circa 0.5 metre in height, and will be built prior to the translocation of reptiles as shown in Figure 3, Appendix A.

Drawing 2 (Taken from the Great Crested Newt Mitigation Guidelines 2001)



- A two stage clearance will take place for any suitable habitat within the fencing. This will consist of strimming to 300mm followed by a fingertip search and a further cut to ground level.

- All reptiles caught will be recorded, sexed ad aged before being released into the relocation area in order to obtain information on the demographics of the reptile population present.

- Following the conclusion of the capture stage, a supervised destructive search will be carried out focusing on the perimeter of the site where reptiles are most likely to be.

- The fence must remain in place around the working areas for the entire duration of the works phase.

- The areas where fencing is to be installed will be hand searched for reptiles by an ecologist prior to installation of the fence to ensure that no reptiles are harmed during the operation.

- The integrity of the fence will be regularly checked by Barratt Homes site manager.

Following the completion of the capture stage of the translocation, an ecologist supervised, destructive search will be carried out focusing on the areas where reptiles have been found and which will be impacted by the proposed development works. A targeted destructive search will be undertaken using a medium sized excavator (approximately 8-10 tonnes) with a toothed bucket carry out a gradual scrape of the top one to two inches (25 - 50mm) of top soil. Both the areas from where soil is removed and the subsequent spoil heaps should be checked for reptiles and amphibians. The excavated spoil will be stored as directed by the ECOW, in consultation with the developers, in an area identified as unsuitable as reptile habitat.

The fence will remain in place during the period of the works and will be monitored and repaired if damaged. If any reptiles are found within the site during any stage of the works, works must cease and a suitably qualified ecologist must be contacted immediately.

7.5.3 Enhancement

The following enhancements of the receptor areas will be completed:

- Areas of open space to be created in the form of species-rich grassland, as shown in Figure 3.
- Creation of an attenuation pond and swales as shown in Figure 3 (refer to Section 6.4 above).

Refer to Figure 3 identifying the location of the reptile mitigation proposed on site.

7.5.4 Monitoring

Given only a small population of slow worm was recorded it is not proposed that post development monitoring of reptiles is undertaken.

8.0 Management

8.1 Hedgerows

New hedgerow planting will not be cut for at least five years to allow the new planting to become established.

Sympathetic management of the hedgerows will be adopted which will involve cutting every **three** years instead of each year (except the visibility splays) and will result in increased berry production in the second year for most shrub species which will enhance these habitats for breeding birds and invertebrates. Hedgerows will be cut between **November and February** to prevent impacts to nesting birds and the main dormouse feeding period.

Visibility splays will only be cut between **November and February** each **year** and the cutting back has allowed for growth in the summer to prevent unfavourable management of the hedgerows during summer. Significant amounts of hedgerow will be retained following the cutting back for visibility splays.

8.2 Grassland

Grassland will be cut at the end of the first year of the sowing season (assuming the grassland is sown in April/May). Prior to completing the cut, the grassland establishment will be assessed to determine whether it would be suitable to cut the grass. The cutting will be completed in August/September annually and the cut will be to a height of 15cm to prevent the killing or injuring of reptiles (see Section 9 below). The grass should be cut by a large wheeled vehicle that drives slowly over the site, and the flail cutter is set to the appropriate height. Grass should not be cut during wet weather as the machinery may damage the soil structure. The arisings 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.

8.3 Attenuation Pond/ Swale

Pond maintenance will be carried out, including dredging to be undertaken on a cyclic basis (see Section 9 below), to control the accumulation of silt, to prevent succession and improve water quality. Removal of rubbish will also be undertaken. Management of the pond habitat will occur during the winter, after the amphibian breeding season. Monitoring of the pond will inform the management required for the pond.

Dredged material will be removed from the pond and left to one side for a period of 48 hours so that fauna may return to the water body. A waste management licence may be required to dredge plant material from the pond.

The grassland in the vicinity of the attenuation pond will be managed in a traditional manner, without artificial fertiliser, to maintain and enhance its nature conservation interest. This will include an autumn cut after the herbs and grasses have seeded. A carefully controlled cut, i.e. using light machinery and cutting the sward to no less than 6 inches, is unlikely to harm reptiles, and should benefit them by maintaining the grassland in an open condition and preventing scrub encroachment. Additionally cutting a rotational basis i.e. leaving selected areas unknown for an entire season, should

assist in providing structural diversity to the sward, and provide suitable basking, foraging and refuge areas for reptiles, as well as enhancing its invertebrates diversity.

Formal pathways in the form of gravel grass pathways will be included in the landscaping design. This would allow managed access, where the public are encouraged to follow certain routes through the site. These would link to paved walkways throughout the site to further encourage the public to follow specific routes rather than widespread access.

9.0 Management Activity

	Year 1	Year 2	Year 3	Year 4	Year 5 onwards
Hedgerow cutting of existing hedgerows (November - February)					
Grassland to be cut once a year in August to September to a height of 15cm					
Dredging of pond to prevent build-up of silt					

10.0 Monitoring

	Year 1	Year 2	Year 3	Year 4	Year 5
Monitoring of mitigation and enhancement measures and review of EMMP.					

11.0 References

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FIGURES

Figure 1 – Site Location Plan
Figure 2 – Phase 1 Habitat Plan
Figure 3 – Site Mitigation
Figure 4 – Reptile Fence Location

Rev	Date	Notes
A	10/03/20	Initial map production

Legend

Site boundary

0 100 200 400 Metres

Site Location Plan

Sinah Lane, Hayling Island
Barratt David Wilson Homes

Scale at A3:	Project No:	Drawing No:	Revision:
1:10,000	A092944-3	Figure 1	A

Drawn by:	Drawn date:	Approved by:
Maddie Errington	10/03/2020	Lynn Spencer

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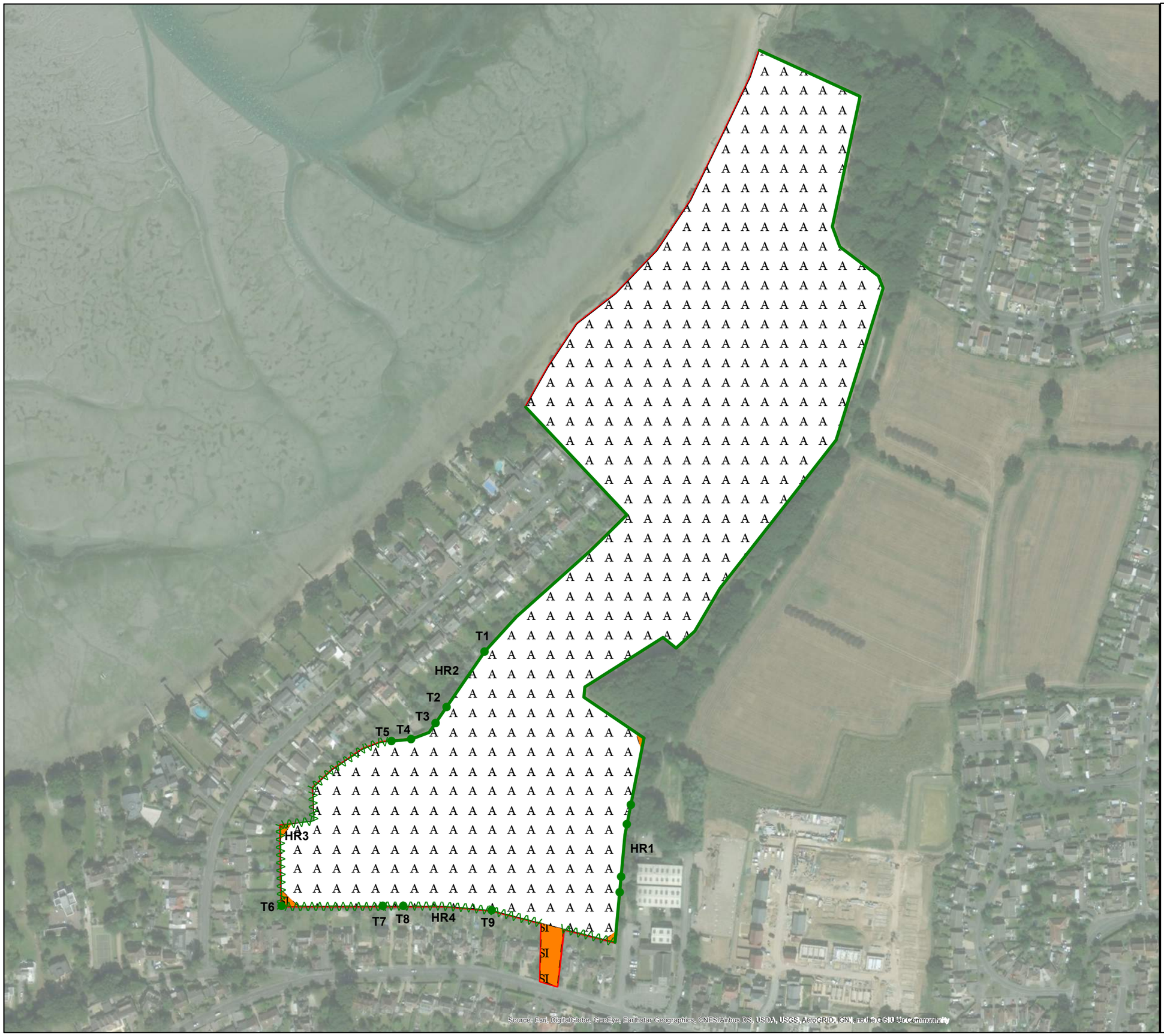

N

Legend

- Trees within hedge
- Intact species-poor hedgerow
- Defunct species-poor hedgerow
- Semi-improved grassland bank
- Arable
- Site Boundary

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WYG Planning & Environment

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Sinah Lane, Hayling Island

Extended Phase 1 Habitat Survey

Scale at A3:	Drawn by: Date:	Checked By: Date:	Approved By: Date:
	BC 28/06/18	DW 28/06/18	CM 28/06/18

Project No:	Office	Type	Drawing No.	Revision
A092944-3	45	94	Figure 2	

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Rev	Date	Notes
A	09/04/20	Initial map production

Legend

- Site boundary
- Species rich grassland
- Closed Bird Box
- Open Fronted Bird Box
- GSWB Swift Box
- Hibernacula
- 2F Schwegler Bat Box or Equivalent
- Norfolk Bat Brick

Basemap provided by: IDPartnership Northern
Drawing Title: Proposed Site Layout
Drawn Date: January 2019
Drawring No: PL-02
Revision: P7

0 15 30 60 Metres

N

Site Mitigation

Sinah Lane, Hayling Island
Barratt David Wilson Homes

Scale at A3:	Project No:	Drawing No:	Revision:
1:1,450	A092944-3	Figure 3	A

Drawn by:	Drawn date:	Approved by:
Maddie Errington	09/04/2020	David West

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Rev	Date	Notes
A	09/04/20	Initial map production

Legend

Site boundary

Reptile fencing

Basemap provided by: IDPartnership Northern
Drawing Title: Proposed Site Layout
Drawn Date: January 2019
Drawring No: PL-02
Revision: P7

0 15 30 60 Metres

Reptile Fencing Plan

Sinah Lane, Hayling Island
Barratt David Wilson Homes

Scale at A3:	Project No:	Drawing No:	Revision:
1:1,450	A092944-3	Figure 4	A

Drawn by:	Drawn date:	Approved by:
Maddie Errington	09/04/2020	David West

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Appendix A – Report Conditions

REPORT CONDITIONS

This Report has been prepared using reasonable skill and care for the sole benefit of Barratt Homes ("the Client") for the proposed uses stated in the report by WYG Environment Planning Transport Limited ("WYG"). WYG exclude all liability for any other uses and to any other party. The report must not be relied on or reproduced in whole or in part by any other party without the copyright holder's permission.

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The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections'. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The "shelf life" of the Report will be determined by a number of factors including; its original purpose, the Client's instructions, passage of time, advances in technology and techniques, changes in legislation etc. and therefore may require future re-assessment.

The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. WYG accept no liability for issues with performance arising from such factors.

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