
Preliminary Ecological Appraisal

For proposed development at:

Hook Lane,
Aldingbourne,
West Sussex.

Survey and Report by:
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Director

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Project Ref: 17317



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1 Summary

Site:	Hook Lane, Aldingbourne, West Sussex
Grid Reference (from the centre of the site):	SU 93401 04587
Report Commissioned by:	Genesis TP
Date of Phase 1 Habitat Survey:	4 th March 2020

Considerations	Description	Timings and potential impacts
Statutory wildlife sites:	There are 7 statutory sites within 15km	No impacts
Non-statutory sites within 2km:	No known non-statutory sites within 2km	No impacts
Precautionary Methods	Common nesting birds.	Any clearance of trees and shrubs should be carried out outside the nesting bird season or preceded by a nesting bird survey.
	Badgers, hedgehogs and other nocturnal animals.	Escape planks to be secured within any deep holes or foundations. No night working.
	Reptiles and Amphibians - Clearance of vegetation	Follow precautionary approach and maintain observation for potential amphibians / reptiles in terrestrial refugia.
EPS License	Great Crested Newts	EPS GCN License required.

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2 Introduction

2.1 Background

Bright Green Environmental was commissioned by Genesis TP to undertake a preliminary ecological survey at the site off Hook Lane, Adlingtons, West Sussex.

This report details the findings of an Extended Phase 1 Habitat Survey to identify the potential for presence of species protected under European Legislation (Conservation of Habitats and Species Regulations 2017, as amended), UK legislation (Wildlife and Countryside Act 1981; Protection of Badgers Act 1992), and other priority species and habitats which are a consideration under the National Planning Policy Framework (NPPF). Where best practice guidelines exist, these have been used to assess the likelihood that individual species will be present, for example Bat Surveys: Good Practice Guidelines (BCT 2015) and Habitat Suitability Index for Great Crested Newt (Oldham *et al*, 2000).

The Natural Environment and Rural Communities (NERC) Act 2006, under Section 41, lists Species of Principal Importance for Conservation of biodiversity in England (SPIE species). Protected and UK SPIE species are a material consideration for individual planning consents under the NPPF, which promotes the enhancement of natural and local environments through planning and encourages a move towards achieving net gains for biodiversity where possible (DCLG, 2019).

The site survey is supported by a desk study to identify records of any protected species, which could be impacted by development of the site.

2.2 Proposed Development

The proposed development is understood to be as detailed below in figure 2.1 and included in Appendix B. It involves the development of residential properties on the site, landscaping of the residential gardens, amenity areas and related infrastructure.

3 Survey Methodology

3.1 Habitat Survey

The survey involved a site visit to record and map habitat types and ecological features on the site. The survey was undertaken in accordance with Guidelines for Preliminary Ecological Assessment produced by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2012), and the general principles and methods outlined in the Handbook for Phase 1 Habitat Survey (JNCC 2010). Features of interest were identified as target notes and included with photographs in Table 4.1 and noted on the Survey Plan in Appendix C.

The potential for presence of protected species was assessed as follows:

Amphibians - Known ponds within 250m of the site (unless ecologically separated by significant barriers) were assessed for potential to support breeding protected amphibians, such as great crested newts or toads.

Bats - Trees within, and adjacent to, the site boundary were assessed from the ground for potential to support roosting bats. The buildings were surveyed externally for their potential to support roosting bats. Habitat was also assessed for foraging and commuting potential, aided by aerial photographs of the surrounding landscape.

Dormice - Any scrub or woodland areas were assessed for potential to support dormice: Good under-storey/shrub layer, arboreal connectivity, and a range of food sources throughout the active dormouse season.

Reptiles - The presence of suitable reptile habitat was assessed according to the criteria described in the Herpetofauna Workers' Manual (Gent and Gibson 1998) and Froglife guidelines (Froglife 1999).

Invertebrates - The site was surveyed for high quality aquatic, dead-wood or other habitats which could be used by significant assemblages of invertebrates.

Flora and habitats - Habitats and dominant plant species which were identifiable at the time of the survey were recorded, including Wildlife and Countryside Act Schedule 9 invasive plant species, such as Japanese knotweed *Fallopia japonica* and giant hogweed *Heracleum mantegazzianum*.

Badgers - A visual assessment for setts, hair, latrines, prints, foraging disturbance or other signs of badgers was undertaken within, and directly adjacent to, the site boundary.

Birds - A visual survey of bird activity and suitable nesting habitat was carried out, to determine if any areas would be suitable for WCA Schedule 1 birds, Birds of Conservation Concern (BoCC), SPIE or other common and widespread nesting birds.

Adjacent habitat - Aerial photographs, maps and field observation were used to identify habitats in the wider landscape which could be impacted by development of the site.

3.2 Desk Study

In combination with a review of local planning applications including the adjacent development site and the associated reports. Data was obtained from the following sources:

3.2.1 Statutory Designated Sites

The Multi-Agency Geographic Information for the Countryside (MAGIC), was accessed on 3rd March 2020, to identify the presence of statutory designated sites within a 2km radius.

3.2.2 Protected Species

The Multi-Agency Geographic Information for the Countryside (MAGIC) and the NBN Gateway were accessed on 3rd March 2020, to identify the records of protected species within a 2km radius.

3.2.3 A full data search was not considered necessary as biodiversity information including a Sussex biodiversity records search (2013) and site specific Great Crested Newt Surveys was available from the ecological appraisal of the adjacent land developed as part of planning application reference AL/8/16/OUT.

3.3 Surveyor Details

The site survey was undertaken by Tony Hargreaves BSc (Hons) AIEMA Ecologist at Bright Green Environmental, on 4th March 2020. During the survey, the temperature was 12°C; there was a light breeze (Beaufort scale 0-1), overcast with showers and good visibility.

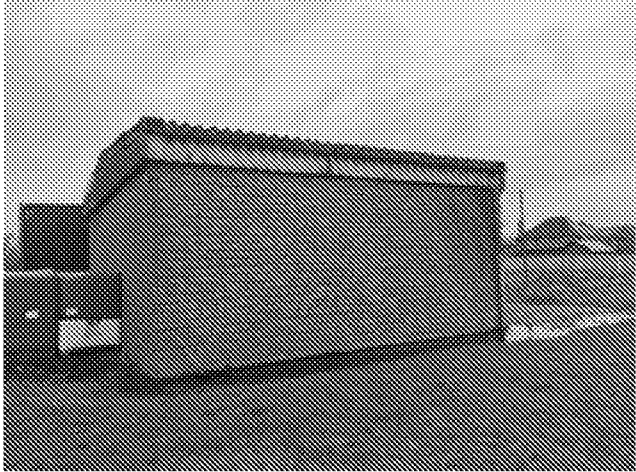
The surveyor is an associate member of the Chartered Institute of Environmental Management and Assessment (AIEMA) and subject to the IEMA Professional Code of Conduct and licensed by Natural England to survey for bats (20863-CLS) and great crested newts (23214-CLS). He has extensive experience in undertaking various ecological surveys on behalf of public and private sector clients, throughout the UK.

4.2 Target Notes

Target notes from the survey are detailed in Table 4.1 below and cross referenced on the survey plan in Appendix C.

Table 4.1: Target notes and accompanying photos

Target note	Habitat Description	Photo
1	Existing concrete access road to nursery site, which forms southern boundary to proposed development site, and road side hedgerow along Hooks Lane forming the eastern site boundary. Sparrows and blackbirds were seen to be showing nesting behaviour within the hedgerow. Which is predominantly hawthorn, blackthorn, bramble, ivy, hazel, stinging nettles, hedgerow bindweed. There are 3 silver birch trees to the north (RH) side of the concrete road that will be retained and protected as part of the development. These did not present suitable roost opportunity for bats but are considered to offer nesting opportunities for birds.	
2	The inside face of the roadside hedge forming the eastern boundary is lightly managed with bramble and ivy encroaching into the site to form a margin of ruderal vegetation. There was evidence of sparrow and blackbirds displaying nesting behaviour. The hedgerow provides suitable habitat for foraging and shelter for a range of species. It is proposed to retain this within the development scheme although an access way will need to be created. The timber boundary fence with the residential development to the north is visible in the background.	

Target note	Habitat Description	Photo
3	To the south of the site are greenhouses with mown amenity grass around them offering negligible opportunities for biodiversity.	
4	Within the wider site but outside of the proposed development area is a modern brick storage barn, it has a corrugated cement roof over steel supports. There are vertical corrugated cement facias boards which are considered to offer suitable roosting opportunities for a range of crevice dwelling bat species. Although the building is set over 20m from any vegetation that would provide suitable foraging or commuting habitat. Internally there are no suitable crevices for bats, there is only a single modern timber beam which is supporting the steels above, so not abutting a surface therefore considered to offer negligible opportunities for bats. There are no horizontal ledges or surfaces other than stored materials which are regularly accessed/used; therefore, it is not considered to offer suitable nesting opportunities for barn owls. There was no evidence (current or historic) of barn owls or nesting birds during the survey. The building will be retained and is outside of the development area.	 

Target note	Habitat Description	Photo
5	The majority of the site is improved grassland manged by regular cutting and used for ad hoc storage of materials, with species typical of this habitat including perennial rye grass, cocksfoot, false oat grass, creeping buttercup, dandelion, cow parsley, prickly ox togue, common vetch. The north eastern area of the site has become a longer sward. The grass field presents negligible opportunity for protected or priority species due to its management by mowing and lack of connectivity to more suitable habitats. The surrounding land use to the north, east and south is predominantly residential or horticultural.	
6	There is a soil bank running north across the site from the welfare facility that has become a tussocky sward with ruderal species such as bramble, stinging nettle and cow parsley becoming established. This ends with a small concrete slab over the septic tank.	

Target note	Habitat Description	Photo
7	To the west of the site is an irrigation pond which is surrounded by a densely vegetated bank. The pond water is turbid, there is limited vegetation although this may increase through the summer months. Pond surveys undertaken in 2013 identified a single female great crested newt in this pond. The adjacent off-site pond immediately to the north was found to have 1 male and 1 female great crested newt in. They are both therefore considered to present GCN breeding ponds.	

4.3 Desk Study

4.3.1 Statutory Designated Sites within 15km

The Multi-Agency Geographic Information for the Countryside (MAGIC) website indicates that there are seven internationally designated site within 15km of the site boundary including:

Pagham Harbour Ramsar/SPA (7.8km south-west);

Duncton to Bignor Escarpment SAC (9.2km north-east);

Chichester and Langstone Harbours Ramsar/SPA (9.3km north-west);

Solent Maritime SAC (9.3km south-west);

Singleton and Cocking Tunnels SAC (11.1km north-west);

Kingley Vale SAC (12.2km north-west);

Arun Valley SAC/SPA/Ramsar (12.6km west of the site).

Non-Statutory Designated Sites within 2km

There are no known non-statutory conservation sites within 2km of the site.

4.3.2 Habitat types within 2km

The surrounding habitat of the site to the north and east is predominantly rural residential of Woodgate and Westergate, beyond which is intensive arable and horticultural farming. To the west and south is predominantly intensive arable farming, with large field parcels divided by hedgerows. Approximately 250m to the south is a railway line which runs east west which forms an ecological corridor with its adjacent embankments. There are some small scattered areas of woodland (deciduous and coniferous), orchards, lowland meadows and floodplain grazing marsh associated with the river valleys.

Figure 4.2 Aerial image of site (highlighted in red) and surrounding habitats.



4.3.3 Protected, Priority, Rare Species within 1km

There are records of the following relevant species:

Bats

A bat mitigation license 2014-4435-EPS-MIT for Common Pipistrelle (non-breeding) is located approximately 2km to the south.

A bat mitigation license 2016-24108-EPS-MIT for Common Pipistrelle (non-breeding) is located approximately 2km to the east.

There are seven bat records within the search area. The nearest three records occur within Manor House (1km NW, in 2003), where a serotine *Eptesicus serotinus*, *Pipistrelle sp.* and brown long eared *Plecotus*

auritus roost were found, although the type of roost was not confirmed. A feeding roost was found at Decoy Farm (1.1km SW) in 2011, although the species of bat was not confirmed. Approximately 1.4km north east of site was the record of a dead Pipistrelle bat (2010). Another brown long eared roost occurred almost 2km north from the site, within Bayley's Barn 1999.

Water Vole - There were five water vole *Arvicola amphibius* records within 2km of the site. The nearest being approx. 1km to the north west of the site, within the Aldingbourne Lake, in the Manor House (1989 to 1990). There was also a record 1.5km south east within Lidsey Rife in the south east (1996); Groves Farm 1.6km south west (2007); 1.9km south west within Aldingbourne Rife (2009) and 1.9km north west within the upper Aldingbourne Rife (1997).

Hedgehog - There were seven European hedgehog *Erinaceus europaeus* records within the search area, with the nearest recorded in 2000 to the west of the site near Manor House (1km).

Amphibians

Great Crested Newts - There are records of GCN within the pond immediately to the west of the site, the pond to the north west of the site and approximately 100m south of the site, dated in 2013. During 2013 GCN surveys by FCPR a single male and female GCN were found in the pond to the north west, and a single female GCN in the pond to the west of the site. There is a historic record approximately 80m north of the site within a residential property called The Willows (1992). It is understood the development to the north was subject to an EPS GCN License.

There are also records of smooth newt and common frog.

Reptiles

There was one adder *Vibera berus* record 0.3km east of the site within Lamorna Gardens residential estate, which dated back to 1990. Grass snakes *Natrix natrix* have been recorded in a number of locations; within a property on Hook Lane which is approximately 0.7km north east (2001); within a field 0.7km south west of site (2001); two records within Elm Grove South which is 2km south east of the site and a number around West Barnham between 1996 to 2001.

Birds

There are records of priority species birds including Turtle Dove, Corn Bunting Lapwing, Grey Partridge, Curlew, Tree Sparrow and Redshank.

4.4 Potential for Protected Species

The site was assessed to identify whether proposed works within the site boundary could impact on protected or locally rare species, either on the site or within the local area.

4.4.1 Habitats and Species

No protected, BAP, SPIE or locally important plant species were recorded at the site during the survey, which was carried out at a sub-optimal time of year for botanical surveys, although the habitats present are not considered likely to support priority plant species.

Vegetation within the application site was limited to the following

Improved grass with a limited sward height and poor species diversity, this is understood to be managed by regular mowing. A review of historic aerial images confirms the site as being regularly cut since 2001 and used for ad hoc storage on some areas.

Ruderal – there is a small area of ruderal vegetation along the raised bank to the septic tank and along the hedgerow to the eastern boundary, where predominantly bramble has spread out of the hedgerow.

Hedgerow - the eastern boundary is a species poor hedgerow of hawthorn, blackthorn, hazel, bramble and ivy. A new access way is required to be cut through the hedgerow although the rest can be retained and enhanced through cutting back and infilling any gaps with native species.

Scrub - the western boundary is the bank around the adjacent irrigation lagoon, which is covered in dense scrub of hazel, dogwood, silver birch, bramble.

Trees there were a small number of trees within the site. A young sycamore to the north eastern corner which will be felled as part of the development, a group of 3 young silver birch to the south of the site adjacent to the existing concrete road, which will be retained and protected.

4.4.2 Bats

4.4.2.1 Roosting Bats - trees

None of the trees on the site present suitable roosting opportunities for bats as they are not of an age where cavities form and no significant wounds were evident.

4.4.2.2 Roosting Bats - buildings

Within the wider site but outside of the proposed development area is a modern brick storage barn (TN4), it has a corrugated cement roof over steel supports. There are vertical corrugated cement facias boards which are considered to offer suitable roosting opportunities for a range of crevice dwelling bat species. Although the building is set over 20m from any vegetation that would provide suitable foraging or commuting habitat, so may be less likely to be used due to its isolation.

Internally there are no suitable crevices for bats, there is only a single modern timber beam which is supporting the steels above, so not abutting a surface therefore considered to offer negligible opportunities for bats.

The building will be retained and is outside of the development area therefore no further surveys considered necessary. There is also a mobile welfare trailer which is modern sealed construction and offers negligible roost suitability.

4.4.2.3 Foraging and Commuting Bats

The site itself offers limited foraging habitat along the eastern boundary hedgerow and the western scrub around the irrigation pond, which connects with the mature hedgerow field boundaries. The hedgerows link to the wider landscape and may form part of a wider network of commuting routes. The timber fence that forms the northern boundary presents a break in connectivity of the east and west boundary hedges compared to the previous conifer hedgerow.

Lighting precautions during and post-construction should be implemented, as detailed in Section 5, to enable any bats to continue to use the surrounding habitat. There is opportunity to enhance the site for foraging

bats through adopting a sensitive landscape design in particular along the northern and southern boundaries to provide ecological connectivity with the east and west boundaries.

No activity surveys considered necessary.

4.4.3 Reptiles

There are reptile records in the local area.

The site itself offers negligible habitat for reptiles being predominantly managed short grass lacking in the tussocky habitat that affords refuge for reptiles. The scrub habitat around the irrigation pond to the west may present some suitable foraging and shelter habitat in combination with the pond, however there is a lack of basking opportunities within the dense scrub. The records in the local wider area are mostly over 1km away and separated from the site by residential development, roads or large areas of arable land presenting limited connectivity.

It is considered unlikely there would be any reptiles present within the immediate development area. Providing the precautionary measures advised in section 5, are followed the proposed development is unlikely to have an adverse impact upon reptiles.

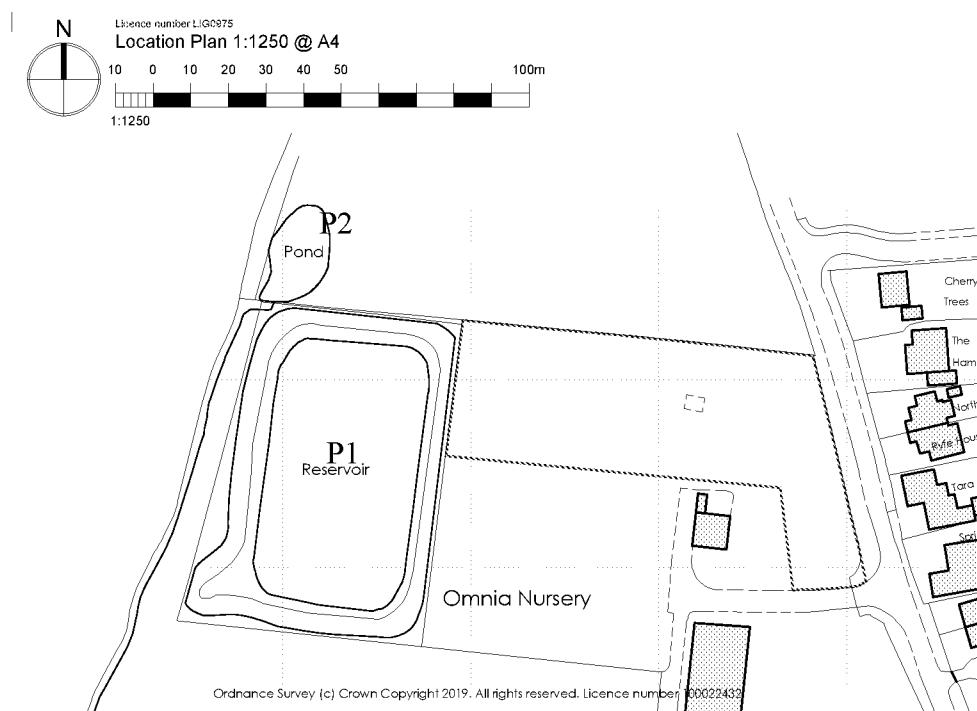
No further surveys are considered necessary.

4.4.4 Amphibians

There are records for Great Crested Newts in the local area in particular surveys in 2013 positively identified a female GCN in the pond immediately to the west (P1) and a male and female GCN the pond immediately to the north west (P2). No evidence was confirmed of breeding activity by the presence of eggs, however as both male and female were present during the breeding season it is assumed it is a breeding pond, given the proximity of the 2 ponds it is a fair assumption that they are both breeding ponds. P2 to the north is proposed to be enhanced as part of the adjacent development.

The site itself offers negligible habitat for amphibians being predominantly managed short grass lacking in the tussocky habitat that affords refuge for amphibians, there is some limited opportunity for them within the ruderal vegetation along the raised bank and within the hedgerow, although these areas are approximately 50m and 100m from the pond and not linked by suitable habitat. The scrub habitat around the irrigation pond to the west presents much more suitable foraging and shelter habitat in close proximity with the pond in the core area. This is also linked to the wider area by the hedgerow and tree line along the adjacent arable field. The site is considered separated from any habitats to the east by residential development and Hook Lane presenting limited connectivity.

Figure 4.3 Identified GCN ponds



Using the Natural England GCN Rapid Risk Assessment tool, the impact of the development and likelihood of an offence was determined. Given the total site area is approximately 0.4ha and proximity of a breeding pond (assumed) is less than 100m then the result is AMBER: OFFENCE LIKELY.

Figure 4.4 Great Crested Newt rapid risk assessment

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.5
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
Maximum:		0.5
Rapid risk assessment result:		AMBER: OFFENCE LIKELY

"Amber: offence likely" indicates that the development activities are of such a type, scale and location that an offence is likely. In this case, the best option is to redesign the development (location, layout, methods, duration or timing; see **Non-licensed avoidance measures tool**) so that the effects are minimised. You can do this and then re-run the risk assessment to test whether the result changes, or preferably run your own detailed site-specific assessment. Bear in mind that this generic risk assessment will over- or under-estimate some risks because it cannot take into account site-specific details, as mentioned in caveats above. In particular, the exact location of the development in relation to resting places, dispersal areas and barriers should be critically examined. Once you have amended the scheme you will need to decide if a licence is required; this should be done if on balance you believe an offence is reasonably likely.

There are no works that will impact upon the Great Crested Newt breeding pond or immediately adjacent suitable terrestrial habitat as the development area is confined to what is the managed grass field and of

negligible suitability. There is an identified risk that individuals may venture into the site for foraging during the course of the works or inadvertently suitable habitat or refugia may be created. Therefore, to avoid harm to individuals it is proposed that an amphibian fence be erected along the western and northern boundary of the site to exclude the ponds and adjacent suitable habitat. The fence to the northern boundary is not a suitable barrier as there are natural gaps between the gravel board and the ground which individuals may be able to get through. Given the small population and the negligible suitability of the site a destructive search of any ruderal vegetation or hedgerow must be carried out. Due to the intention of installing a fence barrier and the destructive search both of which may result in the intentional disturbance of individuals a European Protected Species (EPS) license for Great Crested Newts will be required.

In accordance with the Natural England Guidance Note: European Protected Species and the Planning Process - Natural England's Application of the 'Three Tests' to Licence Applications (March 2011) states:

"In determining whether or not to grant a licence Natural England must apply the requirements of Regulation 535 of the Regulations and, in particular, the three tests set out in sub-paragraphs (2)(e), (9)(a) and (9)(b)6.

(1) Regulation 53(2)(e) states: a licence can be granted for the purposes of "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".

(2) Regulation 53(9)(a) states: the appropriate authority shall not grant a licence unless they are satisfied "that there is no satisfactory alternative".

(3) Regulation 53(9)(b) states: the appropriate authority shall not grant a licence unless they are satisfied "that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range."

As stated above the works do no impact upon the aquatic habitat, the site presents negligible suitable terrestrial habitat as it is largely managed grass by cutting. Providing the recommendations for establishing a sensitive landscape design incorporating boundary hedgerow planting then this will provide additional terrestrial habitat within the core zone of the ponds. The development of the site is not considered to present a restriction of their movement to the east which is already considered constrained by the road barrier of Hook Lane and the existing residential development. Providing the precautionary measures advised in section 5 are followed the proposed development is unlikely to have an adverse impact upon great crested newts and will not impact upon their local population status.

4.4.5 Water Vole

The pond is not considered to offer suitable habitat and is not linked to other suitable habitats so is unlikely to support water voles. There was not sufficient access around the pond to carry out a search for water vole activity due to the overgrown scrub vegetation. The proposed development does not impact upon the pond or its banks therefore no impacts to water voles are likely to occur as a result of the development.

No further surveys are necessary.

4.4.6 Birds

The site provides nesting habitat for a range of birds within the eastern hedgerow, the trees and the adjacent scrub banks around the pond. Positive evidence of sparrow and black birds exhibiting nesting behaviour within the eastern hedgerow was observed.

It is recommended that any works to the trees or vegetation clearance are undertaken outside of the bird breeding season (1st March to 31st August). If this is not possible then a pre-works inspection for any nesting activity should be carried out, should any nesting activity be identified works in those areas must wait until the nesting season is over and the birds have fledged.

No further surveys are necessary.

4.4.7 Badger and Fox

No signs of badgers or foxes were identified during the survey. However, the surrounding habitat provides suitable foraging habitat for them so may be in the vicinity.

Precautions should be carried out, as detailed in Section 5, to ensure that foxes and other nocturnal mammals are not harmed during the construction phase (foxes are protected under the Wild Mammals Protection Act, 1996).

No further surveys are necessary.

4.4.8 Dormice

The site is not considered suitable for Dormice due to lack of suitable habitat.

No further surveys are necessary.

4.4.9 Hedgehogs or Other Protected, BAP or Rare Species

The site had potential to be used by hedgehogs particularly within the eastern hedgerow and the adjacent scrub on the pond banks. No direct or indirect impact is likely if precautions recommended for other nocturnal mammals are followed.

Should any hedgehogs be discovered works should cease, any individuals in immediate harm should be moved by hand and placed in a suitably sheltered undisturbed safe position.

Any fencing used at the site should include hedgehog links: Gaps (10cm x 10cm) every 2m along the base of the fence which would allow hedgehogs and other wildlife to move between the site and habitats beyond.

No further surveys are necessary.

4.4.10 Invertebrates

The site is considered likely to support common and widespread invertebrate species typical of the habitats present.

No further surveys are necessary.

4.4.11 Non-Native Invasive Species (WCA Schedule 9)

No species that are listed on Schedule 9 of the Wildlife & Countryside Act 1981 were identified during the survey. Species listed on Schedule 9 of the Wildlife & Countryside Act 1981 should be treated/removed/disposed of by an appropriately qualified and licensed contractor to ensure legal compliance and prevent spread of invasive species. Species listed under WCA Schedule 9 should not be spread or moved to other sites during the clearance process.

4.4.12 Impact on Designated Wildlife Sites

There are 7 known Designated Sites within 15km of the proposed development.

The closest is Pagham Harbour, a designated Ramsar and SPA is situated approximately 7.8km south-west of the site. This site supports Annex I bird species during the breeding and over winter periods, including Little Tern and Ruff. The Harbour also supports Pintail which is of European importance.

Duncton to Bignor Escarpment SAC is situated approximately 9.2km north-west of the site. The steep scarp slopes and more gently sloping hillsides support a beech forest with a mosaic of ash woodland, scrub and grassland. The area supports rare plant species such as white helleborine, yellow bird's nest and green hellebore.

Chichester and Langstone Harbour Ramsar and SAC is located 9.3km west of the site. This area is classified as a wetland of international importance as this area regularly supports wetland species, including Annex 1 species.

Solent Maritime SAC is situated approximately 9.3km west of the site. Designated as it supports three Annex I habitats: Estuaries (including coastal plain and bar-built estuaries), *Spartina* swards and Atlantic salt meadows. The Solent Maritime also supports Desmoulins's whorl snail.

Singleton and Cocking Tunnels SAC is located 11.1km north-west of the site and is designated as it supports Annex II species Barbastelle and Bechstein's Myotis.

Kingley Vale SAC is situated approximately 12.2km north-west of the site and comprises the largest area of Annex I habitat Yew woodland on chalk within Britain. It is also considered to be an important orchid site.

Arun Valley, designated a SAC, SPA and Ramsar with component SSSI's, lies approximately 3.8km west of the site and comprises wet meadows on the floodplain of the River Arun. The neutral wet grassland which is subject to winter, and occasional summer, flooding, is bisected by a network of ditches, several of which support rich aquatic flora and invertebrate fauna. The area is of outstanding ornithological importance notably for wintering wildfowl and breeding waders.

All sites are designated for their specific habitats and associated species, they are all separated from the proposed development by significant distances over a number of roads, residential units and arable farmland. There are no watercourses linking these sites.

The proposed development site does not include any of those habitats and its influence outside of the boundaries are considered extremely limited.

The scale of the development is for the construction of 10 additional residential properties adjacent to an existing residential area. The additional 10 residential properties are not considered to present a significant increase in recreational pressure upon the designated sites.

It is therefore considered that the proposed development is unlikely to have any significant adverse impact upon the designated sites.

4.5 Limitations and Assumptions

The baseline conditions reported and assessed in this document represent those identified at the time of the initial surveys on the 4th March 2020. Although a reasonable assessment of habitats present can be made during a single walkover survey, seasonal variations are not observed. However, given the historic review of the site and understanding of its use and management practices it is not believed this presents a significant constraint. All areas of the site were accessible during the surveys.

5 Recommendations

5.1 Key Recommendations and Further Surveys

- No further surveys necessary.
- **A GCN EPS License must be obtained from Natural England prior to works.**

5.2 Avoidance/Precautionary Methods

- 5.2.1 Any works to the trees and hedgerow should be undertaken outside of the nesting bird season (March to August). If this is not possible then works must be preceded by a nesting bird survey to avoid infringing legislation which protects all nesting birds (WCA 1981). If an active nest is identified, there will be a delay in this area (and an exclusion zone, as recommended by the project ecologist), until all young birds have left the nest.
- 5.2.2 To minimise risk of disturbance to potential foraging and commuting bats, during and post development, any external lighting should be minimised as follows:
- Any task lighting (during construction) or security lighting on the new building, should not be directed at boundary vegetation.
 - Any necessary security lighting should be set on short timers and be sensitive to large moving objects only.
 - Other lighting around the site should be kept to the minimal feasible level and be directed downward and shielded to minimise light spillage.
 - Hoods, cowls or directional lighting should be used to avoid light directed at the sky or towards boundary vegetation or ditches.
 - Lighting times should be limited, to provide dark periods.
 - Low pressure sodium security lights with glass glazing are recommended, as these produce the least amount of UV light. Avoid white and blue wavelengths of the light spectrum. The brightness of the lamps should be kept as low as feasibly possible (ILE/BCT, 2007; BCT interim guidance 2014).
- 5.2.3 To minimise any harm to great crested newts or other amphibians the following precautionary measures should be followed.
- Works carried out under a Natural England EPS License.
 - As a precaution a 'toolbox talk' by a suitably qualified ecologist prior to any commencement of works to inform site workers of the potential presence of newts, the protection afforded them and the precautionary measures that must be employed at the site, and actions to take if they are found.
 - As a precaution a 'watching brief' by a suitably qualified ecologist must be employed prior to the commencement of any works.
 - The perimeter of the site must be fenced with suitable amphibian/reptile fencing.
 - Any vegetation clearance prior to development this should be carried out under direct supervision of a licensed ecologist using a destructive search methodology.

- Cleared ground vegetation should be maintained short up to and throughout the construction process.
- Any excavations will be open for the minimal period possible and be inspected prior to pouring concrete by a suitably qualified ecologist.
- All works will be undertaken during daylight hours.
- Demolition materials should be removed off the site or placed into skips immediately to prevent amphibians from sheltering in the materials and being harmed.
- In the unlikely event that an amphibian is observed on the site after the exclusion period, activities in that area should cease and the supervising ecologist be consulted.

5.2.4 Due to potential of hedgehogs, badgers and foxes in the area,

- any foundations, holes or deep pits which are left overnight should have a secured plank, or other means of escape for mammals, made available.
- construction work should be limited to daylight hours to minimise risk to nocturnal mammals.

5.2.5 Due to the limited potential for reptiles at the site the following precautionary method is recommended.

- The vegetation around the site should be maintained as a short sward (<100mm) through regular mowing to prevent attracting reptiles into harm's way.
- Any excavations will be open for the minimal period possible, will have escape ramps placed within them to allow any trapped animals an escape route and must be inspected prior to pouring concrete.
- Demolition materials should be removed off the site or placed into skips immediately to prevent amphibians or reptiles from sheltering in the materials and being harmed.
- In the unlikely event that a reptile is observed on the site, activities in that area should cease and the animal should be allowed to disperse of its own accord.

5.2.6 Non-native invasive species that may be encountered during the works should be removed from the site and disposed of at an approved facility, to avoid spread of WCA Schedule 9 or LSI species.

If the above recommendation and precautionary measures are followed, then potential impact of the proposed development on local biodiversity is considered to be minimal.

5.3 Recommended Mitigation

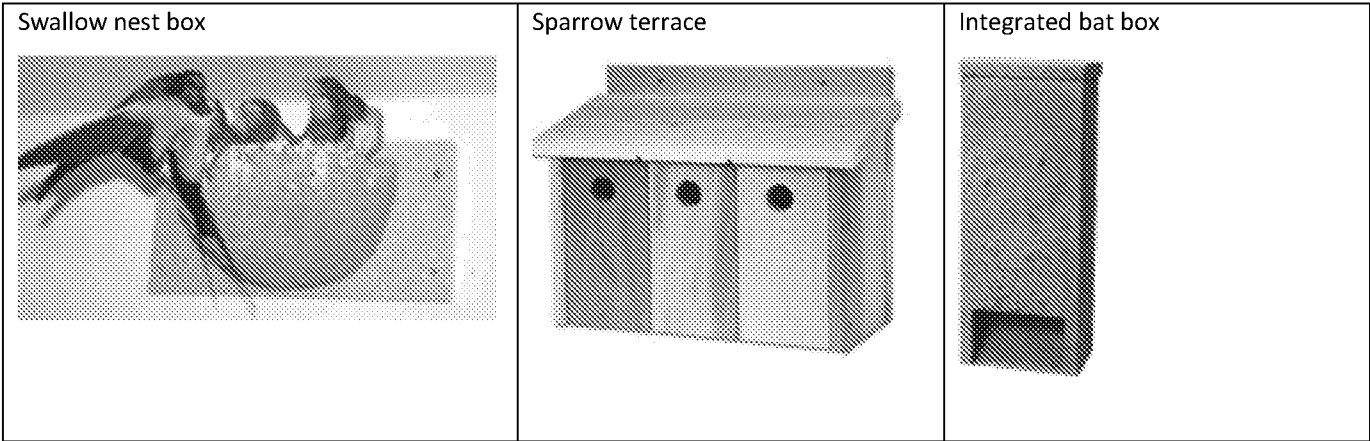
Due to the development resulting in the loss of negligible great crested newt habitat within 100m of what is assumed to be a breeding pond, the proposed development will incorporate native species hedgerow planting around the perimeter to improve ecological connectivity and provide additional terrestrial habitat for great crested newts.

5.4 Enhancement Recommendations

It is considered that the following measures would enhance the value of the existing site for wildlife as encouraged through the NPPF.

- 1) The installation of bat and bird boxes integrated into the proposed properties.
- 2) Landscaping to incorporate some native hedgerow with trees along the northern, southern and western boundary to improve connectivity to the established roadside hedgerow along Hook Lane. This would be complimentary to the hedgerow included as part of the landscaping scheme for the development to the north replacing the felled conifer hedge.
- 3) A landscaping scheme for the development to include flowering and seed-bearing native trees and shrubs between properties and within the roadside would enhance the biodiversity value of the site.

Figure 5.2 Suitable enhancement options for birds.



6 Conclusion

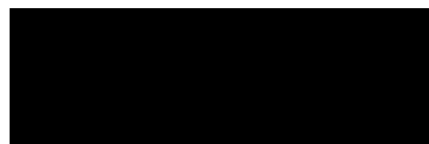
Providing the proposed development is carried out under an EPS license there will be no breaches of wildlife legislation, nor as detailed above will there be an adverse impact upon the local population of great crested newts.

If the avoidance and precautionary methods and mitigation, as detailed in Section 5, are implemented it is considered the potential impact of the proposed development on local biodiversity would be minimal. Therefore, it is unlikely to have an adverse impact on any protected, SPIE or locally important species. The site has the potential to be enhanced for wildlife if the additional recommendations in Section 5.4 are implemented.

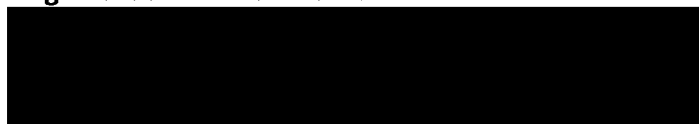
The identified designated sites are designated for their specific habitats and associated species, they are all separated from the proposed development by significant distances over a number of roads, residential units and arable farmland. The proposed development site does not include any of those habitats and its influence outside of the boundaries are considered extremely limited. The scale of the development is for the construction of 10 additional residential properties adjacent to an existing residential area. The additional 10 residential properties are not considered to present a significant increase in recreational pressure upon the designated sites. It is therefore considered that the proposed development is unlikely to have any significant adverse impact upon the designated sites.

If you require any further information in relation to the ecology of the site, please do not hesitate to contact Bright Green Environmental.

Survey Conducted and Report written by



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Director
Bright Green Environmental



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Local biodiversity Action plans

Appendix A – Legislation & Planning Policy

Conservation of Habitat and Species Regulations

The Conservation of Habitats and Species Regulations transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) into English law, making it an offence to deliberately capture, kill or disturb wild animals listed under Schedule 2 of the Regulations. It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time).

Wildlife & Countryside Act

The Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act (CROW) 2000 and the Natural Environment and Rural Communities Act (NERC) 2006, consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive), making it an offence to:

- Intentionally kill, injure or take any wild bird or their eggs or nests (with certain exceptions) and disturb any bird species listed under Schedule 1 to the Act, or its dependent young while it is nesting;
- Intentionally kill, injure or take any wild animal listed under Schedule 5 to the Act; intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act; intentionally or recklessly disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection;
- Pick or uproot any wild plant listed under Schedule 8 of the Act.

Sites of Special Scientific Interest (SSSI) are designated under this Act.

Special Protection Areas (SPA) are strictly protected sites, designated under the Birds Directive, for rare and vulnerable birds and for regularly occurring migratory species.

Natural Environment & Rural Communities Act

The NERC 2006 places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations.

National Planning Policy Framework (NPPF)

The NPPF sets out current government policy on biodiversity and nature conservation and places a duty on planners to make material consideration to the effect of a development on legally protected species when considering planning applications. NPPF also promotes sustainable development by ensuring that developments take account of the role and value of biodiversity and that it is conserved and enhanced within a development.

NPPF replaced PPS9 in April 2012. NPPF works is considered in conjunction with Government Circular 06/2005 *Biodiversity and Geological Conservation - Statutory Obligations and Their Impact within the Planning System*.

Biodiversity Action Plans

The UK Biodiversity Action Plan (UKBAP) (Anon, 1995) was organised to fulfil the Rio Convention on Biological Diversity in 1992, to which the UK is a signatory. A list of national priority species and habitats has been produced with all listed species/habitats having specific action plans defining the measures required to ensure their conservation. Regional and local BAPs have also been organised to develop plans for species/habitats of nature conservation importance at regional and local levels.

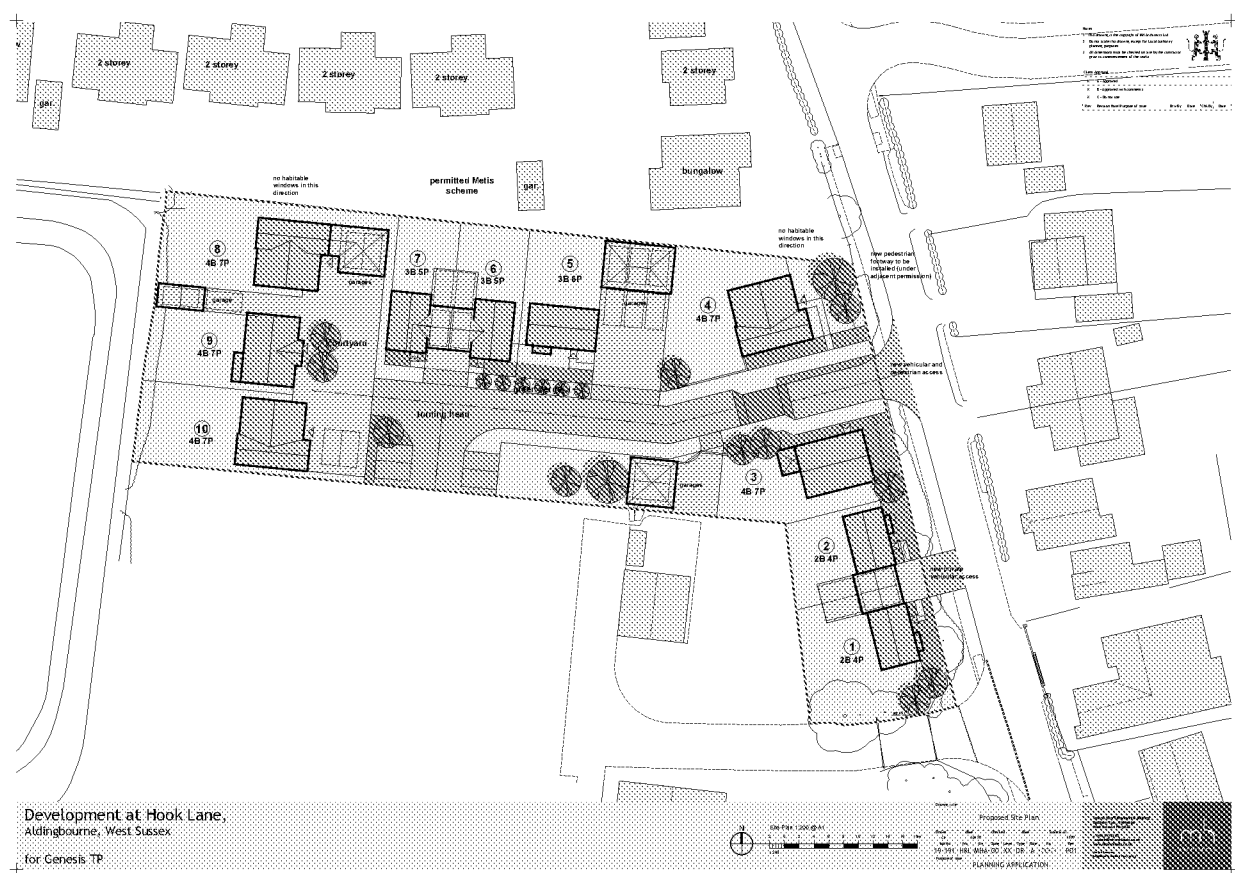
Local Structure Plans

County, District and Local Councils have Structure Plans and other policy documents that include targets and policies which aim to maintain and enhance biodiversity. These are used by Planning Authorities to inform planning decisions.

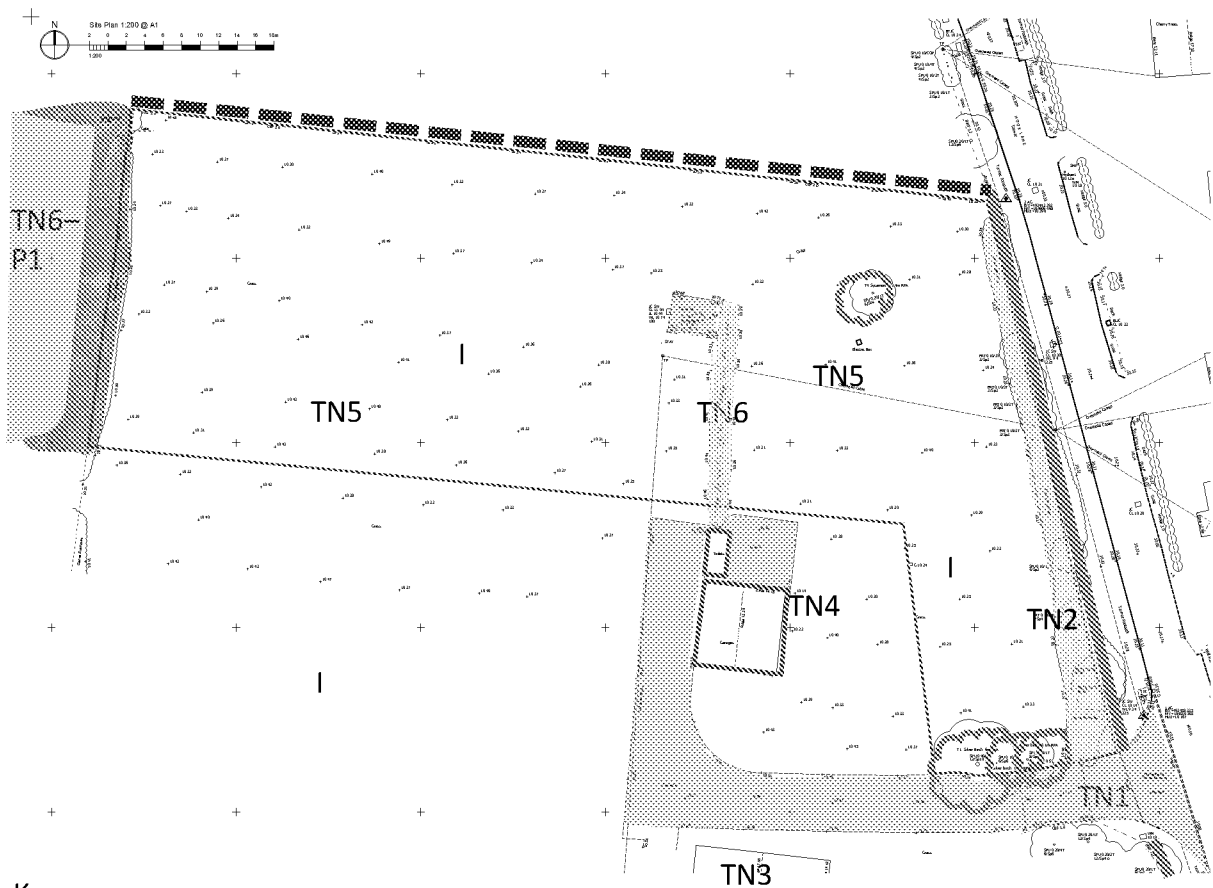
Natural England Standing Advice

Natural England has adopted national standing advice for protected species. It provides a consistent level of basic advice which can be applied to any planning application that could affect protected species. It replaces some of the individual comments that Natural England has provided in the past to local authorities.

Appendix B – Proposed Development Plan



Appendix C – Phase 1 Survey Plan



Key

Bat roost suitability

- Negligible
- Low
- Moderate

Habitat Classification

- Ruderal
- Scrub/saplings
- Concrete / Hardstanding
- Ponds

I Improved Grassland/Amenity Grass

Indicative position of trees

Hedgerow

TN Target Notes from Table 4.1

Timber Fence

Site boundary