

BURTON REID
ASSOCIATES



Ecological Impact Assessment

STOKE PARK FARM SANG, EASTLEIGH

EASTLEIGH BOROUGH COUNCIL

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A	July 2023	Tamsyn Bridger ACIEEM	AL/JR	N/A (First Issue)
B	March 2024	Gavin Young ACIEEM	AL/JR	Updated proposals plan, habitats descriptions, impacts and BNG calculations.

DECLARATIONS OF COMPLIANCE

The report which we have prepared and provided is in accordance with the Chartered Institute for Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

This report has been produced in accordance with British Standard 42020:2013 "Biodiversity, Code of practice for planning and development" and the Chartered Institute of Ecology and Environmental Management's Guidelines for Ecological Report Writing (CIEEM, 2017).

DATA VALIDITY

Please note that unless otherwise stated, the contents of this report will remain valid for a maximum period of 12 months from date of issue. Beyond this updated survey work may be required to establish any changes in baseline conditions.

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Nothing in this report constitutes legal advice or opinion. If legal opinion is required a qualified legal professional should be contacted for advice.

NON-TECHNICAL SUMMARY

Burton Reid Associates Limited was instructed by Eastleigh Borough Council to undertake an ecological assessment in relation to the creation of a Suitable Alternative Natural Greenspace (SANG) at Stoke Park Farm on the outskirts of Eastleigh near Southampton. Baseline ecological information was collated by Burton Reid Associates for the proposed development site between June and July 2023, to supplement a Preliminary Ecological Appraisal of the wider farm site by ECUS Ltd in March 2023. Work by Burton Reid Associates included an updated site walkover survey (including UK Habitat Classification survey), breeding bird surveys and Great Crested Newt eDNA survey, in line with relevant best practice guidance. An updated site visit was instructed in February 2024 to assess areas within a new red line boundary not included in the original Preliminary Ecological Appraisal.

Table 1: Executive summary

ECOLOGICAL RECEPTOR	SUMMARY OF ECOLOGICAL BASELINE	IMPACT MITIGATION/AVOIDANCE AND ENHANCEMENT MEASURES
River Itchen SAC	Internationally statutory designated site situated approximately 830m from the Site boundary at its closest point.	- Information to support the Habitat Regulations Assessment has been provided separately. - Standard pollution prevention measures will be implemented during the construction phase to mitigate any impacts due to spillages etc. - Water drainage strategy integrated into design proposals, including swales and attenuation pond to mitigate potential for increased run off into catchment. Please refer to relevant drawings and technical notes (Clarkebond, 2023).
Stoke Park Wood and Judges Gully Copse SINC	Non-statutory designated sites situated directly adjacent to Site boundary.	- Erection of Heras or similar protective fencing around Root Protection Zones (RPZs) where significant ground works are anticipated (i.e. attenuation features and dog exercise area) to avoid compaction by vehicles and accidental damage of retained habitats. No materials to be stored within RPZs. - Standard pollution prevention measures and best practice working methods to be incorporated into main contractor's CEMP. - Implementation of site lighting curfews during construction (i.e. no night working).
Grassland	g3c Other neutral grassland habitat ("poor" condition), subject to intensive farming practices as part of the former dairy farm until November 2021. Total habitat area: 19.7ha.	17.2ha of existing grassland will be retained and enhanced to "moderate" condition under the proposals. - Additional 1.4ha of species-rich neutral grassland to be reinstated post-works to create infrastructure. - Restrict working area and storage of materials within the retained grassland habitats and along woodland edges and hedgerows during creation of the new footpaths through clear demarcation. . - Re-seeding of grassland with wildflower-rich seed mixture during preliminary habitat enhancement works (as per LEMP).

ECOLOGICAL RECEPTOR	SUMMARY OF ECOLOGICAL BASELINE	IMPACT MITIGATION/AVOIDANCE AND ENHANCEMENT MEASURES
		Implementation of appropriate long-term management regime in line with the prescriptions set out within the accompanying LEMP (EBLA, 2023).
Woodland	Wooded belt of 0.55ha of "w1g Other woodland; broadleaved" ("poor condition") along seasonally wet ditch running north/south from northern boundary of the Site. Contains overgrown pond.	- Retention within scheme design. - Erection of Heras or similar protective fencing around areas outside of the attenuation features construction zone to avoid compaction by vehicles and accidental damage. No materials to be stored within RPZs of trees. - Standard pollution prevention measures and best practice working methods to be incorporated into main contractor's CEMP. - No direct lighting of trees within woodland during construction. Implementation of site lighting curfews during construction. - Implementation of appropriate long-term management regime for woodland habitats in line with the prescriptions set out within the accompanying LEMP (EBLA, 2023).
Pond	Situated within wooded belt in north of Site. Priority Habitat under the NERC Act 2006.	- Standard pollution prevention measures and best practice working methods to be incorporated into main contractor's CEMP. - Provision of bins at the Site to encourage site users to appropriately dispose of rubbish.
Hedgerow	Native species-rich hedgebanks along northern boundary and Sewall Drive. Priority Habitat under the NERC Act 2006.	- Erection of Heras or similar protective fencing around retained hedgerows prior to start of works, to avoid compaction by vehicles and accidental damage. - No materials to be stored within the works exclusion area. - Implementation of site lighting curfews during construction (i.e. no night working). - Implementation of appropriate long-term management regime for hedgerow habitats in line with the prescriptions set out within the accompanying LEMP (EBLA, 2023).
Bats (roosts)	No targeted surveys undertaken, however presence of trees containing suitable features within wooded belt on Site or within woodland adjacent to Site is considered possible.	No direct lighting of trees during construction. Additional bat roosting provisions to be provided in the form of bat boxes on mature retained trees. Minimum provision of 6no. boxes.
Bats (commuting/foraging)	Presence of low to moderate levels of foraging by small numbers of common bat species is assumed.	- No direct lighting of woodland edge / retained hedgerow habitats, to maintain bat flight routes across the site. Implementation of site lighting curfews during construction. - Implementation of site lighting curfews during construction. - Implementation of appropriate long-term management regime for grassland habitats in line with the prescriptions set out within the accompanying LEMP (EBLA, 2023).

ECOLOGICAL RECEPTOR	SUMMARY OF ECOLOGICAL BASELINE	IMPACT MITIGATION/AVOIDANCE AND ENHANCEMENT MEASURES
Hazel Dormouse	Low risk of presence in hedgerow and woodland habitats. Surveys undertaken as part of nearby housing development in 2013 did not record the species.	• Appropriately licenced ecologist to undertake a precautionary pre-works inspection of vegetation immediately prior to removal. • No specific actions required. Management of hedgerows on rotation will ensure habitat always available on Site. Provision of additional suitable habitat once new hedgerows are fully established.
Badger	Known presence at the Site. Locations withheld for reasons of confidentiality.	• Ecologist to undertake pre-commencement survey for formation of Badger setts within any areas proposed for mechanical ground works, and (where accessible) and additional 30m buffer zone. • Contractors to be made aware of the presence of Badgers at the Site and potential for formation of new setts. Project ecologist to be contacted immediately on discovery of new mammal holes for further inspection and advice. • Any newly introduced fencing must include continuous or regular gaps of 200mm wide by 300mm high to allow for continued movement of Badgers in and out of the Site.
Birds	Targeted breeding bird surveys undertaken during 2023 nesting season. No ground nesting activity recorded. Nesting behaviour associated solely with woodland habitats on and adjacent to the Site. Site may be of value as a foraging resources to woodland / hedgerow nesting species.	• Any proposed clearance of woodland, scrub or hedgerow habitats should be undertaken outside of the nesting period (i.e. between September and February inclusive). Should this work be required to be undertaken between March and August inclusive, it should be preceded by a nesting check by an experienced ecologist no more than 24hrs prior to removal. • Implementation of site lighting curfews during construction (i.e. no night working). • Management activities in relation to woodland, scrub or hedgerow habitats should be undertaken outside of the nesting period (i.e. between September and February inclusive). • Additional bird nest boxes to be provided on mature retained trees. Minimum provision of 6no. boxes.
Reptiles	Low risk of presence of species such as Common Lizard, Slow-worm and Barred Grass Snake in small numbers. Grassland habitat considered largely sub-optimal due to limited or absent litter layer within the grass sward and recent intensive farming practices.	• Cutting back sward in late-summer to height of no less than 10-15cm prior to tilling for habitat enhancement works. Mowing to be undertaken no less than 24hrs prior to tilling to allow any reptiles present to move out of the area of works. • Grass sward to be kept closely mown in areas proposed for groundworks in the lead up to construction activities to ensure reptiles do not colonise the habitats ahead of works. • Mowing undertaken as part of regular ongoing management in the long-term should be undertaken to a height of no less than 10-15cm. • Log piles and hibernacula should not be disturbed during winter months when they may be used for hibernation purposes.
Great Crested Newt	No evidence of Great Crested Newt presence recorded in on-site pond or other waterbodies nearby.	• No specific mitigation/ avoidance measures required.

The Ecological Impact Assessment concludes that with proposed avoidance, mitigation and compensation measures in place, it is considered that there will be no likely significant effects or adverse impacts on biodiversity at the Site or designated sites within the zone of impact. Biodiversity net gain requirements will be achieved and exceeded in accordance with local planning policy, the NPPF 2021 and NERC Act 2006 through proposed habitat creation and enhancement as demonstrated using Natural England's Biodiversity Metric 4.0 calculation tool (supplied separately, headline results in Section 5).

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1 INTRODUCTION

1.1 SITE BACKGROUND

Burton Reid Associates was instructed by Eastleigh Borough Council to undertake an Ecological Impact Assessment of approximately 21ha of land at Stoke Park Farm on the outskirts of Eastleigh, hereinafter referred to as 'the Site', in relation to a planning application being put forward for a Suitable Alternative Natural Greenspace (SANG) to help mitigate recreational impacts on the nearby New Forest Special Protection Area (SPA) and Special Area of Conservation (SAC) by providing recreational spaces closer to the residents of Eastleigh Borough.

The Site centre is located at National Grid Reference SU478199 and comprises an area of agricultural land in use until November 2021 for dairy farming on rotational grazing / silage. Immediately adjacent to the west and south lies Stoke Park Woods (Forestry Commission Woodland, mix of Ancient Replanted Woodland and Ancient / Semi-natural Woodland). Bow Lake Fish Farm lies immediately to the north of the Site.

The following are detailed within this Ecological Impact Assessment (EcIA) report:

- Details of survey methods;
- Description of Site ecological baseline including habitat descriptions and potential for presence of protected species;
- An assessment of the anticipated impacts of the development on habitats/species present;
- Avoidance, mitigation and biodiversity enhancement measures required.

1.2 PROPOSED DEVELOPMENT

The proposed development of the SANG includes creation of circular walking routes (bound gravel pathways), installations including benches, picnic tables, interpretation boards and litter bins, as well as a bespoke landscape planting and enhancement strategy to enhance the value of the Site under Biodiversity Net Gain. There will be provision of car parking facilities at a nearby cemetery, utilising an existing car park which is easily accessible on foot from the SANG. The proposals are shown in the plan in Appendix VI.

1.3 WILDLIFE LEGISLATION AND PLANNING POLICY

This report has been written with reference to current wildlife legislation, a summary list of which can be found in Appendix I. The following planning policy documents have been referred to as appropriate:

- Eastleigh Borough Council Local Plan 2016-2036 (adopted April 2022);
- Eastleigh Borough Council: Biodiversity Supplementary Planning Document (adopted Dec 2009);
- National Planning Policy Framework (2021).

2 METHODS

2.1 SCOPE OF ECIA ASSESSMENT

The impact assessment has been undertaken following the Chartered Institute of Ecology and Environmental Management's Guidelines for Ecological Impact Assessment (CIEEM, 2018). These guidelines represent current best practice when assessing the impacts of development on biodiversity.

In summary, the guidelines provide a framework for describing the potentially significant effects of a proposed development on ecology and for setting out mitigation and enhancement measures to avoid/minimise impacts and create positive outcomes for biodiversity.

In the first instance, ecological features of importance are identified. Some features can already be recognised as having ecological value through their designation e.g. statutory/non-statutory designated sites, whilst others may require an evaluation based on professional judgement using available guidance and information. Key considerations taken into account include legal protection, local and national conservation status, population trends, range and distribution, diversity, connectivity and rarity.

The importance of each ecological feature has been given a geographic frame of reference within the relevant headings in Section 3 as per the CIEEM (2018) guidelines for EcIA: International, National, Regional, County, District/local authority area, Local or Site level.

An assessment has then been made of the scale and significance of anticipated impacts on any ecological features of importance. For the purposes of this report, this impact assessment takes into consideration mitigation and enhancement measures which have been developed and incorporated into the scheme design (i.e. embedded mitigation).

Additional mitigation and enhancement measures to avoid/minimise impacts during the construction and post-construction phases of the development are also included and are typically secured through the planning process via the use of planning conditions/obligations.

2.2 SURVEY APPROACH

2.2.1 Desk Study

A data search was requested from the Hampshire Biological Information Centre in September 2022 for information on designated nature conservation sites and records of protected and notable and species within 2km of the Site. The search was to obtain background data on the presence and distribution of sensitive ecological receptors within the area. This scope of search was considered appropriate for the nature and scale of proposals, in accordance with CIEEM guidelines on use of biodiversity data (CIEEM, 2020).

The presence of nearby statutory designated sites and priority habitats was established using the Defra MAGIC map tool (www.magic.gov.uk). Statutory designated sites are those which are protected under current UK/European legislation and include Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites and Local Nature Reserves (LNR).

Non-statutory designated sites include Sites of Interest of Nature Conservation (SINCs), also known as Local Wildlife Sites. These sites have been identified at a county or local level as providing importance to local wildlife.

Protected species are those which are afforded legal protection. Priority habitats and species are those which have some level of nature conservation importance due to factors such as rarity, vulnerability or declining population/status and are considered as priorities for nature conservation. They may be of importance at a national scale, or at a more local level and include 'Habitats/Species of Principal Importance' as listed under the under Section 41 of the NERC Act (2006).

2.2.2 Field surveys

An updated walkover survey of the Site was undertaken on 31st May 2023 by Burton Reid Associates. A further update survey was undertaken on the 26th of February 2024 following an update to the proposals, which includes an update to the Site boundary to incorporate the cemetery car park and access road to provide parking for the SANG. These surveys included a scoping survey for potential presence of protected species and impacts on notable or protected habitats. The surveys were undertaken in accordance with guidance by the Chartered Institute of Ecology and Environmental Management (2017) and UK Habitat Classification guidelines (Butcher et al., 2020) for assessment of habitats. This system for habitat classification allows for clear interpretation of data as it takes into account important habitat types such as Priority and Annex I habitats.

In addition to the site walkover a suite of 4no. breeding bird surveys were undertaken in June / July 2023 in order to ascertain the use of the existing habitats by nesting and foraging bird species, in part to inform the required Bird Hazard Impact Assessment for the nearby Southampton Airport (report submitted separately). Survey methodologies are provided in Appendix III.

2.2.3 Limitations

No constraints were encountered during the desk study, habitat survey or eDNA survey. Breeding bird surveys were commenced later than the optimum period, however all four surveys were nonetheless completed by mid-July with a spread of around 10 days between each visit, broadly in line with survey guideline requirements. The constraint on the survey data is unlikely to be significant.

3 ECOLOGICAL BASELINE

3.1 DESIGNATED SITES

3.1.1 Statutory designated sites

Two statutory designated sites are located within 2km of the Site, namely the River Itchen Special Area of Conservation (SAC) and River Itchen Site of Special Scientific Interest (SSSI). The boundaries of these sites overlap, with the SSSI covering a greater area. The River Itchen site comprises chalk river habitats and associated fen meadow and flood pasture. It is designated as an SAC due to the presence of Annex I habitats ("3260 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation"), and Annex II species ("1044 Southern damselfly *Coenagrion mercuriale*" and "1163 Bullhead *Cottus gobio*").

The proposed SANG Site falls within the SSSI Impact Risk Zone (IRZ) for the River Itchen SSSI/SAC. The IRZ applies to all planning applications (excluding householder applications), and therefore the development proposals are considered to meet the criteria for consultation with Natural England.

3.1.2 Non-statutory designated sites

A total of 34no. Sites of Interest for Nature Conservation (SINCs) are present within 2km of the Site boundary. These include Stoke Park Wood, Judges Gully Copse and Poplar Plantation (Stoke Park Wood) which are situated directly adjacent to the Site boundary.

Stoke Park Woods, which borders the site to the west and south, contains areas listed on Natural England's Inventory of Ancient Woodlands as either Replanted Ancient Woodland or Ancient and Semi-natural Woodland.

3.1.3 Habitat Networks

The Site is located within 'Network Enhancement Zone 2' as per the National Habitat Network Maps (Edwards et al., 2020). These are areas identified as having the potential to be suitable for creation of priority habitats and for the expansion of habitats to improve habitat connectivity to contribute towards landscape conservation objectives.

3.1.4 Priority habitats

No Habitats of Principle Importance (HPIs) were identified within the Site during a review of the MAGIC online database. The Site does, however, border Stoke Par Woods which contains areas of Deciduous Woodland HPI. Native hedgerows and hedgebanks are present along the access track which also classify as Habitats of Principle Importance.

Each habitat present within the Site itself is described below. The distribution of the main habitats present is shown in the habitat survey map in Appendix II.

3.2 HABITATS

*DAFOR scale of relative abundance: Dominant, Abundant, Frequent, Occasional or Rare. L = Locally.

3.2.1 Broad habitat: Grassland (g)

The main body of the Site was comprised of grassland fields formerly in use for cattle grazing on rotation as part of the former dairy farming operations at Stoke Park Farm. Despite intensive farming practices at the Site until recently, on review of the botanical species composition, it was determined that the habitat was more reflective of the “g3c other neutral grassland” categorisation than “g4 modified grassland” under UKHab criteria.

The additional area surveyed in 2024 (following an update to the proposals) included a margin of grassland around the cemetery car which was reflective of “g4 modified grassland” under UK Hab criteria.

Photos	UKHAB Codes	Description	Main species (DAFOR*)	Other notable species
	g3c <u>Secondary:</u> 76 – Recent management 1010 – Agricultural land	Other neutral grassland	Rough Meadow-grass (D) Yorkshire Fog <i>Holcus lanatus</i> (LA) False Oat-grass <i>Arrhenatherum elatius</i> (LF) Cock's-foot <i>Dactylis glomerata</i> (LF) Soft Brome <i>Bromus hordaeceus</i> (LF) Broad-leaved Dock <i>Rumex obtusifolius</i> (LF) White Clover <i>Trifolium repens</i> (LF) Dove's-foot Crane's-bill <i>Geranium molle</i> (O) Cut-leaved Crane's-bill <i>Geranium dissectum</i> (O)	Field Horsetail <i>Equisetum arvense</i> (LF along tracks) - can become invasive, however is not listed on Schedule 9 of the Wildlife and Countryside Act, 1981. Area of self-seeded <i>Brassica</i> species dominant on high point in centre of Site.

Photos	UKHAB Codes	Description	Main species (DAFOR*)	Other notable species
	g4 g0 – cemeteries and churchyards 106 - mown	Modified grassland	Perennial Rye-grass <i>Lolium perenne</i> (d) White Clover (a) Common Mouse-ear <i>Cerastium fontanum</i> (a) Dandelion <i>Taraxacum agg.</i> (f) Creeping Buttercup <i>Ranunculus repens</i> (f) Broad-leaved Dock <i>Rumex obtusifolius</i> (o) Annual Meadow Grass <i>Poa annua</i> (o) Dove's-foot Crane's-bill (o) Herb Robert <i>Geranium robertianum</i> (o) Cock's-foot <i>Dactylis glomerata</i> (o) Buck's-horn Plantain <i>Plantago coronopus</i> (r) Selfheal <i>Prunella vulgaris</i> (r)	

3.2.2 Broad habitat: Woodland (w)

Woodland at the Site comprised a wooded belt dividing the northern portion of the grassland fields. This was situated along a drainage ditch (damp at the time of survey but likely to hold water during periods of high rainfall) and included a pond (described in more detail in section 3.2.5 below). The woodland included a mix of native and non-native introduced species.

Photos	UKHAB Codes	Description	Main species (DAFOR*)	Other notable species
	w1g <u>Secondary:</u> 48 – Non-native 118 – Mesic 191 - Ditch	Other woodland; broadleaved	Grey Willow <i>Salix cinerea</i> (A – including single veteran specimen and semi-mature) Lawson Cypress <i>Chamaecyparis lawsoniana</i> (LA) Remote Sedge <i>Carex remota</i> (F) Ivy <i>Hedera helix</i> (F) Cherry Laurel <i>Prunus lauroceracus</i> (O) Goat Willow <i>Salix caprea</i> (O)	-

3.2.3 Broad habitat: Heathland and shrub (h)

Outgrown hedgebank along the northern boundary of the field parcel, adjacent Sewall Drive, containing a small number of semi-mature trees.

Photos	UKHAB Codes	Description	Main species (DAFOR*)	Other notable species
	h2a <u>Secondary</u> 70 – Hedgebank 94 – Green lane	Hedgerow (Priority Habitat)	Hawthorn <i>Crataegus monogyna</i> (A) Blackthorn <i>Prunus spinosa</i> (A) Field Maple <i>Acer campestre</i> (O) Elder <i>Sambucus nigra</i> (O)	-

3.2.4 Broad habitat: Urban (u)

Urban type habitats at the Site were limited to the hardstanding of the access road along Sewall Drive, the cemetery car park and compacted aggregate field access tracks within the field itself.

Photos	UKHAB Codes	Description	Main species (DAFOR*)	Other notable species
	u1c <u>Secondary:</u> 17 – Ruderal / ephemeral 115 – Track	Artificial unvegetated; unsealed surface	Rough Meadow-grass (O) Common Ragwort <i>Senecio jacobaea</i> (O) <u>Along track edges:</u> Field Horsetail (LF) Common Ragwort (LF)	-

Photos	UKHAB Codes	Description	Main species (DAFOR*)	Other notable species
	u1b <u>Secondary:</u> 94 - Green lane 420 - Green access route	Developed land; sealed surface	None.	-
	u1b 90 – cemeteries and churchyards 800 - road	Developed land; sealed surface	None.	

3.2.5 Broad habitat: Rivers and lakes (r)

A single pond was located within the woodland belt along the drainage ditch. The pond banks were largely overgrown, with limited access available for survey. The western bank of the pond was reinforced with a small concrete retaining wall, but other banks appeared natural in structure.

Photos	UKHAB Codes	Description	Main species (DAFOR*)	Other notable species
	r1a <u>Secondary:</u> 19 – Ponds (Priority Habitat)	Eutrophic standing water	Common Reed <i>Phragmites australis</i> (LD) Lesser Duckweed <i>Lemna minor</i> (LD) Water Mint <i>Mentha aquatica</i> (LF) Marsh Marigold <i>Caltha palustris</i> (R) <u>Pond banks:</u> Remote Sedge (LA) Goat Willow (F) Grey Willow (A) Common Nettle (O)	-

3.3 BATS

3.3.1 Desk study

172no. records of bats were identified from the HBIC data search for within 2km of the site dated between 2008 and 2020. This included Common Pipistrelle *Pipistrellus pipistrellus*, Soprano Pipistrelle *Pipistrellus pygmaeus*, Nathusius Pipistrelle *Pipistrellus nathusii*, Serotine *Eptesicus serotinus*, Noctule *Nyctalus noctula*, *Myotis* species (including Brandt's *M. brandtii*, Whiskered *M. mystacinus*, Natterer's *M. nattereri* and Daubenton's *M. daubentonii*), Brown Long-eared *Plecotus auritus* and Barbastelle *Barbastella barbastellus* (single record). 20no. records relate to the neighbouring Stoke Park Woods from 2016/17 including Common and Soprano Pipistrelle, Noctule, Whiskered and Brandt's bats and Brown Long-eared.

Nine European Protected Species Mitigation (EPSM) Licences relating to roosting bats were identified from the MAGIC map tool within 2km of the Site. These included licences relating to damage or destruction of roosts of Common Pipistrelle, Soprano Pipistrelle and Brown Long-eared bat.

Bat activity surveys were undertaken in 2013 in relation to the adjacent residential development at Sewall Drive (Terence O'Rourke Ltd, 2013). These surveys recorded the presence of 8no. species of bat, namely Common Pipistrelle, Soprano Pipistrelle, Noctule, Natterer's, Daubenton's, Serotine, Whiskered bat and *Myotis* sp. which were observed foraging at low to moderate levels along field edges.

3.3.2 Habitat assessment

The grassland habitats are likely to support a moderate range of invertebrate prey species for bats such as moths, flies, midges and beetles. Whilst the upper reaches of the fields are open and exposed to prevailing weather (and therefore unlikely to attract bats for foraging purposes regularly), the lower reaches and woodland treelines are considered likely to offer good opportunities for foraging and commuting by a range of bat species.

The walkover habitat survey noted a small number of mature and veteran trees within the central woodland belt and adjacent Stoke Park Wood habitats which may have some low to moderate potential for supporting bat roosts, however detailed assessments were not undertaken as no significant impacts on these are anticipated under the proposed scheme.

3.4 HAZEL DORMOUSE

3.4.1 Desk study

No records of Hazel Dormouse *Muscardinus avellanarius* were returned for within 2km of the Site as part of the HBIC data search.

Previous surveys undertaken between April and September 2013 by Terence O'Rourke Ltd as part of the adjacent Sewall Drive residential development did not record the species being present during targeted presence/absence nest tube surveys (which included deployment of nest tubes along the western portion of Sewall Drive).

3.4.2 Habitat assessment

The woodland both within and bordering the Site, along with the hedgebanks along Sewall Drive, are considered to offer good quality habitat for Hazel Dormouse. Given the slow dispersal rates of this species and the length of time populations take to establish, the absence of the species during the 2013 surveys indicates that the likelihood of encountering Hazel Dormouse at the Site is reasonably low.

3.5 BADGER

3.5.1 Desk study

The HBIC data search returned 8no. records of Badger *Meles meles* between 2013 and 2017 within 2km of the Site. This included records at both Stoke Park Woods and the wider Stoke Park Farm.

3.5.2 Habitat assessment.

Badgers' setts were identified within the main proposed SANG boundary during the May 2023 walkover by Burton Reid Associates. Due to the risk of persecution the precise location of these setts is not included within this document. Setts identified included a possible remnant main sett (4-5no. entrance holes identified, only 2no. of which showed signs of recent use), and an additional partially-used single entrance outlier sett approximately 160m away.

3.6 RIPARIAN MAMMALS (OTTER AND/OR WATER VOLE)

3.6.1 Desk study

Two records of Otter *Lutra lutra* were returned in the HBIC data search for within 2km of the Site, both in relation to the River Itchen.

Eighteen records of Water Vole *Arvicola amphibus* were returned for within 2km of the Site, the majority in relation to the Itchen Navigation canal system, and several additional in relation to the River Itchen itself.

3.6.2 Habitat assessment

The ditch present within the woodland belt in the north of the Site and along Sewall Drive does not contain sufficient water levels to support Otter or Water Vole, and are reasonably unlikely to be utilised for commuting purposes due to lack of connectivity. Overall, Otter and Water Vole are considered reasonably unlikely to utilise habitats within or immediately adjacent to the Site.

3.7 BIRDS

3.7.1 Desk study

The HBIC data search returned 1032no. records of bird species within 2km of the Site, for 32no. distinct bird species. These include 22no. species listed on Schedule 1 of the 1981 Wildlife and Countryside Act (WCA) (as amended), including species commonly associated with open farmland such as Fieldfare *Turdus pilaris*,

Redwing *Turdus iliacus* and Barn Owl *Tyto alba*. Other species include those listed on Section 41 of the 2006 NERC Act (Species of Principal Importance) and species on the Amber and Red lists of BoCC (RSPB, 2021):

- 21no. Species of Principal Importance – including Cuckoo *Cuculus canorus*, Hawfinch *Coccothraustes coccothraustes*, House Sparrow *Passer domesticus* and Yellowhammer *Emberiza citrinella*.
- 27no. BoCC Red listed species (Stanbury et al, 2021) – including Linnet *Carduelis cannabina*, Skylark *Alauda arvensis*, Lapwing *Vanellus vanellus* and Starling *Sturnus vulgaris*.
- 24no. BoCC Amber listed species (Stanbury et al, 2021) – including Common Redstart *Phoenicurus phoenicurus*, Song Thrush *Turdus philomelos* and Short-eared Owl *Asio flammeus*.

3.7.2 Habitat assessment

The grassland habitats at the Site offer suitable habitat for ground-nesting bird species such as Skylark, Lapwing and Corn Bunting. However, until November 2021 the Site was managed intensively as part of the dairy farming operations, and therefore the quality of the habitats for ground nesting birds has only relatively recently increased.

The woodland belt within the Site, hedgerows along Sewall Drive and adjacent woodland habitats of Stoke Park Wood offer good quality nesting habitat for a wide array of tree and scrub nesting species.

3.7.3 Breeding bird survey results

In total, 45no. species of bird were recorded during the surveys, including 31no. species which were either breeding within the Site or likely to use the Site as part of wider breeding territories (for example nesting off-site but using the Site to find food for young). 14no. species were recorded but thought unlikely to use the Site for breeding or regular foraging during the breeding season, which include some birds recorded flying over the Site only.

Notable breeding birds recorded using the Site during the breeding bird surveys are listed in Table 1 below.

Table 1: Notable bird species recorded breeding at the Site

COMMON NAME	SCIENTIFIC NAME	ANNEX I	WCA 1	NERC 41	BoCC5 (2021)	BREEDING STATUS AT SITE
Woodpigeon	<i>Columba palumbus</i>				Amber	Probable
Hobby	<i>Falco subbuteo</i>		Y		Green	Probable (adjacent woodland only)
Wren	<i>Troglodytes troglodytes</i>				Amber	Probable
Starling	<i>Sturnus vulgaris</i>			Y	Red	Probable
Song Thrush	<i>Turdus philomelos</i>			Y	Amber	Probable
House Sparrow	<i>Passer domesticus</i>			Y	Red	Probable
Mistle Thrush	<i>Turdus viscivorus</i>				Red	Possible
Dunnock	<i>Prunella modularis</i>			Y	Amber	Possible
Grey Wagtail	<i>Motacilla cinerea</i>				Amber	Possible

Bullfinch	<i>Pyrrhula pyrrhula</i>			Y	Amber	Possible
Greenfinch	<i>Carduelis chloris</i>				Red	Possible

Annex I: Bird species listed on Annex I of the EC Birds Directive.

WCA 1: Birds listed on Schedule 1 of The Wildlife and Countryside Act (1981)

NERC 41: Birds listed on Section 41 of the NERC Act (2006) as Species of Principal Importance

BoCC5: Birds of Conservation Concern 5 (Stanbury et al., 2021) – green, amber or red listed, or Introduced (N/A)

The full list of bird species recorded during the breeding bird surveys in 2023 with a summary of their breeding statuses at the Site, behaviours and locations of records, are provided in the table in Appendix III.

Hobby *Falco subbuteo*, was the only bird recorded which is listed on Schedule 1 of the Wildlife and Countryside Act (as amended) and was a probable breeder, likely nesting within woodland off-site to the south-west of the Site and frequently using the Site for foraging.

It was noted that the vast majority of bird activity recorded during the surveys was associated with the off-Site woodland habitats to the south and west of the Site (Stoke Park Woods), hedgerows bordering the Site and farm buildings to the north-east. Few records of birds were recorded within the Site itself during each visit, which comprises mainly grassland habitats with small areas of woodland and hedgerow with trees within its boundaries. A number of species recorded breeding within adjacent habitats are likely to use the Site's habitats occasionally for foraging, particularly as young start to disperse. The habitats of greatest value for birds within the Site are the hedgerows along the track to the north and strip of woodland which protrudes into the northern half of the Site. However, some species such as Woodpigeon, Swallow *Hirundo rustica* and wagtail species *Motacilla* sp. will typically forage in/over open habitats including grassland.

No ground nesting species associated with farmland habitats, such as Skylark *Alauda arvensis*, were recorded during the surveys. This may be due to the nature of past management through intensive grazing, but this species may begin to use the Site under improved management.

3.7.4 Wintering birds

The Site, being dominated by improved agricultural grassland with small areas of young woodland and mature hedgerows with trees, are typical of other farmland habitats in the surrounding area and are unlikely to provide opportunities for wintering birds that are of particularly high value locally. Small sections of hedgerows and woodland within the Site boundary do have some value as connective habitats between areas of woodland nearby.

3.8 REPTILES

3.8.1 Desk study

The HBIC data search for within 2km of the Site returned 3no. records of Slow-worm *Anguis fragilis*, 2no. records of Barred Grass Snake *Natrix helvetica*, and 1no. record of Common Lizard *Zootoca vivipara* between 2014 and 2020.

3.8.2 Habitat assessment

The grassland habitats at the Site are largely considered to be of low to moderate suitability for supporting reptile populations due to the historical regular disturbance of the land through farming practices, regular management of the grass area adjacent to the cemetery car park, and the distinct lack of a litter layer in the sward to provide opportunities for cover / refuge. Nevertheless, reptiles may occupy the denser / less disturbed woodland edge habitats.

3.9 GREAT CRESTED NEWT/AMPHIBIANS

3.9.1 Desk study

4no. records of Great Crested Newt were returned by HBIC for within 2km of the Site. All records were approximately 1.7-1.8km from the Site, in locations to the north-east and south-east respectively. A record from approximately 1.8km south-east included a maximum population count of 300no. individuals. Common Toad *Bufo bufo* have also been recorded within the local area.

Bottle trapping presence/absence surveys for Great Crested Newt were undertaken in April and May 2012 (Terence O'Rourke Ltd, 2013) in relation to the adjacent residential development to the west. Surveys were undertaken of 3no. ponds within 250m, including the Bow Lake Fish Farm to the north and a pond located within Stoke Park Wood. No Great Crested Newt were recorded during surveys of these ponds.

3.9.2 Habitat assessment

Due to the pond present within the Site offering potentially suitable aquatic habitat for Great Crested Newt, along with adjacent suitable terrestrial habitats in the form of woodland and grassland, water samples were collected from this waterbody for analysis for Great Crested Newt eDNA by an accredited laboratory (SureScreen Scientific Ltd). Water samples were collected by Tamsyn Bridger ACIEEM on 31/05/2023 and a laboratory analysis report was generated by Surescreen Scientifics Ltd on 12/06/2023 returning a negative result (0 positive replicates). The report is provided in Appendix III.

3.10 INVERTEBRATES

3.10.1 Desk study

Records of notable invertebrate species were provided by HBIC for within 2km of the Site, including 23no. Species of Principal Importance (NERC Act, 2006) such as Southern Damselfly *Coenagrion mercuriale* and White-letter Hairstreak *Satyrrium w-album* (both of which are also classed as endangered on the IUCN Red List of Threatened Species).

3.10.2 Habitat assessment

The grassland habitats and bordering woodland habitats appear to be of low to moderate value for invertebrates and are likely to support a good diversity of common and widespread invertebrate species, but scarce and threatened species are considered unlikely to be present here based on the intensive farming practices in use at the Site until November 2021.

3.11 PLANTS

3.11.1 Desk study

Eight records of notable plant species were provided by HBIC for the desk study area, none of which pertain to the Site. These include nationally scarce species such as Annual Beard-grass *Polypogon monspeliensis*, Lesser Quaking-grass *Briza minor*, Red Hemp-nettle *Galeopsis angustifolia*, Stinking Hellebore *Helleborus foetidus* and Welsh Poppy *Meconopsis cambrica*.

3.11.2 Survey results

No protected or notable plant species were recorded at the Site during the surveys.

3.12 OTHER SPECIES

Potential for other protected/ priority species to occur within habitats at the Site has been assessed as follows.

3.12.1 Hedgehog

The tall grassland and woodland edge habitats offer suitable foraging habitat for Hedgehog. Multiple records of Hedgehog in the Bishopstoke area were returned within the HBIC data search and they are therefore known to be present in the locality.

3.12.2 Invasive plant species

No non-native invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded within the Site.

3.13 ECOLOGICAL EVALUATION

Table 2 below provides an analysis of the value of potential ecological receptors described in Sections 3.1-3.10. The valuation of the receptor takes into account factors such as legal protection, local and national conservation status, population trends, range and distribution, diversity, connectivity and rarity (CIEEM, 2018).

Table 2: Evaluation of ecological receptors at Site

ECOLOGICAL RECEPTOR	VALUE	REASON
Designated sites		
River Itchen SAC / SSSI	International	Determined by the site's statutory designation.
Adjacent/nearby SINC's (including Stoke Park Wood and Judges Gully Copse)	County	Determined by the sites' non-statutory designation.
Habitats		
g3c – other neutral grassland	Site	Of limited value in its current state due to recent history of intensive farming / regular disturbance limiting formation of complex sward structure.
g4 – modified grassland	Site	Of limited value due to regular management as amenity grassland.

ECOLOGICAL RECEPTOR	VALUE	REASON
w1g – other woodland; broadleaved	Local	Of value as part of woodland habitat across the wider landscape. Of value as connecting habitat / landscape stepping stone.
r1a – pond (Priority Habitat)	Local	Habitat of Principal Importance under the NERC Ac 2006. Valuable local resource for wildlife as part of habitat mosaic within the wider landscape.
h2a – hedgerows (Priority Habitat)	Local	Habitat of Principal Importance under the NERC Ac 2006 due to being comprised of over 80% native woody species. Of value as connecting habitat within the wider landscape.
u1b / u1c – roads, car park and gravel tracks	Negligible	Limited intrinsic ecological value.
Protected and notable species		
Bats (roosts)	Local	No detailed assessment of trees for bat roosting potential was undertaken as part of the current survey scope. Assigned local value on a precautionary basis due to potential for trees in woodland belt / adjacent woodland habitat to contain features suitable for supporting roosts.
Bats (commuting/ foraging)	Local	Grassland habitats likely to support some suitable invertebrate prey assemblages for bat foraging, however these are unlikely to be significant due to the low proportion of flowering forbs within the grassland sward. Woodland edge habitats considered likely to be utilised for foraging and commuting by small numbers of bats on a regular basis.
Hazel Dormouse	Site	Likely locally absent, or if present only in very low numbers / at low density. Suitable habitats present and known to be available in wider landscape.
Badger	Local	Known Badger presence within the Site, possible remnant main sett but likely to currently only be utilised as outlier sett.
Otter	None	Unlikely to utilise the Site or immediate adjacent surrounds.
Water Vole	None	Unlikely to utilise the Site or immediate adjacent surrounds.
Birds	Local	The Site provides a moderately large area of habitats of relatively low value for birds for the area. Low numbers of breeding birds typical of woodland edge and farmland habitats were recorded regularly using the Site itself during the breeding bird surveys, with Hobby being the most notable. The Site does have value by contributing to a mosaic of habitats in combination with adjacent woodland and provides connective habitats for woodland species through the landscape.
Reptiles	Site	Habitats unlikely to support significant resident populations due to structure / regular recent management, but may contribute to local foraging / hunting opportunities.
Great Crested Newt	Site	Absent from the pond on Site (confirmed by eDNA testing). Likely to be absent in the immediate local area. Suitable habitat available.
Other amphibians	Local	Priority Habitat pond present within Site, along with good availability of nearby terrestrial habitat.
Invertebrates	Site	Habitats likely to support common and widespread invertebrate species assemblages but unlikely to support protected, rare or notable invertebrates due to recent intensive farming practices.

ECOLOGICAL RECEPTOR	VALUE	REASON
Plants	Site	No protected or notable plant species recorded. Unlikely to be significant botanical value beyond the Site level due to recent intensive farming practices.
Hedgehog	Local	Site may offer foraging opportunities for local populations in association with adjacent woodland habitats.

4 ECOLOGICAL IMPACT ASSESSMENT/AVOIDANCE & MITIGATION MEASURES

Ecological impacts on ecological receptors and avoidance/mitigation and enhancement measures to address them are summarised in Table 3 below.

Table 3: Ecological impacts by ecological receptor and associated avoidance/mitigation and enhancement measures

ECOLOGICAL RECEPTOR	PHASE	POTENTIAL IMPACTS	MITIGATION/AVOIDANCE/ENHANCEMENT MEASURES	RESIDUAL EFFECTS
River Itchen SAC	Construction	Risk of increased sediment or pollution incidents entering local drainage network during catchment.	Standard pollution prevention measures will be implemented during the construction phase to mitigate any impacts due to spillages etc.	Not considered to be significant. See "information to support HRA" document for details.
	Operation	Risk of increased run-off entering catchment due to creation of car park.	Water drainage strategy integrated into design proposals, including swales and attenuation pond. Please refer to relevant drawings and technical notes (Clarkebond, 2023).	
Adjacent Stoke Park Wood and Judges Gully Copse SINC	Construction	Damage to trees; compaction or damage to root systems; air and noise pollution.	Erection of Heras or similar protective fencing around Root Protection Zones (RPZs) where significant ground works are anticipated (i.e. car park and adjacent dog exercise area) to avoid compaction by vehicles and accidental damage of retained habitats. No materials to be stored within RPZs. Standard pollution prevention measures and best practice working methods to be incorporated into main contractor's CEMP. Implementation of site lighting curfews during construction (i.e. no night working).	Probable no negative long-term impacts
	Operation	None anticipated.	None required.	
Grassland	Construction	Permanent loss of up to 0.07ha of grassland as a result of creation of the new footpaths, and temporary loss of up to 1.43ha	Restricting working area within the retained grassland habitats during creation of the new footpaths with storage of material limited to area close to site access on the northern boundary.	Near certain significant positive long-term impacts

ECOLOGICAL RECEPTOR	PHASE	POTENTIAL IMPACTS	MITIGATION/AVOIDANCE/ENHANCEMENT MEASURES	RESIDUAL EFFECTS
		during ground works to create attenuation features and paths (edges). Approximately 0.04ha of this will be reinstated as amenity grassland within the picnic area. The remainder will be re-instated as species-rich wildflower grassland in keeping with the enhanced retained grassland.	Re-seeding of grassland with wildflower-rich seed mixture during preliminary habitat enhancement works.	
	Operation	Habitat enhancement through appropriate management.	Implementation of appropriate long-term management regime in line with the prescriptions set out within the accompanying LEMP (EBLA, 2023).	
Woodland	Construction	Risk of direct physical damage to trees by the movement of vehicles or materials; Damage to root systems of trees through compression by vehicles or storage of materials; Disturbance of wildlife utilising these habitats; Construction-related dust impacting on health of vegetation by coating of leaves. Creation of 0.25ha of native Oak dominated woodland along the western boundary of the Site.	Erection of Heras or similar protective fencing around areas outside of the attenuation features construction zone to avoid compaction by vehicles and accidental damage. No materials to be stored within RPZs of trees. Standard pollution prevention measures and best practice working methods to be incorporated into main contractor's CEMP. No direct lighting of trees within woodland during construction. Implementation of site lighting curfews during construction.	Probable long-term significant positive impact.
	Operation	Targeted appropriate long-term management.	Implementation of appropriate long-term management regime for woodland habitats in line with the prescriptions set out within the accompanying LEMP (EBLA, 2023).	
Pond	Construction	Risk of sediment entering the pond during path construction.	Standard pollution prevention measures and best practice working methods to be incorporated into main contractor's CEMP.	Not significant.

ECOLOGICAL RECEPTOR	PHASE	POTENTIAL IMPACTS	MITIGATION/AVOIDANCE/ENHANCEMENT MEASURES	RESIDUAL EFFECTS
	Operation	Risk of increased litter entering pond and impacting aquatic fauna. Provision of additional permanent water features in form of attenuation pond.	Provision of bins at the Site to encourage site users to appropriately dispose of rubbish.	
Hedgerow	Construction	Risk of direct physical damage to hedgerow and hedgerow trees by the movement of vehicles or materials; Damage to root systems of trees through compression by vehicles or storage of materials; Disturbance of wildlife utilising these habitats; Construction-related dust impacting on health of vegetation by coating of leaves.	Erection of Heras or similar protective fencing around hedgerows prior to start of works, to avoid compaction by vehicles and accidental damage. No materials to be stored within the works exclusion area. Implementation of site lighting curfews during construction (i.e. no night working).	Probable long-term moderate positive impact.
	Operation	Creation of up to 204m of new hedgerow planting. Targeted appropriate long-term management.	Implementation of appropriate long-term management regime for hedgerow habitats in line with the prescriptions set out within the accompanying LEMP (EBLA, 2023).	
Bats (roosts)	Construction	Possible risks from light and noise pollution (assumed on a precautionary basis).	No direct lighting of trees during construction. Implementation of site lighting curfews during construction.	Long-term minor positive impact.
	Operation	None anticipated.	Additional bat roosting provisions to be provided in the form of bat boxes on mature retained trees. Minimum provision of 6no. boxes.	
Bats (commuting/ foraging)	Construction	Light pollution.	No direct lighting of woodland edge / retained hedgerow habitats, to maintain bat flight routes across the site Implementation of site lighting curfews during construction.	Long-term moderate positive impact.

ECOLOGICAL RECEPTOR	PHASE	POTENTIAL IMPACTS	MITIGATION/AVOIDANCE/ENHANCEMENT MEASURES	RESIDUAL EFFECTS
	Operation	Increased invertebrate prey availability. Increased habitat connectivity via creation of new scrub and woodland planting.	Implementation of appropriate long-term management regime for grassland habitats in line with the prescriptions set out within the accompanying LEMP (EBLA, 2023).	
Hazel Dormouse	Construction	Low risk of death/injury to individuals as a result of removal of hedgerow habitat during creation of new access point and vehicle passing places on Sewall Drive.	Appropriately licenced ecologist to undertake a precautionary pre-works inspection of vegetation immediately prior to removal.	Not significant / possible minor positive.
	Operation	None anticipated.	No specific actions required. Management of hedgerows on rotation will ensure habitat always available on Site. Provision of additional suitable habitat once new hedgerows are fully established.	
Badger	Construction	Known setts fall sufficient distance from areas where ground works are proposed to avoid major impacts on these. Risk of new setts forming close to ground works area prior to commencement.	Ecologist to undertake pre-commencement survey for formation of Badger setts within any areas proposed for mechanical ground works, and (where accessible) and additional 30m buffer zone. Contractors to be made aware of the presence of Badgers at the Site and potential for formation of new setts. Project ecologist to be contacted immediately on discovery of new mammal holes for further inspection and advice.	
	Operation	Restricting movement of Badgers through installation of new fencing. Increased presence of dogs on Site. Enhanced foraging opportunities within the Site. Disturbance through increased presence of dogs and people at the Site.	Any newly introduced fencing must include continuous or regular gaps of 200mm wide by 300mm high to allow for continued movement of Badgers in and out of the Site.	

ECOLOGICAL RECEPTOR	PHASE	POTENTIAL IMPACTS	MITIGATION/AVOIDANCE/ENHANCEMENT MEASURES	RESIDUAL EFFECTS
Birds	Construction	Loss of nesting habitat during creation of new site access points and road passing places. Light and noise pollution. No impacts on Schedule 1 birds expected due to distance of potential nesting sites from works.	Any proposed clearance of woodland, scrub or hedgerow habitats should be undertaken outside of the nesting period (i.e. between September and February inclusive). Should this work be required to be undertaken between March and August inclusive, it should be preceded by a nesting check by an experienced ecologist no more than 24hrs prior to removal. Implementation of site lighting curfews during construction (i.e. no night working).	Long-term moderate positive impact.
	Operation	Risk of damage to nests during management activities. Improved foraging opportunities.	Management activities in relation to woodland, scrub or hedgerow habitats should be undertaken outside of the nesting period (i.e. between September and February inclusive). Additional bird nest boxes to be provided on mature retained trees. Minimum provision of 6no. boxes.	
Reptiles / amphibians	Construction	Low risk of presence in grass sward during habitat enhancement works.	Cutting back sward in late-summer to height of no less than 10-15cm prior to tilling for habitat enhancement works. Mowing to be undertaken no less than 24hrs prior to tilling to allow any reptiles present to move out of the area of works. Grass sward to be kept closely mown in areas proposed for groundworks in the lead up to construction activities to ensure reptiles do not colonise the habitats ahead of works.	Probable long-term moderate positive impact.
	Operation	Risk of presence in grass sward during management works. Increased availability of suitable habitat at the Site.	Mowing undertaken as part of regular ongoing management in the long-term should be undertaken to a height of no less than 10-15cm. Implementation of appropriate long-term management regime for grassland habitats in line with the prescriptions set out within the accompanying LEMP (EBLA, 2023).	

ECOLOGICAL RECEPTOR	PHASE	POTENTIAL IMPACTS	MITIGATION/AVOIDANCE/ENHANCEMENT MEASURES	RESIDUAL EFFECTS
			Log piles and hibernacula should not be disturbed during winter months when they may be used for hibernation purposes.	
Hedgehog	Construction	No significant impacts anticipated.	None required.	Probable minor positive impact.
	Operation	Enhancement of habitats for the species.	Log piles and brash piles should not be disturbed during winter months when they may be used for hibernation purposes.	

5 BIODIVERSITY NET GAIN

5.1 PLANNING POLICY AND LEGISLATION

Biodiversity Net Gain (BNG) is the principle that 'development that leaves biodiversity in a better state than before'. The recently enacted Environment Act 2021 now makes Biodiversity Net Gain a mandatory part of the development process. Local Planning Authorities (LPAs) have been given until November 2023 to fully implement this legislation. However, most have already made BNG a requirement of new planning applications through local planning policy.

In respect of development proposals, national planning policy now states that planning applications need to demonstrate measurable net gains for biodiversity. The National Planning Policy Framework (NPPF, 2021) states that the planning system should:

'contribute to and enhance the natural and local environment by ...minimising impacts on and providing net gains for biodiversity...'. NPPF 2021 Paragraph 180 (d) states 'opportunities to improve biodiversity in and around developments should be integrated as part of their design especially where this can secure measurable net gains for biodiversity..'

Recent guidance on Biodiversity Net Gain (Baker et al., 2019) states the following:

'When designing Biodiversity Net Gains (BNG), good practice is achieving net gains in features of the same or higher biodiversity value of those affected by the development. It is also to achieve at least equivalent or better levels of ecological functionality and, overall, to improve the extent or condition of biodiversity affected by a project (or the biodiversity within or surrounding a project footprint if no negative impacts are incurred).'

5.2 BIODIVERSITY NET GAIN REQUIREMENTS

Under the Environment Act 2021 and planning policy, planning proposals will be required to demonstrate that a measurable net gain in biodiversity of at least 10% will be achieved, however pre-November 2023 Eastleigh Borough Council have confirmed that a gain of any size would be acceptable.

The biodiversity units gains are measured through the use of the DEFRA Biodiversity Metric calculation tool (4.0 at the time of writing). The Metric calculations are accompanied by the production of a Landscape Ecological Management Plan (LEMP) (EBLA, 2023), detailing the implementation and management of enhanced and newly created habitats to maximise their long-term value to wildlife and ensuring the calculated post-development BNG will be achieved.

Biodiversity Net Gain calculations for the development and landscaping and habitat enhancement proposals have been undertaken using the Defra Metric 4.0 in line with guidance. Baseline habitat units have been based on the results of the UK Habitat Classification using the Metric 4.0 tool guidelines.

5.3 DEFRA BIODIVERSITY NET GAIN (BNG) METRIC RESULTS

The completed DEFRA Metric 4.0 calculations have been provided separately as part of the planning application. The completed Metric confirms that the projected biodiversity net gain for the Site post-development is anticipated to be well in excess of the targeted 10%. Headline results from the Metric calculations are provided below. These gains will be achieved as a result of the habitat enhancement and long-term management works in support of the SANG objectives.

These results are based on the inclusion of the following key habitat compensation / enhancements as per LEMP prescriptions (EBLA, 2023) and submitted landscape masterplan (ref: 23036-CO-LP-1-01-REV-3):

- Enhancement of grassland habitats through overseeding using a species-rich native wildflower mix;
- Long-term management of the grassland habitats as wildflower meadow;
- Rotational management of retained hedgerows on a 3-year cycle;
- Appropriate long-term management of retained woodland habitats;
- Native tree planting (33no.);
- Creation of 204m of species-rich native hedgerow.

BNG METRIC 4.0 HEADLINE RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	52.35
	<i>Hedgerow units</i>	1.11
	<i>Watercourse units</i>	n/a
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	<i>Habitat units</i>	58.11%
	<i>Hedgerow units</i>	105.30%
	<i>Watercourse units</i>	n/a
Trading rules satisfied?	Yes ✓	

6 BIODIVERSITY ENHANCEMENTS

The following biodiversity enhancements are proposed for inclusion at the Site, in addition to the habitat creation / enhancement and management detailed within the accompanying LEMP in relation to grassland, woodland, hedgerows and attenuation features.

Table 4: Proposed ecological features

Log piles	
Arisings from habitat management will be used to create habitat piles including logs and brash. These will be located in areas of rough grassland in sunny positions to provide foraging and refuge opportunities for reptiles, amphibians, invertebrates, and a range of other species such as Hedgehog. Proposed locations are indicated on the accompanying landscape masterplan (ref: 23036-CO-LP-1-01-REV-3).	
Reptile hibernacula	
To be created in sunny, well-drained positions. Construction will involve digging a pit 50cm deep and 1.5m wide, setting the topsoil grass turves aside. The void should then be loosely filled with logs, stones, branches, brash and leaf mulch and the soil and retained grass turves placed over the top, leaving edges exposed. The final height should be about 50cm above ground level. Proposed locations are indicated on the accompanying landscape masterplan (ref: 23036-CO-LP-1-01-REV-3).	 Hibernaculum mid-construction (credit: Burton Reid Associates)
Bird nest boxes	
Additional enhancement measures will include a selection of bird nesting boxes (e.g. Schwegler 1B / Vivara Pro Seville WoodStone nest box or similar). These should be sited on mature or semi-mature trees at least 3m off the ground and north- to east- facing (orientation less crucial within areas of shaded woodland). Proposed general locations are indicated on the accompanying landscape masterplan (ref: 23036-CO-LP-1-01-REV-3).	 Source: www.nhbs.com

Bat boxes

Additional enhancement measures will include a selection of bat roost boxes (e.g. Schwegler 2F / Vivara Pro WoodStone bat box / Isabella bat box or similar).

These should be sited on mature or semi-mature trees at least 3-4m off the ground and south- to west- facing (orientation less crucial within areas of shaded woodland).

Proposed general locations are indicated on the accompanying landscape masterplan (ref: 23036-CO-LP-1-01-REV-3).



Source: www.nhbs.com

Scrapes / wet flushes

Shallow depressions to be created in low-lying areas of the Site, with slopes no greater than 1:20. Scrapes to be re-seeded with species-rich wet grassland seed mix.

The scrapes are considered likely to hold water during periods of heavy rainfall, and will provide supplementary habitat feature for a range of invertebrates.



7 CONCLUSIONS

Based on the findings and recommendations of this assessment, with proposed biodiversity avoidance, mitigation and compensation measures in place, it is concluded that the development as proposed would have no likely significant effects or adverse impacts on biodiversity, and indeed is projected to result in a significant positive impact on local wildlife and availability of ecologically valuable resources within the local area.

With recommended enhancement and management measures in place it is demonstrated that the proposals for the Site would achieve a 58.11% biodiversity net gain in respect of habitats, and a 105.30% biodiversity net gain in respect of hedgerows, as measured by DEFRA's Biodiversity Metric 4.0 calculation tool (Burton Reid Associates, 2023).

It can therefore be concluded that the development as proposed meets the relevant legislation and policy requirements in accordance with the Eastleigh Borough Council Local Plan 2016-2036, the Environment Act 2021, the NPPF 2021 and NERC Act 2006.

8 REFERENCES

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9 APPENDICES

Appendix I: Legislation and Planning Policy

This report has been produced with reference to the following relevant wildlife and environmental legislation and planning policy.

LEGISLATION/ PLANNING POLICY	LINK
The Environment Act 2021. Part 6: Nature and Biodiversity	https://www.legislation.gov.uk/ukpga/2021/30/pdfs/ukpga_20210030_en.pdf
The Conservation of Habitats and Species Regulations 2017 (as amended)	https://www.legislation.gov.uk/uksi/2017/1012/contents/made
The Wildlife and Countryside Act (W&CA) 1981 (as amended)	http://www.legislation.gov.uk/ukpga/1981/69/contents
Countryside and Rights of Way (CRoW) Act 2000	http://www.legislation.gov.uk/ukpga/2000/37/contents
Natural Environment and Rural Communities (NERC) Act 2006	http://www.legislation.gov.uk/ukpga/2006/16/contents
ODPM Circular 06/2005: Biodiversity and Geological Conservation	https://www.gov.uk/government/publications/biodiversity-and-geological-conservation-circular-06-2005
Eastleigh Borough Council Local Plan 2016-2036	https://www.eastleigh.gov.uk/planning-and-building/planning-policy-and-implementation/local-plan
Eastleigh Borough Council: Biodiversity Supplementary Planning Document (SPD), adopted Dec 2009.	https://www.eastleigh.gov.uk/planning-and-building/planning-policy-and-implementation/planning-policy-guidance/supplementary-planning-documents
UK Post 2010 Biodiversity Framework	http://jncc.defra.gov.uk/pdf/UK_Post2010_Bio-Fwork.pdf
National Planning Policy Framework (2021 update)	https://www.gov.uk/government/publications/national-planning-policy-framework--2

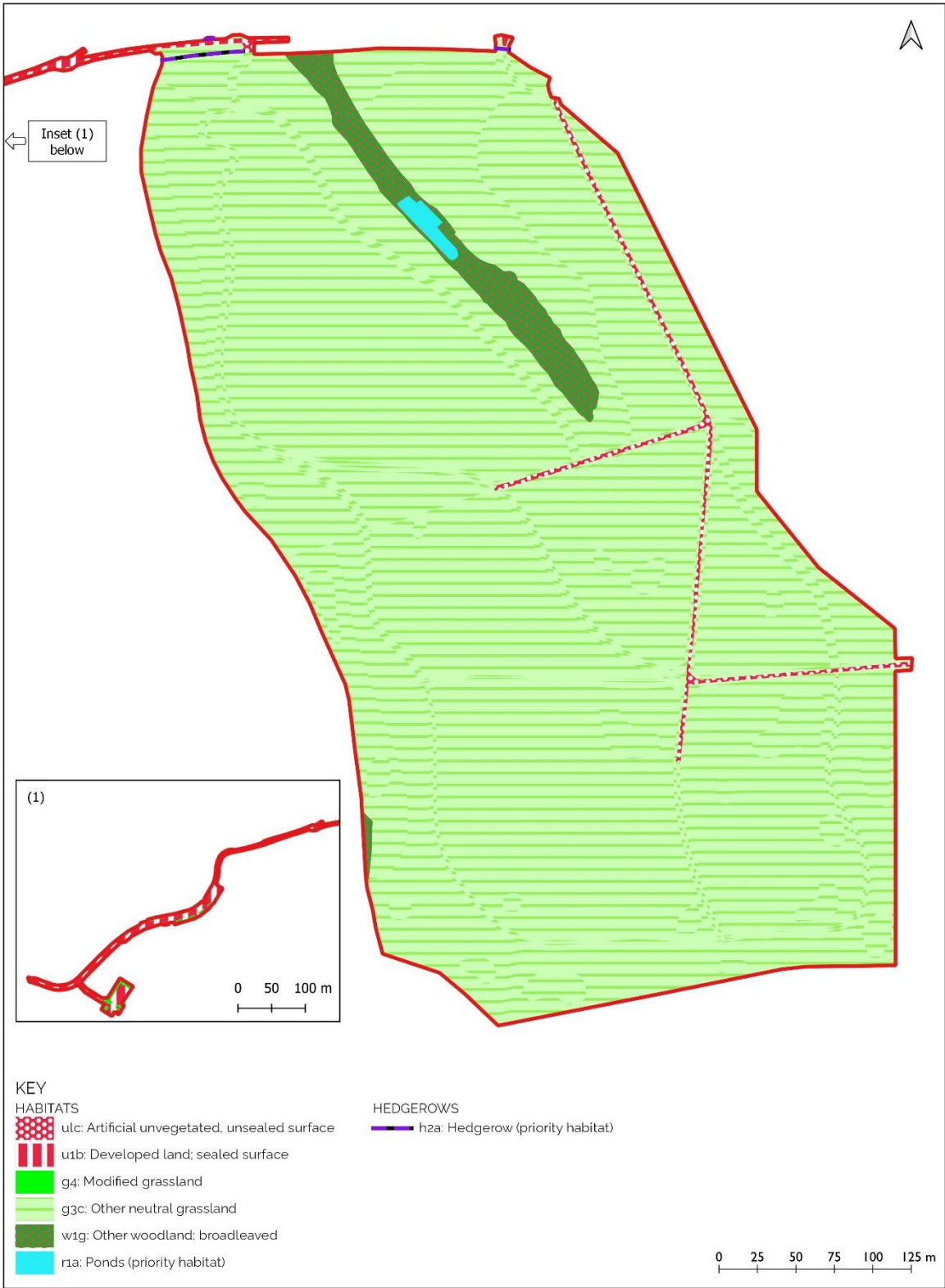
The most relevant legislation pertaining to each of the protected species described within this document is given in the table below.

SPECIES	LEGISLATION	PROTECTION
Bats (all species)	Sch.5 of The Wildlife and Countryside Act 1981 (as amended)	It is an offence to: - Intentionally or deliberately take, kill or injure a bat; - Damage, destroy or obstruct access to bat roosts; - Deliberately disturb bats in a resting place or roost.
	Conservation of Habitats and Species Regulations 2017 (as amended)	
Hazel Dormouse	Sch.5 of The Wildlife and Countryside Act 1981 (as amended)	It is an offence to: - Intentionally or deliberately take, kill or injure; - Damage, destroy or obstruct access to any structure or place used for shelter or protection; - Disturb an animal occupying such a structure or place.
	Conservation of Habitats and Species Regulations 2017 (as amended)	
Great Crested Newt	Sch.5 of The Wildlife and Countryside Act 1981 (as amended)	It is an offence to: - Intentionally or deliberately take, kill or injure; - Damage, destroy or obstruct access to any structure or place used for shelter or protection; - Disturb an animal occupying such a structure or place.
	Conservation of Habitats and Species Regulations 2017 (as amended)	

SPECIES	LEGISLATION	PROTECTION
Reptiles*	Sch.5 of The Wildlife and Countryside Act 1981 (as amended)	Part of sub-section 9(1) and all of sub-section 9(5) apply; Prohibits the intentional killing and injuring of reptile species
Badgers	The Protection of Badgers Act 1992	It is an offence to: - intentionally or recklessly damage, destroy or obstruct access to a sett; and - to disturb a Badger whilst it is occupying a sett.
Nesting birds (all species)	The Wildlife and Countryside Act 1981 (as amended)	It is an offence to: - Kill, injure, or take any wild bird; - Take, damage or destroy the nest of any wild bird while that nest is in use or being built; - Take or destroy an egg of any wild bird.
Non-native invasive plants	Sch.9 of The Wildlife and Countryside Act 1981 (as amended)	It is an offence to: Plant, or otherwise cause to grow, in the wild any plant species listed on Schedule 9.

* Excludes Sand Lizard and Smooth Snake for which a higher level of protection is granted. These species were not considered here, as no suitable habitat was available for them and the Site falls outside of their recorded range.

Appendix II: UK Habitat Classification survey map (pre-development)



BURTON REID
ASSOCIATES
ECOLOGY & LANDSCAPE

Site: Stoke Park Farm SANG, Eastleigh

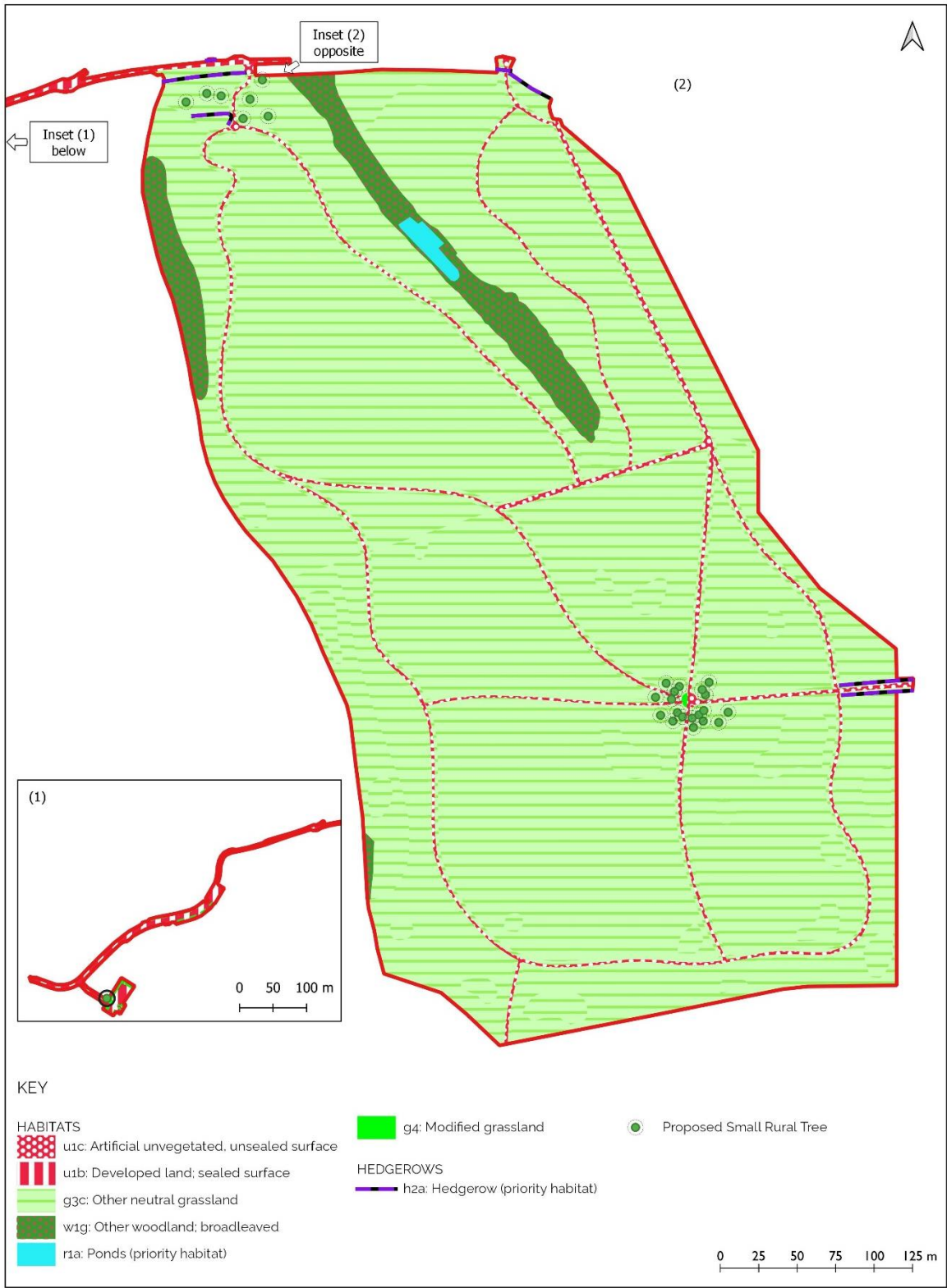
Client: Eastleigh borough Council

BY GY | DOC REF BR0813/EclA/B | REV. B

Plan: UK Habitat Classification (pre-development)

Date March 2024

Appendix III: Post-development habitat map (as per BNG)



BURTON REID
ASSOCIATES
ECOLOGY & LANDSCAPE

Site: Stoke Park Farm SANG, Eastleigh

Client: Eastleigh borough Council

BY GY | DOC REF BR0813/EclA/B | REV. B

Plan: Post development habitat plan

Date March 2024

Appendix IV: Breeding Bird Survey methodology and results

Breeding bird surveys were undertaken at the Site during the 2023 active bird nesting period. Surveys methods utilised were based on the Common Bird Census (CBC) methodology (Marchant *et al.*, 1990), and included 4no. survey visits between early June and mid-July.

Surveys were undertaken by Alex Leishman MCIEEM and Gareth Knass MCIEEM who are both experienced ornithologists with over 10 years' and 20 years' experience respectively in the field of ecological consultancy. All birds seen or heard were recorded onto base maps along with their behaviour (e.g. singing males or family groups), using territory mapping methods (Bibby *et al.*, 2000) and the standardized BTO two-letter species and activity codes/symbols to indicate the location of the sighting along with details of the behaviour being recorded.

Surveys were commenced in the early mornings when bird activity is typically highest. The starting point and the direction of travel during each survey was altered on each visit so that different areas of the Site could be surveyed at different times. Days with heavy rainfall and/or strong winds were avoided, as these conditions affect detection of birds. Birds were generally first detected by ear or with the naked eye and then confirmed using high magnification binoculars as required.

Post-survey data processing included examining survey maps for potential proof of breeding by the species and behaviour recorded and to help establish likely numbers of territories, in line with territory mapping methods detailed in Bibby *et al.* (2000). Using this method, breeding can often be determined where behaviour associated with nesting or territorial activity is recorded in the same area on multiple surveys within the same breeding season. Recorded breeding activity was then be classified as confirmed, probable and possible with criteria as per Gilbert *et al.*, (1998). The dates of the survey visits completed to date are provided in Table 5 below.

Table 5: Dates and weather conditions of breeding bird surveys

Visit no.	Date	Weather*	
1	06/06/2023 (Time: 05:40 - 7:30)	Temp: 15.1 – 16.7°C Cloud cover: 1/8	Wind: -4 Rain: None
2	18/06/2023 (Time: 05:00 – 07:15)	Temp: 16 – 18°C Cloud cover: 7-2/8	Wind: 1 Rain: None
3	30/06/2023 (Time: 05:00 – 07:00)	Temp: 11.5 – 13°C Cloud cover: 6/8	Wind: 1 – 2 Rain: None
4	12/07/2023 (Time: 05:20 – 07:20)	Temp: 16°C Cloud cover: 2/8	Wind: 1 Rain: None

Constraints

Due to delay in project instruction, surveys were commenced relatively late in the breeding bird period, and therefore it is feasible that early-nesting birds / species may have been missed. However, all surveys were completed within the required window. Given the scope of the proposed works will result in the improvement of habitats on Site, the constraints are not considered likely to be significant to the overall impact assessment.

Table 6: Breeding bird surveys results

Common Name	Scientific Name	Annex I	WCA 1	NERC 41	BoCC5 (2021)	Breeding status at Site	Notes
Mallard	<i>Anas platyrhynchos</i>					NB	Two birds flying over field on one occasion. No recorded breeding activity associated with Site.
Pheasant	<i>Phasianus colchicus</i>					NB	Recorded twice along track off-Site to east of Site.
Buzzard (Common)	<i>Buteo buteo</i>					Confirmed	Individuals including juvenile recorded foraging over north of Site. Breeding in woodland to west of Site.
Black-headed Gull	<i>Chroicocephalus ridibundus</i>					NB	Fly overs only
Herring Gull	<i>Larus argentatus</i>					NB	Fly overs only
Feral Pigeon	<i>Columba livia (domest.)</i>					NB	Possible breeding territory associated with farm buildings to the north-east of the Site. No activity recorded within Site.
Stock Dove	<i>Columba oenas</i>					NB	1no. Individual recorded on fourth visit only. No breeding activity recorded though may breed within farm buildings and forage in woodland habitats nearby.
Woodpigeon	<i>Columba palumbus</i>					Probable	Up to 31 individuals recorded and around 14no. Breeding territories, mainly within wooded habitats within and bordering the Site with foraging also within grassland areas within the Site. Up to 14no. Territories recorded.
Collared Dove	<i>Streptopelia decaocto</i>					Probable	Breeding territory associated with farm buildings to the north-east of the Site. Possible foraging within Site.
Swift	<i>Apus apus</i>					NB	Individual recorded flying over Site on one visit only. No breeding activity recorded nearby. Likely to occasionally forage in sky over Site.
Green Woodpecker	<i>Picus viridis</i>					Possible	Only recorded once in grassland just to north-east of Site. Possible breeding nearby and foraging within the Site.
Great Spotted Woodpecker	<i>Dendrocopos major</i>					NB	Recorded in woodland bordering to west. No breeding activity or foraging within Site.
Hobby	<i>Falco subbuteo</i>					Probable	1no. probable breeding territory associated with woodland to south-west of Site. Recorded regularly in south-west corner of Site and over edge of woodland. Use of Site for foraging.
Magpie	<i>Pica pica</i>					Probable	Occasionally recorded along hedgerows, woodland edges and grassland areas of the Site.
Jay	<i>Garrulus glandarius</i>					Possible	Occasionally recorded along hedgerow with trees along northern boundary of Site and within woodland to west of Site.
Carrion Crow	<i>Corvus corone</i>					Possible	Recorded foraging in Site. Possible breeding in adjacent woodland.
Raven	<i>Corvus corax</i>					NB	Fly over only
Goldcrest	<i>Regulus regulus</i>					Possible	Occasion to frequent records along woodland edges bordering Site and once in woodland strip in central north of Site.

Common Name	Scientific Name	Annex I	WCA 1	NERC 41	BoCC5 (2021)	Breeding status at Site	Notes
Firecrest	<i>Regulus ignicapilla</i>					NB	2no. probable breeding territories recorded along woodland edge on western boundary of Site but unlikely to depend on Site for breeding or foraging to feed young.
Blue Tit	<i>Parus caeruleus</i>					Confirmed	Frequently recorded breeding species associated with wooded habitats and hedgerows within and bordering the Site.
Great Tit	<i>Parus major</i>					Probable	Occasion to frequent records along woodland edges bordering Site and along hedgerows and woodland within Site.
Coal Tit	<i>Periparus ater</i>					Probable	Occasion to frequent records along woodland edges bordering Site and once in woodland strip in central north of Site.
Marsh Tit	<i>Poecile palustris</i>					NB	Recorded on last visit only along the woodland edge on the western boundary of the Site. No breeding activity recorded in association with habitats within the Site.
Swallow	<i>Hirundo rustica</i>					Confirmed	Frequently recorded around farm buildings to north-east with foraging within the Site.
Long-tailed Tit	<i>Aegithalos caudatus</i>					Probable	Groups recorded frequently in woodland at north end of Site and occasionally in woodland to south and west.
Chiffchaff	<i>Phylloscopus collybita</i>					Probable	Frequently recorded breeding species associated with wooded habitats and hedgerows within and bordering the Site.
Blackcap	<i>Sylvia atricapilla</i>					Probable	Frequently recorded breeding species associated with wooded habitats and hedgerows with trees within and bordering the Site.
Whitethroat (Common)	<i>Sylvia communis</i>					NB	Only recorded along hedgerow in field to north of Site on first visit. No territories recorded within Site.
Nuthatch	<i>Sitta europaea</i>					NB	Occasion to frequent records with breeding in off-Site woodland but no breeding territories within Site.
Treecreeper	<i>Certhia familiaris</i>					Possible	Recorded occasionally along woodland edge on western boundary and along hedgerow with trees in the north of Site.
Wren	<i>Troglodytes troglodytes</i>					Probable	Up to 10 individuals recorded and around 14no. Breeding territories, mainly within wooded habitats within and bordering the Site with foraging also within grassland areas within the Site. Up to 14no. Territories recorded.
Starling	<i>Sturnus vulgaris</i>					Probable	up to 17no. Starling recorded at farm building to north-east of Site. Probable breeding at this location and use of the Site for foraging.
Blackbird	<i>Turdus merula</i>					Confirmed	Frequently recorded breeding species associated with wooded habitats and hedgerows within and bordering the Site. Foraging also occasional along grassland margins.

Common Name	Scientific Name	Annex I	WCA 1	NERC 41	BoCC5 (2021)	Breeding status at Site	Notes
Song Thrush	<i>Turdus philomelos</i>					Probable	Up to 5no. Territories recorded during surveys, with 1no. Territory associated with hedgerow and woodland strip in north of Site. Remainder of territories associated with off-site woodland and hedgerow lined track to north-east of Site.
Mistle Thrush	<i>Turdus viscivorus</i>					Possible	Recorded on two occasions foraging in grassland in eastern and central areas of Site. No activity characteristic of current breeding was recorded, however likely to nest in off-site woodland.
Robin	<i>Erithacus rubecula</i>					Confirmed	Frequently recorded breeding species associated with wooded habitats and hedgerows within and bordering the Site. Foraging also occasional along grassland margins.
Stonechat	<i>Saxicola torquata</i>					NB	Recorded on one occasion on woodland edge to the north-west of main field.
Dunnock	<i>Prunella modularis</i>					Possible	Recorded on separate visits on the western boundary and south-eastern area of the Site. Possible breeding in these areas with use of Site for foraging, but no territories confirmed.
House Sparrow	<i>Passer domesticus</i>					Probable	Breeding territories associated with farm buildings to the north-east of the Site. No breeding activity recorded within the Site, but likely foraging occurs in adjacent hedgerows and scrub.
Grey Wagtail	<i>Motacilla cinerea</i>					Possible	1no. possible breeding territory associated with farm buildings to north-east of Site and likely foraging within the Site.
Pied Wagtail	<i>Motacilla alba</i>					Possible	Possible breeding territory associated with farm buildings to north-east of Site and likely foraging within the Site.
Chaffinch	<i>Fringilla coelebs</i>					Probable	Occasional to frequent records in woodland and hedgerow habitats within and bordering the Site.
Bullfinch	<i>Pyrrhula pyrrhula</i>					Possible	Recorded on the first and second visits along the southern woodland edge and central woodland strip in the north of the Site respectively. As such, possibly breeding in woodland outside of the Site boundary but no territories confirmed.
Greenfinch	<i>Carduelis chloris</i>					Possible	Recorded once along central woodland strip in north of Site. Recorded in suitable breeding habitat, but no confirmed breeding territories.
Goldfinch	<i>Carduelis carduelis</i>					Possible	Recorded twice along northern boundary hedgerows.

Appendix V: Great Crested Newt eDNA pond water sample analysis report



Folio No: E17820
Report No: 1
Purchase Order: BR0813
Client: BURTON REID ASSOCIATES
Contact: Tamsyn Bridger

TECHNICAL REPORT

ANALYSIS OF ENVIRONMENTAL DNA IN POND WATER FOR THE DETECTION OF GREAT CRESTED NEWTS (*TRITURUS CRISTATUS*)

SUMMARY

When great crested newts (GCN), *Triturus cristatus*, inhabit a pond, they continuously release small amounts of their DNA into the environment. By collecting and analysing water samples, we can detect these small traces of environmental DNA (eDNA) to confirm GCN habitation or establish GCN absence.

RESULTS

Date sample received at Laboratory: 05/06/2023
Date Reported: 12/06/2023
Matters Affecting Results: None

Lab Sample No.	Site Name	O/S Reference	SIC	DC	IC	Result	Positive Replicates
3560	Eastleigh Sang - P45	SU 47807 20135	Pass	Pass	Pass	Negative	0

If you have any questions regarding results, please contact us: ForensicEcology@surescreen.com

Reported by: Chris Troth

Approved by: Jackson Young

Appendix VI: Landscape Masterplan



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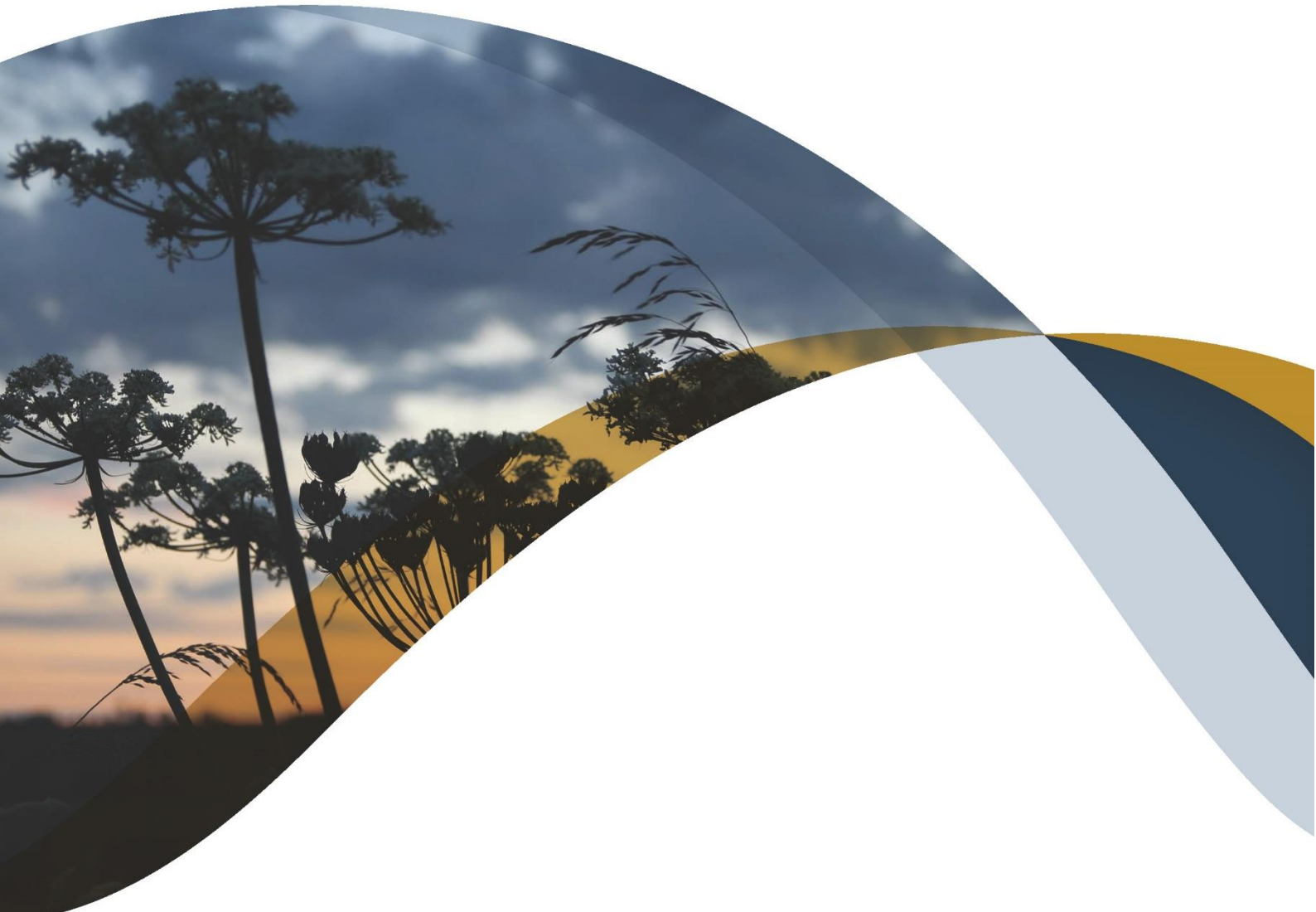
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