Appendices to Proof of Jim Phillips BSC (Hons), MA, MCIEEM

Land at Chichele Road, Oxted

Appellant: CALA Group Ltd

Planning Inspectorate Appeal No.: APP/M3645/W/24/3345915
Tandridge District Council Application No. TA/2023/1345

2nd September 2024

Appendices

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APPENDIX 1

Land at Chichele Road, Oxted: Grassland and Woodland Survey Update

APPENDIX 1 - LAND AT CHICHELE ROAD, OXTED: GRASSLAND AND WOODLAND SURVEY UPDATE

1 HABITAT SURVEY

1.1 Introduction

1.1.1 The ES chapter provides details of the habitat surveys undertaken in 2022, an updated survey of the grassland and woodland was undertaken in 2024 as set out in the following update.

1.2 Grassland survey

Method

1.2.1 An updated 'walkover' was undertaken on the 7th July 2024 to provide a generic list of all species observed.

1.2.2 In addition to this, three quadrat samples were also undertaken (figure 1), these were surveyed using professional judgement using 1x1m2 quadrats sample.

1.2.3 Information collected within each quadrat included aspect, slope, average ground cover, sward variation, species, and their percentage cover. The DAFOR scale was used as for recording the relative abundance of plant species. The name DAFOR is an acronym for the abundance levels recorded: Dominant (D), Abundant (A), Frequent (F), Occasional (O) and Rare (R).

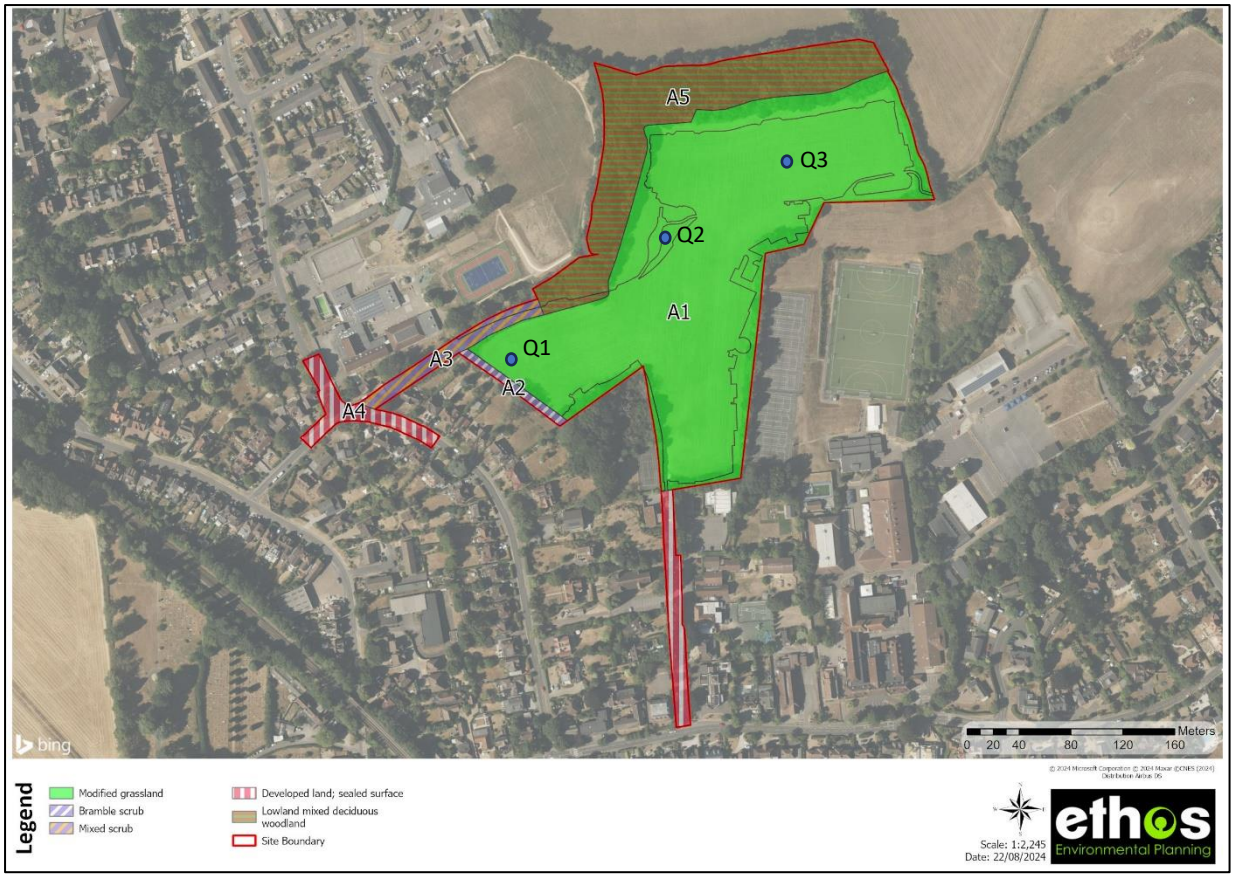


Figure 1 Grassland Quadrat Locations

Results

UKHab maps

1.2.4 Updated UKHab maps are provided at figures 2 and 3, which provide clarification over the extent and classification of the woodland as 'lowland deciduous woodland' (which had been mis-labelled as 'Other Broadleaved Woodland' in the 2022 technical appendices).

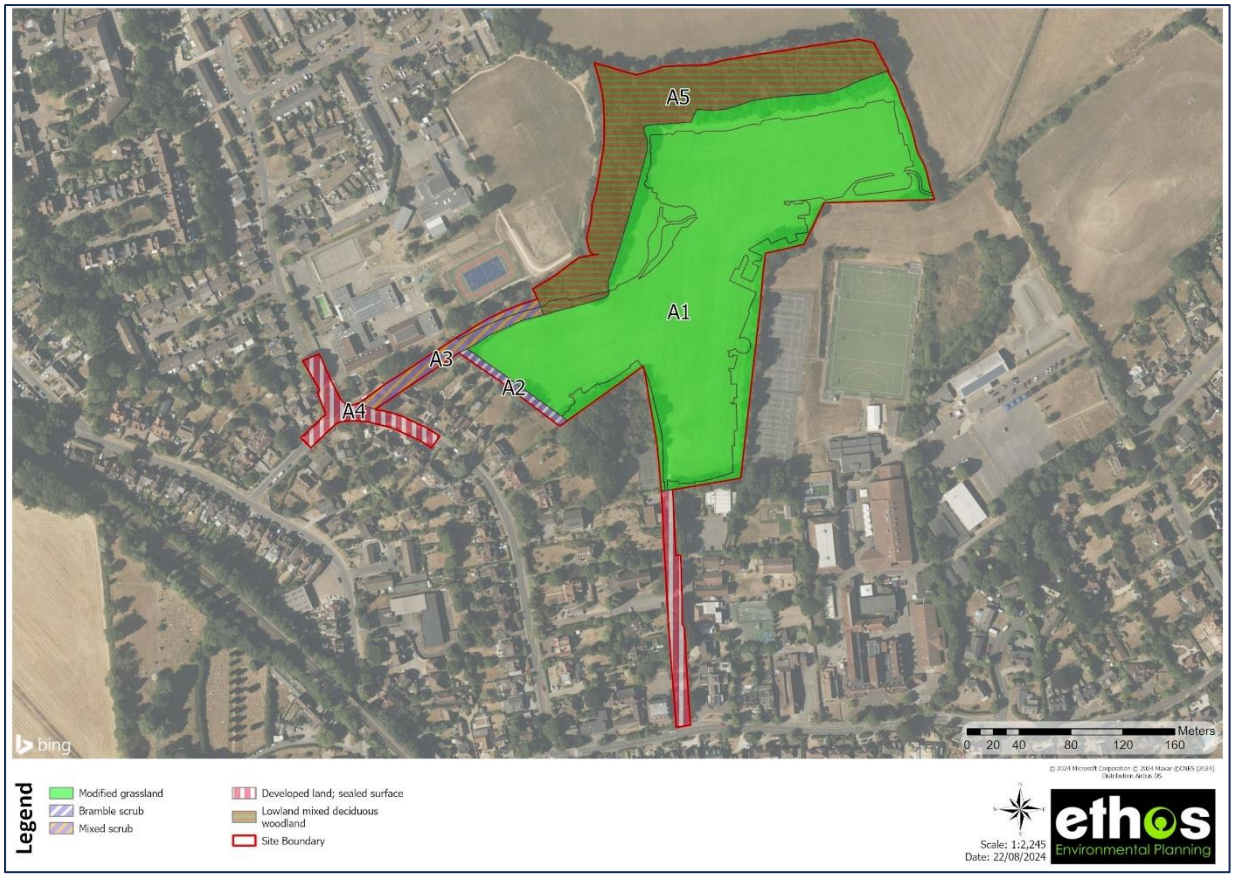


Figure 2 UKHab map (2024)

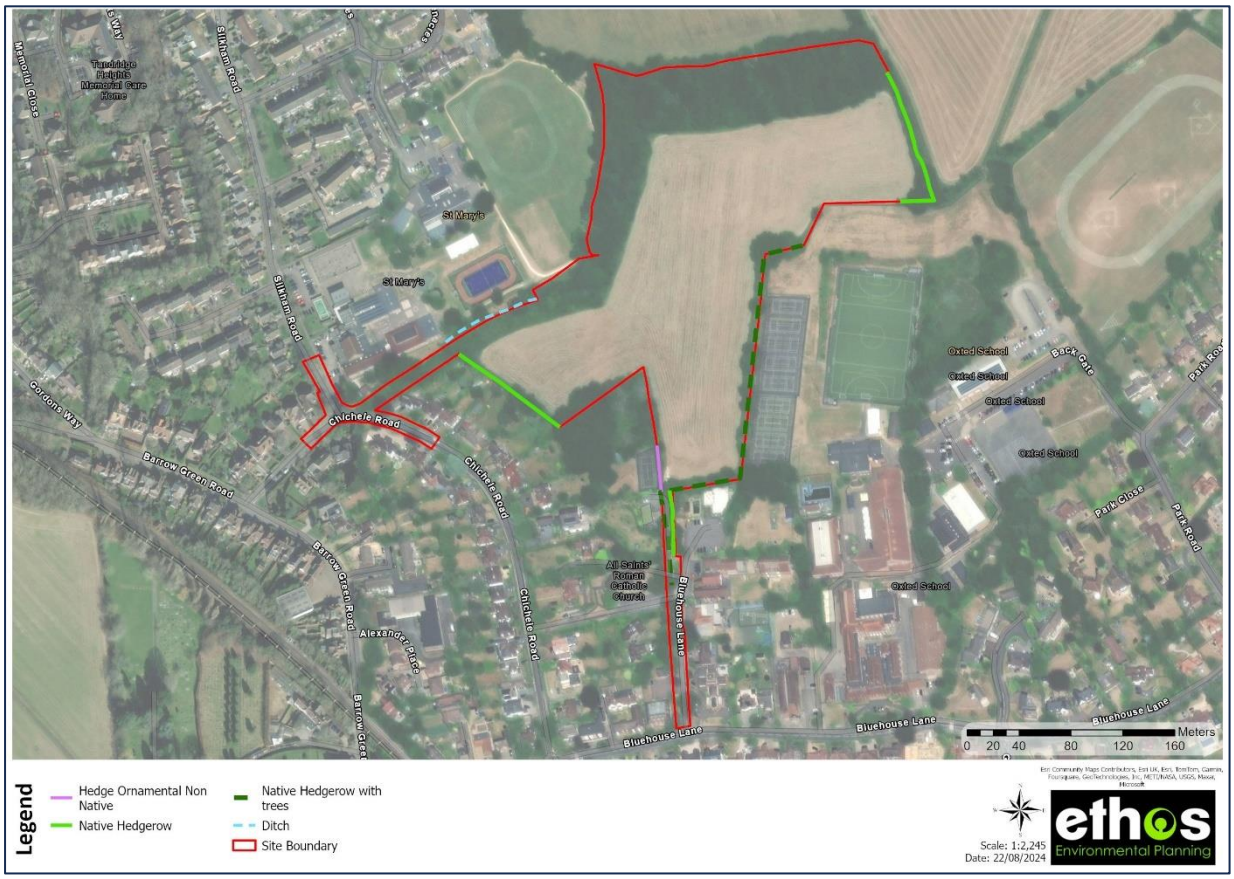


Figure 3 Hedgerow Map (2024)

Species recorded

1.2.5 The following table lists the species recorded in the grassland in the walkover and quadrat surveys undertaken on 7th July 2024. Photos from the field survey are provided below (photos 1 and 2).

Quadrat/Survey	**Species and Abundance**
Site Walkover	Dominated by Yorkshire fog (*Holcus lanatus*), cocks foot (*Dactylis glomerata*), perennial ryegrass (*Lolium perenne*), creeping bent (*Agrostis stolonifera*). Occasional curly leaved dock (*Rumex crispus*), hawkbit (*Leontodon sp.*), ribwort plantain (*Plantago lanceolata*), oxeye daisy (*Leucanthemum vulgare*), meadow foxtail (*Alopecurus pratensis*), common hogweed, ragwort (*Heracleum sphondylium*), white clover (*Trifolium repens*), selfheal (*Prunella vulgaris*), meadow buttercup (*Ranunculus acris*), creeping buttercup (*Ranunculus repens*), vetch (*Vicia spp.),* false oat grass (*Arrhenatherum elatius*), red clover (*Trifolium pratense*), common fleabane (*Pulicaria dysenterica*), field bindweed (*Convolvulus arvensis)* Ragwort (*Jacobaea vulgaris)*. The occasional species are mostly focused within the margins.
Q1	Yorkshire fog - D Perennial rye-grass - D Creeping bent - A Creeping buttercup - A
Q2	Yorkshire fog - D Perennial rye-grass - D Curly leaved dock - R Creeping buttercup - R Vetch spp. - O White clover - O Creeping bent - A Ragwort - R
Q3	Yorkshire fog - D Perennial rye-grass - A Creeping bent - A Field bindweed - O

Photo 1 Grassland

Photo 2 Grassland

1.3 Woodland Survey

1.3.1 A Woodland survey was undertaken in 2022 and set out within the ES chapter, an updated survey was undertaken on the 29th May 2024.

1.3.2 The woodland has old woodland indicators including abundant bluebells (*Hyacinthoides non-scripta*), enchanter's nightshade (*Circaea lutetiana*), three-nerved sandwort (*Moehringia trinervia*), wood melick (*Melica uniflora*) and dog's mercury (*Mercurialis perennis*). However, the more open areas are dominated by bramble (*Rubus fructicosus*) patches and the thinner woodland along the north edge has abundant cow parsley (*Anthriscus sylvestris*), with cleavers locally aggressive (*Gallium aparine*). The understorey is well developed with ash (*Fraxinus excelsior*), holly (*Ilex aquifolium*), hawthorn (*Crataegus monogyna*), crab apple (*Malus sylvestris*) and some hazel (*Corylus avellana*). Small wood is abundant, but the larger trees mainly ash and oaks (<150 years old). There is one larger oak (*Quercus sp.*) with extensive epicormic growth. Photos 3 – 6 show typical areas of the woodland.

Photo 3 Woodland Photo

Photo 4 Woodland Photo

Photo 5 Woodland Photo

Photo 6 Woodland Photo

APPENDIX 2

Land at Chichele Road, Oxted: Badger Survey

APPENDIX 2 - LAND AT CHICHELE ROAD, OXTED: BADGER SURVEY

1 INTRODUCTION

1.1 An updated badger survey has been undertaken to assess how the site is used by badgers with the main objective to locate any badger setts on or adjacent to the site. Badgers and their setts are protected under the Protection of Badgers Act 1992 as amended by the Hunting Act 2004.

2 METHODOLOGY

2.1 A walkover of the site was undertaken on 25th June 2024. The survey involved two ecologists searching the site for signs of badger and included a search of the development site and surrounding habitats (where feasible) for any evidence including setts, foraging signs (snuffle holes), runs and latrines. Any field signs of badger seen during other surveys undertaken onsite were also noted.

2.2 It is important to classify each sett and determine its use by the social group. This involves counting the number of entrances per sett and assessing sett use based on the following criteria:

- Well-used: being clear of any debris or vegetation, obviously in regular use and may or may not have been excavated recently;
- Partially-used: not in regular use and have debris such as leaves and twigs in the entrance or have moss and/or other plants growing in or around the entrance. Partially-used holes could be in regular use after a minimal amount of clearance; and
- Disused: not been in use for some time, are partially or completely blocked and could not be used without considerable amount of clearance. If the hole has been disused for some time, all that may be visible is a depression in the ground where the hole used to be, and the remains of the spoil heap, which may be covered in moss or plants.

2.3 Where setts were found, activity levels were scored using the following criteria:

- number of well-used holes (with one or more of the features: well-worn entrance; freshly excavated soil; bedding material);
- number of partially used holes (leaves or twigs in entrance and/or mosses and other plants growing in or around entrance);
- number of disused holes (partially or completely blocked, with considerable amount of excavation required for reoccupation).

2.2 Camera Trap Surveys

2.1 To aid in the classification of the potential sett, camera trap surveys was undertaken with trail cameras deployed outside the potential sett entrances on the 25th June and

collected on the 29th July 2024. Data was analysed for any evidence of badger to aid assessment and classification of the sett. The date, times and type of behaviour were noted.

2.2 As a guide to classifying each sett the following criteria is followed:

- main setts usually have several well used holes with radiating tracks, latrines and other signs of activity. The actual number of holes can vary greatly, depending on social group size and soil conditions. Several holes with large spoil heaps and obvious paths emanating from and between sett entrances.
- Annex – a secondary sett, close to the main sett. Will normally be connected to the sett with very obvious tracks. Annexes may not be occupied constantly, even when the main sett is very active. Normally less than 150m from main sett, comprising several holes.
- Subsidiary – occurring at a greater distance from the main sett, and not as clearly linked to it as an annex. These setts will clearly fall within the territory of a social group and may be seasonally used by badgers; and
- Outlier – less frequently used, these setts may be colonised by other species when not in use by badgers. Outliers may represent a temporary sett, or a habitation for migrating individuals, or those excluded from a social group.

3 RESULTS

3.1 The badger walkover survey found potential signs of badger on site in the form of three mammal holes in the south of the site near to an existing entrance (see figure 1).

Figure 1 Mammal holes along southernmost southwest boundary

3.2 A mammal track led from the holes along the fence line and to the offsite woodland. The northern hole was quite vertical in its underground trajectory; the middle hole led directly under the wooden fence line offsite and the third hole was partially filled with leaf litter. No field signs of badger were found near to this hole. Camera trap surveys were carried out to monitor use of these holes.

Photo 1 Mammal trail leading to hole 1

Photo 2 Hole 1 in proximity to the fence

Photo 3 Hole 2, under fence

Photo 4 Hole 3 in proximity to the fence

3.3 The camera trap surveys recorded a single badger (a cub) passing the area, however there was no evidence of the badger entering or exiting any of the holes. Other videos recorded fox entering/exiting on of the holes with suitable time elapsing in-between to confirm the hole is used by fox for resting.

3.4 One sighting of badger was recorded during a bat transect survey onsite. A badger cub was seen on 1st June towards the south of the site by the fence line. The badger commuted away through the entrance gate at the south of the site.

Photo 5 Fox entering hole 1

Photo 6 badger commuting and investigating camera

4 SUMMARY

4.1 There is evidence that badger use the site for commuting. This has been confirmed through live sightings and recordings of badger.

4.2 One mammal hole on site is confirmed to be used by fox. Mammal holes 1 to 3 are currently assessed to be unactive for badger.

4.3 An updated badger survey will need to be carried out a minimum of 60 days prior to any works being carried out to re-assess the current status of the mammal holes. Should any mammal holes be confirmed to be in use by badger, a badger mitigation

strategy will be prepared and agreed in writing with the local planning authority. The requirement for this can be secured by planning condition.

APPENDIX 3

Land at Chichele Road, Oxted: Bat Survey Update

APPENDIX 3 - LAND AT CHICHELE ROAD, OXTED: BAT SURVEY UPDATE

1 INTRODUCTION

1.1 Bat surveys undertaken in 2022 included ground level assessment of trees, three activity surveys and static surveys which combined covered the months of May, June, July and September. Additional bat surveys have been undertaken in 2024 to supplement the existing baseline on how the site is being used by bats. The methodologies for the updated bat surveys have been informed by the Bat Conservation Trust *Bat Surveys Good Practice Guidelines* (Collins, 2023).

2 METHODOLOGY

2.1 Ground Level Tree Assessment

2.1.1 The methodology draws upon guidance within Collins (2023) and the Bat Tree Habitat Key (2018). The surveys were undertaken using binoculars and a high-powered torch to view features from the ground and from a distance where access was restricted. Details on the potential roosting features were recorded as well as information to identify the specific trees. This included tree height, diameter at breast height, species, mortality of tree, and the tree location.

2.1.2 Potential roosting features on trees were identified as any feature within a tree that could provide shelter for a roosting bat. These features result from the following three mechanisms:

- Disease and decay;
- Damage; and,
- Associations.

2.1.3 Tree with no potential roost features were assessed as having 'negligible' potential for roosting bats. Trees with potential features have been categorised to suitability following the guidelines (Collins, 2023) set out in table 6.2 (extract below):

Table 6.2. Guidelines for categorising the potential suitability of PRFs on a proposed development site for bats, to be applied using professional judgement.

Suitability	Description
PRF-I	PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats.
PRF-M	PRF is suitable for multiple bats and may therefore be used by a maternity colony.

2.1.4 Trees with features suitable for roosting bats were assessed as having 'PRF-I' or 'PRF-M' suitability for bats. Trees with 'PRF-I' potential for roosting bats were not subject to additional survey, in line with BCT survey guidelines. Should any trees be identified to be of moderate potential or support any PRF-Ms further surveys should be undertaken. Justification is provided, in the form of a detailed description and photographic evidence, to demonstrate how the classification of 'PRF-I potential' and/or 'PRF-M potential' had been made. Recommendations will be made as necessary if any trees with low potential are to be impacted.

2.2 Activity surveys

2.2.1 Three activity surveys were undertaken at the site on 22nd April, 4th July and 20th August 2024. The survey involved a pair of surveyors walking a transect around the site, as shown in Figure 1. The surveys began at sunset and finished approximately two hours after sunset. The bat detectors used during the surveys included an Echo Meter Touch. All calls recorded were analysed using Bat Explorer and Kaleidoscope software and were compared to a library of known bat calls to confirm species presence.

Figure 1 Transect route

2.3 Static detector surveys

2.3.1 Three static bat detectors were deployed across the site at the same three locations for five consecutive nights in the months of April, May June, July and August 2024 (figure 2).

2.3.2 Wildlife Acoustics Song Meter 4 (SM4) passive bat detectors were used for all surveys. The detectors provide information to inform an assessment of the assemblage of bat species across the site and to highlight areas of activity. All calls recorded were analysed using Kaleidoscope Software and the BTO pipeline.

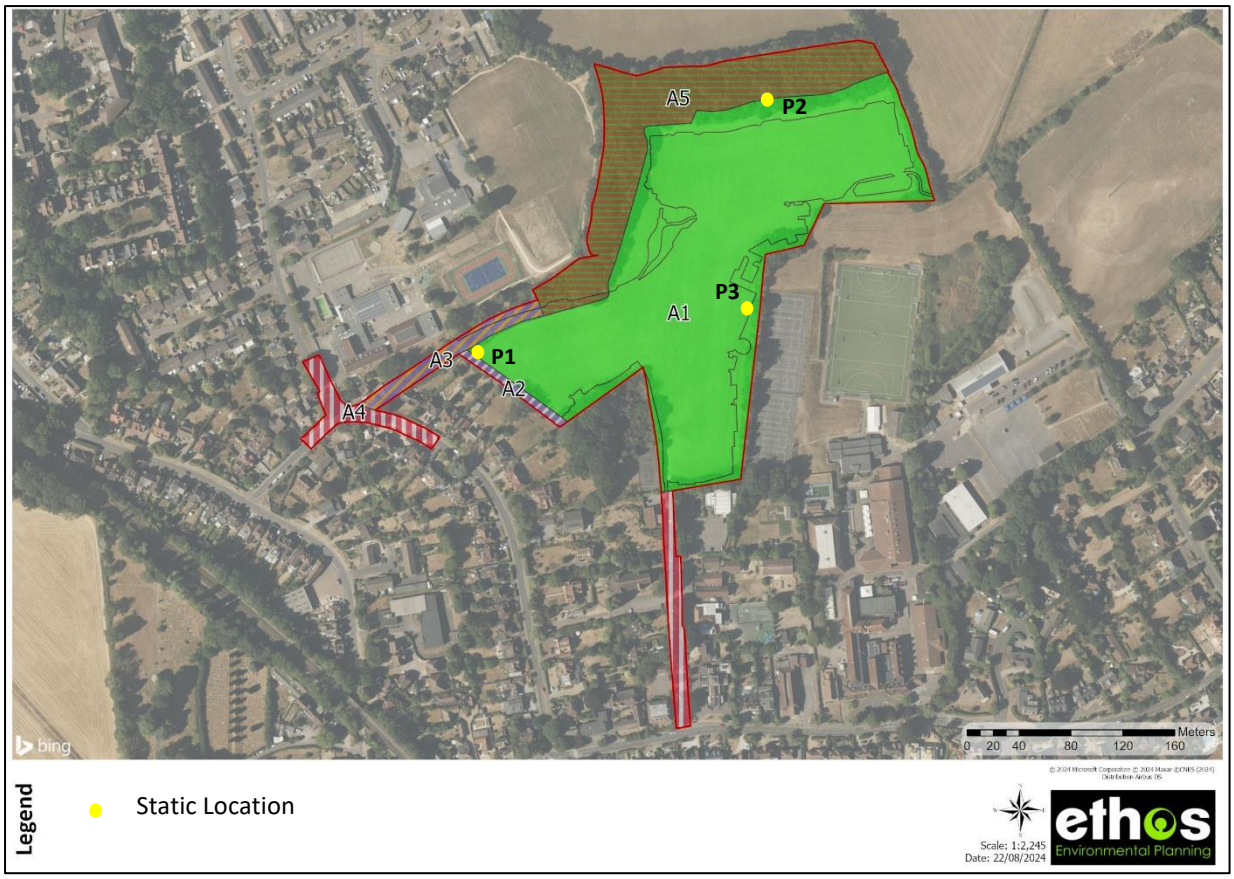


Figure 2 Static detector locations

3 RESULTS

3.1 Ground Level Assessment

3.1.1 The full table of results are presented in appendix 1 of this report.

3.1.2 A total of eight trees are identified on the tree plan for removal. Of these eight trees only one tree, T52, had any potential roosting features for bats. The features were both PRF-Is, only suitable for individual or low numbers of bats. The tree is assessed to be of low potential for roosting bats and no further survey is needed.

3.1.3 Loss of these potential features suitable for bats to utilise for roosting, will be mitigated with the installation of two bat boxes on suitable retained trees.

3.1.4 Six trees were assessed as negligible; and one undetermined due to a lack of accessibility (T64) through dense scrub habitat.

3.2 Activity Surveys

3.2.1 A summary of the bat activity surveys is included below, and the environmental variables recorded during the surveys are shown in the table 1 and codes used in the description of bat species are as follows:

- CP Common pipistrelle (Pipistrellus pipitrellus)
- SP Soprano pipistrelle (Pipistrellus pygmaeus)
- NOC Noctule bat (Nyctalus noctula)
- SER Serotine bat (Eptesicus serotinus)
- DAU Daubenton's bat (Myotis daubentonii)
- BLE Brown long-eared bat (Plecotus auritus)
- PIP Unidentified pipistrelle bat
- LHS Lesser horseshoe bat (Rhinolophus hipposideros)
- GHS Greater horseshoe bat (Rhinolophus ferrumequinum)
- MYO Unidentified myotis bat
- HNS Heard, but not seen bat

Table 1 Environmental variables for bat activity surveys

Date	**22nd April**		**4th July**		**20th August**	
Sunset/Sunrise	**20:09**		**21:20**		**20:13**	
Start / End time	20:10	22.10	21:20	23:20	20:15	22:10
Temperature (°C)	12.2	11.1	17.9	17.2	18.9	17.2
Humidity (%)	72.1	74.2	68.2	73.1	68.1	63.2

Date	22nd April		4th July		20th August	
Cloud cover (oktas)	8	8	1	1	0	0
Avg. Wind speed (m/s)	1.3	1.2	1.5	1.1	0.9	0.9
Rain	Earlier in day		None		None	

Activity survey 1 – 22nd April, 2024

- 20:32 CP pass on woodland edge;
- 20:40 CP briefly foraging in N/W of site;
- 21:12 CP pass on W boundary;
- 21:46 CP brief record on woodland edge.
- Extremely quiet survey, weather was average but not optimal.

Activity survey 2 – 4th July, 2024

- 21:35 CP foraging in corner of woodland;
- 21:42 faint call HNS, likely foraging in woodland;
- 21:43 foraging around woodland edge;
- 21:51 CP x 2 foraging and social calling in corner by woodland
- 22:05 brief CP call HNS;
- 22:18 brief CP foraging along woodland edge near NW boundary;
- 22:19 CP HNS brief faint call woodland edge;
- 22:22 HNS CP but continuous foraging, likely in/around woodland;
- 22:40 CP x 2 foraging and social calling along woodland edge along NW boundary;
- 22:45 CP foraging in NW corner around woodland;
- 23:11 brief call HNS

Activity survey 3 – 20th August

- 20.59 brief CP HNS north eastern corner by woodland;
- 21.03 CP continuous foraging, along eastern hedgerow;
- 21.12 CP HNS likely foraging, faint call and not in close proximity to woodland;
- 21.17 CP social calling came from north, foraging along hedgerow N/W;
- 21.26 CP foraging briefly east boundary;
- 21.34 CP HNS east boundary;
- 21.39 CP commuting along east boundary;
- 21.45 CP HNS very brief, woodland edge;
- 21.55 CP HNS very brief, woodland edge;
- 22.17 CP HNS very brief, woodland edge.

3.3 Static Surveys

3.3.1 Tables 2 and 3 below provide a summary of the static bat detector results, with table 2 showing the total calls and assemblage of species per month, whilst table 3 shows the total records by species and location.

Species	April	May	Jun	Jul	Aug
Common Pipistrelle	921	1968	6071	6012	2354
Soprano Pipistrelle	45	94	570	51	113
Nathusius' Pipistrelle			3		
Brown Long-eared Bat	6	19	8	27	29
Leisler's Bat	34	61	140	49	9
Noctule	5	19	6	22	42
Serotine	27	181	17	36	19
Daubenton's Bat		8	13	27	51
Natterer's Bat		3	33		3
Whiskered Bat		3	5	25	24
Other Myotis Spp	1	2	1		
Grand Total	**1039**	**2358**	**6867**	**6249**	**2644**

Table 2 Summary of static surveys results (total by month)

Species	Location 1: East Boundary	Location 2: West Boundary	Location 3: Northern Woodland Boundary
Common Pipistrelle	2971	1813	12542
Soprano Pipistrelle	93	68	712
Nathusius' Pipistrelle			3
Brown Long-eared Bat	46	21	22
Leisler's Bat	46	6	241
Noctule	43	28	23
Serotine	201	18	61
Daubenton's Bat	28	17	54
Natterer's Bat	5	1	33
Whiskered Bat	2	2	53
Other Myotis Spp	4		
Grand Total	**3439**	**1974**	**13744**

Table 3 Summary of static surveys results (total by location)

3.3.2 The survey results reflect the previous assessment (2022), which identified that bat activity is dominated by common pipistrelle bats, notably along the boundary between the grassland and woodland in the north of the site. The results indicate that this area is used for foraging and commuting; the woodland edge is assessed to be of **'Local' importance** for commuting and foraging common pipistrelle bats.

4 ASSESSMENT AND MITIGATION

4.1 The scheme is providing a 15m buffer to the ancient woodland, this will include retention and enhancement of the existing grassland habitat and new buffer planting and fencing between the development and the 15 metre buffer edge (as shown on the Ancient Woodland Mitigation Plan drawing). The submitted lighting plan also demonstrates that this buffer will be a dark area (below 0.5 lux) and will continue to provide suitable habitat and conditions for commuting and foraging bats.

4.2 The boundary hedgerows which are also used for occasional commuting are also being retained outside of garden curtilage and will remain as dark corridors which will maintain their availability for use by bats.

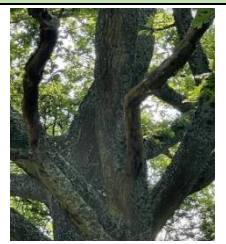
4.3 It is assessed that the sensitive design together with mitigation provided through the buffers and lighting design will retain suitable commuting and foraging habitat for the local bat assemblage.

4.4 It is therefore conclude that the scheme will not have a significant effect on bats.

APPENDIX 1 GROUND LEVEL ASSESSMENT DATA

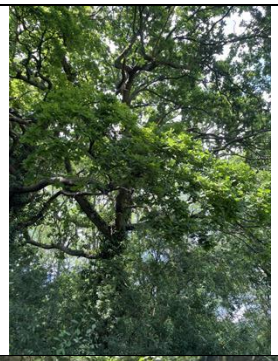
Table 4 Ground level assessment of trees to be removed

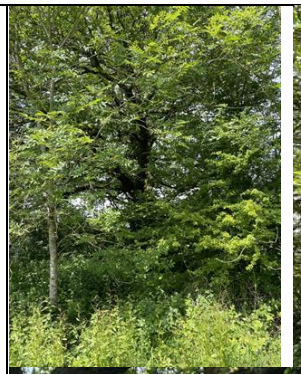
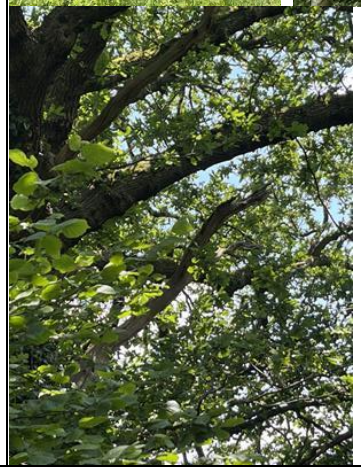
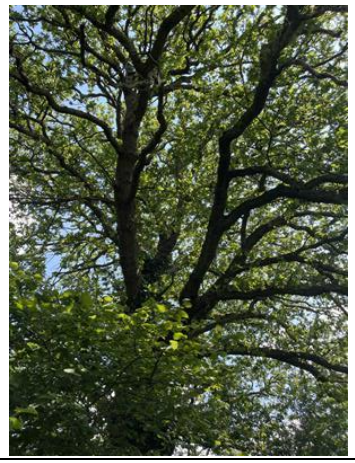
Trees to be removed			
Tree number	**Species / Description**	**Suitability for roosting bats**	**Photograph(s)**
T30	Common oak	Negligible	  
T33	Goat willow with decaying limbs. No PRFs.	Negligible	 
G35	Silver birch, beech. No PRFs.	Negligible	  

Trees to be removed			
Tree number	**Species / Description**	**Suitability for roosting bats**	**Photograph(s)**
T52	Two PRF-Is, small areas of lifted bark on limbs in the canopy. No further survey. Mitigation – two bark bat boxes on suitable retained trees	Low	   
G54	Mixed scrub, hawthorn, bramble	Negligible	  
T62	Norway Maple No gaps around wound, or under bark.	Negligible	 

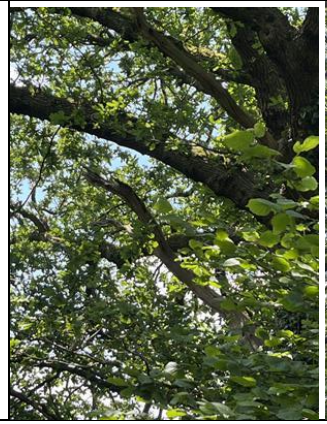
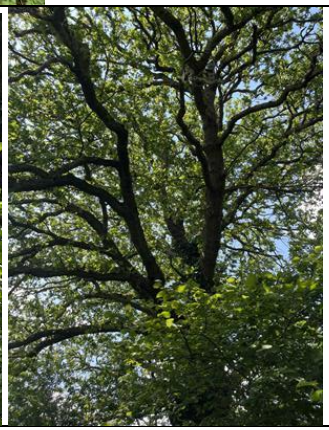
Trees to be removed			
Tree number	**Species / Description**	**Suitability for roosting bats**	**Photograph(s)**
T63	Goat willow. No PRFs.	Negligible	 
T64	Hawthorn	Unknown	Not accessible for survey.

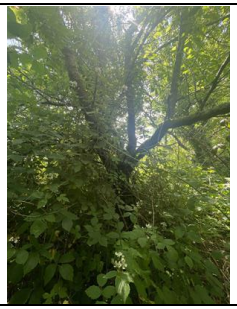
Trees to be retained			
Tree number	**Species / Description**	**Suitability for roosting bats**	**Photograph(s)**
T1	Ash Knot hole, south facing. PRF I (potential PRF-M).	Low to moderate	 
T2 -T6	Scoped out – set back, either negligible or no visible PRFs observed from walking the woodland edge.		
T7	Common oak Decaying limbs with traverse cracks and another with potential cavity. Potential PRF-Ms	Moderate to high	     
T8-21	Scoped out – set back, either negligible or no visible PRFs observed from walking the woodland edge.		

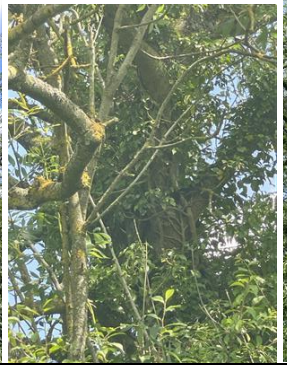
T22	No features visible, ivy cover however very thin. Limited access around entire tree	Negligible	
T23	PRF-I (possible PRF-M) on dead limb. Crown decay but no PRFs	Moderate	    

G24	1 PRF-M from dead branch with gaps and potential access points to cavity. Limited access to tree.	Moderate to high	   

T25	Very limited visibility so precautionary medium eligibility. Some lifted bark on branch near top of crown.	Moderate	 
T26	Common oak Potential PRF-M, lifted and cracked limb, but limited access to inspect	High	 
T27	Common oak	Not accessible.	

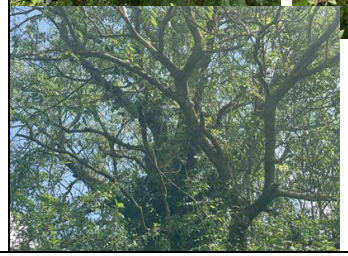
T28	Goat willow No PRFs	Negligible	
T29	Common oak Decaying branches with traverse cracks, potential PRF-M.	Moderate to high	 
T30	Refer to tree removal table		
T31	Common oak Precautionary PRF-M, limb with potential cavity. Dead limb with cracks & lifted bark. Limited access.		  
T32, T33	Refer to removal table.		

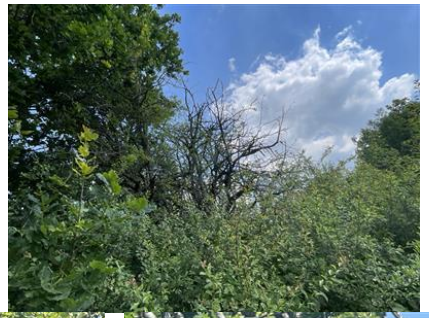
T34	Willow Very minor flaking bark, not suitable.	Negligible		
T35	Refer to tree removal table.			
T36, T37	Not accessible.			
T38	Cherry Decaying limbs, no PRFs	Negligible		

T39 (offsite)	Numerous areas of lifted bark, very flakey and exposed and/or very small gaps. A few areas on main trunk more suitable. Limited access. 3 PRF-Is.	Moderate	   
T40 – T47	Scoped out (west woodland/hedgerow and southwest hedgerow)		
T48	Some ivy cover, thin stemmed, & large roots exposed	Negligible	  

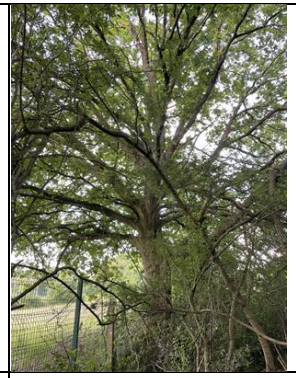
T49	Some ivy cover, thin stemmed, & large roots exposed	Negligible	
T50 – A2	Common oak 2 PRF-Is, minor areas of lifted bark. Potential lighting impacts. Mitigation required in RPZ (car parking bays).	Low	

T51.1	Ash No PRFs.	Negligible	
T51.2	Common oak	Negligible	  
T51.3	Ash No PRFs.	Negligible	  

T51.4	Ash No PRFs.	Negligible	
T51.5	Common oak Light Flaking bark, but not suitable	Negligible	    

T51.6	Hawthorn Light Flaking bark, but not suitable.	Negligible	   
T51.7	Ash One shallow wound. Not suitable.	Negligible	  

T51.8	Ash No PRFs.	Negligible	
T51.9	Hawthorn No features	Negligible	
T51.10	Ash No features	Negligible	above
T51.11	Ash No features.	Negligible	above
G52	Refer to removal table.		
T53-B2	Common oak	Negligible	

T54	Refer to removal table.		
T55	Ash Very minor areas of lifted bark. None assessed as suitable.	Negligible	 
T56 (offsite)	Common oak	Negligible	Not taken
G57	Blackthorn, common oak, ash, field maple. Overall lack of suitable features. One blind knot hole on ash. Some ivy cover on a maple and a wound on upper canopy but young and thin stemmed. A couple of mature hawthorns, partly dead with flaking bark and very minor, not suitable.	Negligible	  
T58	Hawthorn Lightly flaking bark, not suitable.	Negligible	  

T59 (H60)	Hawthorn (offsite) and hedgerow.
W61	Northern section of woodland, scoped out.
T62, T63	Refer to removal table.
T64	Hawthorn- not accessible.
T65 to T69 (H72)	New access road, not accessible for survey. (T68 wild cherry, T67 hawthorn, T66 common oak, T65 common oak)

APPENDIX 4

Land at Chichele Road, Oxted: Breeding Bird Survey

APPENDIX 4 - LAND AT CHICHELE ROAD, OXTED: BREEDING BIRD SURVEY

1 METHODOLOGY

1.1 Birds

1.1.1 All bird surveys included an assessment of the habitats on site for their potential to support protected and notable species of bird. Targeted bird surveys included three breeding bird surveys and an automated static survey within the key breeding bird period, the details of which are discussed below.

1.1.2 The main habitats impacted on site comprise the area of modified grassland, with boundary woodland and hedgerows being retained and buffered. Therefore, it was considered that sufficient information could be gathered from three surveys (as opposed to six required for more complex sites), along with static monitoring. This is in line with the BTO guidance which states *"fewer survey visits may be justified for projects with very limited impacts, or sites with habitats of low value for birds".*

Breeding Bird Survey

1.1.3 Three surveys were conducted on the 25th April (Dawn), 22nd May (Dusk) and 6th June 2024 (Dawn). A walked transect of the site was undertaken as shown at figure 1. The surveys were undertaken by Jim Phillips, supported by different members of his team (Kane Burchill, Sarah Forsyth, Steph Green).

1.1.4 The dawn surveys were undertaken approximately between one hour before sunrise and half an hour after sunrise. The dusk survey was conducted one hour before sunset extending to one hour after to detect any nocturnal species.

1.1.5 Information recorded during the survey included all species encountered on the site or land adjacent. The approximate locations of all species were plotted on a site map together with behaviours observed such as nest building, nest activity, birds displaying territorial behaviour, singing birds, calling birds and foraging activity. This information was recorded over three site visits to form a species map of the birds present on site.

Automated / static surveys

1.1.6 One bird static survey was used to provide information on the composition of bird species present and to support the findings of all bird surveys carried out onsite as a supplementary survey method. The location of the detector, along the woodland edge and adjacent to the grassland habitat, was chosen to allow coverage of bird species using the key bird habitats onsite to help identify a diverse bird assemblage. The location of the static detector is shown in Figure 1.

1.1.7 The deployment followed the recommended breeding bird survey methodology (Bird Survey & Assessment Steering Group, 2023) with recording set to a time-sampling approach, recording one minute in every ten, twenty-four hours a day. The survey period was extended from the standard five day range to fifteen days to maximise detection rates of bird species. The deployment period was from 22nd May to 6th June 2024.

1.1.8 The calls were processed and analysed using the analytical software Quicksight. This software uses automated recognition of bird vocalisations whilst also taking into account the location probability and detection confidence of the record. Any calls below a detection confidence of 0.85 were excluded from the results. For accuracy of call classification, a sub-sample of unusual/rare species records, in context of the site location and habitats present, were manually verified using Audacity software. All calls were checked by experienced ornithologists familiar with bird vocalisations and species distribution, with verification supported call comparisons to Xeno Canto. All false records were excluded from the analysis.

Figure 1 Walked transect and Location of bird static detector

2 RESULTS

2.1 Desk study

2.1.1 There were ten bird records returned in the data search, all from 1996, identifying seven bird species within a 1km radius of the site. The records included six common species of gardens and woodland currently on the Birds of Conservation Concern (BoCC) green list, namely robin (*Erithacus rubecula)*, blue tit (*Cyanistes caeruleus)*, great tit (*Parus major)*, goldcrest (*Regulus regulus)*, nuthatch (*Sitta europaea)* and great spotted woodpecker (*Dendrocopus major)* and one record for the BoCC Amber listed wren (*Troglodytes troglodytes).*

2.1.2 The aforementioned species are most likely associated with the woodland and woodland edge habitat, nesting in either tree cavities or building cup nests within trees and hedgerows. In addition, the grassland habitat onsite would likely offer limited foraging opportunities for these species as they primarily forage within trees and shrubs and at the base of hedgerows.

2.1.3 The site comprises a grassland field with native hedgerow boundaries and a parcel of ancient woodland to the sites' northern boundary. The grassland field provides some opportunities for foraging birds; however, the hedgerows and woodland were assessed to be the key features on site and were assessed to provide suitable breeding as well as foraging habitats for a range of bird species. The wider landscape has functional habitat links to the site in the form of ancient woodland corridors and further parcels of arable and pasture with native hedgerows boundaries.

2.2 Breeding Bird Survey

2.2.1 The three breeding bird surveys recorded low levels of activity during each survey, as such, the results are provided as a combined survey results map at figure 2. In total, eight species of bird were recorded including Blackbird (B), Chiffchaff (CC), Robin (R), Wood Pigeon (WP), Wren (WR), Jackdaw (JD), Blue Tit (BT) and Magpie (MG). No species of principal importance were recorded.

2.2.2 All of the birds observed were associated with the woodland edge or hedgerows, with no birds observed within the grassland areas.

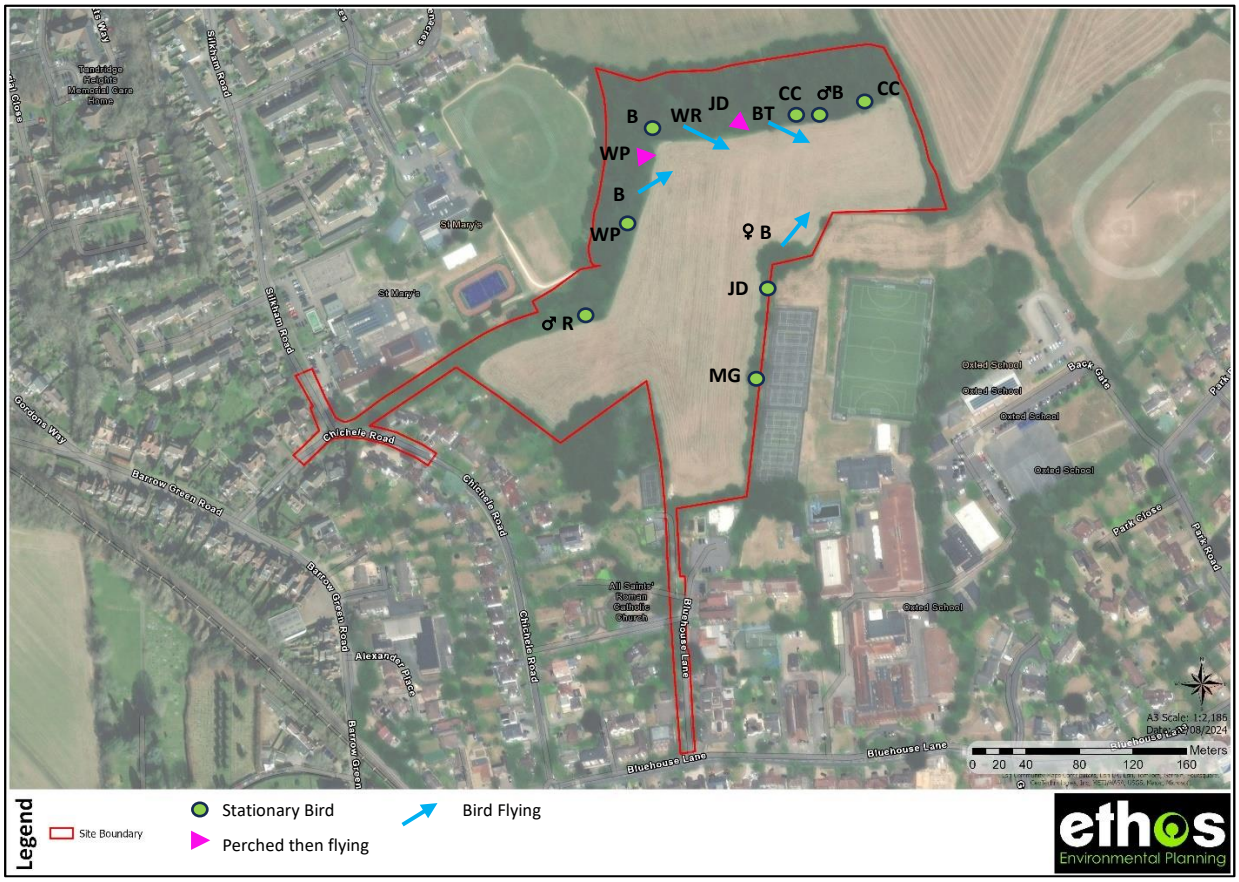


Figure 2 Breeding bird survey results (combined)

2.3 Automated surveys

2.3.1 The static detector survey identified twenty-nine species of bird, four of which were Species of Principal Importance (SPI) under the NERC Act 2006 namely linnet (*Linaria cannabina),* song thrush (*Turdus philomelos),* dunnock (*Prunella modularis),* bullfinch (*Pyrrhula pyrrhula)* and species on the Birds of Conservation Concern (BoCC) Amber list including woodpigeon (*Columba palumbus),* wren, tawny owl (*Strix aluco),* oystercatcher (*Haematopus ostralegus),* stock dove (*Columba oenas)*, moorhen (*Gallinula chloropus)* and whitethroat (*Curruca communis)*. The remaining bird species identified were common species listed on the BoCC green list. The full list of species is shown in Appendix 1.

2.3.2 The most frequent bird registrations were of chiffchaff (*Phylloscopus collybita)* followed by tawny owl and goldcrest (*Regulus regulus),* as shown in Figure 3. Only one registration for oystercatcher and two for moorhen, along with the time of day being during the night, indicated that these species are not using the site, but traveling through it. The numerous calls for tawny owl, song thrush, wren and woodpigeon indicate that these species may be utilising the site to nest and forage, as both the woodland, its edge habitats and hedgerows offer opportunities for both species. Call registrations for whitethroat, stock dove, bullfinch and linnet were low compared to other bird species recorded, therefore these species may be more likely nesting and

foraging in the surrounding area, however it is probable that these species will also make use of the woodland and hedgerows onsite.

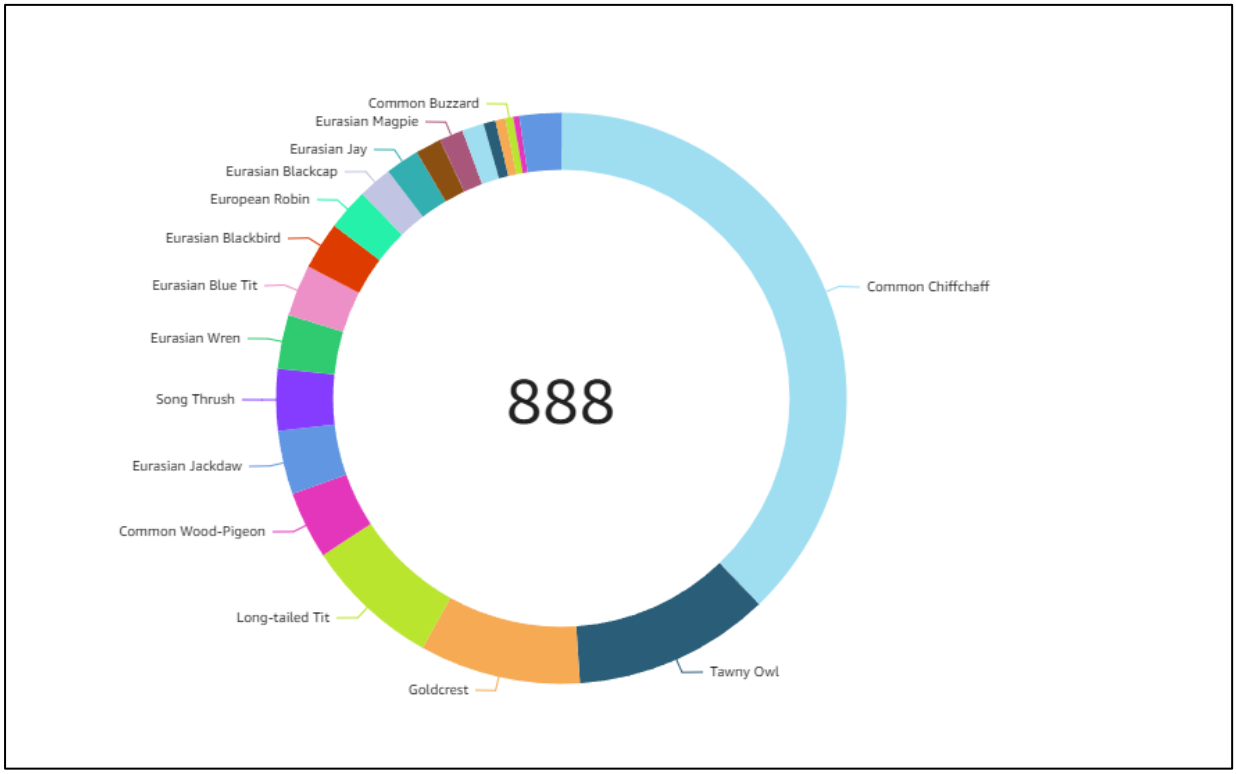


Figure 3 Number of vocal registrations for each bird species recorded during the fifteen day static detector deployment onsite.

Assessment of nature conservation importance

2.3.3 Given that the bird species identified within the data search and subsequently in the transect and static detector surveys onsite were species commonly found within woodland and garden habitats, the survey effort is deemed proportional, taking account also of the existing habitats within the development boundary.

2.3.4 It is considered that the assemblage of birds present within the woodland, native hedgerows and utilising the woodland edge habitat is of **Local importance** for nature conservation.

2.3.5 The key ecological features onsite for these species are the woodland, its edge habitats and the native hedgerows. It is likely that these habitats support bird species in the context of the woodlands connectivity to the wider landscape. These key ecological features are to be retained and enhanced with the inclusion of a 15 m buffer to the woodland edge. The proposed ecological buffer between the woodland edge and the development will prohibit access by residents, benefiting species which may use the woodland edge to nest such as chiffchaff, robin, dunnock and blackcap (*Sylvia atricapilla).*

Impacts, Mitigation and Enhancement

2.3.6 Based on the survey results and scheme layout, it is concluded that impacts on birds will be avoided.

2.3.7 The scheme does require the clearance of some areas of vegetation, for example to create the access to the site off Chichele Road. These are relatively small areas (approximately 0.1 ha), and this level of vegetation loss is not considered to have any significant impact on the population of birds present on site. The vegetation clearance will need to be undertaken sensitively, and avoid the bird nesting period. The requirement for this can be secured by planning condition.

2.3.8 The scheme provides opportunities for providing enhancement measures for birds, and the scheme will provide a minimum of one universal bird nesting box per house and apartment building in line with British Standard (BS 42021), which is a requirement of Cala Homes' Urban Wildlife Strategy (June 2024).

REFERENCES

Bird Survey & Assessment Steering Group. (2023). *Bird Survey Guidelines for assessing ecological impacts, v.1.1.1*. https://birdsurveyguidelines.org *[01/05/2024].*

Stanbury, A.J; Eaton M.A; Aebischer N; Balmer D; Brown A; Douse A; Lindley P; McCulloch N; Noble D; and Win I (2021) *The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain*. British Birds 114: 723-747

APPENDIX 1

Table 1 Table of bird species and number of vocalisations recorded during the May to June static detector survey with each species highest legal protection and current conservation status.

Bird Species Common Name	Scientific Name	Total Bird Registrations	UK Legal Protection & Conservation Status
Eurasian Linnet	*Linaria cannabina*	1	NERC S41, BoCC Red list
Song Thrush	*Turdus philomelos*	31	NERC S41, BoCC Amber list
Dunnock	*Prunella modularis*	13	NERC S41, BoCC Amber list
Eurasian Bullfinch	*Pyrrhula pyrrhula*	1	NERC S41, BoCC Amber list
Common Wood-Pigeon	*Columba palumbus*	34	BoCC Amber list
Eurasian Wren	*Troglodytes troglodytes*	27	BoCC Amber list
Tawny Owl	*Strix aluco*	99	BoCC Amber list
Eurasian Oystercatcher	*Haematopus ostralegus*	1	BoCC Amber list
Stock Dove	*Columba oenas*	2	BoCC Amber list
Eurasian Moorhen	*Gallinula chloropus*	2	BoCC Amber list
Whitethroat	*Curruca communis*	3	BoCC Amber list
Common Chiffchaff	*Phylloscopus collybita*	336	BoCC Green list
Common Buzzard	*Buteo buteo*	4	BoCC Green list
Common Chaffinch	*Fringilla coelebs*	1	BoCC Green list
Eurasian Blackbird	*Turdus merula*	24	BoCC Green list
Eurasian Blackcap	*Sylvia atricapilla*	17	BoCC Green list
Eurasian Blue Tit	*Cyanistes coeruleus*	26	BoCC Green list
Carrion Crow	*Corvus corone*	1	BoCC Green list
Eurasian Jackdaw	*Corvus monedula*	32	BoCC Green list

Eurasian Jay	*Garrulus glandarius*	17	BoCC Green list
Eurasian Magpie	*Pica pica*	12	BoCC Green list
Eurasian Nuthatch	*Sitta europaea*	5	BoCC Green list
Eurasian Treecreeper	*Certhia familiaris*	3	BoCC Green list
Great Spotted Woodpecker	*Dendrocapos major*	11	BoCC Green list
European Robin	*Erithacus rubecula*	21	BoCC Green list
Goldcrest	*Regulus regulus*	81	BoCC Green list
Great Tit	*Parus major*	2	BoCC Green list
Long-tailed Tit	*Aegithalos caudatus*	68	BoCC Green list
European Goldfinch	*Carduelis caduelis*	2	BoCC Green list
Total		**888**	

Key to UK legal protection and conservation status -
Schedule 1 (WCA) - Species protected under Schedule 1 of the Wildlife and Countryside Act 1981.
Annex 1 (WBA) – European Council Directive 2009/147/EC on the conservation of wild birds (Bird Directive).
NERC S 41 - Species of Principal Importance (SPI) under the NERC Act 2006.
BoCC - Birds of Conservation Concern on the Red and Amber Lists. Those bird species currently of lowest conservation concern are categorised on the Green list.

APPENDIX 5

Land at Chichele Road, Oxted: Reptile Survey

APPENDIX 5 - LAND AT CHICHELE ROAD, OXTED: REPTILE SURVEY

1 INTRODUCTION

1.1 The potential presence of reptiles on site was assessed considering the habitats present (availability of refugia and basking areas) and suitability of surrounding environment. The assessment of habitats was informed by the Herpetofauna Workers Manual (Gent and Gibson, 2003). Where possible, attempts to confirm reptile presence on site were made following Froglife Advice Sheet 10 – Surveying for Reptiles through direct observation in reptile "hotspots" and checking of any existing refugia.

1.2 Seven presence / absence surveys were targeted to areas most likely to contain reptile habitats and to those areas that may be disturbed as part of the scheme. Searches were undertaken when the air temperature was between 9°C and 18 °C with intermittent or hazy sunshine, little or no wind, and no rainfall.

2 METHODOLOGY

2.1.1 Artificial refuges of bitumen roofing felt were deployed in suitable habitat on 22nd May 2024; the grassland margins along the woodland and hedgerow boundaries. Thirty refuges were deployed across the site in accordance with best practice, as shown in Figure 3. The refugia were left to 'bed in', following which they were checked for the presence of reptiles on seven separate occasions from 6th June to 16th July (see Table 1 below).

2.1.2 Where reptiles were observed, the species, number of individuals and location were recorded by the surveyor. The sex and maturity of the reptiles were also recorded where feasible. Peak counts of each species were used to assess populations as either 'low', 'good' or 'exceptional' according to Froglife criteria (Froglife, 1999).

2.1.3 During the latter part of the survey period, a number of refugia (approximately 10) appeared to have been removed, however, this only affected the final survey and is not considered to be a significant limitation.

Figure 1 Locations of deployed reptile refugia

2.2 Results

2.2.1 The environmental variables for the surveys are detailed in Table 1 and the findings of the targeted reptile surveys are shown in Table 2.

Table 1 Environmental variables recorded during surveys

Visit	Date/ Time	Temperature (°C)	Wind Speed (m/s)	Humidity (%)	Cloud Cover (octas)
1	06/06/2024 (13:50)	16	5	55	3
2	24/06/2024 (20:20)	18	2.2	62	6
3	25/06/2024 (07:45)	17.5	1	57	2
4	04/07/2024 (18:15)	18	7	49	5
5	09/07/2024 (07:20)	17.5	4	69	4
6	17/07/2024 (07:30)	17	4	69	4
7	07/08/2024 (07:00)	16.5	1.9	48	1

Table 2 Reptile survey results

Survey Number	Date	Findings	Locations of Reptiles
1	06/06/2024	None found.	N/A
2	24/06/2024	None found.	N/A
3	25/06/2024	None found.	N/A
4	04/07/2024	None found.	N/A
5	16/07/2024	None found.	N/A
6	17/07/2024	None found.	N/A
7	07/08/2024	None found.	N/A

2.3 Summary

2.3.1 There were no observations of reptiles on any of the seven visits undertaken between June to August.

2.3.2 The site was found to support a negligible population of reptiles, as on no occasion were reptiles discovered using refuges.

APPENDIX 6

Land at Chichele Road, Oxted: Amphibian Survey

APPENDIX 6 - LAND AT CHICHELE ROAD, OXTED: AMPHIBIAN SURVEY

1 INTRODUCTION

1.1 During previous surveys, a small ephemeral pond in the ancient woodland has been repeatedly dry during the survey window for great crested newts and therefore no surveys for GCN were undertaken. However, in 2024 the wet weather has meant the pond did contain water in spring and therefore an eDNA survey could be undertaken.

Photo 1 Woodland pond May 2022

Photo 2 Wet pond – May 2024

2 METHODOLOGY

2.1 The woodland pond on site was subject to eDNA surveys on 22nd May 2024. The survey comprised the collection of 40ml samples from 20 locations around the edge of the pond. Samples were mixed together in a bag and six 15ml samples then extracted and stored within preserving fluid. These samples were then sent to ADAS, who analyse the samples for GCN DNA. This technique has been tested by DEFRA and found to have a reliability of 99.3%. Sampling methodology followed best practice guidance within Analytical and Methodological Development for Improved Surveillance of the Great Crested Newt (Freshwater Habitats Trust, 2014).

3 RESULTS

3.1 The results of the eDNA survey confirmed likely absence of GCN with 12 out of 12 tests negative for presence of GCN DNA. The test results are provided overleaf.

4 CONCLUSION

4.1 The absence of GCN in the ephemeral pond in the woodland in the north of the site provides additional evidence to confirm the previous assessment that GCN are likely absent from site.

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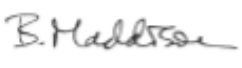
Sample ID: ADAS-5295	Condition on Receipt: Medium Sediment	Volume: Passed
Client Identifier: Oxted 1	Description: pond water samples in preservative	
Date of Receipt: 28/05/2024	Material Tested: eDNA from pond water samples	

Determinant	Result	Method	Date of Analysis
Inhibition Control†	0 of 2	Real Time PCR	31/05/2024
Degradation Control§	Within Limits	Real Time PCR	31/05/2024
Great Crested Newt*	0 of 12 (GCN negative)	Real Time PCR	31/05/2024
Negative PCR Control (Nuclease Free Water)	0 of 4	Real Time PCR	As above for GCN
Positive PCR Control (GCN DNA 10^{-4} ng/µL)#	4 of 4	Real Time PCR	As above for GCN
Report Prepared by:	Dr Helen Rees	Report Issued by:	Dr Ben Maddison
Signed:		Signed:	
Position:	Director: Biotechnology	Position:	MD: Biotechnology
Date of preparation:	31/05/2024	Date of issue:	31/05/2024

eDNA analysis was carried out in accordance with the stipulated methodology found in the Technical Advice Note (WC1067 Appendix 5 Technical Advice Note) published by DEFRA and adopted by Natural England.

** If all PCR controls and extraction blanks give the expected results a sample is considered: negative for great crested newt if all of the replicates are negative; positive for great crested newt if one or more of the replicates are positive.*

† Recorded as the number of positive replicate reactions at expected C_t value. If the expected C_t value is not achieved, the sample is considered inhibited and is diluted as per the technical advice note prior to amplification with great crested newt primer and probes.

§ No degradation is expected within time frame of kit preparation, sample collection and analysis.

#Additional positive controls (10^{-1}, 10^{-2}, 10^{-3} ng/µL) are also routinely run, results not shown here.

ADAS eDNA Results Sheet: 1040068-Ethos Oxted (01) Page | 1 Edition: 01

Appendix 1: Interpretation of results

Sample Condition

Upon sample receipt we score your samples according to quality: good, low sediment, medium sediment, high sediment, white precipitate, and presence of algae.

There are three reasons as to why sediment should be avoided:

1. It is possible for DNA to persist within the sediment for longer than it would if it was floating in the water which could lead to a false positive result i.e. in this case GCN not recently present but present a long time ago
2. In some cases sediment can cause inhibition of the PCR analysis used to detect GCN eDNA within samples which could lead to an indeterminate result.
3. In some cases sediment can interfere with the DNA extraction procedure resulting in poor recovery of the eDNA which in turn can lead to an indeterminate result.

Algae can make the DNA extraction more difficult to perform so if it can be avoided then this is helpful.

Sometimes samples contain a white precipitate which we have found makes the recovery of eDNA very difficult. This precipitate can be present in such high amounts that it interferes with the eDNA extraction process meaning that we cannot recover the degradation control (nor most likely the eDNA itself) at sufficient levels for the control to be within the acceptable limits for the assay, therefore we have to classify these type of samples as indeterminate.

What do my results mean?

A positive result means that great crested newts are present in the water or have been present in the water in the recent past (eDNA degrades over around 7-21 days).

A negative result means that DNA from the great crested newt has not been detected in your sample.

On occasion an inconclusive result will be issued. This occurs where the DNA from the great crested newt has not been detected but the controls have indicated that either: the sample has been degraded and/or the eDNA was not fully extracted (poor recovery); or the PCR inhibited in some way. This may be due to the water chemistry or may be due to the presence of high levels of sediment in samples which can interfere with the DNA extraction process. A re-test could be performed but a fresh sample would need to be obtained. We have successfully performed re-tests on samples which have had high sediment content on the first collection and low sediment content (through improved sample collection) on the re-test. If water chemistry was the cause of the indeterminate then a re-test would most likely also return an inconclusive result.

The results will be recorded as indeterminate if the GCN result is negative and the degradation result is recorded as:

1. evidence of decay - meaning that the degradation control was outside of accepted limits
2. evidence of degradation or residual inhibition - meaning that the degradation control was outside of accepted limits but that this could have been due to inhibitors not being removed sufficiently by the dilution of inhibited samples (according to the technical advice note)

Appendix 7

Inverterbrate Site Survey of Field off Bluehouse Lane, Oxted, Surrey, 2024

APPENDIX 7

INVERTEBRATE SITE SURVEY OF FIELD OFF BLUEHOUSE LANE, OXTED, SURREY, 2024

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JUNE 2024

Summary

A survey of terrestrial invertebrates was carried out across field and woodland field north of Bluehouse Lane, Oxted on 29th May 2024.

A total of 106 invertebrate taxa were identified, one of which Small Heath (*Coenonympha pamphilus*) is a Section 41 Priority Species.

The pasture field is largely very species poor and has a low value for invertebrates, grass vetchling and ox-eye daisy were the only potential host species of any value within the sward which is dominated by Yorkshire fog and rye-grass.

EXPERTISE

I have worked as a freelance Ecologist specialising in invertebrates since 1995. I have published over 450 papers and notes on the distribution and ecology of the British invertebrate fauna, and authored *Beetles of Surrey*, and *Water Bugs & Water beetles of Surrey* in the Surrey Wildlife Trust Atlas series. I am county recorder for Surrey for Coleoptera, Heteroptera and Spiders. I have carried out over 150 baseline invertebrate surveys across the County since 1995.

INTRODUCTION

A site assessment of the field north of Bluehouse Lane was commissioned to further elucidate the relative values of the habitats for invertebrate species.

Figure 1. Site plan. *Courtesy of Google maps*

RAPID ASSESSMENT METHODOLOGY

The site was walked and scores assigned to habitat elements present. The habitat elements and scoring criteria created by Dobson & Fairclough (2021) are summarized below;-

Summary of the 11 habitat elements assessed by IHP survey.

HE1 In all its forms; from decaying wood on/in large trees to woodland floor debris Rotational Management

HE2 Planned or serendipitous; and whether for nature conservation or other purposes Nectar Resources

HE3 As a proxy for nectar- and pollen resources, as assessment of pollen resources is impracticable on a walk-through survey Wet Substrates

HE4 Including marginal, marshy, muddy and seasonally inundated habitats, as well as flushes Open Water Habitats

HE5 The open water element of rivers, lakes, ponds, streams, ditches, etc. Structural Patchwork

HE6 Habitat mosaics, including, but by no means restricted to open mosaic habitats on previously developed land Still Air (S)

HE7 Suntraps and still-air microclimates in open situations; the term 'still air' is used in preference to 'wind breaks' as many rigid wind breaks are likely to produce turbulent air in their lee Still Air (H)

HE8 Humid still-air microclimates in sheltered and shaded situations Connectivity

HE9 Landscape-scale connectivity between the site and external habitats Ecoclines

HE10 A graded transition between two or more broad habitats Bare Earth

HE11 Unshaded bare or sparsely vegetated well-drained substrate, regardless of soil type.

Grading system applied to habitat elements.

Grade Description

Negligible/Absent (E) Habitat element is absent or of insignificant (barely perceptible) quantity.

Minor (D) Habitat element is present but is insufficient quality to qualify as Moderate or above. For example, it may be of extremely limited extent, or very sparsely dispersed. Likely to support common and widespread, generalist species.

Moderate (C) A clear example of the habitat element is present, but which does not qualify as Major. Likely to be of sufficient quality to support a characteristic invertebrate fauna.

Major (B) Good quality examples of each habitat element which do not meet the criteria for
Exceptional. Likely to be a predominant factor in supporting characteristic and specialised invertebrate assemblages. Considerations might include the extent, maturity and historic and current connectivity of the element.

Exceptional (A) Very high-quality examples of the habitat element, including but not restricted to those of potential regional significance. This may be for reasons of intrinsic quality, rarity, vulnerability or the perceived importance of its position in the wider landscape.

INVERTEBRATE SAMPLING

Because it is impracticable to survey all the potential invertebrates within any given site, only specific groups of species were examined during fieldwork. These groups are sufficiently well known as to allow meaningful comparisons to be made with other sites, both locally and nationally. They are also important as indicators of the quality of a site and the habitats present (see Brooks 1993).

Groups covered during the survey were:

- Mollusca (slugs and snails)
- Arachnida (spiders, harvestmen & pseudoscorpions)
- Isopoda (woodlice)
- Thysanura (bristletails)
- Ephemeroptera (mayflies)
- Odonata (dragonflies & damselflies)
- Plecoptera (stoneflies)
- Orthoptera (grasshoppers & crickets)
- Dictyoptera (cockroaches)
- Dermaptera (earwigs)
- Hemiptera-Heteroptera (true-bugs)
- Hemiptera-Homoptera (hoppers)
- Neuroptera (lace-wings)
- Mecoptera (scorpion-flies)
- Lepidoptera (butterflies & moths)
- Trichoptera (caddis flies)
- Diptera (true flies)
- Aculeate Hymenoptera (ants, bees & wasps)
- Coleoptera (beetles)

RESULTS

Weather conditions were sunny and warm on the visit. A total of 105 species of invertebrate were recorded (species list is given in Appendix 2), one of which Small Heath (*Coenonympha pamphilus*) is a Section 41 Priority Species..

RAPID ASSESSMENT

The scores assigned are shown in Appendix 1. The field does not pass the threshold for requirement of further surveys. The site has potential to support Schedule 41 species. Brown hairstreak may utilise the blackthorn growing in open conditions on the southern edge of the woodland and eastern hedgeline.

Figure 2. Looking north from Southwest corner of site.

Figure 2. Looking north across field

Figure 4. Looking northeast through wood

Figure 5. Woodland showing dense bramble understorey

Figure 6. Seasonal pool in woodland

ECOLOGICAL ASSESSMENT

The pasture field is very species poor and has a low value for invertebrates (see figures 2 & 3), the main exception being the presence of a thriving colony of grass feeding small heath butterfly with at least 40 seen across the field, especially along the sheltered southern.

The woodland has old woodland indicators including abundant bluebells, enchanter's nightshade, three-veined sandwort, wood melick and dog's mercury. However, the more open areas are dominated by bramble patches and the thinner woodland along the north edge has abundant cow parsley, with cleavers locally aggressive (See figures 4 and 5). The understorey is well developed with ash, holly, hawthorn, crab apple and some hazel. Small wood is abundant, but the larger trees mainly ash and oaks (<150 years old). There is one larger oak with extensive epicormic growth.
There is a seasonal pool (see figure 6) which was quite full after the recent heavy rains. It is devoid of macrophytes and unlikely to support much of interest.

The peripheral hedges and southern edge of the woodland has some blackthorn which may be utilised by Brown Hairstreak.

Rapid assessment of the field indicates it does not pass the threshold for further surveys. However, it does support a population of small heath which is a schedule 41 species.

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APPENDICES

APPENDIX 1. RAPID ASSESSMENT SCORES

Scores in bold are compartments which pass the threshold and would warrant further survey.

Recording compartment	HE1 (decaying wood)	HE2 (rotational management)	HE3 (Nectar)	HE4 (wet substrates)	HE5 (Open water)	HE6 (Patchwork open mosaic)	HE7 (shelter sun traps)	HE8 (shelter damp shaded	HE9 (connectivity	HE10 (ecocline	HE11 (bare ground)
Grassland	E	D	D	E	E	E	D	E	D	D	E
Woodland	C	D	D	D	D	D	D	D	D	D	E

APPENDIX 2. Species list for 2024

Species	Family	Order	Conservation status
Anyphaena accentuata	Anyphaenidae	Araneae	common
Araneus diadematus	Araneidae	Araneae	common
Araniella cucurbitina	Araneidae	Araneae	common
Nuctenea umbratica	Araneidae	Araneae	common
Erigone atra	Linyphiidae	Araneae	common
Linyphia triangularis	Linyphiidae	Araneae	common
Ero aphana	Mimetidae	Araneae	local
Philodromus albidus	Philodromidae	Araneae	common
Philodromus cespitum	Philodromidae	Araneae	common
Philodromus rufus	Philodromidae	Araneae	local
Tetragnatha extensa	Tetragnathidae	Araneae	common
Tetragnatha montana	Tetragnathidae	Araneae	common
Anelosimus vittatus	Theridiidae	Araneae	common
Paidiscura pallens	Theridiidae	Araneae	common
Misumena vatia	Thomisidae	Araneae	common
Xysticus cristatus	Thomisidae	Araneae	common
Cantharis rufa	Cantharidae	Coleoptera	common
Malthodes minimus	Cantharidae	Coleoptera	common
Clytus arietis	Cerambycidae	Coleoptera	common
Grammoptera ruficornis	Cerambycidae	Coleoptera	common
Bruchus loti	Chrysomelidae	Coleoptera	common
Coccinella septempunctata	Coccinellidae	Coleoptera	common
Rhyzobius chrysomeloides	Coccinellidae	Coleoptera	common

Rhyzobius litura	Coccinellidae	Coleoptera	common
Tytthaspis sedecimpunctata	Coccinellidae	Coleoptera	common
Curculio glandium	Curculionidae	Coleoptera	common
Sitona lineatus	Curculionidae	Coleoptera	common
Strophosoma melanogrammum	Curculionidae	Coleoptera	common
Dasytes aeratus	Dasytidae	Coleoptera	common
Malachius bipustulatus	Malachiidae	Coleoptera	common
Meligethes flavimanus	Nitidulidae	Coleoptera	common
Oedemera lurida	Oedemeridae	Coleoptera	common
Oedemera nobilis	Oedemeridae	Coleoptera	common
Hemicoelus fulvicorne	Ptinidae	Coleoptera	common
Pyrochroa serraticornis	Pyrochroidae	Coleoptera	common
Tatianaerhynchites aequatus	Rhynchitidae	Coleoptera	common
Anaspis fasciata	Scraptiidae	Coleoptera	common
Anaspis maculata	Scraptiidae	Coleoptera	common
Tachyporus hypnorum	Staphylinidae	Coleoptera	common
Forficula auricularia	Forficulidae	Dermaptera	common
Calliphora vomitoria	Calliphoridae	Diptera	common
Lucilia sericata	Calliphoridae	Diptera	common
Dasineura fraxini	Cecidomyiidae	Diptera	common
Lonchoptera lutea	Lonchopteridae	Diptera	common
Scathophaga stercoraria	Scathophagidae	Diptera	common
Episyrphus balteatus	Syrphidae	Diptera	common
Eristalis arbustorum	Syrphidae	Diptera	common
Eristalis pertinax	Syrphidae	Diptera	common
Eupeodes corollae	Syrphidae	Diptera	common
Eupeodes luniger	Syrphidae	Diptera	common
Myathropa florea	Syrphidae	Diptera	common
Xylota segnis	Syrphidae	Diptera	common
Philaenus spumarius	Aphrophoridae	Hemiptera	common
Iassus lanio	Cicadellidae	Hemiptera	common
Ledra aurita	Cicadellidae	Hemiptera	local
Tachycixius pilosus	Cixiidae	Hemiptera	common
Coreus marginatus	Coreidae	Hemiptera	common
Closterotomus trivialis	Miridae	Hemiptera	common
Cyllecoris histrionius	Miridae	Hemiptera	common
Deraeocoris lutescens	Miridae	Hemiptera	common
Dryophilocoris flavoquadrimaculatus	Miridae	Hemiptera	common
Harpocera thoracica	Miridae	Hemiptera	common
Miris striatus	Miridae	Hemiptera	common
Phylus melanocephalus	Miridae	Hemiptera	common
Psallus assimilis	Miridae	Hemiptera	common
Psallus perrisi	Miridae	Hemiptera	common
Psallus varians	Miridae	Hemiptera	common

Rhabdomiris striatellus	Miridae	Hemiptera	common
Palomena prasina	Pentatomidae	Hemiptera	common
Pentatoma rufipes	Pentatomidae	Hemiptera	common
Psyllopsis fraxini	Psyllidae	Hemiptera	common
Apis mellifera	Apidae	Hymenoptera	common
Bombus lucorum	Apidae	Hymenoptera	common
Bombus pascuorum	Apidae	Hymenoptera	common
Bombus terrestris	Apidae	Hymenoptera	common
Arge cyanocrocea	Argidae	Hymenoptera	common
Lasius flavus	Formicidae	Hymenoptera	common
Lasius niger	Formicidae	Hymenoptera	common
Myrmica ruginodis	Formicidae	Hymenoptera	common
Lasioglossum morio	Halictidae	Hymenoptera	common
Armadillidium vulgare	Armadillidiidae	Isopoda	common
Philoscia muscorum	Philosciidae	Isopoda	common
Anthophila fabriciana	Choreutidae	Lepidoptera	common
Camptogramma bilineata	Geometridae	Lepidoptera	common
Celastrina argiolus	Lycaenidae	Lepidoptera	common
Favonius quercus	Lycaenidae	Lepidoptera	local
Coenonympha pamphilus	Nymphalidae	Lepidoptera	Section 41 Priority Species; VU
Pararge aegeria	Nymphalidae	Lepidoptera	common
Vanessa atalanta	Nymphalidae	Lepidoptera	common
Alabonia geoffrella	Oecophoridae	Lepidoptera	common
Gonepteryx rhamni	Pieridae	Lepidoptera	common
Pieris rapae	Pieridae	Lepidoptera	common
Acleris forsskaleana	Tortricidae	Lepidoptera	common
Grapholita compositella	Tortricidae	Lepidoptera	common
Tortrix viridana	Tortricidae	Lepidoptera	common
Lithobius forficatus	Lithobiidae	Lithobiomorpha	common
Enallagma cyathigerum	Coenagrionidae	Odonata	common
Pyrrhosoma nymphula	Coenagrionidae	Odonata	common
Chorthippus brunneus	Acrididae	Orthoptera	common
Meconema thalassinum	Meconematidae	Orthoptera	common
Leptophyes punctatissima	Phaneropteridae	Orthoptera	common
Pholidoptera griseoaptera	Tettigoniidae	Orthoptera	common
Valenzuela flavidus	Caeciliusidae	Psocoptera	common
Arion subfuscus	Arionidae	Pulmonata	common
Monacha cantiana	Hygromiidae	Pulmonata	common
Lehmannia marginata	Limacidae	Pulmonata	common
Aegopinella nitidula	Oxychilidae	Pulmonata	common

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Appendix 8

Chichele Road Oxted BNG Assessment Habitat Management and Monitoring Report

BNG Habitat Management & Monitoring Plan

Land at Chichele Road, Oxted

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Report	Biodiversity Net Gain Assessment, Management and Monitoring Plan
Site Name	Land at Chichele Road, Oxted
Author(s)	Gareth Ainscough MSc ACIEEM
Checked by	Adam Jessop MSc MCIEEM
Client	Cala Homes Ltd.
Date of Issue	01/02/2024
Status	***For client review***

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1.0 INTRODUCTION

1.1 Background

Ecosupport Ltd. were commissioned by Cala Homes Ltd to undertake a Biodiversity Net Gain Assessment at the 'Land at Chichele Road, Oxted' and detail the results of this assessment within a Habitat Management and Monitoring Plan.

The purpose of the Biodiversity Net Gain (BNG) assessment is to quantify the biodiversity value of the site prior to its development, and the predicted value post development. This is measured in biodiversity units, calculated according to the habitats present based on their size, distinctiveness and condition. This enables the quantitative calculation of the predicted change in biodiversity value as a result of the proposed development, with the objective of achieving a net gain in biodiversity.

This report will also address how habitats will be enhanced and created to achieve a net gain in biodiversity units and how these habitats will be managed and monitored for at least 30 years. A comprehensive management strategy will be included following the finalisation of the offsetting strategy. The following points will be covered (DEFRA, 2023a):

- How off-site gains and / or significant on-site enhancements will be managed, taking into account any legal restrictions and requirements,
- When and how habitats will be monitored,
- When and how monitoring results will be reported,
- When and how management proposals will be reviewed,
- How habitats will be restored if the management plan is not working.

This report should be read in conjunction with the associated Environmental Statement (Ethos, 2023)

N.B. It is anticipated that this document will be amended to include a comprehensive management plan upon finalisation of the proposed offsetting scheme and landscape plans.

1.2 Site Location and Description

The site comprises a parcel of managed grassland and woodland located to the east of Chichele Road, Oxted, RH8 0AB (centred on OS grid reference TQ394 534) (**Fig 1**). The site is located along the northern boundary of Oxted, within a larger area of managed grassland fields situated between residential dwellings to the south and bounded by the M25 to the north. The site is bounded by St Mary's C of E School to the west, with Oxted & Caterham Academy situated along the site's eastern boundary. The sites northern boundary comprises of a sizable area of deciduous woodland, with open grassland habitat situated beyond the site to the north.

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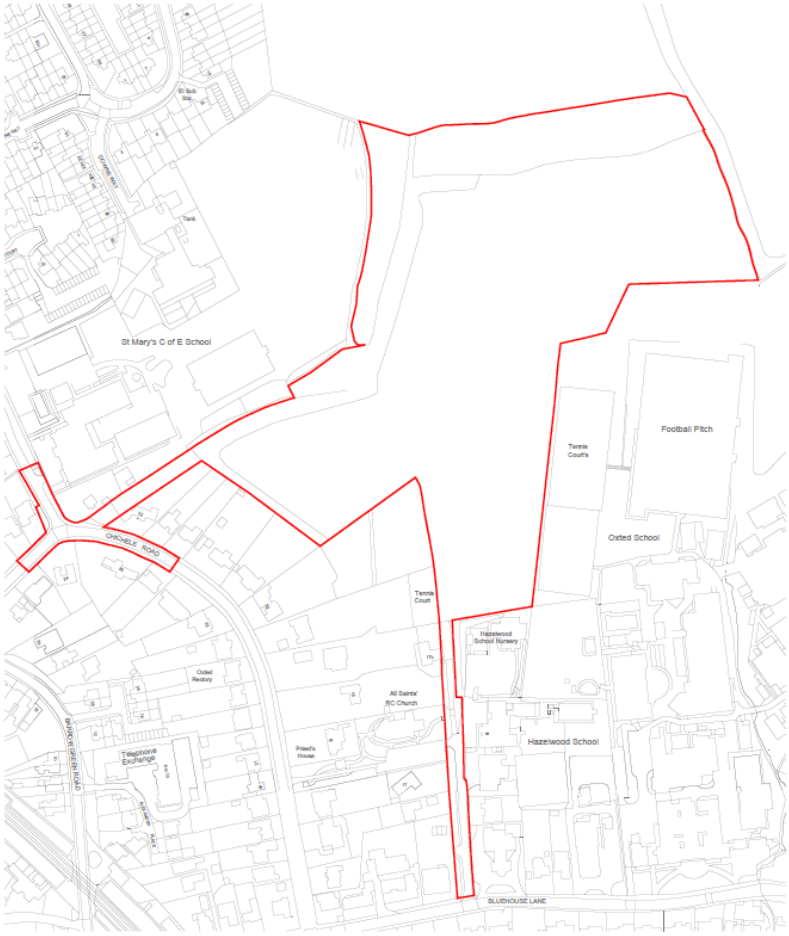
Figure 1. Site red line boundary, drawing NoCB_36_313_000 (Cooper Baillie, 2023).



1.3 Development Proposals

The proposals entail the development of 116 residential dwellings including affordable housing with associated access, car parking, soft landscaping and play provision (**Fig 2**).

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Figure 2. Proposed site layout, Drawing No CB_36_313_001 (Cooper Baille, 2023)

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2.0 METHODOLOGY

The methodology for the assessment follows the Natural England Statutory Biodiversity Metric habitat condition assessment protocols and uses the Statutory Biodiversity Metric calculation tool to calculate biodiversity losses and gains (DEFRA, 2023b).

2.1 Habitat Assessment

Habitats on site pre-development were identified in accordance with the categories specified for a UK Habitats survey using Habitat Definitions Version 2.0 (UKHab Ltd., 2023). This was chosen as an appropriate habitat categorisation system as it fits within the Statutory Biodiversity Metric calculation. The habitat definitions used were based on those identified during the updated walkover on the 18th January 2024. Whilst the onsite habitats were identified to be broadly similar to those reported within the '*Land at Chichele Road, Oxted : Environmental Statement*' (Ethos, 2023), some changes to the habitat classifications were made following the updated site walkover. An updated summary of the existing habitats has been included within this report.

A condition assessment, in line with the Statutory Biodiversity Metric Technical Annex 1, was carried out on site by Gareth Ainscough MSc ACIEEM, Project Ecologist with Ecosupport, on the 18th January 2024. The area of identified habitats is calculated in hectares (ha), ignoring linear features or ditches (the area is measured to the centre line of such features). The length of linear features is measured separately in kilometres (km). The dominant habitat type was selected, according to those defined by UKHab Ltd (2023). Where there was disparity between the UK classification for habitat type and those present within the Statutory Biodiversity Metric calculator tool, this was noted within the condition assessment tables.

2.2 Habitat Distinctiveness

Each habitat was assigned a score for distinctiveness, according to the Statutory Biodiversity Metric calculator tool (DEFRA, 2023b). This ranged from poor - high for most habitats, or not applicable (e.g. developed land; sealed surface). Using the tool, habitats were assigned a score based on their distinctiveness.

2.3 Habitat Condition

The condition of each habitat was assessed following criteria set out in the Statutory Biodiversity Metric Technical Annex 1 (DEFRA, 2023b), which includes detailed assessment criteria for different habitats. Full results of the condition assessments can be found within **Section 3.0**. The condition of each habitat was assessed individually on site, but was found to be the same for each type across the site. Therefore, the results of the habitat condition for each habitat are grouped together for each habitat.

2.4 Limitations

Whilst there were not considered to be any significant limitations on the results of the habitat survey, the proposed access route along the sites western boundary from Chichele road was not fully accessible due to the dense scrub habitat present at this location. Despite the condition assessment being conducted outside of the optimal season for vascular flowering plants, given the nature of the habitat types present and the species recorded, this is not considered to have affected the accuracy of the site's valuation.

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3.0 EXISTING HABITATS AND DEVELOPMENT PROPOSALS

The habitats on site were categorised according to UK Hab Ltd. Habitat Definitions Version 2.0 (2023) as listed below (please refer to the baseline habitats map appended for information on the locations of these habitats on site).

N.B. *The woodland copse located along the northern boundary of the site is situated beyond the footprint of the development and will not be impacted by the proposed work as a result and therefore has been excluded from this assessment. Furthermore, appropriate barriers in the form of fencing and buffer planting will be implemented along the northern boundary of the development to ensure that this habitat type is protected from potential future damage generated by the future residents of the proposed dwellings.*

- g4 – Modified Grassland (108)
- h3d - Bramble Scrub (16, 517)
- h3h - Mixed Scrub (50)
- h3a - Blackthorn Scrub
- u1b - Developed Land ; Sealed Surface (800)
- h2a – Native hedgerow (11)
- h2b - Non-native and Ornamental Hedgerow (11)

Secondary Codes

11 – Hedgerow with trees	16 – Tall Forbs
33 – Line of trees	50 - Ditch
108 – Frequently Mown	517 – Recent Management
800 - Road	

3.0.1 g4 – Modified Grassland

The majority of the site comprised of g4 modified grassland which is evidently maintained to a short sward height (**Fig 3**). Grassland species noted within this habitat type included Yorkshire Hog (*Holcus lanatus*), Cock's Foot (*Dactylis glomerata*), Common Bent (*Agrostis capillaris*), Cranesbill spp (*Geranium* spp.), Ribwort Plantain (*Plantago lanceolata*), Creeping Buttercup (*Ranunculus repens*), Ragwort (*Jacobaea vulgaris*), Hawkbits (*Leontodon spp*), Oxeye Daisy (*Leucanthemum vulgare*), Soft Rush (*Juncus effusus*) and common vetch (*Vicia sativa*).

3.0.2 h3d – Bramble Scrub

Bramble (*Rubus fruticosus*) dominated scrub was noted growing along the field boundaries nearby the southern site access, with another recently managed section situated within the western corner of the site nearby the proposed access route from Chichele Road. In addition to Bramble, tall forb species were noted including Common Nettle (*Urtica dioica*), Common Hogweed (*Heracleum sphondylium*), Cleavers (*Galium aparine*) alongside Ivy (*Hedera helix*).

3.0.3 h3h - Mixed Scrub

In addition to the proposed access road from Chichele Road (**Fig 6**), patches of mixed scrub habitat were recorded along the grassland boundaries and adjacent to the woodland habitat present within the northern portion of the site. Species recorded within this habitat included Dog Rose (*Rosa canina*), Bramble, Oak (*Quercus robur*), Silver Birch (*Betula pendula*), Hazel (*Corylus avellana*), Hawthorn

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(*Crataegus monogyna*), Buddliea (*Buddleja davidii*), Willow (*Salix* sp.) and Wild Cherry (*Prunus avium*). A small ditch was noted running along the boundary within this habitat type situated in the western portion of the site. Whilst largely dry, some isolated sections filled with water were noted during the survey.

Figure 3. Modified grassland present throughout the central portion of the site, taken from the sites southern boundary facing north (January 2024).

Figure 4. Blackthorn scrub habitat situated along the western boundary of the site, taken from the sites western boundary facing north-east (January, 2024).

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3.0.3 h3a – Blackthorn Scrub

Following the updated walkover survey a section of scrub habitat situated within the western portion of the site was reclassified from Mixed Scrub to Blackthorn scrub, due to the dominance of Blackthorn (*Prunus spinosa*) growth noted in this area. Bramble was also noted within this area (**Fig 4**).

3.0.4 u1b - Developed Land ; Sealed Surface

Small areas of tarmac road situated along the proposed access routes to the site from Chichele Road to the west and Bluehouse Lane to the south were classified as u1b developed lane ; sealed surface.

3.0.6 h2a – Native Hedgerow

A number of hedgerows were situated along the site boundaries, which were noted to be in similar in composition to what was identified by the previous survey undertaken by Ethos (2023) :

"*H1 – native hedgerow contained at the eastern boundary of the Site, which includes mature Hawthorn, Field Maple (Acer campestre), Oak, Hazel, Blackthorn and Bramble;*

H4 and H6 – native hedgerow contained at the southern area of the Site. The species include: Hawthorn, Wild Cherry, Hazel, Dogwood (Cornus sanguinea), Blackthorn and Beech (Fagus sylvatica). The understory contained Bramble, Common Nettle and Hogweed; and

H7 – native hedgerow located at the south-western boundary of the Site, comprised of a hedgerow containing Field Maple and Beech." (Ethos, 2023)

Native hedgerow with trees

"*H2 – hedgerow with trees along the east boundary of the Site. Species present include Hawthorn, Blackthorn, Ash (Fraxinus excelsior), Bramble, Hazel, Oak and Field Maple*." (Ethos, 2023) (**Fig 5**)

3.0.7 h2b – Non-native and Ornamental Hedgerow

H3 – A mature non-native leylandii (*Cupressus x leylandii*) hedgerow was noted growing along the eastern boundary adjacent to the southern access road.

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Figure 5. Image showing a section of native hedgerow 'H2' present along the sites eastern boundary **(**January 2024).

Figure 6. Image showing a section of the mixed scrub habitat situated within the proposed access road from Chichele Road (January 2024).

The following sections provide the condition assessment undertaken with reference to the Statutory Biodiversity Metric Technical Annex 1 (Defra, 2023b).

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3.1 Non-linear Habitats

The following tables (**Tables 1 – 5**) outline the condition assessments undertaken on the 18th January 2024 for the non-linear habitats on site. The habitat types which were not subject to a condition assessment included Bramble Scrub (P3), artificial unvegetated; unsealed surface (P1 and P6) and buildings as they have a predetermined condition of 'condition assessment N/A' or 'N/A – Other' under current guidance within The Statutory Metric. Where condition criteria have been failed, further information on this (i.e. the justification) has been provided in the relevant habitat table.

Table 1. Condition assessment of the modified grassland in the central field on site.

Map location	Modified grassland comprising the central field on site.
Area	4.28ha
Distinctiveness	Low
UK Hab Habitat Type	g4 – Modified Grassland
UKHab Map Parcel ID	P5
Condition	Poor condition (score 1): Fails essential criterion A.

Item	Condition Assessment Criteria	Pass/Fail
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.** Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m^2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	Fail – quadrats were randomly placed across the field on average this field supported less than 6 species per m^2.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	-
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	-
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	-
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	-

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	F	Cover of bracken *Pteridium aquilinum* is less than 20%.	-
	G	There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA).	-

☐ Good condition (3): Passes 6 or 7 criteria including passing essential criterion A

☐ Moderate condition (2): Passes 4 or 5 criteria including passing essential criterion A

☒ **Poor condition (1): "Passes 3 or fewer criteria;**
OR
Passes 4 - 6 criteria (excluding criterion A)"

Table 2. Condition assessment of the mixed scrub habitat located along the south-western boundary of the site.

Map location	Mixed scrub strip situated along the sites south-western boundary
Area	0.013ha
Distinctiveness	Medium
UK Hab Habitat Type	h3h – Mixed Scrub
UKHab Map Parcel ID	P9
Condition	Poor condition (score 1): Passes 2 or fewer criteria

Item	Condition Assessment Criteria	Pass/Fail
A	The scrub is a good representation of the habitat type it has been identified as, based on its UKHab description (where in its natural range). The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type. At least 80% of the scrub is native, and there are at least three native woody species, with no single species comprising more than 75% of the cover (except Hazel, Common Juniper, Sea Buckthorn or Box, which can be up to 100% cover).	Pass
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	Pass
C	There is an absence of invasive non-native plant species (as listed on Schedule 9 of the WCA) and species indicative of sub-optimal condition make up less than 5% of ground cover.	***Fail*** – Presence of Schedule 9 listed species *Cotoneaster horizontalis* recorded
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	***Fail*** - Scrub represents a narrow margin along the modified grassland boundary
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	***Fail*** – Scrub represents a narrow margin

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				along the modified grassland boundary

☐ Good condition (3): Passes 5 criteria

☐ Moderate condition (2): Passes 3 or 4 criteria

☒ **Poor condition (1): "Passes 2 or fewer criteria;**

Table 3. Condition assessment of the mixed scrub habitat located along the north-western boundary of the site.

Map location	Mixed scrub strip situated along the sites north-western boundary
Area	0.09ha
Distinctiveness	Medium
UK Hab Habitat Type	h3h – Mixed Scrub
UKHab Map Parcel ID	P7
Condition	Moderate condition (score 2): Passes 3 or 4 criteria

Item	Condition Assessment Criteria	Pass/Fail
A	The scrub is a good representation of the habitat type it has been identified as, based on its UKHab description (where in its natural range). The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type. At least 80% of the scrub is native, and there are at least three native woody species, with no single species comprising more than 75% of the cover (except Hazel, Common Juniper, Sea Buckthorn or Box, which can be up to 100% cover).	Pass
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	Pass
C	There is an absence of invasive non-native plant species (as listed on Schedule 9 of the WCA) and species indicative of sub-optimal condition make up less than 5% of ground cover.	Pass
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	***Fail*** - Scrub represents small area directly adjacent to managed modified grassland habitat
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	***Fail*** – Scrub represents a narrow margin along the modified grassland boundary

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	☐ Good condition (3): Passes 5 criteria ☒ **Moderate condition (2): Passes 3 or 4 criteria** ☐ Poor condition (1): "Passes 2 or fewer criteria;

Table 4. Condition assessment of the mixed scrub habitat located along the proposed western access route from Chichele Road.

Map location	Mixed scrub strip situated along the proposed western access route from Chichele Road
Area	0.098ha
Distinctiveness	Medium
UK Hab Habitat Type	h3h – Mixed Scrub
UKHab Map Parcel ID	P2
Condition	Poor condition (score 1): Passes 2 or fewer criteria

Item	Condition Assessment Criteria	Pass/Fail
A	The scrub is a good representation of the habitat type it has been identified as, based on its UKHab description (where in its natural range). The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type. At least 80% of the scrub is native, and there are at least three native woody species, with no single species comprising more than 75% of the cover (except Hazel, Common Juniper, Sea Buckthorn or Box, which can be up to 100% cover).	Pass
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	Pass
C	There is an absence of invasive non-native plant species (as listed on Schedule 9 of the WCA) and species indicative of sub-optimal condition make up less than 5% of ground cover.	***Fail*** – *Buddleja* spp represents more than 5% coverage of this habitat.
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	***Fail*** - Scrub lacks a well-developed edge, with this habitat situated within a narrow strip between residential dwellings scattered trees within the grounds of a local school.
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	***Fail*** – Scrub represents a narrow strip, with no clearings,

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			glades or rides present.

☐ Good condition (3): Passes 5 criteria

☐ Moderate condition (2): Passes 3 or 4 criteria

☒ **Poor condition (1): "Passes 2 or fewer criteria;**

Table 5. Condition assessment of the blackthorn scrub habitat located along the sites north-western boundary.

Map location	Blackthorn scrub located along the sites north-western boundary
Area	0.103ha
Distinctiveness	Medium
UK Hab Habitat Type	h3a – Blackthorn Scrub
UKHab Map Parcel ID	P8
Condition	Poor condition (score 1): Passes 2 or fewer criteria

Item	Condition Assessment Criteria	Pass/Fail
A	The scrub is a good representation of the habitat type it has been identified as, based on its UKHab description (where in its natural range). The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type. At least 80% of the scrub is native, and there are at least three native woody species, with no single species comprising more than 75% of the cover (except Hazel, Common Juniper, Sea Buckthorn or Box, which can be up to 100% cover).	***Fail*** – Blackthorn comprises of more than 75% of the total cover, with two woody species present.
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	***Fail*** – Blackthorn plants are all of similar age with little variation noted.
C	There is an absence of invasive non-native plant species (as listed on Schedule 9 of the WCA) and species indicative of sub-optimal condition make up less than 5% of ground cover.	Pass
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	***Fail*** - Scrub lacks a well-developed edge situated adjacent to well-managed
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	***Fail*** – Scrub represents a narrow strip, with no clearings, glades or rides present.

☐ Good condition (3): Passes 5 criteria

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	☐ Moderate condition (2): Passes 3 or 4 criteria ☒ **Poor condition (1): "Passes 2 or fewer criteria;**

3.2 Linear Habitats

The following tables (**Tables 6 – 9**) outline the condition assessments undertaken on the 18th January 2024 for the linear habitats on site. The habitat types which were not subject to a condition assessment included non-native & ornamental hedgerow as they have a predetermined condition of 'Low' under current guidance within The Statutory Metric.

Table 6. Condition assessment of the hedgerow located along the sites north-eastern boundary.

Map location	Hedgerow present along the site's north-eastern boundary		
Length	0.133km		
Distinctiveness	Low		
UK Hab Habitat Type	h2b – Hedgerow (native) &		
UKHab Map Parcel ID	H1		
Condition	Good condition (score 3): Passes all conditions but C1		
	Hedgerow favourable condition attributes		
	Attributes and functional groupings (A, B, C, and D)	Criteria (the minimum requirements for 'favourable condition'	Description
	Core groups – applicable to all hedgerow types		
	A1. Height	**>1.5m average along length**	**The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees.** **Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).** **A newly planted hedgerow does not pass this criterion (unless it is >1.5m height).**
	A2. Width	**>1.5m average along length**	**The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees.** **Outgrowths (e.g. blackthorn suckers) are only included in the width estimate when they are >0.5m in height.**

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		Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).
B1. Gap – hedge base	**Gap between ground and base of canopy <0.5m for 90% of length (unless 'line of trees')**	**This is the vertical gappiness of the woody component of the hedgerow and its distance from the ground to the lowest leafy growth.** **Certain exceptions to this criterion are acceptable.**
B2 – Gap – hedge canopy continuity	• **Gaps make up <10% of total length and** • **No canopy gaps >5m**	**This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).** **Access points and gates contribute to the overall gappiness, but are not subject to the >5m criterion (as this is the typical size of a gate).**
C1. Undisturbed ground and perennial vegetation	>1m width of undisturbed ground with perennial vegetation for >90% of length: • Measured from outer edge of hedgerow, and • Is present on one side of the hedge (at least)	This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall gappiness but are not subject to the >5m criterion (as this is the typical size of a gate).
C2. Undesirable perennial vegetation	**Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground**	**The indicator species used are nettles (*Urtica* spp.), cleavers (*Galium aparine*) and docks (*Rumex* spp.). Their presence, either singly or together, should not exceed the 20% cover threshold.**
D1. Invasive neophyte species	**>90% of the hedgerow is free of invasive non-native and neophyte species.**	**Neophytes are plants that have naturalised in the UK since AD 1500.**
D2. Current damage	**>90% of the hedgerow or undisturbed ground is free of damage caused by human activities**	**This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes.** **This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g. excessive hedge cutting).**

Note: Passes are emboldened in Table above.

Condition categories for hedgerows with trees

X	**Good condition (3): No more than 2 failures in total;**

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	AND **No more than 1 failure in any functional group** ☐ Moderate condition (2): No more than 5 failures in total; AND Does not fail both attributes in more than one functional group (e.g. fails attributes A1, A2, B1, C2 & E1 = Moderate condition) ☐ Poor condition (1): Fails a total of more than 5 attributes; AND Fails both attributes in more than one functional group (e.g. fails attributes A1, A1, B1 & B2 = Poor condition)

Table 7. Condition assessment of the hedgerow located along the site's eastern boundary.

Map location	Hedgerow present along the site's eastern boundary
Length	0.26km
Distinctiveness	Medium
UK Hab Habitat Type	h2b – Hedgerow (11 – Hedgerow with trees)
UKHab Map Parcel ID	H2
Condition	Good condition (score 3): Passes all conditions but C2

Hedgerow favourable condition attributes		
Attributes and functional groupings (A, B, C, and D)	Criteria (the minimum requirements for 'favourable condition'	Description
Core groups – applicable to all hedgerow types		
A1. Height	**>1.5m average along length**	**The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees.** **Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).** **A newly planted hedgerow does not pass this criterion (unless it is >1.5m height).**
A2. Width	**>1.5m average along length**	**The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees.**

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		Outgrowths (e.g. blackthorn suckers) are only included in the width estimate when they are >0.5m in height. **Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).**
B1. Gap – hedge base	**Gap between ground and base of canopy <0.5m for 90% of length (unless 'line of trees')**	**This is the vertical gappiness of the woody component of the hedgerow and its distance from the ground to the lowest leafy growth.** **Certain exceptions to this criterion are acceptable.**
B2 – Gap – hedge canopy continuity	• **Gaps make up <10% of total length and** • **No canopy gaps >5m**	**This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).** **Access points and gates contribute to the overall gappiness, but are not subject to the >5m criterion (as this is the typical size of a gate).**
C1. Undisturbed ground and perennial vegetation	**>1m width of undisturbed ground with perennial vegetation for >90% of length:** • **Measured from outer edge of hedgerow, and** • **Is present on one side of the hedge (at least)**	**This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).** **Access points and gates contribute to the overall gappiness but are not subject to the >5m criterion (as this is the typical size of a gate).**
C2. Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	The indicator species used are nettles (*Urtica* spp.), cleavers (*Galium aparine*) and docks (*Rumex* spp.). Their presence, either singly or together, should not exceed the 20% cover threshold.
D1. Invasive neophyte species	**>90% of the hedgerow is free of invasive non-native and neophyte species.**	**Neophytes are plants that have naturalised in the UK since AD 1500.**
D2. Current damage	**>90% of the hedgerow or undisturbed ground is free of damage caused by human activities**	**This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes.** **This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g. excessive hedge cutting).**

Note: Passes are emboldened in Table above.

Condition categories for hedgerows with trees:

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	[X] **Good condition (3): No more than 2 failures in total; AND No more than 1 failure in any functional group** [ ] Moderate condition (2): No more than 5 failures in total; AND Does not fail both attributes in more than one functional group (e.g. fails attributes A1, A2, B1, C2 & E1 = Moderate condition) [ ] Poor condition (1): Fails a total of more than 5 attributes; AND Fails both attributes in more than one functional group (e.g. fails attributes A1, A1, B1 & B2 = Poor condition)

Table 8. Condition assessment of the hedgerow located along the southern access road

Map location	Hedgerow present along the southern access road		
Length	0.042km		
Distinctiveness	Medium		
UK Hab Habitat Type	h2b – Hedgerow (11 – Hedgerow with trees)		
UKHab Map Parcel ID	H4		
Condition	Good condition (score 3): Passes all conditions but B2 and D1		
	Hedgerow favourable condition attributes		
	Attributes and functional groupings (A, B, C, and D)	Criteria (the minimum requirements for 'favourable condition'	Description
	Core groups – applicable to all hedgerow types		
	A1. Height	**>1.5m average along length**	**The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees.** **Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).** **A newly planted hedgerow does not pass this criterion (unless it is >1.5m height).**
	A2. Width	**>1.5m average along length**	**The average width of woody growth estimated at the widest point of the**

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			canopy, excluding gaps and isolated trees. **Outgrowths (e.g. blackthorn suckers) are only included in the width estimate when they are >0.5m in height.** **Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).**
	B1. Gap – hedge base	**Gap between ground and base of canopy <0.5m for 90% of length (unless 'line of trees')**	**This is the vertical gappiness of the woody component of the hedgerow and its distance from the ground to the lowest leafy growth.** **Certain exceptions to this criterion are acceptable.**
	B2 – Gap – hedge canopy continuity	• Gaps make up <10% of total length and • No canopy gaps >5m	This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall gappiness, but are not subject to the >5m criterion (as this is the typical size of a gate).
	C1. Undisturbed ground and perennial vegetation	**>1m width of undisturbed ground with perennial vegetation for >90% of length:** • **Measured from outer edge of hedgerow, and** • **Is present on one side of the hedge (at least)**	**This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).** **Access points and gates contribute to the overall gappiness but are not subject to the >5m criterion (as this is the typical size of a gate).**
	C2. Undesirable perennial vegetation	**Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground**	**The indicator species used are nettles (*Urtica* spp.), cleavers (*Galium aparine*) and docks (*Rumex* spp.). Their presence, either singly or together, should not exceed the 20% cover threshold.**
	D1. Invasive neophyte species	>90% of the hedgerow is free of invasive non-native and neophyte species.	Neophytes are plants that have naturalised in the UK since AD 1500.
	D2. Current damage	**>90% of the hedgerow or undisturbed ground is free of damage caused by human activities**	**This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes.** **This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g. excessive hedge cutting).**

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	Note: Passes are emboldened in Table above. Condition categories for hedgerows with trees: [X] **Good condition (3): No more than 2 failures in total;** **AND** **No more than 1 failure in any functional group** [ ] Moderate condition (2): No more than 5 failures in total; AND Does not fail both attributes in more than one functional group (e.g. fails attributes A1, A2, B1, C2 & E1 = Moderate condition) [ ] Poor condition (1): Fails a total of more than 5 attributes; AND Fails both attributes in more than one functional group (e.g. fails attributes A1, A1, B1 & B2 = Poor condition)

Table 9. Condition assessment of the hedgerow located along the site's western boundary.

Map location	Hedgerow present along the site's western boundary
Length	0.096km
Distinctiveness	Low
UK Hab Habitat Type	h2b – Hedgerow (native)
UKHab Map Parcel ID	H5
Condition	Moderate condition (score 2): Fails conditions B1, C2 and D2

Hedgerow favourable condition attributes		
Attributes and functional groupings (A, B, C, and D)	Criteria (the minimum requirements for 'favourable condition'	Description
Core groups – applicable to all hedgerow types		
A1. Height	**>1.5m average along length**	**The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees.** **Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).** **A newly planted hedgerow does not pass this criterion (unless it is >1.5m height).**

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	A2. Width	**>1.5m average along length**	**The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees.** **Outgrowths (e.g. blackthorn suckers) are only included in the width estimate when they are >0.5m in height.** **Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).**
	B1. Gap – hedge base	Gap between ground and base of canopy <0.5m for 90% of length (unless 'line of trees')	This is the vertical gappiness of the woody component of the hedgerow and its distance from the ground to the lowest leafy growth. Certain exceptions to this criterion are acceptable.
	B2 – Gap – hedge canopy continuity	• **Gaps make up <10% of total length and** • **No canopy gaps >5m**	**This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).** **Access points and gates contribute to the overall gappiness, but are not subject to the >5m criterion (as this is the typical size of a gate).**
	C1. Undisturbed ground and perennial vegetation	**>1m width of undisturbed ground with perennial vegetation for >90% of length:** • **Measured from outer edge of hedgerow, and** • **Is present on one side of the hedge (at least)**	**This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).** **Access points and gates contribute to the overall gappiness but are not subject to the >5m criterion (as this is the typical size of a gate).**
	C2. Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground	The indicator species used are nettles (*Urtica* spp.), cleavers (*Galium aparine*) and docks (*Rumex* spp.). Their presence, either singly or together, should not exceed the 20% cover threshold.
	D1. Invasive neophyte species	**>90% of the hedgerow is free of invasive non-native and neophyte species.**	**Neophytes are plants that have naturalised in the UK since AD 1500.**
	D2. Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities	This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes. This could include evidence of pollution, piles of manure or rubble, or

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			inappropriate management practices (e.g. excessive hedge cutting).

Note: Passes are emboldened in Table above.

Condition categories for hedgerows with trees:

☐ Good condition (3): No more than 2 failures in total;
AND
No more than 1 failure in any functional group

☒ **Moderate condition (2): No more than 5 failures in total;**
AND
Does not fail both attributes in more than one functional group (e.g. fails attributes A1, A2, B1, C2 & E1 = Moderate condition)

☐ Poor condition (1): Fails a total of more than 5 attributes;
AND Fails both attributes in more than one functional group (e.g. fails attributes A1, A1, B1 & B2 = Poor condition)

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4.0 PROPOSED CREATED HABITATS & NET GAIN ASSESSMENT

4.1 On-Site Proposals

Following consultation with Cala Homes Ltd, in order to minimise the loss of biodiversity on site, the following habitats are being retained, enhanced and created (please refer to the proposed Post-Development Layout appended for information on the locations of these habitats and **Section 5.0** below for details of habitat management). Condition assessment tables have also been provided as appropriate to indicate the targeted condition for each of the habitat types and which criteria will need to be met in order to achieve the desired condition.

4.1.1 Habitat Retention

The following habitats are due to be retained in their current condition:

- 0.03ha of mixed scrub habitat and 0.053ha of Blackthorn scrub habitat will be retained along the north-western boundary of the site.
- All hedgerows (H1, H2, H3, H4 and H6) bordering the site will be retained in their current condition.

4.1.2 Habitat Enhancement

The following habitats are due to be enhanced to a habitat of higher value or the same habitat of better condition:

- 0.635ha of Modified Grassland (Low condition) will be enhanced to other neutral grassland of Moderate condition (**Table 10**)
-

Table 10. Condition criteria that need to be met in order to achieve the targeted 'Moderate' condition Other Neutral Grassland.

<table>
<tr><td>Map location</td><td colspan="4">Modified Grassland will be enhanced to Other Neutral Grassland along the boundaries of the site.</td></tr>
<tr><td>Area</td><td colspan="4">0.626ha</td></tr>
<tr><td>Distinctiveness</td><td colspan="4">Medium</td></tr>
<tr><td>UK Hab Habitat Type</td><td colspan="4">Other Neutral Grassland</td></tr>
<tr><td>Habitat Parcel Reference</td><td colspan="4">Pink areas (Post development Layout Map)</td></tr>
<tr><td>Condition</td><td colspan="4">Moderate condition (score 2): Fails criteria C, E and F

<table>
<tr><th>Item</th><th>Condition Assessment Criteria</th><th>Pass/Fail</th><th>Justification</th></tr>
<tr><td>A</td><td>The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1]

Note - this criterion is essential for</td><td>Pass</td><td>An appropriate wildflower mix will be sown containing a dominance of other neutral grassland indicator species. Appropriate management will limit the density of sub-</td></tr>
</table>
</td></tr>
</table>

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	achieving Moderate or Good condition for non-acid grassland types only.		optimal species as per **Section 5.0.**
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass	The management regime detailed in **Section 5.0** will encourage a healthy and dense sward that will be managed on a rotational basis across the site to provide the desired microclimatic variability.
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	*Fail*	Whilst management will encourage a healthy and dense sward with little bare ground, due to the potential for recreational use/ damage due to its proximity to residential dwellings.
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Pass	The management regime detailed in **Section 5.0** entails removal of encroaching Bracken and scrub.
E	Combined cover of species indicative of suboptimal condition[3] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.	*Fail*	While management will discourage growth of sub-optimal species, it is expected that coverage may exceed 5% given its proximity to residential units.
Additional Criterion – must be assessed for all non-acid grassland types			
F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	*Fail*	Given the relatively small size of the grassland areas, it is considered that this criterion is unlikely to be feasible.

☐ Good condition (3): Passes 5 or 6 criteria including passing essential criterion A and additional criterion F

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	[X] **Moderate condition (2): Passes 3-5 criteria, including passing essential criterion A** [ ] Poor condition (1): "Passes 2 or fewer criteria; OR Passes 3 or 4 criteria (excluding criterion A and F)"

4.1.3 Habitat Creation

The following habitats are due to be created:

- Vegetated Garden will be created within the rear gardens of the residential dwellings. This habitat has a predetermined condition of 'Condition Assessment N/A' (1.051ha).
- 84No Individual Trees (Urban) of Moderate condition to be planted throughout public areas on site (0.342ha) (**Table 11**).
- Modified Grassland of moderate condition will be created in various patches across the site (0.082ha) (**Table 12**). The proposed creation of Modified grassland surrounding the play area has a targeted condition of poor due to the likelihood of recreational pressure in this area. As such this area has not been included in the assessment below (0.161ha)
- Two Sustainable Drainage System areas (SuDS) in Good condition will be created along the sites eastern and western boundaries (0.088ha) (**Table 13**).
- Other Neutral Grassland of moderate condition to be created along north-western edge of the proposed access road following the removal of sections of blackthorn and bramble scrub (**Table 14**) (0.027ha).
- A native hedgerow in good condition will be created along the sites eastern boundary to connect existing hedges 'H1' and 'H2' (0.093km) (**Table 15**). A further 12 non-native and ornamental hedgerows will also be created, however due to the pre-determined condition of this habitat type (poor), the outline of the condition assessment for hedgerows H7 – H18 has not been included below.

Table 11. Condition criteria that need to be met in order to achieve the targeted 'Moderate' condition Individual Trees (Urban).

Map Location	84 No. Individual Trees to be planted both within green spaces and along road verges (Orange dots)
Area	0.342ha (total using the tree helper)
Distinctiveness	Medium
UK Hab Habitat Type	Individual trees
Condition	Moderate condition (score 2):

Item	Condition Assessment Criteria	Pass/Fail	Justification
A	The tree is a native species (or at least 70% within the block are native species).	Pass	Native tree species will be planted.
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area	Pass	Individual trees automatically pass this criterion (with

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		and no individual gap being >5 m wide (individual trees automatically pass this criterion).		all trees due to be spaced out sufficiently to allow full canopy growth).
	C	The tree is mature (or more than 50% within the block are mature)[1].	*Fail*	Immature specimens will be planted.
	D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Pass	Only light pruning will be recommended to encourage healthy growth form such that expected canopy and height is still achieved. Trees will be inspected for adverse impacts from human activities and remedial action taken if anything is noted.
	E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	*Fail*	Immature specimens will be planted which are anticipated to not yet have developed ecological niches.
	F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Pass/Fail	Trees will be planted along a mixture of road verges, SUDs and within areas of POS, with the latter passing this condition.

	Good condition (3): Passes 5 or 6 criteria
X	**Moderate condition (2): Passes 3 or 4 criteria**
	Poor condition (1): Passes 2 or fewer criteria

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Table 12. Condition criteria that need to be met in order to achieve the targeted 'Moderate' condition Modified grassland.

Map location	Modified grassland habitat will be created in patches throughout the site.
Area	0.082ha
Distinctiveness	Low
UK Hab Habitat Type	g4 – Modified Grassland
Condition	Moderate condition (score 2): Fails essential criterion 2,4 and 5

Item	Condition Assessment Criteria	Pass/Fail	Justification
1	There must be 6-8 species per m^2. If a grassland has 9 or more species per m^2 it should be classified as a medium distinctiveness grassland habitat type. **NB - this criterion is essential for achieving moderate condition.**	Pass	An appropriate meadow grass mix will be sown containing a dominance of indicator species. Appropriate management will limit the density of sub-optimal species as per **Section 5.0.**
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	*Fail*	Given the relatively limited size of the grassland areas, it is not considered feasible to manage sections on rotation and it is therefore expected that the sward will be of a uniform height.
3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Pass	The management regime detailed in **Section 5.0** entails removal of encroaching scrub.
4	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	*Fail*	While management activities will aim to avoid damage were possible, it is expected that physical damage may exceed 5% given its proximity to residential units/ anticipated use by residents.
5	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	*Fail*	While management activities will aim to avoid damage were possible, it is

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				expected that physical damage may exceed 10% given its proximity to residential units/ anticipated use by residents.
	6	Cover of bracken less than 20%	Pass	The management regime detailed in **Section 5.0** entails removal of encroaching Bracken.
	7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Pass	The management regime detailed in **Section 5.0** will entail the removal/ treatment of invasive non-native species.

☐ Good condition (3): Passes 6 or 7 of 7 criteria including passing essential criterion 1

☒ **Moderate condition (2): Passes 4 or 5 of 7 criteria including passing essential criterion 1**

☐ Poor condition (1): Passes 0, 1, 2 or 3 of 7 criteria; OR 4, 5 or 6 of criteria (but failing criterion 1)

Table 13. Condition criteria that need to be met in order to achieve the targeted 'Good' condition for SUDs (Urban).

Map location	Sustainable Drainage Features (Green shaded areas)
Area	0.088ha
Distinctiveness	Low
UK Hab Habitat Type	u1 - Built-up areas and gardens (Sustainable drainage system – SuDS)
Condition	Good condition (score 3): Passes all 3 core criteria and meet the requirement for good condition within criterion C

Item	Condition Assessment Criteria	Pass/Fail	Justification
Core Criteria – must be assessed for all urban habitat types			
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	Pass	An appropriate management regime to create a mixture of tussocky grassland/ wildflower areas will be cut in rotation, with the pond managed to provide a mixture of vegetated and open water areas within the

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			pond detailed in **Section 5.0.**
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Pass	A variety of appropriate native species will be planted around the feature, with a suitable wildflower mix sown around the edges of the pond.
C	Invasive non-native plant species (listed on Schedule 9 of WCA) and others which are to the detriment of native wildlife (using professional judgement) cover less than 5% of the total vegetated area. **Note – to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than more than 5% cover)**	Pass	The management regime detailed in **Section 5.0** will include the removal and treatment of invasive non-native species.
Additional Criteria – must be assessed for Bioswale and SuDS habitats only:			
E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife.	Pass	A variety of appropriate native species will be planted around the feature, with a suitable wildflower mix sown around the edges of the pond.
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.	Pass	A variety of appropriate native species will be planted around the feature, with a suitable wildflower mix (Emorsgate EM8F) sown around the edges of the pond.

[x] **Good condition (3): Passes all 3 core criteria;**
AND
Meets the requirements for Good Condition within criterion C;

[ ] Moderate condition (2): Passes 3 or 4 of 5 criteria;
OR
Passes 5 of 5 of criteria but does not mee the requirements of for Good condition within criterion C.

[ ] Poor condition (1): Passes 2 or fewer of 5 criteria

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Table 14. Neutral grassland condition criteria that need to be met in order to achieve the targeted 'Moderate' condition.

<table>
<tr><td>Map location</td><td colspan="4">Neutral Grassland created following removal of Blackthorn (P8) and Mixed scrub (P7)</td></tr>
<tr><td>Area</td><td colspan="4">0.027ha</td></tr>
<tr><td>Distinctiveness</td><td colspan="4">Medium</td></tr>
<tr><td>UK Hab Habitat Type</td><td colspan="4">g3c – Other Neutral Grassland</td></tr>
<tr><td>Condition</td><td colspan="4">Moderate condition (score 2): Fails criteria C, E and F

<table>
<tr><th>Item</th><th>Condition Assessment Criteria</th><th>Pass/Fail</th><th>Justification</th></tr>
<tr><td>A</td><td>The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1]

Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.</td><td>Pass</td><td>An appropriate wildflower mix will be sown containing a dominance of other neutral grassland indicator species. Appropriate management will limit the density of sub-optimal species as per Section 5.0.</td></tr>
<tr><td>B</td><td>Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.</td><td>Pass</td><td>The management regime detailed in Section 5.0 will encourage a healthy and dense sward that will be managed on a rotational basis across the site to provide the desired microclimatic variability. This section will be managed alongside the wider area of enhanced neutral grassland habitat connected to this newly created area.</td></tr>
<tr><td>C</td><td>Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].</td><td>Fail</td><td>Whilst management will encourage a healthy and dense sward with little bare ground, due to the potential for recreational use/ damage due to its proximity to residential dwellings.</td></tr>
<tr><td>D</td><td>Cover of bracken Pteridium aquilinum is less than 20% and cover of scrub (including bramble Rubus fruticosus agg.) is less than 5%.</td><td>Pass</td><td>The management regime detailed in Section 5.0 entails removal of encroaching Bracken and scrub.</td></tr>
<tr><td>E</td><td>Combined cover of species indicative of suboptimal condition[3] and physical damage</td><td>Fail</td><td>While management will discourage growth of</td></tr>
</table>
</td></tr>
</table>

		(such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.		sub-optimal species, it is expected that coverage may exceed 5% given its proximity to residential units.
	Additional Criterion – must be assessed for all non-acid grassland types			
	F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	*Fail*	Given the relatively small size of the grassland areas, it is considered that this criterion is unlikely to be feasible.

☐ Good condition (3): Passes 5 or 6 criteria including passing essential criterion A and additional criterion F

☒ **Moderate condition (2): Passes 3-5 criteria, including passing essential criterion A**

☐ Poor condition (1): "Passes 2 or fewer criteria;
OR
Passes 3 or 4 criteria (excluding criterion A and F)"

Table 15. Native hedgerow condition criteria that need to be met in order to achieve the targeted 'Good' condition.

Map location	Hedgerow to be created along the sites eastern boundary to link hedgerows 'H1' and 'H2'.
Length	0.096km
Distinctiveness	Low
UK Hab Habitat Type	h2b – Hedgerow (native)
UKHab Map Parcel ID	H6
Condition	Good condition (score 3): Fails conditions C1 (Due to location between residential development and adjacent amenity grassland)

Hedgerow favourable condition attributes		
Attributes and functional groupings (A, B, C, and D)	Criteria (the minimum requirements for 'favourable condition'	Description
Core groups – applicable to all hedgerow types		
A1. Height	**>1.5m average along length**	**The average height of woody growth estimated from base of stem to the top of shoots, excluding any bank beneath**

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			the hedgerow, any gaps or isolated trees. **Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).** **A newly planted hedgerow does not pass this criterion (unless it is >1.5m height).**
	A2. Width	**>1.5m average along length**	**The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees.** **Outgrowths (e.g. blackthorn suckers) are only included in the width estimate when they are >0.5m in height.** **Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).**
	B1. Gap – hedge base	**Gap between ground and base of canopy <0.5m for 90% of length (unless 'line of trees')**	**This is the vertical gappiness of the woody component of the hedgerow and its distance from the ground to the lowest leafy growth.** **Certain exceptions to this criterion are acceptable.**
	B2 – Gap – hedge canopy continuity	• **Gaps make up <10% of total length and** • **No canopy gaps >5m**	**This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).** **Access points and gates contribute to the overall gappiness, but are not subject to the >5m criterion (as this is the typical size of a gate).**
	C1. Undisturbed ground and perennial vegetation	>1m width of undisturbed ground with perennial vegetation for >90% of length: • Measured from outer edge of hedgerow, and • Is present on one side of the hedge (at least)	This is the horizontal gappiness of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small). Access points and gates contribute to the overall gappiness but are not subject to the >5m criterion (as this is the typical size of a gate).
	C2. Undesirable perennial vegetation	**Plant species indicative of nutrient enrichment of soils dominate <20% cover of**	**The indicator species used are nettles (*Urtica* spp.), cleavers (*Galium aparine*) and docks (*Rumex* spp.). Their presence,**

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	the area of undisturbed ground	**either singly or together, should not exceed the 20% cover threshold.**
D1. Invasive neophyte species	**>90% of the hedgerow is free of invasive non-native and neophyte species.**	**Neophytes are plants that have naturalised in the UK since AD 1500.**
D2. Current damage	**>90% of the hedgerow or undisturbed ground is free of damage caused by human activities**	**This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes.** **This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (e.g. excessive hedge cutting).**

Note: Passes are emboldened in Table above.

Condition categories for hedgerows with trees:

[x] **Good condition (3): No more than 2 failures in total;**
AND
No more than 1 failure in any functional group

[ ] Moderate condition (2): No more than 5 failures in total;
AND
Does not fail both attributes in more than one functional group (e.g. fails attributes A1, A2, B1, C2 & E1 = Moderate condition)

[ ] Poor condition (1): Fails a total of more than 5 attributes;
AND Fails both attributes in more than one functional group (e.g. fails attributes A1, A1, B1 & B2 = Poor condition)

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4.2 Metric Calculation

Following the incorporation of the above measures into the DEFRA Statutory Biodiversity Metric, ***on site there is a net loss of – 15.43% in habitats (or -1.57 habitat units) and the trading rules are not satisfied*** (**Fig 7**). There is a net gain of 11.72% (or 0.57 hedgerow units) for linear habitats on site.

Figure 7. Screenshot of the 'headline results' output from the BNG assessment undertaken for the site using the DEFRA Statutory Biodiversity Metric.

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	-1.57
	Hedgerow units	0.57
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	-15.43%
	Hedgerow units	11.72%
	Watercourse units	0.00%
Trading rules satisfied?	No - Check Trading Summaries ▲	

4.3 Off-Setting

Despite steps being taken to deliver BNG units on site, it has not been possible to achieve the necessary 10% net gain or satisfy trading rules within the constraints of the site. Therefore, based on the 'Trading Summary Area Habitats' tab and 'Headline Results' tab, a total of 2.48 habitat units will be required to offset this development which must comprise of at least 1.04 units of broad 'heathland and shrub' habitat of medium distinctiveness.

At this stage, following consultation with Cala Homes Ltd, two viable solutions have been proposed to address the deficit in habitat units generated by the development footprint. An outline of these two options is provide below. It is anticipated that a detailed management strategy to deliver option 'B' will be providing following finalisation of the offsetting scheme.

4.3.1 Option 1 : Purchase of Biodiversity Units / Credits

Consultation with the Environment Bank have indicated that there is a suitable site located within the adjacent LPA of Tandridge District Council which can provide the required units/ credits which can be purchased to offset the footprint of this development.

4.3.2 Option 2 : Bespoke Enhancement of Land to the east of Chalkpit Lane

Following discussions with a local landowner, a parcel of land located approximately 0.5km north of the site and situated directly adjacent to the M25, is available to provide opportunities for off-site biodiversity unit generation (subject to a conservation covenant or similar legally binding agreement). A map of the proposed scheme is included within the Appendix 'off site enhanced/ created habitats'. The assessed baseline of this site and an outline of the proposed habitat enhancements have been included below:

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Figure 8. Map showing the location of the proposed off-site scheme (blue line) in relation to the site (red line). Note the full extent of the available offsetting area will not be required to offset this project (Google Earth, 2024)

4.3.2.1 Off-site Baseline

The site comprised of g4 modified grassland which has been maintained to a short sward height (**Fig 9**). Perennial Rye grass was the dominant species recorded within this habitat, with other species noted including Cock's Foot (*Dactylis glomerata*), Bristly Oxtongue (*Helminthotheca echioides*), Oxeye Daisy (*Leucanthemum vulgare*), Spear Thistle (*Cirsium vulgare*), Red Clover (*Trifolium pratense*), Ribwort Plantain (*Plantago lanceolata*), Ragwort (*Jacobaea vulgaris*), Dandelion (*Taraxacum* sp), Creeping Buttercup (*Ranunculus repens*), Hemp Agrimony (*Eupatorium cannabinum*), Pignut (*Conopodium majus*) and Teasel (*Dipsacus fullonum*). A strip comprising of a denser sward was noted running along the northern boundary of the site, with a higher species richness recorded within this area. Additional species recorded in this area included Common Vetch (*Vicia sativa*), Meadow Cranesbill (*Geranium pratense*), Clustered Dock (*Rumex conglomeratus*), and Common Fleabane (*Pulicaria dysenterica*).

The following tables (**Tables 16 & 17**) outline the condition assessments undertaken on the 5th December 2023 for the non-linear habitats on site. The assessed areas are based on the areas required to deliver habitat units necessary to offset the development.

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Figure 9. Image showing modified grassland habitat within the proposed off-site scheme. Photo taken from the sites western boundary facing east (December, 2023)

Table 16. Baseline for modified grassland habitat within the off-site scheme (Poor condition)

<table>
<tr><td>Map location</td><td colspan="3">Modified grassland comprising the central/ southern portion of the site</td></tr>
<tr><td>Area</td><td colspan="3">0.46ha</td></tr>
<tr><td>Distinctiveness</td><td colspan="3">Low</td></tr>
<tr><td>UK Hab Habitat Type</td><td colspan="3">g4 – Modified Grassland</td></tr>
<tr><td>Condition</td><td colspan="3">Poor condition (score 1): Fails essential criterion A.

<table>
<tr><th>Item</th><th>Condition Assessment Criteria</th><th>Pass/Fail</th></tr>
<tr><td>A</td><td>There are 6-8 vascular plant species per m² present, including at least 2 forbs (these may include those listed in Footnote 1). Note - this criterion is essential for achieving Moderate or Good condition.

Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m² (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.</td><td>Fail – quadrats were randomly placed across the field on average this field supported less than 6 species per m².</td></tr>
<tr><td>B</td><td>Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.</td><td>-</td></tr>
</table>
</td></tr>
</table>

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	C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	-
	D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	-
	E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	-
	F	Cover of bracken *Pteridium aquilinum* is less than 20%.	-
	G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA).	-

☐ Good condition (3): Passes 6 or 7 criteria including passing essential criterion A

☐ Moderate condition (2): Passes 4 or 5 criteria including passing essential criterion A

☒ **Poor condition (1): "Passes 3 or fewer criteria;**
OR
Passes 4 - 6 criteria (excluding criterion A)"

Table 17. Baseline for modified grassland habitat within the off-site scheme (Moderate condition)

Map location	Modified grassland comprising the strip situated along the northern boundary
Area	0.1ha
Distinctiveness	Low
UK Hab Habitat Type	g4 – Modified Grassland
Condition	Good condition (score 3): Fails essential criterion A.

Item	Condition Assessment Criteria	Pass/Fail
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.** Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m^2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	Pass
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating	Pass

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		microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	
	C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Fail – Encroaching scrub along the northern boundary accounts for an area exceeding 20%
	D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Pass
	E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Pass
	F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Pass
	G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA).	Pass

[ ] Good condition (3): Passes 6 or 7 criteria including passing essential criterion A

[x] **Moderate condition (2): Passes 4 or 5 criteria including passing essential criterion A**

[ ] Poor condition (1): "Passes 3 or fewer criteria;
OR
Passes 4 - 6 criteria (excluding criterion A)"

4.3.2.2 Off-site Habitat Enhancement

The following habitats are due to be enhanced to a habitat of higher value or the same habitat of better condition:

- 0.33ha of Modified Grassland (Low condition) will be enhanced to Other Neutral Grassland of Moderate condition (**Table 18**) (**Fig 10**).

4.3.2.3 Off-site Habitat Creation

The following habitats are proposed for creation:

- 0.2ha of Mixed Scrub habitat will be created along the northern boundary of the site utilising 0.1ha of Modified Grassland in poor condition and 0.1ha of Modified Grassland in good condition (**Table 19**) (**Fig 10**).

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Table 18. Condition criteria that need to be met in order to achieve the targeted 'Good' condition Other Neutral Grassland.

Map location	Modified Grassland will be enhanced to Other Neutral Grassland within the offsetting scheme
Area	0.33ha
Distinctiveness	Medium
UK Hab Habitat Type	g3c - Other Neutral Grassland
Condition	Good condition (score 3): Passes all criteria

Item	Condition Assessment Criteria	Pass/Fail	Justification
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Pass	An appropriate wildflower mix will be sown containing a dominance of other neutral grassland indicator species. Appropriate management will limit the density of sub-optimal species.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Pass	An appropriate management regime will be prescribed to encourage a healthy and dense sward that will be managed on a rotational basis.
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	Pass	An appropriate management regime will be prescribed to avoid total bare ground cover from exceeding 5%.
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Pass	Management will include the removal of encroaching bracken and scrub.
E	Combined cover of species indicative of suboptimal condition[3] and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.	Pass	Appropriate management will limit the density of sub-optimal species and the site will be protected from physical damage through appropriate barriers/ measures.
Additional Criterion – must be assessed for all non-acid grassland types			

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	F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	Pass	An appropriate wildflower mix will be sown containing a dominance of other neutral grassland indicator species. Appropriate management will limit the density of sub-optimal species.

x	**Good condition (3): Passes 5 or 6 criteria including passing essential criterion A and additional criterion F**
	Moderate condition (2): Passes 3-5 criteria, including passing essential criterion A
	Poor condition (1): "Passes 2 or fewer criteria; OR Passes 3 or 4 criteria (excluding criterion A and F)"

Table 19. Condition criteria that need to be met in order to achieve the targeted 'Moderate' condition Mixed Scrub

Map location	Mixed Scrub habitat will be created along the northern boundary of the site
Area	0.2ha
Distinctiveness	Medium
UK Hab Habitat Type	h3h – Mixed Scrub
UKHab Map Parcel ID	P2
Condition	Moderate condition (score 2): Fails criteria B and E

Item	Condition Assessment Criteria	Pass/Fail
A	The scrub is a good representation of the habitat type it has been identified as, based on its UKHab description (where in its natural range). The appearance and composition of the vegetation closely matches the characteristics of the specific scrub type. At least 80% of the scrub is native, and there are at least three native woody species, with no single species comprising more than 75% of the cover (except Hazel, Common Juniper, Sea Buckthorn or Box, which can be up to 100% cover).	Pass – Planted species will comprise of a mixture of native species. Management will be undertaken to ensure that one species does not exceed 75% total cover.
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	Fail - Immature shrubs will be planted which will limit the age variation in the scrub habitat.
C	There is an absence of invasive non-native plant species (as listed on Schedule 9 of the WCA) and species indicative of sub-optimal condition make up less than 5% of ground cover.	Pass – Management will include the removal of

			invasive non-native species
	D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	Pass - Scrub lacks a well-developed edge, with this habitat situated within a narrow strip between residential dwellings scattered trees within the grounds of a local school.
	E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	Fail – Due to the relatively small size of the scrub habitat, it is unlikely that it will provide the area required to create these features.

	Good condition (3): Passes 5 criteria
x	Moderate condition (2): Passes 3 or 4 criteria
X	**Poor condition (1): "Passes 2 or fewer criteria;**

4.3.2.4 Off-site Metric Calculation

Following the incorporation of the above measures into the DEFRA Statutory Biodiversity Metric, there is a ***net gain of 169.37% (or 2.47 habitat units) within the off-site habitat***s (**Fig 10**)

Figure 10. Screenshot of the 'headline results' output from the off-site BNG assessment undertaken for the site using the DEFRA Statutory Biodiversity Metric.

Off-site baseline	*Habitat units*	1.46	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	3.93	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site net change (units & percentage)	*Habitat units*	2.47	169.37%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%

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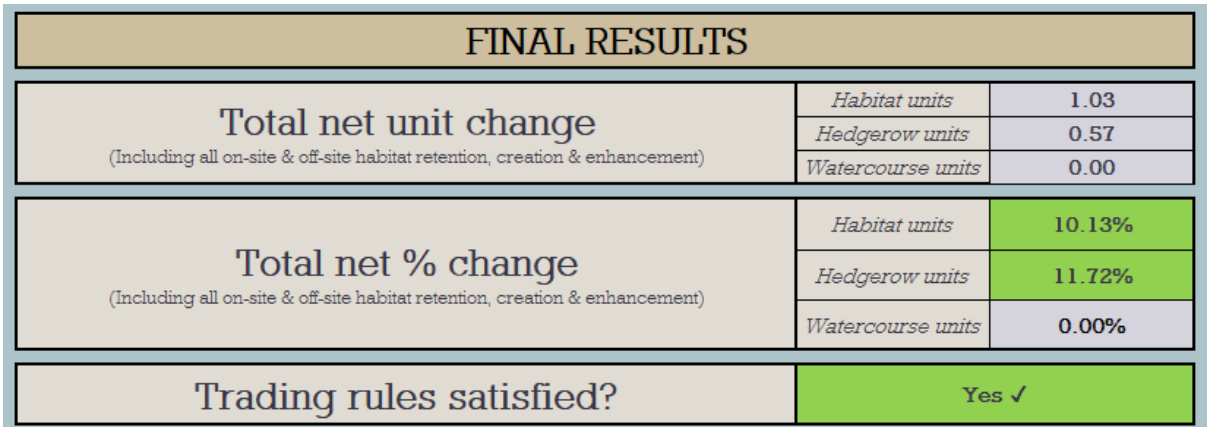
4.4 Overall Metric Calculation

Following the incorporation of the proposed offsite scheme with site baseline, ***a net gain of 10.13% (or 1.03 habitat units) is achievable*** through a combination of onsite and offsite offsetting measures (**Fig 11**).

Figure 11. Screenshot of the 'headline results' output from the overall BNG assessment undertaken for the site using the DEFRA Statutory Biodiversity Metric.



FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	1.03
	Hedgerow units	0.57
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Habitat units*	10.13%
	Hedgerow units	11.72%
	Watercourse units	0.00%
Trading rules satisfied?	Yes ✓	

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5.0 HABITAT MANAGEMENT

This section provides an outline of the habitat management prescriptions to create and enhance the proposed habitats within the site to meet the desired condition criteria for the purposes of delivering biodiversity net gain. It is anticipated that a comprehensive management plan for the delivery of off-site habitat units will be prepared following the finalisation of offsetting schemes. A comprehensive schedule of works detailing management and monitoring measures will also be prepared at this time (and this can be secured via an appropriately worded condition of planning).

5.1 Protection of Retained Habitats

All of the habitats to be retained or enhanced will be protected from damage during the works. The ecological buffer zone around the perimeter of the development area will be fenced using Heras fencing or similar to prevent access by machinery. Where large mature trees are present, they will be protected using standard arboricultural tree protection measures which include protection of the canopy and prevents root compaction.

No vehicles will enter the protective ring fencing and no materials will be stored within their circumference. All protective fencing must be in place prior to any construction machinery arriving on site, before any works on site get underway, and will remain in place until all work is completed. This will minimise the level of disturbance within the retained boundary habitat / buffer areas during the works and ensure the habitats and any wildlife species that may be using them are protected.

5.2 Other Neutral Grassland

5.2.1 Proposed Planting

Areas of modified grassland are proposed to be enhanced to other neutral grassland habitat along the boundaries of site, with sizable area along the site's western boundary. An area of neutral grassland will also be created along the north-western boundary following the removal of Blackthorn and Mixed Scrub habitat for the new access road. These grasslands will be established via sowing of a wildflower mix such as Emorsgate EM2 – Standard General Purpose Meadow Mixture which comprises of other neutral grassland indicator species such as Common Bent (*Agrostis capillaris*), Crested Dog's Tail (*Cynosurus cristatus*), Common Knapweed (*Centurea nigra*) and Agrimony (*Agrimonia eupatoria*). The sowing of these seeds will be completed either during the Spring (March-May) or the late Summer (August-October) when the temperatures are warm, and the ground is dry. The seed must be surface sown at an even distribution throughout the entire landscaped area.

5.2.2 Management

Wildflower areas do not require any additional watering or fertilizer. Cutting a meadow and removing the clippings retains low nutrient levels in the soil and suppresses coarse grasses which would otherwise out-compete the wildflowers. It is recommended the wildflower grassland undergoes two annual cuts. The growth should be cut back to a height of 50-75mm. The cut grass should be dried on site. Cuttings should be left in situ for approximately one week, after this the arisings are to be removed from site.

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First year management: Perennial species take at least a full year to establish. For newly sown areas the first summer will be dominated by annual weeds (species indicative of sub-optimal condition) arising from the soil seed bank and by grass growth. This should be controlled by mowing throughout the first year to minimise competition and weed seed production.

Management Once Established: During the second year it is recommended that the wildflower areas are left to flower and will be cut in mid-summer. However, this should not be cut in May or early June due to nesting birds. Mowing in mid-June brings a premature end to the flowers and can compromise nesting birds, which do not fledge until late July, insects and other wildlife. If some mowing has to take place at this time, sections should be cut at different dates to prolong the overall flowering season and give wildlife a chance to move. The second annual cut should be undertaken during late Autumn. Grassland which is consistently cut late in the season, in August and September, year on year reduces species diversity as late cutting gives more time for coarse grasses and other dominant plants to grow unchecked. To maintain maximum diversity and flowering interest the development buffers should be managed at different times from late June to the end of August. Varying the mowing times from year to year is the best way to maintain a diverse balanced sward and minimise cover of sub-optimal species.

Targeted scrub, bracken and invasive plant removal should also be carried out as needed to prevent encroachment into the grassland.

5.3 Modified Grassland

5.3.1 Proposed Planting

Areas of modified grassland located around the proposed recreational areas and flats will be created through the sowing of Emorsgate EL1 - Flowering Lawn Mixture, with these areas maintained as mown flowering lawns.

5.3.2 Management

First year management: During the first year the grassland areas must be regularly maintained to a height of 40-60mm every 3-4 weeks (or more frequently as needed) during the growing season to prevent the establishment of weeds. All arisings must be taken from site to prevent the addition of too many nutrients into the soil. If necessary, glyphosate-based weed killer can be used to spot treat any areas with dense patches of Nettles or Bramble.

Management Once Established: Once the seed is established after the first year, regular mowing is still expected within these areas which will result in a shorter sward height however grass should not be cut lower than 25-40mm. Wherever possible, mowing will be relaxed from late June for 4-8 weeks to allow flowering of herbaceous species and enhance the benefit of this habitat for local wildlife.

Targeted scrub, bracken and invasive plant removal should also be carried out as needed to prevent encroachment into the grassland.

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5.4 Individual (Urban) Trees

5.4.1 Proposed Planting

Native trees will be planted throughout the site with recommended species including Field Maple (*Acer campestre*), European Hornbeam (*Carpinus betulus*), Hawthorn (*Crataegus monogyna*), Small-Leaved Lime (*Tilia cordata*) and Rowan (*Sorbus aucuparia*).

Planting will be carried out in the first year. The best time to plant is late autumn and it is recommended to avoid freezing temperatures or heat. Rootgrow or Bonemeal will be applied to the new plants to encourage healthy root growth.

5.4.2 Management

These trees will require additional management to ensure that they remain in the desired moderate condition and develop correctly. Weeding will be undertaken around the base of the trees in all years. Wood chips or raked hay can be used to suppress weed growth, if desired, if deposited around the base of the scattered trees as mulch. Trees that are fruiting will not be cut to ensure the formation of fruiting bodies.

Years 1-2: The newly planted trees will be inspected annually to assess their condition. These monitoring visits will assess the general health of the trees and determine if any remedial action is required. Any plants that are removed, die or become seriously damaged or defective shall be replaced like for like in the next planting season.

Years 3-5: The trees will be subject to light pruning as required in October to ensure that they are developing healthy growth forms (but pruning will not be extensive enough to restrict expected canopy or height for their species). Dead or diseased trees will be replaced as outlined in Years 1 and 2.

5.5 SUDs

5.5.1 Considerations for Construction

Ideally the margins of the SUDs should be shallow. The best ecologically valuable ponds have 'gentle shelving edges. Therefore, whilst excavating the SUDs it will be ensured that the SUDs have sloping edges to ensure there is a shallow water environment at less than 1:5 (12°) and preferably less than 1:20 (3°) (Freshwater Habitats 2013) (**Fig 12**). The SUDs depth will vary across the SUDs. Creating shelves is one option for obtaining different depths. It is anticipated that a hydraulic assessment undertaken by an appointed contractor will conducted prior to the works which will determine the size and depth of the SUDs dependent on factors such as the catchment areas and rainfall events.

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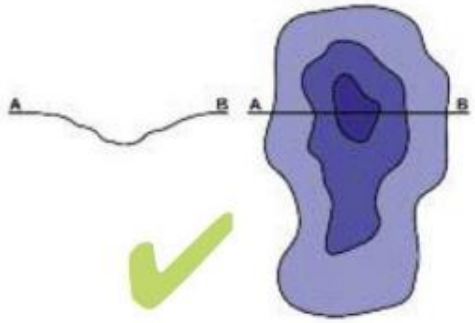
Figure 12. Design of SUDs showing varying depths at a gently sloping level (Freshwater Habitats 2013)



5.5.2 Proposed Planting

The SUDS will be designed to hold some water all year round and planted with a variety of native species surrounding the pond through the sowing of a wildflower mixture such as Emorsgate EM8F – Wild Flowers for Wetlands (*or similar as approved by an ecologist*). Additionally, the edges of the pond are recommended to be sown with Emorsgate EP1 - Pond Edge Mixture (*or similar as approved by an ecologist*) on particular boundaries of the pond.

5.5.3 Management

In the early years, blanket weed could cover ponds. This should be pulled out carefully. Once the pond has settled blanket weed will usually be kept in check by pond animals. Any plant that starts to dominate should be thinned out. Only one third of a pond should be cleared per year.

Once cleared, plants or debris should be left along the edge for a few days to allow any trapped wildlife to return to the water.

Frog (*Rana temporaria*) spawning is usually the first to take place within freshwater habitats, starting as early as January. From February adult Newts emerge from hibernation and make their way to aquatic habitat where they then breed. Common Toads (*Bufo bufo*) also congregate in ponds in early spring, often shortly after Frogs. All three amphibians then lay eggs in early Spring. Common Toads then move away from ponds into terrestrial habitat. In summer metamorphosis takes place.

As a result, the best time for pond management is late October. Tadpoles would have left the pond and adult amphibians have not yet gone into hibernation at this time. Ponds should not be disturbed in mid-winter as this might expose hibernating amphibians to severe cold, for example Newts will be hibernating in damp areas nearby to the pond and Frogs are known to hibernate at the bottom of ponds (Freshwater Habitats Trust, 2015b).

Aquatic vegetation within the ponds will be managed every five years to maintain a ratio of approximately 50:50 plants to open water to provide opportunities for breeding amphibians. In addition, the ponds will be dredged every five years to remove decomposing organic matter and silt, which will help to maintain depth and water quality.

The tussocky grassland and wildflower areas surrounding the ponds will be cut once annually in September, once the wildflower species have set seed, and to a minimum sward height of 15cm (with

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arisings removed). Cutting within these habitats will be undertaken by hand-held strimmer to prevent unnecessary disturbance and harm to reptiles and amphibians. These areas will be cut in rotation to leave areas of longer grass. The best time of year to carry out management to minimise the impact on reptiles is from October – late February. This will involve reducing the grass level to no shorter than 15cm.

5.6 Hedgerows

5.6.1 Proposed Planting

In order to create a hedgerow to bridge the connectivity between 'H1' and 'H2', planting using native species of shrubs along the boundary to gap up the existing area will be undertaken. It is recommended that the ground is prepared by digging a strip approximately 60 – 90 cm in width in the gaps present within the current hedgerow structure. All weeds present in the soil are to be removed during soil preparation and woodchip removed from this area. Plants will comprise of 40-60cm bare roots planted at a density of 4-6 plants per metre, with plants supported by appropriate shrub guards and stakes (to be removed following establishment). Gap planting will be undertaken in two staggered rows with a 50cm gap left between the rows.

Species will include a mixture of; Blackthorn (*Prunus spinosa*), Dog Rose (*Rosa canina*), Guelder Rose (*Viburnum opulus*), Hazel (*Corylus avellana*), Holly (*Ilex aquifolium*), Hawthorn (*Crataegus monogyna*), Pedunculate Oak (*Quercus robur*) and Honeysuckle.

5.6.2 Hedgerow Management

To enable a successful outcome, future management of the hedgerow will require ongoing management works. This will include monitoring, prescriptive tasks and implementation of necessary works. The Hedgerow Management and Wildlife (Barr et al, 2011) document outlines three important factors in how hedgerows are managed that affect resident mammal populations (and have therefore formed the basis of the recommendations in this section):

1. The type and amount of food available within the hedgerow. Favourable conditions being a large invertebrate population or prolific annual seed and berry crop.
2. The vegetation structure and composition of the hedgerow. For instance, a dense, herb- rich basal layer or a continuous line of hedgerow trees is preferred by several species.
3. The continuity and connectivity of the hedge within the landscape. For instance, a hedgerow that connects patches of small farm woodlands will have greater value as a corridor for the dispersal of mammals.

Favourable management will be implemented to benefit bird nesting/ foraging resources and other small mammals that may utilise this feature. As established earlier in this document, all management works must be timed to take place between November – March, to minimise disturbance to wildlife (and nesting birds) and allow wildlife to take advantage of foraging resources produced in the autumn. The key points of the management prescriptions will therefore be as follows (adopting recommendations as outlined within Bright and MacPherson 2002):

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- Cutting will be done on a 3-year cycle (part of the hedge on site cut during the first year, another part of the hedges cut during second year and no cutting during the third year), to provide sustained foraging opportunities across the site every active season. Hedgerows will be allowed to develop into a tall, dense, bushy structures and maintained at a height of 3 – (preferably 4) meters.
- A proportion of hedge (at least 30%) should be left to grow for at least 7 – 10 years.
- If the size of the hedgerow needs to be reduced, avoid cutting the top and cut one side.
- The entire extent of the hedgerow should not be cut in any one year, so that some heavy fruiting hedges are always present. As recommended within the 'Ecological Management Plan' (ACD Environmental, 2022), the hedgerow will be subject to a 10 year management programme, with block approximately 30m in length managed in one year. Neighbouring blocks will not be cut in subsequent years, therefore allowing dormice '*to move freely between freshly cut blocks and neighboring uncut blocks*'.
- Flails should not be used if possible meaning management works will likely involve cutting using hand tools

5.7 Compliance Check

A compliance visit will be completed by a suitably qualified ecologist once the construction phase of the development has been completed. The check will be conducted annually for the first 5 years post-completion, and every 5-years thereafter until year 30. The compliance check will be carried out during a suitable time of year and in suitable weather conditions. The ecologist will check the condition of all of the habitats on site to assess if they have been achieved and make an assessment if any recommended changes are required to management.

On completion of the visit, a Biodiversity Net Gain (BNG) monitoring report will be compiled, including the following:

- Assessment of habitats against the objectives defined in this management plan,
- Any presence of target species noted during the compliance check,
- Date stamped photographic evidence taken from fixed monitoring points, of which will be the central point of each land parcel per habitat type as listed in **Section 4.0,** during the first compliance check after the construction phase,
- Detailed site notes including a condition assessment for each habitat type listed in **Section 4.0** using the condition criteria within the Technical Annex 1 (DEFRA, 2023b),
- Detailed specific recommendations on management actions to promote growth and establishment of target species / habitats including timescales for undertaking actions (if required) and marked site plans to show the actions,
- Management of the above recommended actions must be carried out in the next phase and report of any details,
- Each BNG monitoring report will be written up in accordance with the BNG Habitat Monitoring Report template provided by Natural England (2023) and will be sent to the LPA.

5.8 Safeguarding

The developer and project manager will be responsible for briefing all site personnel of the ecological sensitivities of the site and implementing the habitat enhancement, creation and management

measures outlined within **Sections 4.0 & 5.0**. If any protected species are encountered during the construction works, it will be the responsibility of the project manager to cease works and immediately contact an ecologist for advice.

5.9 Post-Construction Habitat Creation

It is anticipated that a comprehensive management plan for the delivery of off-site habitat units will be prepared following the finalisation of offsetting schemes. A comprehensive schedule of works detailing the indicative timings associated with the habitat creation and enhancements to be undertaken after all construction works on site have been completed will also be prepared at this time.

5.10 Management Responsibilities

A management contractor that will assume responsibility for the management and maintenance of the newly created and enhanced habitats has not been appointed at this stage (to be updated upon appointment). When required, responsibility will include ensuring all management works are completed and qualified ecologists, arborists or landscape managers are contracted, etc. Upon the transfer of land, the new landlords shall bear responsibility for the management and maintenance of habitats within their curtilage. All management works as described above will need to be secured by a Section 106 agreement for the site that will legally oblige the appointed contractor or other agreed party to carry out the works.

A formal review process will be implemented when objectives and management recommendations are not reached / roles and responsibilities are not fulfilled as agreed. The details of this formal review process are as below:

- A suitably qualified ecologist will visit the site to conduct the compliance check
- The compliance check will include the write up and submission of a BNG Habitat Monitoring report
- The ecologist will review the success for BNG that the previous recommendations or management actions have for the target species / habitats
- The project manager is contacted by the ecologist and is informed of the recommendations or management actions which have not been fulfilled to identify what or who is responsible
- The BNG Habitat Monitoring report will include a section addressing any raised issues identified during the compliance check
- The BNG Habitat Monitoring report is submitted to the LPA for review and comment

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6.0 REFERENCES

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Legend

- Site Boundary
- Modified Grassland
- Lowland Mixed Deciduous Woodland
- Blackthorn Scrub
- Bramble Scrub
- Mixed Scrub
- Developed Land; Sealed Surface
- Native Hedgerow with Trees
- Native Hedgerow
- Non-Native / Ornamental Hedgerow

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Map	Baseline Habitats
Site	Chichele Road, Oxted
Client	Cala Homes
Date	30/01/2024

Legend

- Site Boundary
- Blackthorn Scrub
- Modified Grassland
- Other Neutral Grassland
- Other Woodland; Broadleaved
- Mixed Scrub
- Vegetated Garden
- Sustainable Drainage Features
- Developed Land; Sealed Surface (Roads etc.)
- Buildings
- 84 No. Urban Trees
- Native Hedgerow with Trees
- Non-Native / Ornamental Hedgerow
- Native Hedgerow

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Map	Post-Development Layout
Site	Chichele Road, Oxted
Client	Cala Homes
Date	31/01/2024

Legend

- Off Site Area Boundary (0.56 ha)
- 0.1 ha Mixed Scrub (to be created on existing poor condition Modified Grassland)
- 0.1 ha Mixed Scrub (to be created on existing good condition Modified Grassland)
- 0.36 ha Other Neutral Grassland (enhanced from poor condition Modified Grassland)

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Map	Off Site Enhanced / Created Habitats
Site	Chichele Road, Oxted
Client	Cala Homes
Date	31/01/2024