



Altus Homes

London Road, Stroud

ECOLOGICAL APPRAISAL

April 2024

FPCR Environment and Design Ltd

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Rev	Issue Status	Prepared / Date	Approved / Date
-	Final	AU / 11.03.24	JRM / 13.03.2024
A		AU / 22.03.24	
B		AU / 17.04.24	

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1.0 NON-TECHNICAL SUMMARY

Report Scope and Methodology
<p>FPCR were commissioned by Altus Homes to undertake an Ecological Appraisal of Land off London Road, Stroud, to identify ecological constraints and opportunities regarding proposals for a residential development.</p> <p>A UKHab survey and desktop study were completed by FPCR to inform this assessment. The survey included a walkover of the Site on 17th January 2024 mapping all habitats present, along with their potential to offer suitable habitat for protected and notable species.</p>
Key Findings
<p>There are several national and internationally designated sites within 15km of the Site. The internationally designated sites which the application Site falls within the recognised zone of influence (ZoI) are Rodborough common SAC, which has a 3.9km ZoI; and the Cotswolds Beechwoods SAC, which has a 15.4km ZoI. Rodborough Common SSSI and Bisley Road Cemetery LNR lie within 2km of the application Site.</p> <p>The Site was predominately hard standing with buildings, with small areas of modified grassland, peripheral scrub and a species poor residential boundary hedgerow. These were of no more than local importance as they represented common/widespread habitats supporting limited botanical diversity. The mature tree line along the eastern boundary will be retained and incorporated into the scheme. The Site provided some degree of suitable habitat for protected/notable species including roosting bats and breeding birds.</p> <p>The biodiversity net gain assessment has established the baseline habitat units to total 0.07, increasing to 0.70 net change post development, resulting in a percentage net gain of 1053.21 % in habitats and 244.99% in linear features.</p>
Constraints and Opportunities
<p>Works should follow best practice measures to minimise impacts associated with dust deposition on habitats within the nearby LWS's.</p> <p>A shadow Habitats Regulations Assessment (sHRA) has been completed, detailing any anticipated impacts and mitigation required on the internationally designated sites of nature conservation value within the 15km search radius.</p> <p>A financial contribution (per dwelling) is required towards the Mitigation Strategy put in place for the Rodborough Common SAC and towards the Strategic Access Management & Monitoring scheme for the Cotswold Beechwoods SAC. The details of which are provided within the appended sHRA.</p> <p>The development proposals will result in the loss of small areas of modified grassland and peripheral scrub. However, these losses will be compensated for by the provision of additional native planting within the landscaping scheme.</p> <p>New habitats have been proposed within the GI, such as wildflower grassland, native hedgerow and scrub planting and small urban trees.</p> <p>A range of additional enhancements targeted to wildlife should be introduced including bat and bi bricks, hedgehog highways and bee bricks.</p>

The mature tree line on the eastern boundary and the majority of the hedgerow extent has been retained within the scheme. During the works, these features will be protected through the implementation of appropriate root protection areas (RPA's) and protective fencing in accordance with BS 5837 (2012) Trees in Relation to Design, as indicated by the Arboricultural Survey and Impact Assessment (MHP, 2024).

A range of faunal enhancements in addition to planting have been proposed to enhance biodiversity which include hedgehog highways and bird and bat bricks.

Lighting will be sensitivity designed to avoid effects on nocturnal species, this will include dark corridors and where lightning is needed it will be downward facing and directional.

Recommendations for Further Survey

Bats: Two buildings within the application site, buildings B1 and B2, were subject to ground-based external and internal building assessments for bats. B1 was considered to have negligible bat roosting potential given the lack of potential roosting features observed. B2 was considered to offer low bat roosting potential given a number of small potential roosting features observed. If utilised, these features are considered unlikely to be used by anything other than individual bats as a non-breeding summer roost.

A single emergence survey required for Building B2 will be completed in May 2024, with the results submitted during the determination period of the outline application.

Birds: A pre-demolition survey to check for nesting birds is required, should demolition commence within the active nesting period (March – September). This would be outlined with a Construction and Environment Management Plan (CEMP).

2.0 INTRODUCTION

2.1 The following report has been prepared by FPCR Environment and Design Ltd on behalf of Altus Homes, for land off London Road, Stroud (central OS Grid Reference SO 85592 04648), hereafter referred to as the 'Site'.

2.2 The scope and objectives of this report are to:

present the findings of the Site walkover, undertaken on 17th January 2024,

detail the findings of protected species surveys completed to date,

detail any further surveys required,

review the site proposals and provide recommendations for mitigation, compensation and enhancement.

Site Context

2.3 The Site is approximately 0.43 ha in size and is located on the eastern extent of Stroud, Gloucestershire. The habitats comprise built development-sealed surface (hard-standing ground and buildings), in addition to small areas of dense continuous scrub and amenity grassland. A mature tree line, comprising five horse chestnut *Aesculus hippocastanum* trees is present along the access road at the northeastern boundary of the site. Off-site habitats comprise a non-native hedgerow at the northern parcel boundary and a native treeline along the southern parcel boundary.

2.4 Large expanses of residential housing within the market town of Stroud bound the Site on all sides, associated with London Road, which dissects the Site into two parcels of land. Just beyond the residential area to the south lies both the River Frome, and the Stroudwater Canal, both with their associated edge habitat. The wider landscape beyond this conurbation is the Rodborough Common SAC, a site of international designation, located approximately 550m south.

Development Proposals

2.5 Full planning application for demolition of existing buildings and the erection of up to 35 dwellings, including structural planting and landscaping, sustainable drainage system (SuDS) and vehicular access points. All matters reserved except for means of access.

3.0 LEGISLATION AND POLICY

3.1 Relevant national policy and legislation in relation to ecology and development are as follows:

The Conservation of Habitats and Species Regulations (CHSR) 2019 (as amended) in relation to:

- European Protected Species (EPS) great crested newt *Triturus cristatus* (GCN), bats (all species) and hazel dormouse *Muscardinus avellanarius*.
- European protected sites - Special Areas of Conservation (SAC) and Special Protection Areas (SPAs).

The Wildlife and Countryside Act (WCA) 1981 (as amended) in relation to:

- All wild birds (including Schedule 1 species)
- Schedule 5 species
- Flora listed under Schedules 8 and 9
- Sites of Special Scientific Interest (SSSI)

Protection of Badgers Act (PBA) 1992.

Natural Environmental and Rural Communities (NERC) Act 2006 in relation to various priority species and habitats.

Hedgerow Regulations 1997 made under Section 97 of the Environment Act 1995.

National Planning Policy Framework (NPPF) December 2023.

Stroud District Local Plan 2015 and the Draft Local Plan 2021.

4.0 METHODOLOGY

Desk Study

4.1 To compile existing baseline information, relevant ecological information was gathered from:

Gloucestershire Centre for Environmental Records (GCER); and

Multi-Agency Geographic Information for the Countryside (MAGIC)¹

Colour 1:25,000 OS base maps²;

4.2 The search area for biodiversity information was related to the significance of sites and species and potential zones of influence, as follows:

15km around the application area for sites of International Importance including SPAs, SACs and Ramsar sites.

2km around the application area for sites of National or Regional Importance including SSSIs.

1km around the application area for sites of Local Importance including Local Wildlife Sites (LWS) and protected and notable species records.

Habitat survey

4.3 An Extended Phase 1 Habitat (JNCC, 2010)³ was completed at the site on the 17th January 2024. This involved a systematic walk over of the survey area to classify the broad habitat types present and mark them on a survey map. Target notes (Tn) were used to record features or habitats of particular interest, as well as any sightings or evidence of protected or notable species.

4.4 Survey methods for the UKHab survey, undertaken in tandem, followed the extended UKHab Survey technique as recommended by Natural England⁴ and the Chartered Institute of Ecology and Environmental Management⁵. This involved a systematic walkover of the Site to classify the broad habitat types and identify any Habitats of Principal Importance (HPI) for the conservation of biodiversity as listed within Section 41 (S41) of the NERC Act 2006. Habitats described in this report following UKHab naming convention, with specific habitat codes provided.

4.5 All habitats/habitat compartments were also assessed using technical guidance for the Defra Statutory Biodiversity Metric⁶. This provides a list of criteria for a range of broad habitat types which are used to categorise the habitats as having a 'poor', 'moderate' or 'good' condition score.

4.6 The Site survey included habitats within the application boundary as well as ground based external and internal building assessments.

4.7 Consideration has been given as to the presence of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) (WCA 1981)⁷ and the presence of any notable

¹ MAGIC Available at: <https://magic.defra.gov.uk/>

² [Online]. www.ordnancesurvey.co.uk

³ JNCC. (1990). Handbook for Phase 1 habitat survey – a technique for environmental audit. Peterborough: JNCC

⁴ Natural England, 2014. *Protected species and development: advice for local planning authorities*. (updated 2021) [online] Available at: <https://www.gov.uk/guidance/protected-species-how-to-review-planning-applications> [Accessed 05/03/2021]

⁵ CIEEM (2017) Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester

⁶ DEFRA Statutory Biodiversity Metric) Available at: https://assets.publishing.service.gov.uk/media/65673fee750074000d1dee31/The_Statutory_Biodiversity_Metric_-_Draft_User_Guide.pdf

⁷ Act of Parliament, (1981). The Wildlife and Countryside Act 1981 (as amended), London: HMSO.

weeds including those covered under the Weed Act 1959⁸ (where population is significant enough to be considered injurious).

Fauna

4.8 During the extended phase 1 habitat survey, observations, identification and signs of any species protected under the following list of Acts and Regulations (collectively referred to herein as ‘Protected Species’) were recorded:

- Schedule 1 of the Wildlife and Countryside Act 1981 (as amended);
- [REDACTED]
- The Conservation of Habitats and Species Regulations 2017 (amended)

4.9 Consideration was also given to the existence and use of the Site by other fauna listed as one or more of the following (collectively referred to herein as ‘Notable Species’):

- Species of Principal Importance (SPI) for the conservation of biodiversity in England on the Natural Environment and Rural Communities (NERC) Act, Section 41 (S41);
- Red Data Book (RDB) and Red List species.
- Birds of Conservation Concern (BoCC).
- Species listed on any Local Biodiversity Action Plan (LBAP) initiatives.
- Nationally scarce/notable invertebrate species.

4.10 The likely presence or absence of protected and notable species has been assessed against a number of factors outlined in *Table 1*.

Table 1: Criteria used for assessing likely presence/absence of protected/notable species

Likelihood of Presence	Example Criteria
Negligible	Where one or more of the following is true for the Site: it offers no suitable habitat; it is isolated from known areas of suitable habitats/species presence; displays no evidence of use by the species in question; it is outside of the known local/regional/national distribution for the species; and there are no desk study records are present during the data search.
Low	Where one or more of the following is true for the Site: the habitats present are of poor to moderate suitability; there is limited or restricted connectivity to areas of suitable offsite habitat or areas with known presence; it is in a location where the species distribution is known to be sparse at a local or regional scale; the desk study indicates the presence of the species in the locality in small to moderate numbers.
Moderate	Where one or more of the following is true for the Site: the habitats present are of moderate to high suitability; it is clearly connected to suitable offsite habitat or areas with known presence; it is in a location where the species is known to be well distributed; the desk study indicates the presence of the species in the locality in moderate to good numbers.

⁸ Act of Parliament. (1959). The Weed Act 1959. London: HMSO.

Likelihood of Presence	Example Criteria
High	Where one or more of the following is true for the Site: the habitats present are of optimal suitability; it is adjacent to areas of suitable offsite habitat or areas with known presence; it is in a location where the species is known to be well distributed; there are field signs evidencing that a species has been present on the Site; the desk study indicates the presence of the species has been historically present on or within the immediate vicinity of the Site.
Present	The species was observed using the Site during the extended phase 1 habitat survey or, where appropriate for certain species, field signs indicate the regular use of the Site i.e. the presence [REDACTED]

Bat Roost Assessments

4.11 The buildings and trees on Site were subject to ground level assessments and then placed into bat roost potential categories as per current guidance⁹, as summarised in *Table 2*.

Table 2: Bat Roost Potential Categories for Trees and Buildings

Categories	Description for buildings	Description for trees
Confirmed Roost	Evidence of roosting bats in the form of live/dead bats, droppings, urine staining, fur oil staining etc.	
High Potential	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	A tree with one or more PRFs that are obviously suitable for large numbers of bats on a more regular basis and/or longer duration due to their size, shelter, suitable conditions (height above ground, light levels, etc), and surrounding habitat. Examples include, but are not limited to, woodpecker holes, large cavities, hollow trunks, hazards beams.
Moderate Potential	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (irrespective of species conservation status, which is established after presence is confirmed).	A tree with PRFs which could support one or more potential roost sites due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status e.g. large roost or maternity roost. Examples include, but are not limited to, rot holes, branch socket cavities, canker cavities, etc.
Low Potential	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats.	A tree of sufficient size and age to contain PRFs but with none seen from the ground or features that offer very limited potential. Examples include, but are not limited to, shallow splits, upward facing holes, etc.
Negligible Potential	No obvious habitat features present likely to be used by roosting bats.	

⁹ Collins, J. (ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn)*. The Bat Conservation Trust, London.

- 4.12 The five mature horse chestnut *Aesculus hippocastanum* trees were searched for potential roosting features (PRFs) from ground level with the aid of a torch and binoculars, where appropriate. Features¹⁰ include:

Natural holes (e.g. knot holes) arising from naturally shed branches or branches previously pruned back to a branch collar.

Man-made holes (e.g. cavities that have developed from flush cuts or cavities created by branches tearing out from parent stems).

Woodpecker holes.

Cracks/splits in stems or branches (horizontal and vertical).

Partially detached, or loose bark plates.

Cankers (caused by localised bark death) in which cavities have developed.

Other hollows or cavities, including butt rots.

Compression of forks with occluded bark, forming potential cavities.

Crossing stems or branches with suitable roosting space between.

Ivy stems with diameters more than 50mm with suitable roosting space behind (or where roosting space can be seen where a mat of thinner stems has left a gap between the mat and the trunk).

Bat or bird boxes.

Limitations

- 4.13 This assessment aims to provide baseline ecological data for the Site and as such presents an overview of the habitats and features present during the specific surveys undertaken to date. Due to the transient and complex nature of ecosystems, no investigation can provide a complete representation or prediction of the natural environment present, however, every effort has been made to ensure an accurate description of the Site is presented, by following best practice guidance, experience, and professional judgement.
- 4.14 Given the transient nature of natural processes, ecological data should never be relied upon for more than two years from completion of surveys.
- 4.15 The Phase 1 Habitat and UKHAB survey in January 2024 was undertaken outside of the optimal survey season. However, given the limited extent of habitats present and the species being widespread and common, the sub-optimal time of year isn't considered to affect the habitat assessment made.
- 4.16 No other limitations specific to this survey influenced this assessment.

¹⁰ BS 8596:2015 Surveying for bats in trees and woodland – Guide. British Standards Institute.

5.0 RESULTS

Desk Study

Statutory Sites

- 5.1 Four internationally designated sites were located within a 15km radius of the Site, as summarised in *Table 3*, with the locations mapped in *Figure 1 Statutory Designated Sites Plan*.

Table 3. International Designations within 15km

Designated Area	Distance from Site Boundary	Designation Reason
Rodborough Common SAC	0.5km S	Rodborough Common SAC is the most extensive area of semi-natural dry grassland surviving in the Cotswolds and represents upright brome – tor-grass (<i>Bromopsis erecta</i> – <i>Brachypodium pinnatum</i>) grassland, which is more or less confined to the Cotswolds. The site contains a wide range of structural types, ranging from short turf through to scrub margins, although short-turf vegetation is mainly confined to areas of shallower soils.
Cotswold Beechwoods SAC	5.5km NE	The Site consists of ancient beech (<i>Fagus sylvatica</i>) woodland and unimproved grassland lying over Jurassic limestones at the western edge of the Cotswolds. The woodlands are amongst the most diverse and species-rich of their type while the grasslands typify unimproved calcareous pastures for which the area is famous.
Severn Estuary SAC, SPA, RAMSAR	11.5km W	The Severn Estuary lies on the southwest coast of Britain at the mouth of four major rivers (the Severn, Wye, Usk, and Avon). The immense tidal range (the second highest in the world) and classic funnel shape make the Severn Estuary unique in Britain and very rare worldwide. This tidal range creates strong tidal streams and high turbidity, producing a community characteristic of the extreme physical conditions of liquid mud and tide-swept sand and rocks. The Estuary includes a wide diversity of habitats including Sandbanks which are slightly covered by sea water all the time, Mudflats and sandflats not covered by sea water at low tide, Atlantic salt meadows, and Reefs, which are identified as Annex I habitat types.
Walmore Common SPA, RAMSAR	14.7km NW	Walmore common occupies a low-lying area in the Severn Vale which is subject to annual winter flooding. The site overlies the significant area of peat in the County of Gloucestershire. The habitats represented include neutral grassland and open water ditches. The site also qualifies under article 4.1 by regularly supporting in winter internationally important numbers of Bewick's swan (<i>Cygnus columbianus bewickii</i>).

Statutory Sites of National Conservation Value

- 5.2 Two Sites of Special Scientific Interest (SSSI's) are identified within a 2km radius of the Site boundary; Rodborough Common SSSI. In addition to this there was one Local Nature Reserve (LNR) identified; Bisley Road Cemetery.
- 5.3 Bisley Road Cemetery LNR is located approximately 530m east of the Site boundary. The site comprises the Chapel of Rest, old gravestones, unimproved grassland, scrub and plantation woodland and specimen trees, all divided by a network of paths. The site contains unimproved and semi-improved grassland, scrub/woodland, specimen trees and boundary hedgerows. The site supports a rich variety of plants and animals, including nationally and locally rare species and UK and Gloucestershire Priority Habitats and Species.

Non-Statutory Designations

- 5.4 The desk study undertaken with GCER, identified twelve non-statutory designated Local Wildlife Sites (LWS), within a 1km radius of the Site boundary. These are detailed in *Table 4*, with their locations mapped in *Figure 2: Non-statutory Sites and Protected Species Plan*.

Table 4: Non-Statutory Designated Sites within 1km

Local Wildlife Site	Distance	Bearing	LWS Selection Criteria and Rationale
Arundell Mill	97m	S	Designated for its mix of semi-natural habitats, including willow carr, open water, reed beds, woodland and rough grassland.
River Frome Mainstream & Tributaries	106m	W	Designated for its structural diversity with significant botanical and wildlife interest.
Stroudwater Canal	122m	NW	Designated for its structural diversity with significant botanical and wildlife interest.
Rodborough Fields and Wood	212m	W	Designated for its semi-natural grassland and woodland.
Frome Banks	274m	W	Designated for its mammal interest and diverse streamside vegetation.
Stroudwater Canal – Bowbridge and Thrupp	379m	S	Designated for its structural diversity with significant botanical and wildlife interest.
Frome Banks GWT reserve	441m	W	Designated for its mammal interest and diverse streamside vegetation.
Woodhouse Farm Field	502m	SW	Designated for its semi-natural grassland.
Bisley Road Cemetery	556m	E	Designated for its invertebrate diversity.
Slade Wood, Stroud	956m	NE	Designated for its ancient semi-natural broadleaved woodland site larger than 2ha.
Claypits Wood North	983m	SE	Designated for its botanical diversity.
Conygre Quarry	999m	S	Designated for its sedimentary features such as bedding, x-cross bedding, changes in lithology and sedimentation.

- 5.5 Records of protected or otherwise notable taxa provided by GCER, within 2km of the Site boundary, are listed in *Table 5* below, with the locations presented in *Figure 2: Non-Statutory Designated Sites and Protected Species Plan*.
- 5.6 Records have been provided from the last ten years; however, the whole set of data was analysed to establish the requirement for further surveys. In the case of bird species, only those species included on the BoCC Amber or Red lists, or on the Wildlife and Countryside Act Schedule 1 were included, unless otherwise considered a notable species.

Table 5: Protected and Notable Species Records

Species	Dates	Relevant Legislation	Approximate Location Relative to Site
Reptiles and Amphibians			
Common Toad <i>Bufo bufo</i>	2014-2022	NERC_s41	Multiple records, 542m east
Adder <i>Vipera berus</i>	2017-2020	NERC_s41 WCA_s5s91(t)	Multiple records, 542 east
Slow-worm <i>Anguis fragilis</i>	2014-2020	NERC_s41 WCA_s5s91(t)	Multiple records, 307m south
Common Lizard <i>Zootoca vivipara</i>	2014-2023	NERC_s41 WCA_s5s91(t)	Multiple records, 323m
Great Crested Newt <i>Triturus cristatus</i>	2018	NERC_s41 EU_Hab_A4 WCA_s5s94b WCA_s5s95a WCA_s5s94c	One record, 1835m south-east
Birds			
Kingfisher <i>Alcedo atthis</i>	2018-2021	EU_Bird_1 WCA_s1p1	Multiple records, 50m west
Red kite <i>Milvus milvus</i>	2014-2022	EU_Bird_1 WCA_s1p1 CR	Multiple records, 655m north-west
Osprey <i>Pandion haliaetus</i>	2017	EU_Bird_1 WCA_s1p1	Single record, 1702m south
House sparrow <i>Passer domesticus</i>	2015-2021	BOCC_Red NERC_s41	Multiple records, 66m east
Redstart <i>Phoenicurus phoenicurus</i>	2015-2022	BOCC_Amber	Multiple records, 467m west
Starling <i>Sturnus vulgaris</i>	2014-2022	BOCC_Red	Multiple records, 149m east
Redwing <i>Turdus iliacus</i>	2015-2022	BOCC_Amber WCA_s1p1	Multiple records, 349m north-east
Barn owl <i>Tyto alba</i>	2018-2021	WCA_s1p1	Two records, 725m north-east
Fieldfare <i>Turdus pilaris</i>	2015-2022	BOCC_Red WCA_s1p1	Multiple records, 352m east
Fire crest <i>Regulus ignicapillus</i>	2017-2022	WCA_s1p1	Two records, 1260m west
Goshawk <i>Accipiter gentilis</i>	2016-2020	WCA_s1p1	Three records, 1603m north-west
Merlin <i>Falco coumbarius</i>	2021	WCA_s1p1 BOCC_Red	One record, 1600m north-west
Black-headed Gull <i>Chroicocephalus ridibundus</i>	2015-2022	BOCC Amber	Multiple records, 626m north
Brambling <i>Fringilla montifringilla</i>	2017-2022	WCA_s1	Multiple records, 829m south-west
Dipper <i>Cinclus cinclus</i>	2018-2021	BOCC Amber	Multiple records, 151 m west
Bullfinch <i>Pyrrhula pyrrhula</i>	2014-2021	BOCC Amber	Multiple records, 69m east
Common Gull <i>Larus canus</i>	2015-2018	BOCC Amber	Multiple records, 708m south
Common Sandpiper <i>Actitis hypoleucos</i>	2017	BOCC Amber	One record, 1632m north-west
Corn Bunting <i>Emberiza calandra</i>	2017-2022	BOCC Red	Two records, 1702m south

Species	Dates	Relevant Legislation	Approximate Location Relative to Site
Dunnock <i>Prunella modularis</i>	2015-2021	BOCC Amber	Multiple records, 66m east
Great Black-backed Gull <i>Larus marinus</i>	2017-2022	BOCC Amber	Two records, 1720m south
Greenfinch <i>Chloris chloris</i>	2014-2022	BOCC Red	Multiple records, 349m north-east
Grey Wagtail <i>Motacilla cinerea</i>	2014-2023	BOCC Amber	Multiple records, 50m west
Greylag Goose <i>Anser anser</i>	2016-2020	BOCC Amber	Three records, 1630m north-west
Hawfinch <i>Coccothraustes coccothraustes</i>	2017-2018	BOCC Red NERC_s41	Multiple records, 426m north
Herring Gull <i>Larus argentatus</i>	2016-2022	BOCC Red	Multiple records, 656m north
House Martin <i>Delichon urbicum</i>	2015-2022	BOCC Red	Multiple records, 627m south
Kestrel <i>Falco tinnunculus</i>	2014-2022	BOCC Amber	Multiple records, 443m east
Lesser Black-backed Gull <i>Larus fuscus</i>	2014-2022	BOCC Amber	Multiple records, 654m north-west
Lesser Spotted Woodpecker <i>Dryobates minor</i>	2020	BOCC Red	One record, 1749m south
Linnet <i>Linaria cannabina</i>	2017-2022	BOCC Red	Multiple records, 922m north-east
Mallard <i>Anas platyrhynchos</i>	2014-2022	BOCC Amber	Multiple records, 152m west
Marsh Tit <i>Poecile palustris</i>	2017-2021	BOCC Red	Two records, 1473m south-east
Meadow Pipit <i>Anthus pratensis</i>	2019-2021	BOCC Amber	Multiple records, 706m south-east
Mistle Thrush <i>Turdus viscivorus</i>	2013-2021	BOCC Red	Multiple records, 69m east
Moorhen <i>Gallinula chloropus</i>	2016-2022	BOCC Amber	Multiple records, 125m west
Oystercatcher <i>Haematopus ostralegus</i>	2020	BOCC Amber	One record, 1675m west
Reed Bunting <i>Emberiza schoeniclus</i>	2017	BOCC Amber	One record, 706m south
Ring Ouzel <i>Turdus torquatus</i>	2017-2020	BOCC Red	Multiple records, 1493m south-east
Rook <i>Corvus frugilegus</i>	2015-2022	BOCC Amber	Multiple records, 658m east
Skylark <i>Alauda arvensis</i>	2014-2022	BOCC Red NERC_s41	Multiple records, 1055m north-east
Snipe <i>Gallinago gallinago</i>	2014-2018	BOCC Amber	Two records, 706m south-east
Song Thrush <i>Turdus philomelos</i>	2014-2022	BOCC Amber	Multiple records, 69m east
Sparrowhawk <i>Accipiter nisus</i>	2014-2022	BOCC Amber	Multiple records, 344m east
Spotter Flycatcher <i>Muscicapa striata</i>	2017-2019	BOCC Red	Three records, 1273m north-west
Stock Dove <i>Columba oenas</i>	2015-2021	BOCC Amber	Multiple records, 710m south
Swift <i>Apus apus</i>	2014-2021	BOCC Red	Multiple records, 347m south

Species	Dates	Relevant Legislation	Approximate Location Relative to Site
Tawny Owl <i>Strix aluco</i>	2016-2022	BOCC Amber	Three records, 1646m south
Tree Pipit <i>Anthus trivialis</i>	2016-2022	BOCC Red	Multiple records, 1346m south-west
Wheatear <i>Oenanthe oenanthe</i>	2014-2022	BOCC Amber	Multiple records, 864m south-west
Whitethroat <i>Curruca communis</i>	2017-2022	BOCC Amber	Multiple records, 830m south-west
Willow Warbler <i>Phylloscopus trochilus</i>	2017-2022	BOCC Amber	Multiple records, 830m south-west
Wood Warbler <i>Phylloscopus sibilatrix</i>	2018	BOCC Red	Three records, 830m south-west
Woodcock <i>Scolopax rusticola</i>	2017-2022	BOCC Red	Two records, 830m south-west
Woodpigeon <i>Columba palumbus</i>	2015-2022	BOCC Amber	Multiple records, 69m east
Wren <i>Troglodytes troglodytes</i>	2014-2023	BOCC Amber	Multiple records, 69m east
Yellow Wagtail <i>Motacilla flava</i>	2017-2021	BOCC Red	Multiple records, 1702m south
Yellow-browed Warbler <i>Phylloscopus inornatus</i>	2015	BOCC Amber	One record, 744m north-west
Yellowhammer <i>Emberiza citrinella</i>	2017	BOCC Red	Multiple records, 829m south-west
Invertebrates			
Black-headed Mason Wasp <i>Odynerus melanocephalus</i>	2017	NERC_s41	One record, 974m south-west
Blood-vein <i>Timandra comae</i>	2015-2022	NERC_s41	Multiple records, 846m north-east
Brindled beauty <i>Lycia hirtaria</i>	2004-2022	NERC_s41	Three records, 846m north-east
Brown-banded Carder Bee <i>Bombus humilis</i>	2018	NERC_s41	One record, 886m south
Brown-spot Pinion <i>Anchoscelis litura</i>	2015-2022	NERC_s41	Two records, 955m west
Buff ermine <i>Spilosoma lutea</i>	2015-2022	NERC_s41	Multiple records, 660m north-west
Centre-barred Sallow <i>Atethmia centrigo</i>	2019-2022	NERC_s41	Two records, 952m west
Cinnabar <i>Tyria jacobaeae</i>	2016-2020	NERC_s41	Multiple records, 224m west
Deep-brown Dart <i>Aporophyla lutulenta</i>	2016-2022	NERC_s41	Two records, 951m west
Dingy Skipper <i>Erynnis tages tages</i>	2014-2023	NERC_s41	Multiple records, 543m east
Dot Moth <i>Melanchra persicariae</i>	2015-2022	NERC_s41	Multiple records, 444m north
Dusky Brocade <i>Apamea remissa</i>	2014-2016	NERC_s41	Two records, 1205m south-east
Dusky Thorn <i>Ennomos fuscantaria</i>	2018-2022	NERC_s41	Multiple records, 491, north

Species	Dates	Relevant Legislation	Approximate Location Relative to Site
Galium Carpet <i>Epirrhoe galiata</i>	2014	NERC_s41	One record, 1205m south-east
Garden tiger <i>Arctia caja</i>	2014-2015	NERC_s41	Two records, 658m east
Ghost moth <i>Hepialus humuli</i>	2015-2018	NERC_s41	Three records, 1443m north-west
Green-brindled crescent <i>Allophyes oxyacanthae</i>	2018	NERC_s41 nHS	One record, 1205m south-east
Grey dagger <i>Acronicta psi</i>	2012-2018	NERC_s41	One record, 829m south-west
Hedge rustic <i>Tholera cespitis</i>	2016-2022	NERC_s41	Two records, 952m west
Knot grass <i>Acronicta rumicis</i>	2016-2022	NERC_s41	Multiple records, 447m north-east
Large Nutmeg <i>Apamea anceps</i>	2016-2022	NERC_s41	Two records, 945m west
Mottled Rustic <i>Caradrina morpheus</i>	2014-2022	NERC_s41	Multiple records, 952m west
Oak hook-tip <i>Watsonalla binaria</i>	2014-2022	NERC_s41	Two records, 952m west
Small Emerald <i>Hemistola chrusoprasaria</i>	2014-2022	NERC_s41	Multiple records, 846m north-east
Rock-rose Pot Beetle <i>Cryptocephalus primarius</i>	2020-2021	NERC_s41 NR	Multiple records, 1602m south-west
Small Heath <i>Coenonympha pamphilus</i>	2014-2023	NERC_s41	Multiple records, 411m south-west
Small Phoenix <i>Ecliptopera silaceata</i>	2015-2022	NERC_s41	Three records, 846m north-east
Small Square-spot <i>Diarsia rubi</i>	2014-2022	NERC_s41	Three records, 951m west
White ermine <i>Spilosoma lubricipeda</i>	2016-2022	NERC_s41	Multiple records, 660m west
Mammals (Terrestrial)			
West European Hedgehog <i>Erinaceus europaeus</i>	2014-2022	IUCN_GB_2001:VU NERC_s41	Multiple records, 197m north
Eurasian Otter <i>Lutra lutra</i>	2015-2023	NERC_s41 WCA_s5s95a WCA_s5s94b WCA_s5s94c	Multiple records, 57m west
Mammals (Bats)			
Brown Long-eared bat <i>Plecotus auritus</i>	2016-2020	EU_Hab_4 HabReg_s2 NERC_s41 WCA_s5s94b WCA_s5s94c	Three records, 1100m east
Long-eared bat <i>Plecotus</i> sp.	2015	EU_Hab_4 HabReg_s2 NERC_s41 WCA_s5s94b WCA_s5s94c	One record, 742m north-west

Species	Dates	Relevant Legislation	Approximate Location Relative to Site
Common pipistrelle <i>Pipistrellus pipistrellus</i>	2016-2021	EU_Hab_4 HabReg_s2 WCA_s5s94b WCA_s5s94c	Multiple records, 97m west
Pipistrelle Bat <i>Pipistrellus</i> sp.	2019-2021	EU_Hab_4 HabReg_s2 WCA_s5s94b WCA_s5s94c	Three records, 1047m east
Daubenton's bat <i>Myotis daubentonii</i>	2015-2017	EU_Hab_4 HabReg_s2 WCA_s5s94b WCA_s5s94c	Two records, 742m north-west
Myotis Bat <i>Myotis</i> sp.	2014-2020	EU_Hab_4 HabReg_s2 WCA_s5s94b WCA_s5s94c	Multiple records, 97.7m west
Noctule Bat <i>Nyctalus noctula</i>	2014-2021	EU_Hab_4 HabReg_s2 WCA_s5s94b WCA_s5s94c	Multiple records, 97.7 m west
Nyctalus Bat <i>Nyctalus</i> sp	2015	EU_Hab_4 HabReg_s2 WCA_s5s94b WCA_s5s94c	One record, 746m north-west
Serotine <i>Eptesicus serotinus</i>	2004-2021	EU_Hab_4 HabReg_s2 WCA_s5s94b WCA_s5s94c	Multiple records, 741 m north-west
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	2015-2020	EU_Hab_4 HabReg_s2 WCA_s5s94b WCA_s5s94c	Multiple records, 100 m west
Whiskered Bat <i>Myotis mystacinus</i>	2018	EU_Hab_4 HabReg_s2 WCA_s5s94b WCA_s5s94c	One record, 577m north
<p>Key: EU_Bird_1 – Annex I of the Birds Directive, EU_Hab_4 – Annex IV of the Habitats Directive, IUCN_EN_2014 – See IUCN (2001) (guidelines, covering England, BOCC_Red - Birds of Conservation Concern Red List, NR – Nationally rare (occurring in 15 or fewer 10km squares in Great Britain, NERC_s41 - Priority species listed under Section 41 of the Natural England Environment and Rural Communities Act 2008, WCA1 - Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), WCA5 – Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), Hab_Reg_2 - Schedule 2 of Conservation of Habitats and Species Regulations 2010 (European Protected Species animal), PBA – Protection of Badgers Act 1992</p>			

Habitats

- 5.7 The Site is located on the eastern extent of Stroud, Gloucestershire. The habitats comprise built development-sealed surface (hard-standing ground and buildings), in addition to small areas of dense continuous scrub and modified grassland. Five mature horse chestnut *Aesculus hippocastanum* trees are present along the access road at the northeastern boundary of the Site. Off-site habitats comprise a non-native hedgerow at the northern parcel boundary and a native treeline along the southern parcel boundary. The habitats described below are illustrated in *Figure 3* and site photographs are provided in *Appendix C*. This application is accompanied by a

Biodiversity Net Gain Report (*Appendix D*), where further details on the habitats and recommendations are provided.

Hardstanding

- 5.8 The Site was dominated by hardstanding which surrounded the onsite buildings on all sides, running up to London Road, which separates the two parcels of land.

Modified Grassland

- 5.9 A small area of modified grassland was present within the Site, running along a steeply sloped bank, on the northern aspect of B1. Grass species content included creeping bent *Agrostis stolonifera* and Yorkshire fog *Holcus lanatus*. Herbaceous composition included ribwort plantain *Plantago lanceolata*, creeping buttercup *Ranunculus repens*, selfheal *Prunella vulgaris* and occurrences of primrose *Primula vulgaris*. Modified grassland is a low distinctiveness habitat and this compartment was assessed as being in Poor condition, due to being species-poor, having a uniform short sward, and having <1% bare ground.

Mixed Scrub

- 5.10 An area of scrub within the boundary of the Site was located adjacent to the modified grassland bank, to the rear of B1. Species included bramble *Rubus fruticosus agg.*, ivy *Hedera helix*, holly *Ilex aquifolium*, leylandii *Cupressus x leylandii*, and young sycamore *Acer pseudoplatanus*. The scrub is a medium distinctiveness habitat, assessed as being in Poor condition due to comprising ornamental species, not possessing a good age range, having no developed edge, clearings or rides within the scrub.

Treelines

- 5.11 A mature tree line, comprising five horse chestnut *Aesculus hippocastanum* trees is present along the access road at the northeastern boundary of the Site. No other treelines were present within the Site, or along boundary features. The tree line was assessed as being in poor condition, due to having gaps within the canopy, trees not having ecological niches, and there not being an undisturbed naturally vegetated strip of at least 6m on both sides.
- 5.12 A further off-site area of scrub and trees (TN1) was located just beyond the southern boundary of the Site, south of B2. Species composition included hawthorn *Crataegus monogyna*, bramble *Rubus fruticosus agg.*, ivy *Hedera helix*, ash *Fraxinus excelsior*, hazel *Corylus avellana*, alder *Alder glutinosa* and sycamore *Acer pseudoplatanus*.

Hedgerows

- 5.13 A residential boundary hedgerow is present along the northern perimeter of the Site. This hedgerow is dominated by introduced shrub and tree species, with occasional native species found throughout. Introduced species included cherry laurel *Prunus laurocerasus*, garden privet *Ligustrum ovalifolium*, leylandii *Cupressus x leylandii* and London plane *Platanus x hispanica*. Native species identified within this hedgerow included holly *Ilex aquifolium*, sycamore *Acer pseudoplatanus*, ash *Fraxinus excelsior* and bramble *Rubus fruticosus agg.* No other hedgerows were present within the Site, or along boundary features.

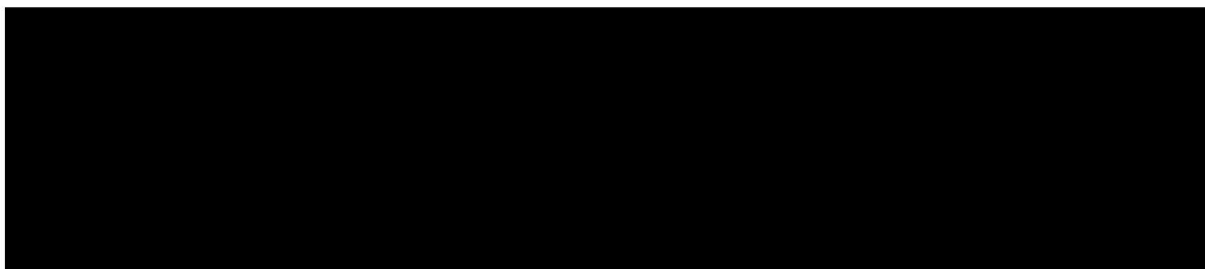
- 5.14 The hedgerow did not qualify as a NERC S41 Habitats of Principal Importance, due to not containing at least 80% of native species and was assessed as being in poor condition.

Built Development

- 5.15 Two built structures (B1 and B2) were identified within each parcel of land, either side of London Road, associated with areas of hardstanding ground.
- 5.16 Building B1 was a single-storey, breezeblock-built former garage, with a corrugated asbestos sheet roof with a low pitch. The frontage had a metal-clad sign along the top of the building. The building comprised of two parts, separated by a flat roofed extension. This building formerly operated as a commercial car sales garage, however, at the time of survey this building was no longer in use.
- 5.17 Building B2 was a former garage, composed of a large double-height workshop, in addition to various smaller extensions to the north, east and west. The main workshop building was comprised of exposed breeze blocks, with a pitched, single-skinned metal-clad roof. This building formerly operated as a commercial car maintenance garage, however, at the time of survey this building was no longer in use.

Fauna

5.18








Bats

Roosting Habitat

- 5.19 Two built structures (B1 and B2) were identified within the Site boundary. The potential for these buildings to support roosting bats is outlined further in *Table 6* below.
- 5.20 Furthermore, a mature tree line, comprising five horse chestnut *Aesculus hippocastanum* trees was present along the access road at the northeastern boundary of the Site. However, no potential bat roosting features were identified associated with these boundary trees at the time of survey following a ground level tree assessment. In addition, remaining habitats within the Site, including the hedgerow along the northern boundary and young trees associated with the dense scrub adjacent to both B1 and the southern boundary were deemed unsuitable for roosting bats due to their unestablished size and structure which provided limited roosting potential.

Table 6: Building Descriptions

Building Ref	Building description	Bat roosting potential	Photographs
B1	<p>B1 was a single-storey, breezeblock-built former garage, with a corrugated asbestos sheet roof with a low pitch. The frontage had a metal-clad sign along the top of the building. The building comprised of two parts, separated by a flat roofed extension. This building formerly operated as a commercial car sales garage, however, at the time of survey this building was no longer in use, with all windows and doors associated with the property now fitted with plywood boarding.</p> <p>Soffits, gable ends, and barge boards were absent. A wooden fascia was present along the back of building. This was relatively well sealed along its length apart from one portion that had come away from the wall and a disused bird's nest was seen behind.</p> <p>Inside comprised of a suspended ceiling.</p>	<p>No evidence of roosting bats was identified during the external and internal surveys.</p> <p>The building was found to offer Negligible bat roosting potential.</p>	 
B2	<p>B2 was a former garage, composed of a large double-height workshop, in addition to various smaller extensions to the north, east and west. The workshop building was comprised of exposed breeze blocks, with a pitched, single-skinned metal clad roof which had lifted away from the main body of the building to the rear, creating occasional small gaps between the breeze blocks. This building formerly operated as commercial car maintenance garage, however, at the time of survey this building was no longer in use, with all</p>	<p>No evidence of roosting bats was identified during the external and internal surveys.</p> <ol style="list-style-type: none"> 1. A gap was present under the felt gable end cap at the rear of 	

	<p>windows and doors associated with the property not fitted with plywood boarding.</p> <p>The largest extension, to the northwest of the workshop was also double height in structure and composed of brick walls with a render finish. The roof was a pitched metal-made roof structure, with no lining or underfelt., with a covering of roofing felt. A felt end cap was also present at the rear gable end of this extension which did not sit flat against the body of the building, creating small gap underneath.</p> <p>The remaining extensions to the north, east and west of the workshop building were all single storey in structure and composed of a mixture of breeze blocks and bricks with a render finish. All these remaining extensions had a flat roof, constructed of single-skinned metal cladding.</p> <p>Soffits, gable ends, and barge boards were absent. A wooden fascia board was present along the back of the building which appeared to be well sealed. In addition, windows and doors associated with the B2 were also well sealed, creating limited opportunities for bats to enter.</p> <p>A large metal lintel was located above the garage door to the rear of the building which provided a small crevice between the breeze block wall and metal lintel, due to degraded mortar.</p>	<p>the brick-built extension to the northwest of the Site.</p> <ol style="list-style-type: none"> 2. The mortar had degraded around the metal lintel at the rear of the workshop building. 3. Gaps associated with lifted metal roof cladding at the rear of the main workshop. <p>The building was found to offer Low bat roosting potential.</p> <p>If these gaps are utilised, they are considered most suitable to support a non-breeding roost utilised by small numbers of crevice dwelling bats such as <i>Pipistrelle</i> species.</p>	<ol style="list-style-type: none"> 1.  2.  3. 
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Foraging and Commuting

- 5.21 The Site was dominated by hardstanding ground which provides limited bat foraging potential. However, the treelines on and off site at the boundaries do offer some foraging and commuting opportunities for urban adapted bat species within the local area such as Pipistrelles. The River Frome and Stroud Water Canal lie approximately 200m to the south and south west respectively, which are likely to provide foraging and green links for bat species in the local area.
- 5.22 A number of bat records were returned by the data search from the last ten years within 1km of the Site, including records of grounded bats, observations, bat emergences, and roost records, from a range of common and widespread species including common pipistrelle, soprano pipistrelle and brown long-eared bats, Daubentons Bat, Myotis, Noctule and Serotine.

Birds

- 5.23 The Site was dominated by hardstanding ground which offers limited nesting habitat. However, remaining habitats including onsite scrub, offsite scrub and trees (TN1), in addition to mature horse chestnut *Aesculus hippocastanum* trees along the northeastern boundary and boundary hedgerow to the north all provide suitable habitat to support a range of common and widespread species typical of suburban settings. However, no nesting evidence was identified at the time of survey.
- 5.24 In addition, onsite buildings also provide suitable nesting habitat to support a range of common and widespread species typical of suburban settings. To further support this suitability, a disused bird's nest was identified within a rotten wooden fascia board along the northern aspect of B1 during the walkover survey of the Site. No further evidence of nesting birds in regard to the onsite buildings was identified.
- 5.25 Given the small size and limited habitats on site, a breeding bird survey is not required, but the presence of breeding birds should be taken into account.

Dormice

- 5.26 No records of dormice were returned within 2km of the site. Due to the limited suitability of onsite habitats for dormice, in addition to the lack of connectivity to more suitable areas of habitat within the wider area, this species is scoped out for further assessment.

Great Crested Newts

- 5.27 There are no records from the previous ten years that were returned for <1km from the site. The closest GCN record is from 2018, associated with a small field pond on the edge of Thrupp village, 1.8km south east of the Site.
- 5.28 The Site has no suitable breeding habitat for GCN and terrestrial habitat was limited to the onsite dense scrub, offsite scrub and trees (TN1) and boundary hedgerow to the north. This species is unlikely to be present and is scoped out of further assessment.

Reptiles

- 5.29 There is limited habitat for reptiles on Site due to the lack of varied and dense vegetation providing cover and foraging opportunities which is limited to the onsite scrub, offsite scrub and trees (TN1) and boundary hedgerow to the north. It is considered unlikely reptiles are present on Site given the lack of suitable vegetation for foraging and cover and are, therefore, scoped out of further assessment.

- 6.0 DISCUSSION AND RECOMMENDATIONS
- 6.1 Outline planning application for demolition of existing buildings and the erection of up to 35 dwellings, including structural planting and landscaping, sustainable drainage system (SuDS) and vehicular access points. All matters are reserved except for means of access.
- 6.2 The proposals sought ecological input during an early phase of the design process to ensure that the impacts on ecological receptors will be kept to a minimum. BNG calculations have been completed (*See Appendix D*) to ensure that a net gain can be achieved.
- 6.3 An assessment of the effects from the proposals on the surrounding internationally protected sites has been outlined in the shadow Habitat Regulations Assessment that accompanies this report (*Appendix E*) and should be referred to for full details.
- 6.4 The proposals have been assessed against the current ecological baseline to review the potential impacts anticipated and to provide recommendations for mitigation, compensation and/or ecological enhancement where appropriate. The assessment of impacts and recommendations for mitigation is based on the most up-to-date Landscape BNG Strategy Plan (*Zebra Landscape Architects, March 2024*).

Desk Study

Statutory Designated Sites

- 6.5 A number of internationally protected sites are present within the 15km search area, and these have been discussed in more detail within the appended sHRA Report (*Appendix E*). The application Site falls within the Zol for Rodborough Common SAC and the Cotswolds Beechwoods SAC and the development is therefore required to provide financial contributions to these mitigation strategies. The Rodborough Common SAC is legally underpinned by the SSSI designation and any potential impacts arising from recreational disturbance will be therefore covered within the Mitigation Strategy.
- 6.6 The Site falls outside of the 7.7km Zol for the Severn Estuary SAC, SPA, RAMSAR. The Severn Estuary and the Walmore Common SPA, RAMSAR are 11.5km west and 14.7km north west of the Site respectively. Given the significant distance between the application Site and these two internationally designated sites, no adverse impacts are expected as a result of the proposed development.

Non-Statutory Designated Sites

- 6.7 The Bisley Road Cemetery LNR is circa 500m from the application and there are twelve Local Wildlife Sites within 2km of the application Site. Best practice guidance should be followed to ensure that proposals do not lead to dust deposition that might impact upon the habitats in the closest LWS's (within 500m). These measures, as detailed in a Construction and Environmental Management Plan (CEMP), should include dust suppression systems, maintaining good housekeeping standards, a preventative maintenance program, and relevant staff training. No likely potential significant effects are predicted as a result of recreational (or other) impacts arising from the proposals.

Habitats & Biodiversity Net Gain

- 6.8 The habitats present within the Site comprise predominately developed land-sealed surface. Small areas of low and medium distinctiveness habitat types including modified grassland, lines of trees and a species poor hedgerow are present. The species present comprise common and widespread species which can easily be replaced and improved with the inclusion of native species in the landscaping scheme.
- 6.9 Five mature trees were present along the eastern boundary of the northern parcel. Trees are classed as medium distinctiveness habitats and are therefore of high value in terms of biodiversity net gain. The trees within the Site are all being retained by the current proposals. During construction works, all retained trees will need to be protected through the implementation of appropriate measures including root protection areas and protective fencing in accordance with BS 5837 (2012) Trees in Relation to Design, as indicated by the Arboricultural Survey and Impact Assessment (MHP, 2024). The retained hedgerow along the northern boundary will also be subject to the above protection measures.
- 6.10 The most up-to-date Proposed Site Plan has been assessed using the Statutory Biodiversity Metric tool and this has demonstrated that the proposals will lead to a net gain of 0.70 habitat units, representing a +1053.21% change in biodiversity units, and an uplift of 0.38 hedgerow units equating to a +244.99% gain.
- 6.11 A Habitat Management and Monitoring Plan (HMMP) or similar, should be produced, which will detail the planting and landscape information, and the management and monitoring of the proposed and enhanced habitats for a minimum of 30 years, in accordance with the Environment Act 2021.

Protected and/or Notable Species

Bats

- 6.12 The mature trees on the eastern boundary were deemed negligible for roosting bats given the lack of potential roosting features observed. These trees will be retained and buffered for their RPA within the scheme.
- 6.13 Commuting opportunities are limited to on-site scrub and boundary features including trees and hedgerow. On-site buildings were assessed as providing negligible (B1) and low potential (B2) to support low numbers of roosting bats. Building 2 is of single-storey construction with a pitched corrugated iron roof. As the roof is of corrugated iron construction any roof void is unlikely to provide suitable thermal conditions for roosting bats. The features identified as providing low suitability to support a roost are small gaps behind flashing and metalwork and brick. If utilised these gaps are considered unlikely to be utilised by anything other than individual *Pipistrelle* sp bats as a non-breeding summer roost.
- 6.14 In line with current guidance¹¹, a single emergence survey will be completed in May 2024 (active season May – September). Following completion of the survey, a Bat Survey Report will be provided to present the findings, in support of the application within the determination period.

¹¹ Collins, J. (ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edn)*. The Bat Conservation Trust, London.

- 6.15 Although considered unlikely, should the single emergence survey find evidence of roosting bats, further surveys would be required and a European protected species licence from Natural England would be required to legitimise the demolition of the building. Given the low potential of the features, mitigation requirements would be reflective of the roost found (considered likely to be an individual, non-breeding summer roost) and expected to entail the installation of a bat box on retained trees or bat bricks within the buildings.
- 6.16 Generally, it is recommended that at least eight 1HE Schwegler brick boxes and at least two Schwegler 1FF bat boxes are installed within buildings and on mature trees within the Site. If the specific models specified are not available at the time needed, similar models should be accepted in their place. Bat box entrances should be placed in an area away from artificial light and installed as per the manufacturer's instructions.
- 6.17 Furthermore, it is recommended that all proposed lighting should limit light spill above the horizontal plane, and where possible should be timed or sensory lighting to limit the effect of the proposals on nocturnal species. During the works, and the lighting scheme for the development, should also avoid any light off spill.

Birds

- 6.18 On-site habitats, namely the scrub and boundary features, provided suitable habitat for an assemblage of common and widespread urban edge/generalist species. Furthermore, the disused buildings offer some potential nesting habitat, confirmed by the observation of a used nest in building B1.
- 6.19 The vegetation and buildings removal should be completed outside of the active nesting season (March – September). Where this is not possible, any clearance and demolition will be preceded by a check for nests by an ecologist. Should any nests be found, these will be retained and buffered until the chicks have fledged. Details of this will be provided in a Construction and Environment Management Plan (CEMP).

Other Species

Hedgehogs

- 6.20 Multiple records of hedgehog were returned by the data search, with the closest being approximately 300m north of the Site. The Site provided some habitat for foraging and sheltering hedgehogs, including scrub and hedgerow.
- 6.21 It is recommended that hedgehog highways (13cm x 13cm gaps) are incorporated into the base of any close-board fencing installed on the Site to maintain movement throughout the Site for this species. The proposed habitats including hedgerows, native scrub and residential gardens will provide some commuting, foraging and sheltering habitat for hedgehogs.
- 6.22 During the works, all excavations should be made safe if left overnight by way of a 45° slope or mammal ladders. In addition, any scrub clearance works should be undertaken outside of the hibernation season for hedgehogs (October – March), or the habitat should be searched by a

suitably qualified ecologist prior to clearance, and any animals found moved to a hedgehog house which is placed on Site, away from the area of works.

Additional Faunal Enhancements

6.23 The proposals for the Site offer opportunities to incorporate enhancement features for a variety of faunal species. *Table 7* offers a number of recommendations that could be easily incorporated within the scheme.

Table 7: Recommended Faunal Enhancement

Target Species/Groups	Enhancement Opportunities	Recommended Specifications
Nesting birds	Nesting bird's - Swift bricks	<p>Bird boxes can be installed within the buildings around the built development. Using a variety of nest box types will provide new suitable nesting opportunities for a range of birds and potentially encourage new species into the site.</p> <p>The following swift bricks (or a similar model) could be installed within buildings under deep eaves, on gables and on high walls in some shade;</p> <p>Universal Swift Bricks within buildings, these are to be located in clusters of two, at five metres or more above ground level.</p> <p>Vivara Pro Seville 28mm Nest Box, or similar, and must be positioned at least 3m or more above ground level.</p>
Invertebrates	<p>Invertebrates would benefit from log piles and dead-standing wood.</p> <p>Insect houses can provide refuge and breeding opportunities for a wide variety of species.</p> <p>Bee bricks can be built into buildings</p>	<p>A range of insect houses and bee bricks are available online, tailored for specific groups.</p>

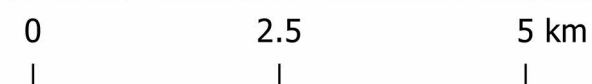
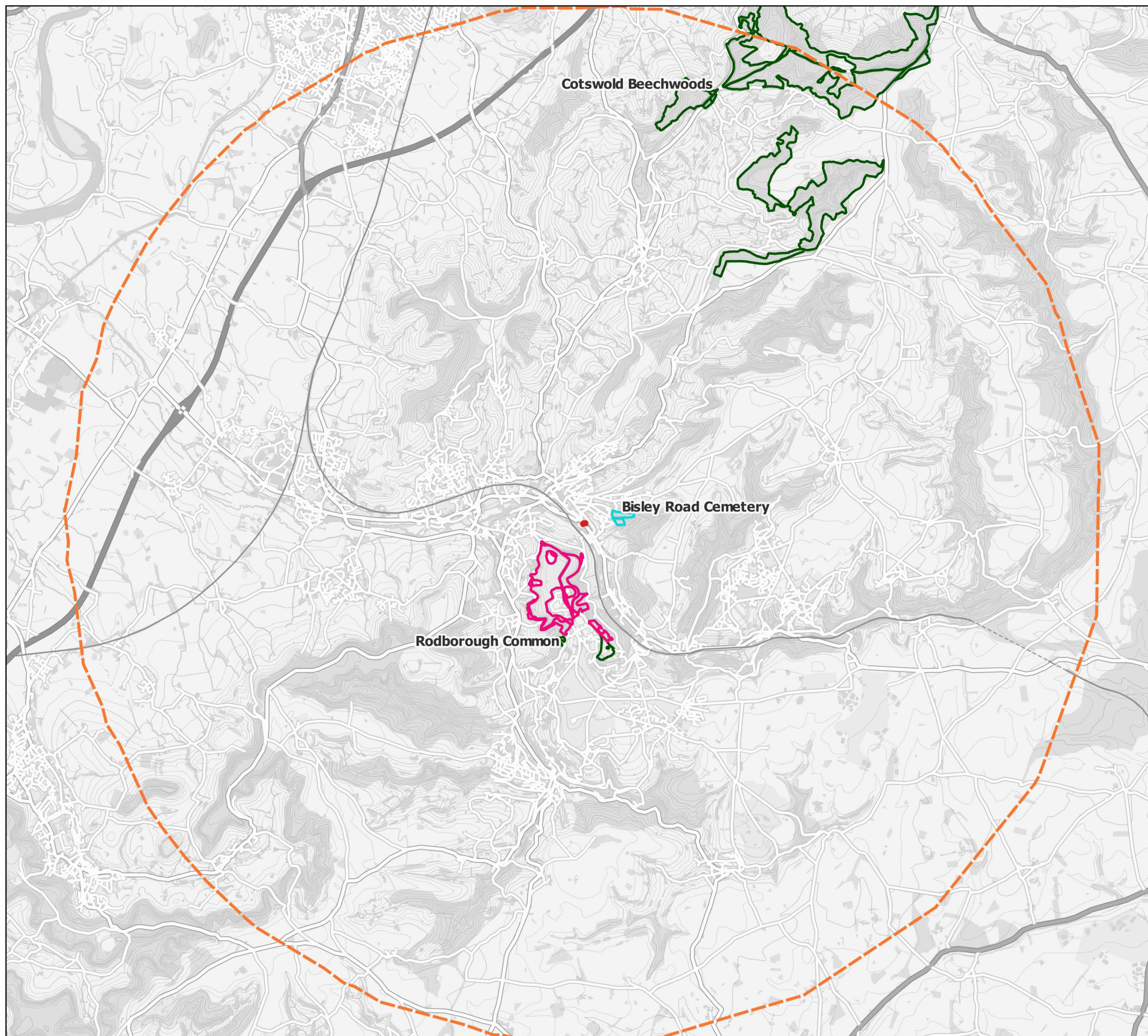
FIGURES

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Key

- Site Boundary
- 10km Search Area
- Special Areas of Conservation
- Sites of Special Scientific Interest (within 2km)
- Local Nature Reserves (LNR)



client
Altus Homes
project
London Road,
Stroud
drawing title
Statutory Designated Sites Plan

scale @ A3
1:76748
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Figure 1
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LPL / AU
issue date
24/4/2024
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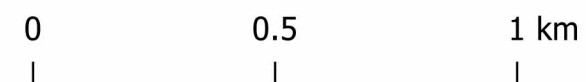
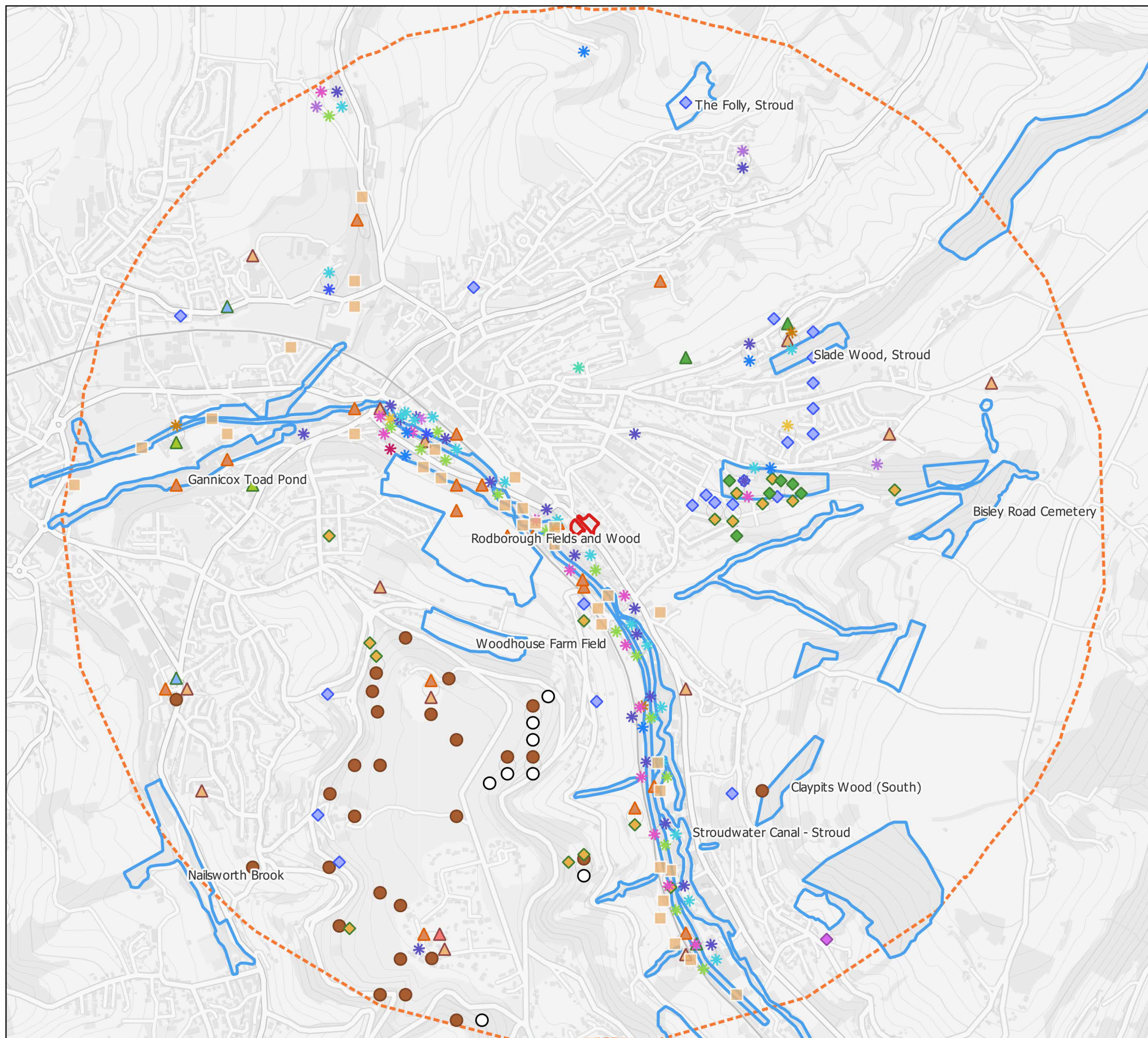
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Key

- Site Boundary
- 2km Search Area
- Local Wildlife Sites (LWS)

Protected Species

- | | |
|--|---|
| ◆ Adder | ▲ Kingfisher |
| ○ Adonis Blue | ✱ Long-eared Bat species |
| ▲ Barn Owl | ✱ Myotis Bat species |
| ✱ Brown Long-eared Bat | ✱ Noctule Bat |
| ◆ Common Lizard | ✱ Nyctalus Bat species |
| ● Chalk Hill Blue | ▲ Osprey |
| ✱ Common Pipistrelle | ✱ Pipistrelle |
| ✱ Daubenton's Bat | ✱ Pipistrelle Bat species |
| ■ Eurasian Otter | ▲ Red Kite |
| ▲ Firecrest | ✱ Serotine |
| ▲ Goshawk | ◆ Slow-worm |
| ◆ Great Crested Newt | ✱ Soprano Pipistrelle |
| | ✱ Whiskered Bat |



client
Altus Homes

project
London Road, Stroud

drawing title
Non-statutory Designated Sites & Protected Species Plan

scale @ A3
1:15620

drawn
LPL / AU

issue date
24/4/2024

drawing / figure number
Figure 2

rev
-

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Key

-  Site Boundary
-  Buildings
-  Hardstanding
-  Amenity Grassland
-  Scrub - dense/continuous
-  Hedges: Introduced shrub
-  Target note
-  Broadleaved tree



client
Altus Homes


project
London Road, Stroud

drawing title
PHASE 1 HABITAT PLAN

scale @ A3
1:500

drawn
IJ

issue date
24/4/2024

 **Figure 3**

APPENDIX A: RELEVANT LEGISLATION, POLICY AND GUIDANCE

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

- 1.1 The Regulations ensure that the habitat and species protection and standards derived from EU law as per “The Habitat Regulations” Amendment will continue to apply after Brexit.

European Protected Sites

- 1.2 The Habitats Regulations ratifies into UK law the “Habitats Directive” (92/43/EEC) and the “Birds Directive” (79/409/EEC). It places a duty on the Secretary of State to propose a list of sites which are important for species listed in Annex I and II of the Habitats Directive respectively to the European Commission.
- 1.3 The Regulations require the compilation and maintenance of a register of European sites to include SACs as well as Special Protection Areas (SPAs) designated for birds, which are collectively called National Site Networks. Internationally important wetlands under the Ramsar Convention known as “Ramsar Sites” are also considered. All European sites are also designated under UK law as Sites of Special Scientific Interest (SSSIs; please see below).

Habitats Regulation Assessment

- 1.4 There is a requirement under EU law that Member States’ take measures to reach and maintain European Protected Sites’ at Favourable Conservation Status (FCS). An Appropriate Assessment is required for plans or projects that may potentially damage a European Protected Site. This is based on an assessment against a given European Protected Site’s Conservation Objectives. The process is commonly known as a Habitats Regulations Assessment (HRA).
- 1.5 The HRA must be conducted by, or on behalf of, the Competent Authority. The HRA process assesses plans or projects alone or in combination. It involves a four-stage approach as follows:

Stage One: Screening - also known as the Test of Likely Significant Effect (TOLSE). If the Competent Authority cannot screen out a *likely significant effect*, an Appropriate Assessment is required.

Stage Two: Appropriate Assessment - the Competent Authority will only agree to plans or projects that will not affect the *integrity* of a European site also known as the “Integrity Test”.

Stage Three: Alternative Solutions - assesses any alternative solutions of a potentially damaging plan or project that failed the Integrity Test, and if it is determined there are no alternative solutions, the project cannot be agreed to and it will either need to be changed or refused.

Stage Four: The final stage may allow a plan or project to proceed if after failing stage three if it is for Imperative Reasons of Overriding Public Interest, and only if suitable compensatory measures are secured.

- 1.6 Any plan or project that may have a potentially damaging effect on a transient species or the habitat on which it relies (for example bats or birds), that is both a Qualifying Features of a European Protected Site and considered *functionally linked* with a European Protected Site, are required under law to be considered as part of any HRA process.

European Protected Species

- 1.7 The Habitats Regulations includes a list of animals and plant species taken from the Annex IV of the Habitats Directive that have a natural range in Great Britain. These are collectively known as European Protected Species (EPS) and are listed in Table 1. The regulations make it an offence to deliberately capture, kill, disturb, take or destroy eggs of, or damage or destroy a breeding or resting place of animals listed in Schedule 2 of the Regulations, and to pick, collect, cut, uproot or destroy wild plants listed in Schedule 5 of the Regulations. They also protect these species alive or dead and parts thereof from various forms of possession and trade.

Table 1: The Habitats Regulations Schedule 2 and Schedule 5 species

	Common Name	Scientific Name
Schedule 2 – European Protected Animal Species	Horseshoe bats – all species	<i>Rhinolophidae</i>
	Bats – all species	<i>Vespertilionidae</i>
	Large blue butterfly	<i>Maculinea arion</i>
	Wild cat	<i>Felis silvestris</i>
	Dolphins, porpoises & whales - all species	<i>Cetacea</i>
	Hazel dormouse	<i>Muscardinus avellanarius</i>
	Pool frog	<i>Rana lessonae</i>
	Sand lizard	<i>Lacerta agilis</i>
	Fisher's estuarine moth	<i>Gortyna borelii lunata</i>
	Great crested newt	<i>Triturus cristatus</i>
	Otter	<i>Lutra lutra</i>
	Lesser Whirlpool Ram's-horn snail	<i>Anisus vorticulus</i>
	Smooth snake	<i>Coronella austriaca</i>
	Sturgeon	<i>Acipenser sturio</i>
	Natterjack toad	<i>Bufo calamita</i>
Marine turtles	<i>Caretta caretta</i> <i>Chelonia mydas</i> <i>Lepidochelys kempii</i> <i>Eretmochelys imbricata</i> <i>Dermochelys coriacea</i>	
Schedule 5 – European Protected Plant Species	Shore dock	<i>Rumex rupestris</i>
	Killarney fern	<i>Trichomanes speciosum</i>
	Early gentian	<i>Gentianella anglica</i>
	Lady's-slipper	<i>Cypripedium calceolus</i>
	Creeping marshwort	<i>Apium repens</i>
	Slender naiad	<i>Najas flexilis</i>
	Fen orchid	<i>Liparis loeselii</i>
	Floating-leaved water plantain	<i>Luronium natans</i>
	Yellow marsh saxifrage	<i>Saxifraga hirculus</i>

- 1.8 These actions may be made lawful in certain circumstances through the granting of licences by the appropriate authority (Natural England). Licences must only be granted after the appropriate authority is satisfied that no satisfactory alternatives are available. In most circumstances, licences are only applied for and granted following full planning permission.
- 1.9 In determining whether or not to grant a licence Natural England must apply the requirements of The Conservation of Habitats and Species Regulations 2012 (amendment) and, in particular, the three derogation tests:

Test 1: A licence can be granted for the purposes of “preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment”.

Test 2: The appropriate authority shall not grant a licence unless they are satisfied “that there is no satisfactory alternative”.

Test 3: The appropriate authority shall not grant a licence unless they are satisfied “that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

Wildlife and Countryside Act 1981 (as amended)

- 1.10 The Wildlife and Countryside Act 1981 (WCA) (as amended) is the principal legislation providing protection for wildlife in the UK. It prescribes legislation for wild birds, other animals, wild plants and non-native species. In addition, it provides for the designation of Sites of Special Scientific Interest (SSSI) in England.

Wild birds

- 1.11 The WCA as amended by Schedule 12 of the Countryside and Rights of Way Act 2000 makes it an offence (with exception to species listed in Schedule 2) to intentionally or recklessly:
- kill, injure, or take any wild bird;
 - take, damage or destroy the nest of any wild bird while that nest is in use or being built (also [take, damage or destroy the nest of a wild bird included in Schedule ZA1] under the Natural Environment and Rural Communities Act 2006); or
 - take or destroy an egg of any wild bird.
- 1.12 For birds listed on Schedule 1 of the WCA, protection extends to offences relating to the intentional or reckless disturbance of these birds while at their nests or their dependent young.

Other animals

- 1.13 The WCA (as amended) makes it an offence to (subject to exceptions) intentionally or recklessly kill, injure or take wild animals listed on Schedule 5 of the Act. For some species, the protection extends to interference with places used for shelter or protection, or disturbing animals occupying or obstructing access to such places. These species are regarded as “fully protected” and as well as the EPS species listed above include the mammal species water vole *Arvicola terrestris*, pine marten *Martes martes* and red squirrel *Sciurus vulgaris* as well as selected others from a range of species groups including, fish, butterflies, hemipteran bugs, beetles, crickets, dragonflies, moths, spiders, crustaceans, sea-mats, molluscs, Annelid worms and sea anemones (and allies).
- 1.14 There are seven species on Schedule 5 of the Act that not fully protected but are still protected against killing and injuring these include the common reptile species slow worm *Anguis fragilis*, viviparous lizard *Lacerta vivipara*, grass snake *Natrix natrix* and adder *Vipera berus*.
- 1.15 The Act prohibits certain methods of killing, injuring, or taking wild animals, and numerous species are protected against sale only as well as other variations for example Atlantic stream (white-clawed) crayfish *Austropotamobius pallipes* are protected against taking and sale.

Vascular plants, bryophytes, lichens and fungi

- 1.16 With regards to native flora the Act makes it an offence to (subject to exceptions) intentionally or recklessly pick, uproot or destroy any wild plant listed in Schedule 8. Similarly, the Act prevents the sale, offer or expose for sale, or possess (for the purposes of trade), any live or dead wild plant included in Schedule 8, or any part of, or anything derived from, such a plant.

Non-native species

- 1.17 The Act contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 in England and Wales.

Sites of Special Scientific Interest

- 1.18 The Act provides for the notification and confirmation of Sites of Special Scientific Interest (SSSIs). These sites can be identified for their flora, fauna, geological or physiological interest. In England, the power to confirm an SSSI lies with Natural England.
- 1.19 Laws protecting areas designated as SSSIs are described in Sections 28 to 33 of Part 2 of the Wildlife and Countryside Act 1981 (as amended). SSSIs are the principle statutory designation of sites in the UK and offences are enforced through Natural England. Offences include the following:

SSSI owners and occupiers

carrying out, causing or allowing operations likely to damage an SSSI without Natural England consent.

failing to keep to a management notice.

failing to let us know about a change in ownership or occupation of land in an SSSI.

Public bodies

carrying out or authorising operations likely to damage an SSSI without meeting the requirements to notify Natural England.

failing to minimise any damage to an SSSI and if there is any damage, failing to restore it to its former state so far as is reasonably practical and possible.

Any person

intentionally or recklessly damaging, destroying or disturbing any of the habitats or features of an SSSI.

intentionally or recklessly damaging, destroying, obscuring or taking down a site notice put up on land within an SSSI.

preventing a Natural England officer lawfully accessing an SSSI.

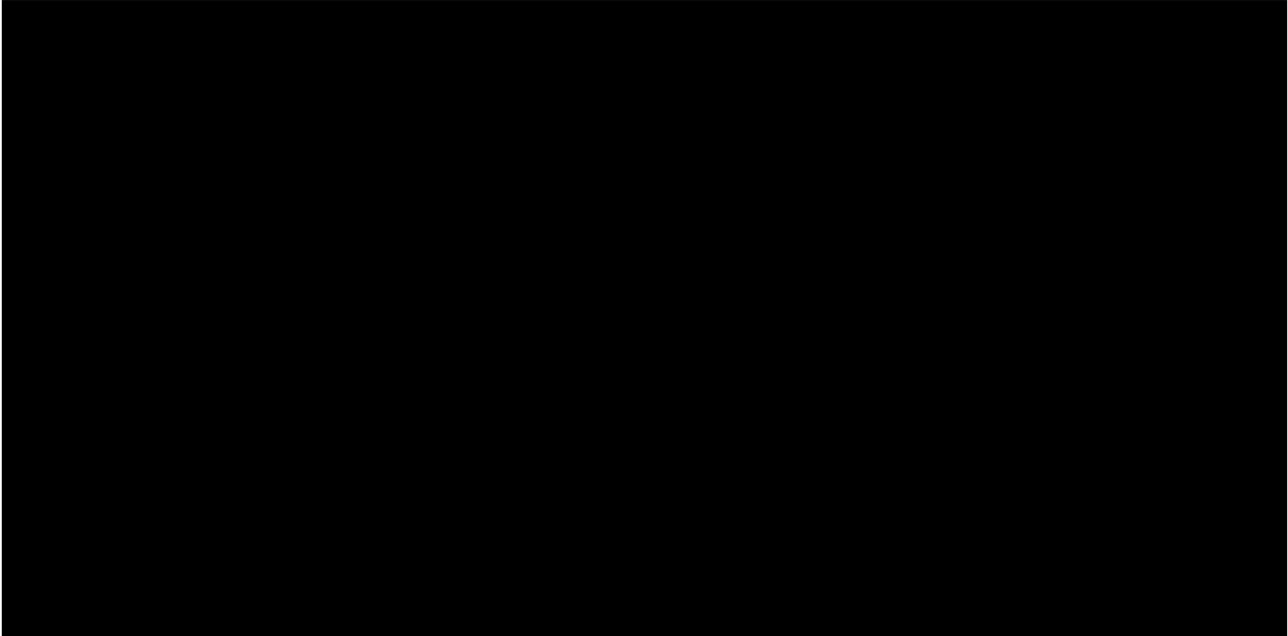
Environment Act 2021

- 1.20 The act became law on 10th November 2021 and covers a range of environmental protections and enhancements. It is enforced by an independent Office for Environmental Protection (OEP). In relation to nature and biodiversity, the act will deliver:

Strengthened biodiversity duty

A requirement for developments to deliver at least 10% biodiversity net gain

- Local Nature Recovery Strategies
- Protected Site Strategies and Species Conservation Strategies
- Conservation Covenants
- Strengthened woodland protection enforcement measures



Natural Environmental and Rural Communities (NERC) Act 2006

- 1.22 Section 40 of the NERC Act 2006 imposes a duty on every public authority to conserve biodiversity in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity. Conserving biodiversity includes, in relation to a living organism or type of habitat, restoring or enhancing a population or habitat.
- 1.23 Section 41 (S41) of the NERC Act 2006 requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The list (including 56 habitats and 943 species) has been drawn up in consultation with Natural England and draws upon the UK BAP List of Priority Species and Habitats. The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006.

National Planning Policy Framework (NPPF) December 2023

- 1.24 The National Planning Policy Framework (NPPF) sets out the Government's planning policy for England. As such, the NPPF must be a material consideration for local authorities when considering planning decisions. The following relate to ecology/biodiversity:

Policy 15 – Conserving and enhancing the natural environment

180. Planning policies and decisions should contribute to and enhance the natural and local environment by:

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

181. Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

182. Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads. The scale and extent of development within these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.

183. When considering applications for development within National Parks, the Broads and Areas of Outstanding Natural Beauty, permission should be refused for major development other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of:

- a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy;
- b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and
- c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated.

184. Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph 182), planning policies and decisions should be

consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate, unless it is compatible with its special character.

185. To protect and enhance biodiversity and geodiversity, plans should:

a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

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

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

187. The following should be given the same protection as habitats sites:

- a) potential Special Protection Areas and possible Special Areas of Conservation;
- b) listed or proposed Ramsar sites; and
- c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Area of Conservation, and listed or proposed Ramsar sites.

188. The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

Local Nature Reserves

- 1.25 Local Nature Reserve (LNR) is a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949 and amended by Schedule 11 of the Natural Environment and Rural Communities Act 2006 by principal local authorities.
- 1.26 Local authorities have the powers to acquire, declare and manage LNRs. Parish and town councils can declare LNRs providing power is given by the district or county council. LNRs may or may not have other statutory designations such as SSSI status. LNRs must be controlled by the local authority through ownership, lease or agreement with the owner. The main aim must be to care for the natural features which make the site special. LNRs are of local, but not necessarily national, importance.
- 1.27 LNRs are usually owned by local authorities, with management often passed onto other organisations such as County Wildlife Trusts etc. They often have good public access and facilities. There is no legal necessity to manage an LNR to any set standard but management agreements and plans often exist. Protection of LNRs is usually provided through local planning policy and through local bylaws.

Non-Statutory Protected Local Sites

- 1.28 Non-statutory Designated Sites are sites designated by local authorities which fall outside the statutory criteria for designation. They are policy protected and included in the National Planning Policy Framework (NPPF) as "Local Sites". Local Planning Authorities should set criteria-based policies against which proposals for developments on or affecting protected wildlife sites should be judged. Non-statutory sites are given various names including County Wildlife Sites (CWS), Sites of Importance for Nature Conservation (SINC) and Local Wildlife Sites (LWS). to this end Ancient Woodland Inventory (AWI) sites are also considered non-statutory sites.

Hedgerows

- 1.29 Hedgerows are designated as Habitats of Principal Importance under the NERC Act 2006. The National Planning Policy Framework (NPPF) emphasises the preservation, restoration and re-creation of priority habitats and ecological networks. Hedgerows are important components of ecological networks linking other important habitats and designated sites.
- 1.30 Hedgerows also receive statutory protection under the Hedgerow Regulations 1997 made under Section 97 of the Environment Act 1995, which came into force in 1997. The regulations introduced new arrangements for local planning authorities in England and Wales to protect important hedgerows in the countryside, by controlling their removal through a system of notification. Important hedgerows are defined by complex assessment criteria, which draw on biodiversity features, historical context and the landscape value of the hedgerow.

Local Biodiversity Action Plan (LBAP)

- 1.31 Local Biodiversity Action Plans (LBAP) identify habitat and species conservation priorities at a local level (typically at the County level), and are usually drawn up by a consortium of local Government organisations and conservation charities.

Birds of Conservation Concern (BoCC)

- 1.32 The Birds of Conservation Concern (BoCC) is jointly prepared by the British Trust for Ornithology (BTO), Joint Nature Conservation Committee (JNCC) and The Royal Society for the Protection of Birds (RSPB).
- 1.33 The report classifies birds according to the extent that they are known to be declining. The classifications are split into groups, Red, Amber and Green, with species classified as Red being those with the greatest declines. The criteria for classifications are presented in *Table 2*.

Table 2: BoCC species classification criteria

Red List Criteria	Global Conservation Status - Species listed by BirdLife International as being Globally Threatened using IUCN criteria
	Historical Decline - A severe decline in the UK between 1800 and 1995, with substantial recent recovery.
	Breeding Population Decline - Severe decline in the UK breeding population size, of more than 50%, over 25 years or the entire period used for assessments since the first BoCC review, starting in 1969 ("longer-term").
	Non-breeding Population Decline - Severe decline in the UK non-breeding population size, of more than 50%, over 25 years or the longer-term.
	Breeding Range Decline - Severe decline in the UK range, of more than 50% measured by number of 10 km squares occupied by breeding birds, over 25 years or the longer-term.
Amber List Criteria	European Conservation status - Categorized as a Species of European Conservation Concern
	Historical Decline – Recovery - Red listed for Historical Decline in a previous review but with substantial recent recovery (more than doubled in the last 25 years).
	Breeding Population Decline - As for red list criteria and, but with moderate decline (by more than 25% but less than 50%).
	Non-breeding Population Decline - As for red list criteria and, but with moderate decline (by more than 25% but less than 50%).
	Breeding Range Decline - As for red list criteria and, but with moderate decline (by more than 25% but less than 50%).
	Rarity - UK breeding population of less than 300 pairs, or non-breeding population of less than 900 individuals.
	Localisation - At least 50% of the UK breeding or non-breeding population found in 10 or fewer sites.
International Importance - At least 20% of the European breeding or non-breeding population found in the UK.	
Green List Criteria	All regularly occurring species that do not qualify under any of the red or amber criteria are green listed.
	Includes those species listed as recovering from Historical Decline in the last review that have continued to recover and do not qualify under any of the other criteria.

Relevant Local Planning Policy

1.34 The Stroud District Local Plan November 2015 includes the following policies of note;

Policy ES6 – Providing for biodiversity and geodiversity

European Sites

“Development will safeguard and protect all sites of European and Global importance, designated as Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar sites. Development must not result in significant adverse effects on these internationally important nature conservation sites, either alone or in combination with other projects and plans. The Council will expect development proposals to demonstrate and contribute to appropriate mitigation and management measures to maintain the ecological integrity of the relevant European site(s).

With specific regard to recreational impacts, the Council will use core catchment zones that identify potential impact areas which extend beyond the relevant European site itself. Development proposals within such areas will take account of any relevant published findings and recommendations. There will be further assessment work on the Severn Estuary SPA and SAC that shall include recreational pressure.

National Sites

Nationally important sites, including Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR), will be safeguarded from development, unless the benefits of the development can be demonstrated to outweigh the identified national importance of the nature conservation interest or scientific interest of the site.

Local Sites

Local sites, including Local Nature Reserves (LNR), Key Wildlife Sites (KWS) and Regionally Important Geological and Geomorphological Sites (RIGS) will be safeguarded from development, unless the benefits of the development outweigh the nature conservation or scientific interest of the site. Where development is considered necessary, adequate mitigation measures or, exceptionally, compensatory measures, will be required, with the aim of providing an overall improvement in local biodiversity and/or geodiversity. Opportunities will be sought to access and enhance the value of such sites for educational purposes, particularly in relation to promoting public awareness as well as appreciation of their historic and aesthetic value.

New Development and the Natural Environment

All new development will be required to conserve and enhance the natural environment, including all sites of biodiversity or geodiversity value (whether or not they have statutory protection) and all legally protected or priority habitats and species. The Council will support development that enhances existing sites and features of nature conservation value (including wildlife corridors and geological exposures) that contribute to the priorities established through the Local Nature Partnership. Consideration of the ecological networks in the District that may be affected by development should take account of the Gloucestershire Nature Map, river systems and any locally

agreed Nature Improvement Areas, which represent priority places for the conservation and enhancement of the natural environment. In this respect, all developments should also enable and not reduce species' ability to move through the environment in response to predicted climate change, and to prevent isolation of significant populations of species.

The District will have a number of undesignated sites, which may nevertheless have rare species or valuable habitats. Where a site is indicated to have such an interest, the applicant should observe the precautionary principle and the Council will seek to ensure that the intrinsic value of the site for biodiversity and any community interest is enhanced or, at least, maintained. Where an impact cannot be avoided or mitigated (including post-development management and monitoring), compensatory measures will be sought. The Council may, in exceptional circumstances, allow for biodiversity offsets, to prevent loss of biodiversity at the District level.

Protected Species

Development proposals that would adversely affect European Protected Species (EPS) or Nationally Protected Species will not be supported, unless appropriate safeguarding measures can be provided (which may include brownfield or previously developed land (PDL) that can support priority habitats and/or be of value to protected species)."

Policy ES8: Trees, Hedgerows and woodlands

"Development should seek where appropriate to enhance and expand the District's tree and woodland resource. Development that would result in the unacceptable loss of, or damage to, or threaten the continued well-being of protected trees, hedgerows, community orchards, veteran trees or woodland (including those that are not protected but are considered to be worthy of protection) will not be permitted.

Where the loss of trees is considered acceptable, adequate replacement provision will be required that utilise species that are in sympathy with the character of the existing tree species in the locality and the site."

APPENDIX B: BOTANICAL SPECIES LIST DAFOR SCALE: DOMINANT, ABUNDANT, FREQUENT, OCCASIONAL, RARE

Scientific name	Common name	Modified Grassland	Hedgerows / treelines	Scrub
<i>Acer campestre</i>	Field maple			
<i>Acer pseudoplatanus</i>	Sycamore			
<i>Achillea millefolium</i>	Yarrow	O		
<i>Aesculus hippocastanum</i>	Horse chestnut			
<i>Agrostis capillaris</i>	Common bent	F		
<i>Arrhenatherum elatius</i>	False oat grass			
<i>Bellis perennis</i>	Daisy			
<i>Betula pendula</i>	Silver birch			
<i>Cerastium fontanum</i>	Common mouse-ear	O		
<i>Chenopodium sp.</i>	Goosefoot	R		
<i>Cirsium arvense</i>	Creeping thistle			
<i>Cirsium vulgare</i>	Spear thistle	R		
<i>Corylus avellana</i>	Hazel			
<i>Crataegus monogyna</i>	Hawthorn			
<i>Cupressus x leylandii</i>	Leylandii			
<i>Dactylis glomerata</i>	Cocksfoot	O		
<i>Festuca rubra</i>	Red fescue	R		
<i>Fraxinus excelsior</i>	Ash			
<i>Holcus lanatus</i>	Yorkshire fog	O		
<i>Hordeum brachyantherum</i>	Meadow barley	R		
<i>Hypochaeris radicata</i>	Cats ear			
<i>Ilex aquifolium</i>	Holly			
<i>Lolium perenne</i>	Perennial ryegrass	D/A		
<i>Matricaria chamomilla</i>	Mayweed	R		
<i>Plantago lanceolata</i>	Ribwort plantain			
<i>Prunus avium</i>	Cherry			
<i>Prunus laurocerasus</i>	Cherry laurel			
<i>Prunella vulgaris</i>	Self heal			
<i>Primula vulgaris</i>	Primrose	R		
<i>Ranunculus repens</i>	Creeping buttercup	R		
<i>Rubus fruticosus agg.</i>	Bramble			
<i>Taraxacum agg.</i>	Dandelion	R		
<i>Trifolium repens</i>	White clover	O		
<i>Urtica dioica</i>	Common nettle			
<i>Veronica chamaedrys</i>	Germander speedwell		R	

APPENDIX C: SITE PHOTOGRAPHS



Photograph 1: Frontage of B1



Photograph 2: Side elevation of B1



Photograph 3: Bank to rear of B1



Photograph 4: Hardstanding and H1 to rear of B1



Photograph 5: Treeline along eastern boundary



Photograph 6: Side elevation of B2



Photograph 7: Rear elevation of B2



Photograph 8: Off-site treeline to rear of B2 (TN1)



Altus Homes

London Road, Stroud

APPENDIX D - BIODIVERSITY NET GAIN REPORT

April 2024

FPCR Environment and Design Ltd

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Rev	Issue Status	Prepared / Date	Approved/Date
-	Final	AU / 22.03.2024	JRM / 27.03.2024
A		AU / 17.04.24	

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1.0 INTRODUCTION

- 1.1 The following report has been prepared by FPCR Environment and Design Ltd on behalf of Altus Homes, for land off London Road, Stroud (central OS Grid Reference SO 85592 04648), here after referred to as the 'Site'.

Site Context

- 1.1 The Site is approximately 0.43ha in size and is located on the eastern extent of Stroud, Gloucestershire. The habitats comprise built development-sealed surface (hard-standing ground and buildings), in addition to small areas of dense continuous scrub and amenity grassland. A mature tree line, comprising five horse chestnut *Aesculus hippocastanum* trees is present along the access road at the northeastern boundary of the site. Off-site habitats comprise a non-native hedgerow at the northern parcel boundary and a native treeline along the southern parcel boundary.
- 1.2 Large expanses of residential housing within the market town of Stroud bound the Site on all sides, associated with London Road, which dissects the Site into two parcels of land. Just beyond the residential area to the south lies both the river Frome, and the Stroudwater Canal, both with their associated edge habitat. The wider landscape beyond this conurbation is the Rodborough Common SAC, a site of international designation, located approximately 550m south.

Development Proposals

- 1.3 Outline planning application for demolition of existing buildings and the erection of up to 35 dwellings, including structural planting and landscaping, sustainable drainage system (SuDS) and vehicular access points. All matters reserved except for means of access.

Aims and Objectives

- 1.4 This Biodiversity Net Gain Report is based on the Chartered Institute of Ecology and Environmental Management (CIEEM) guidance¹. The scope and objectives of this report are to:

Summarise the results of the baseline UKHab Survey undertaken on the site and present the results of habitat condition assessment surveys following The Statutory Biodiversity Metric User Guide;

Provide an overview of the proposed habitats following completion of the scheme;

Present the results of Defra's Statutory Biodiversity Metric assessment completed for the proposals;

Assess the feasibility of the proposals to achieve a net gain in biodiversity through the Statutory Biodiversity metric;

Recommendations for the proposals to maximise their biodiversity potential.

- 1.2 This report has been prepared to support the FPCR Ecological Appraisal (March, 2024) prepared for the Site, which provides a detailed description of the habitats present and should be read in conjunction with this report.

¹ CIEEM (2021) Biodiversity Net Gain Report and Audit Templates Chartered institute of Ecology and Environmental Management, Winchester, UK.

2.0 LEGISLATIVE AND POLICY CONTEXT

2.1 The proposals are subject to Biodiversity Net Gain regulations as the site does not fall into any of the exemptions as set out on the government website²

2.2 The UK Government, as signatory to the Rio Convention on Biological Diversity, is committed to conserving and enhancing biodiversity. This commitment is further enforced in the Natural Environment and Rural Communities Act (NERC) 2006 and the Natural Environment White Paper (June 2011).

2.3 DEFRA's 25 Year Environment Plan (2018) seeks to embed a 'net environmental gain' principle for development to deliver environmental improvements locally and nationally. A measurable net gain of 10% became mandatory on 12th February 2024. The National Planning Policy Framework (NPPF, 2023) seeks to ensure that the planning system contributes to and enhances the natural and local environment, protect and enhance biodiversity and geodiversity by:

"180. d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;

175. b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."

The Environment Act 2021

2.4 Schedule 14 of the Environment Act states that:

"The biodiversity gain objective is met in relation to development for which planning permission is granted if the biodiversity attribute to the development exceeds the pre-development biodiversity value of the onsite habitat by at least the relevant percentage.

...The relevant percentage is 10%"

Measurable Net Gain

2.5 Biodiversity net gain seeks measurable improvements for biodiversity, by enhancing habitats or creating better ones. Defra's Statutory Metric is used to measure changes in biodiversity, by assigning habitats a 'unit value' according to their relative value for biodiversity.

Biodiversity Gain Hierarchy Framework

2.6 The Biodiversity Gain Hierarchy sets out a list of priority actions. These state that first, adverse effects to onsite habitats which are of medium, high or very high distinctiveness should be avoided. If they cannot be avoided the effects should be mitigated for. Onsite habitats which are to be adversely effected by the development should be compensated for, where possible, in the following order:

The enhancement of existing onsite habitats,

² Biodiversity net gain: exempt developments 2023. Available at <https://www.gov.uk/guidance/biodiversity-net-gain-exempt-developments> [Accessed 13.02.24]

Creation of new onsite habitats,
Allocation of registered offsite gains,
Purchase of biodiversity credits.

3.0 METHODOLOGY

Baseline Habitat Assessment

- 3.1 This report accompanies the Ecological Appraisal (March, 2024) for the Site which has been undertaken to inform the development proposals and to provide recommendations for mitigation and enhancement (of which measurable biodiversity net gain will form a part).
- 3.2 A walkover survey of the Site was carried out in January 2024, and the habitats were classified using the Phase 1 Habitat Survey methodology (JNCC, 2010)³. The survey also included a UKHab habitat classifications survey, completed by Principal Ecologist Abigail Upham, with over ten years' experience in ecological consultancy and is experienced in botanical surveys, being a level 4 FISC surveyor. The survey broadly followed UKHab Survey technique as recommended by Natural England and the Chartered Institute of Ecology and Environmental Management. Habitat Conditions Assessments in accordance with the Natural England's Statutory Biodiversity Metric (v4.1) Technical Annex 1, were also carried out at the same time.
- 3.3 A desktop study was undertaken by consulting the Gloucestershire Centre for Environmental Records (GCER) (January 2024), and the Multi-Agency Geographic Information for the Countryside (MAGIC) website.
- 3.4 Full details of the survey methodologies employed during the above surveys are provided in the Ecological Appraisal (FPCR, March 2024).

Natural England's The Statutory Biodiversity Metric (v4.1)

- 3.5 Natural England's published biodiversity net gain metric is an MS Excel spreadsheet that is used to quantify the predicted net-change in biodiversity value ("biodiversity units") of a proposed development site before and after development. It treats the habitats, linear features and watercourses separately, and is based on pre-determined values, along with published written guidance, set by a Natural England-led team of experts. The latest version of this metric is the Statutory Biodiversity Metric v4.1, published in November 2023.
- 3.6 To facilitate this, the Site has been mapped and digitised using QGIS, with the existing habitats identified and areas automatically generated. In accordance with the 4.1 Metric User Guide, habitats have been defined under UK Habitat Classification. The detailed landscaping proposals for the Site were then uploaded into QGIS, and the proposed habitats mapped and digitised to generate areas for each of the habitats proposed for creation.
- 3.7 These pre- and post-development habitat areas were then inputted into the Statutory Biodiversity Metric Calculation tool. Pre-development habitats were grouped into their habitat type and condition based on the results of the UKHab and condition assessment surveys, while post-developments were classified into their UKHab type as identified through the proposed habitats within the landscaping plans and their target condition. The metric assigns a habitat distinctiveness score for each of the baseline and proposed habitats which are pre-assigned scores based on the habitat type.

³ JNCC. (1990). Handbook for Phase 1 habitat survey – a technique for environmental audit. Peterborough: JNCC

- 3.8 The strategic significance of the habitats was also assessed for both the pre-and post-development habitats based on the location of the Site, its proximity to existing areas of biodiversity interest and its setting within wider habitat corridors.
- 3.9 The metric then assigns a range of pre-assigned factors to each of the proposed habitats. These have been advised by subject knowledge experts and are universal multipliers generated by the metric itself for the following variables relevant to habitat creation, enhancement or restoration proposals:
- Difficulty of creating or restoring/enhancing a habitat: This pre-assigned score is based on how difficult a particular habitat type is to create or restore/enhance.
 - Temporal risk: This is the ‘time to target condition’ for any particular habitat and determines how long a particular habitat type is likely to take to reach the condition score that the desired condition score assigned to it.
 - Spatial Risk: This score is based on the distance between the Site of habitat loss and any habitats creation or enhancement proposals at any offsite offsetting solutions.
- 3.10 Full details of the calculation methodology used is provided in the Statutory Biodiversity Metric (v4.1) – User Guide⁴.

Limitations

- 3.11 Data provided by third party sources collated during the desktop study is generally made up from a wide range of sources including (but not limited to) those submitted by ecological consultancies, wildlife conservation organisations and volunteers. As such, this data is typically focused on areas of known nature conservation, is reliant upon formal surveys having been undertaken within an area or the presence of an expert within the locality (particularly for invertebrate records) and as such this data can never be fully relied upon as a complete ecological dataset for any given area. Rather, this data is used as a guide to likely presence of notable ecological features and can never be relied upon for likely absence.
- 3.12 The UKHab map has been reproduced from detailed field notes and informed by aerial imagery, OS mapping and site maps provided by the client. The accuracy of this figure is therefore ultimately guided by the accuracy of these sources and can only be relied upon to a certain degree of resolution.
- 3.13 The UKHab survey and BNG Conditions Assessments were carried out in January 2024, outside of the optimal survey season. The habitats are limited in extent, comprising predominately hard standing and buildings and given the urban location the assessment of the habitats is considered sufficient for determining potential impacts.

⁴ DEFRA Statutory Biodiversity Metric) Available at:

https://assets.publishing.service.gov.uk/media/65673fee75007400d1dee31/The_Statutory_Biodiversity_Metric_-_Draft_User_Guide.pdf

4.0 BASELINE CONDITIONS

Strategic Significance

- 4.1 The site lies within Stroud District Council and does not fall within any Biodiversity Opportunity Areas. The site is not located adjacent to any protected sites and there is no connectivity to priority habitats, it is therefore considered that the site is of Low Strategic Significance. The Site lies within the Zone of Influence for two internationally designated sites; the Rodborough Common SAC and the Cotswolds Beechwoods SAC. There are, however, mitigation strategies in place for both of the sites, to cover the potential effects of an increase in recreational impacts, resulting from residential developments. The scheme at London Road, Stroud will therefore be required to make financial contributions to these mitigation strategies, as outlined in the Ecological Appraisal (March, 2024). Furthermore, it is not expected that the proposals will have any impact on the nearby non-statutory designated sites due to their reasons for notification and the lack of habitats present on Site.

Desk Study

Statutory Sites

- 4.2 Four internationally designated sites were located within a 15km radius of the Site, as summarised in *Table 1*.

Table 1. International Designations within 15km

Designated Area	Distance from Site Boundary	Designation Reason
Rodborough Common SAC	0.5km S	Rodborough Common SAC is the most extensive area of semi-natural dry grassland surviving in the Cotswolds and represents upright brome – tor-grass (<i>Bromopsis erecta</i> – <i>Brachypodium pinnatum</i>) grassland, which is more or less confined to the Cotswolds. The site contains a wide range of structural types, ranging from short turf through to scrub margins, although short-turf vegetation is mainly confined to areas of shallower soils.
Cotswold Beechwoods SAC	5.5km NE	The site consists of ancient beech (<i>Fagus sylvatica</i>) woodland and unimproved grassland lying over Jurassic limestones at the western edge of the Cotswolds. The woodlands are amongst the most diverse and species-rich of their type while the grasslands typically support unimproved calcareous pastures for which the area is famous.
Severn Estuary SAC, SPA, RAMSAR	11.5km W	The Severn Estuary lies on the southwest coast of Britain at the mouth of four major rivers (the Severn, Wye, Usk, and Avon). The immense tidal range (the second highest in the world) and classic funnel shape make the Severn Estuary unique in Britain and very rare worldwide. This tidal range creates strong tidal streams and high turbidity, producing a community characteristic of the extreme physical conditions of liquid mud and tide-swept sand and rocks. The Estuary includes a wide diversity of habitats including Sandbanks which are slightly covered by sea water all the time, Mudflats and sandflats not covered by sea water at low tide, Atlantic salt meadows, and Reefs, which are identified as Annex I habitat types.
Walmore Common SPA, RAMSAR	14.7km NW	Walmore common occupies a low-lying area in the Severn Vale which is subject to annual winter flooding. The site overlies the significant area of peat in the County of Gloucestershire. The habitats represented include neutral grassland and open water ditches. The site also qualifies under article 4.1 by regularly supporting in winter

Designated Area	Distance from Site Boundary	Designation Reason
		internationally important numbers of Bewick's swan (<i>Cygnus columbianus bewickii</i>).

Statutory Sites of National Conservation Value

- 4.3 Two Sites of Special Scientific Interest (SSSI's) are identified within a 2km radius of the Site boundary; Rodborough Common SSSI. In addition to this there was one Local Nature Reserve (LNR); Bisley Road Cemetery identified.
- 4.4 Bisley Road Cemetery LNR is located approximately 530m east of the site boundary. The site comprises the Chapel of Rest, old gravestones, unimproved grassland, scrub and plantation woodland and specimen trees, all divided by a network of paths. The site contains unimproved and semi-improved grassland, scrub/woodland, specimen trees and boundary hedgerows. The site supports a rich variety of plants and animals, including nationally and locally rare species and UK and Gloucestershire Priority Habitats and Species.

Non-Statutory Designations

- 4.5 The desk study undertaken with GCER, identified twelve non-statutory designated Local wildlife Sites (LWS), within a 1km radius of the Site boundary. These are detailed in *Table 2*, with their locations mapped on *Figure 2: Non-statutory sites and Protected Species Plan* of the Ecological Appraisal Report (FPCR, 2024).

Table 2: Non-Statutory Designated Sites within 1km

Local Wildlife Site	Distance	Bearing	LWS Selection Criteria and Rationale
Arundell Mill	97m	S	Designated for its mix of semi-natural habitats, including willow carr, open water, reed beds, woodland and rough grassland.
River Frome Mainstream & Tributaries	106m	W	Designated for its structural diversity with significant botanical and wildlife interest.
Stroudwater Canal	122m	NW	Designated for its structural diversity with significant botanical and wildlife interest.
Rodborough Fields and Wood	212m	W	Designated for its semi-natural grassland and woodland.
Frome Banks	274m	W	Designated for its mammal interest and diverse streamside vegetation.
Stroudwater Canal – Bowbridge and Thrupp	379m	S	Designated for its structural diversity with significant botanical and wildlife interest.
Frome Banks GWT reserve	441m	W	Designated for its mammal interest and diverse streamside vegetation.
Woodhouse Farm Field	502m	SW	Designated for its semi-natural grassland.
Bisley Road Cemetery	556m	E	Designated for its invertebrate diversity.
Slade Wood, Stroud	956m	NE	Designated for its ancient semi-natural broadleaved woodland site larger than 2ha.
Claypits Wood North	983m	SE	Designated for its botanical diversity.
Conygre Quarry	999m	S	Designated for its sedimentary features such as bedding, x-cross bedding, changes in lithology and sedimentation.

Biodiversity Units

Habitats

- 4.6 The Site is split into two separate parcels of land, either side of London Road, with the northern parcel containing predominately built development / sealed surface and buildings, a small area of modified grassland and mixed scrub. An ornamental hedgerow is present at the northern boundary and a mature treeline is present along the eastern boundary. The southern parcel comprised entirely of built development / sealed surface and buildings with an off-site treeline, of which the RPA's extend over the application boundary. All the trees present within the redline boundary will be retained as part of the proposals.
- 4.7 The biodiversity units for each habitat and linear habitat on the Site have been calculated and the cumulative units are presented in *Table 3* and *Table 4*, respectively. A brief description of the

habitats and their baseline conditions are also detailed below, with an illustration provided in *Figure 1*.

Linear Features: Hedgerow

- 4.8 There is one mature treeline at the eastern boundary and one non-native hedgerow along the northern boundary of the northern parcel of land. The hedgerow was a residential boundary comprising of ornamental species and the treeline comprised of five large mature horse chestnut trees.

Table 3: Summary of On-Site Baseline Habitats

Habitat	Description	Area	Condition	Distinctiveness	Biodiversity Units
Developed land; sealed surface	The Site was dominated by hard standing which surrounded the onsite buildings on all sides, running up to London Road, which splits the two parcels of land. Two built structures were identified within each parcel of land, building B1 in the northern parcel and building B2 in the southern parcel.	0.4284 ha	N/A	Very Low	0.00
Modified grassland	<p>A small area of modified grassland was present within the Site, running along steeply sloped bank, on the northern aspect of B1. Grass species content included creeping bent <i>Agrostis stolonifera</i> and Yorkshire fog <i>Holcus lanatus</i>. Herbaceous composition included ribwort plantain <i>Plantago lanceolata</i>, creeping buttercup <i>Ranunculus repens</i>, selfheal <i>Prunella vulgaris</i> and occurrences of primrose <i>Primula vulgaris</i>.</p> <p>Modified grassland is a low distinctiveness habitat and this compartment is assessed as being in Poor condition, due to being species-poor, having a uniform short sward, and having <1% bare ground.</p>	0.0103 ha	Poor	Low	0.02
Mixed scrub	<p>A small area of scrub within the boundary of the Site was located adjacent to the modified grassland bank, to the rear of B1. Species included bramble <i>Rubus fruticosus agg.</i>, ivy <i>Hedera helix</i>, holly <i>Ilex aquifolium</i>, leylandii <i>Cupressus x leylandii</i>, and young sycamore <i>Acer pseudoplatanus</i>.</p> <p>The scrub is a medium distinctiveness habitat, assessed as being in Poor condition due to comprising ornamental species, not possessing a good age range, and having no developed edge, clearings or rides within the scrub.</p>	0.0115 ha	Poor	Medium	0.05
Total On-Site Baseline Habitat Units					0.07

Please note there may be minor discrepancies (rounding errors) between the columns and the totals, however, the numbers duplicate those presented within the matrix calculator.

Table 4: Existing On-Site Hedgerows Biodiversity Units

Habitat	Description	Ref, (Figures)	Length (km)	Condition	Biodiversity Units
Hedgerow (ornamental)	The residential boundary hedgerow is present along the northern perimeter of the Site. This hedgerow is dominated by introduced shrub and tree species, with occasional native species found throughout. Introduced species included cherry laurel <i>Prunus laurocerasus</i> , garden privet <i>Ligustrum ovalifolium</i> , leylandii <i>Cupressus x leylandii</i> and London plane <i>Platanus x hispanica</i> . Native species identified within this hedgerow included holly, sycamore, ash <i>Fraxinus excelsior</i> and bramble. The hedgerow did not qualify as a NERC S41 Habitats of Principal Importance, due to not containing at least 80% of native species and was assessed as being in poor condition	H1	0.054	Poor	0.05
Lines of Trees	A mature tree line, comprising five horse chestnut <i>Aesculus hippocastanum</i> trees is present along the access road at the northeastern boundary of the Site. No other treelines were present within the Site, or along boundary features. The tree line was assessed as being in poor condition, due to having gaps within the canopy, trees not having ecological niches, and there not being an undisturbed naturally vegetated strip of at least 6m on both sides.	TL1	0.051	Poor	0.10
Total On-Site Baseline Habitat Units					0.15

Please note there may be minor discrepancies (rounding errors) between the columns and the totals, however, the numbers duplicate those presented within the matrix calculator.

5.0 PROPOSED DESIGN

- 5.1 The proposed habitats are shown in *Figure 2*, with habitat retention illustrated in *Figure 3*; based on the BNG Strategy Plan by Zebra Landscape Architects (ref: ZLA_1518-L-201 March 2024). A summary of the proposed habitats and proposed hedgerow creation is provided in *Table 5 – Table 8*.
- 5.2 A brief outline of the management required to achieve the target condition for each habitat type is given, however, a Habitat Management and Monitoring Plan (HMMP) or similar, will be required. The HMMP will outline the planting and landscape information, and the management and monitoring of the proposed and enhanced habitats for a minimum of 30 years, in accordance with the Environment Act. This can be submitted as part of a planning condition, to be submitted and discharged prior to the commencement of works.

Habitats

Habitat Retention/Loss (*Figure 3*)

- 5.3 The small areas of modified grassland and mixed scrub, both of which were assessed as being in poor condition, will be lost to the development proposals. This will be compensated for through habitat creation, of similar habitats in a better condition.
- 5.4 The mature broadleaved trees on the eastern boundary of the northern parcel will be retained and adequately buffered according to the root protection areas (RPA).
- 5.5 The proposals include the planting of an additional 32 small trees across the Site. The trees will mainly be comprised of native species and will be planted within the developable area.

Table 5: Summary of Proposed Habitat Creation

Habitat (UKHab Type)	Targets for Creation/Management	Area (ha)	Target Condition	Distinctiveness	Biodiversity Units
Developed land; sealed surface	The majority of the site will become developed land which does not hold any value for biodiversity.	0.3126	N/A	Very low	0.00
Vegetated Garden	The gardens of the proposed dwellings have been incorporated into the BNG calculations. These will not be included in a management plan as they do not significantly contribute to the sites BNG and so do not have a condition target but they will still add ecological value to the site as vegetated garden.	0.0202	N/A	Low	0.04
Modified grassland	Small areas of modified grassland within the built development and likely to be managed for their amenity value. These areas will target poor condition and will be mown frequently.	0.515	Poor	Low	0.05
Other neutral grassland	Small areas of other neutral grassland will be created in the southern extent of the site, to the rear of the carparking area and along the existing treeline on the north eastern boundary. These areas will include species mixes such as or similar to flowering lawn Emorsgate EL1 and a shade tolerant mix Emorsgate EH1, respectively. This area will have an informal character and will be managed to have a varied sward height and should be kept free from invasive non-native species.	0.0517	Poor	Medium	0.19
Mixed scrub	These areas will target moderate condition and should contain a mixture of species such as hazel <i>Corylus avellana</i> , hawthorn <i>Crataegus monogyna</i> , wayfaring Tree <i>Viburnum lantana</i> , blackthorn <i>Prunus spinosa</i> , dog rose <i>Rosa sp.</i> and holly <i>Ilex aquifolium</i> . This habitat should be managed through pruning and coppicing to allow a good age range of plants to develop. These areas should also be kept free from invasive non-native species.	0.0095	Moderate	Medium	0.06
Introduced shrub	Ornamental planting around the amenity areas will be planted with species to known for their flowering/ berry production and a combination of perennials and evergreen species.	0.0238	N/A	Low	0.05
Rain gardens	These will be small areas within the rear gardens of the proposed dwellings. Containing a mix of grasses, such as (<i>Carex sp/ Miscanthus sp</i>), herbaceous (<i>Ajuga sp/ Iris sp</i>) and marginal (<i>Filipendula sp/ Osmunda sp</i>) species.	0.0054	N/A	Low	0.01
Urban Trees	Small urban trees are included within the developable area. These will be a variety of native and non native species, such as beech, cherry, alder, lime and downy birch.	0.1303	Poor	Medium	0.36

Total Habitat Units Delivered	0.77
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Table 6: Summary of Proposed Hedgerow Creation

Habitat (UKHab Type)	Targets for Creation/Management	Length (km)	Target Condition	Distinctiveness	Biodiversity Units
Native species-rich hedgerow	A total of 59m of species-rich hedgerow will be planted in the southern parcel, delimiting the ONG (wildflower grassland) at the southern boundary. The hedgerow will target Poor condition.	0.059	Poor	Medium	0.23
Native hedgerow	Two lengths of native hedgerows totaling 108m in the northern parcel of the site will be planted along the edge of the car parking areas, in between the amenity areas.	0.108	Poor	Low	0.21

6.0 STATUTORY BNG METRIC

- 6.1 The habitat retention, enhancement and creation proposals highlighted within this report have all been inputted into the Statutory Biodiversity Metric v4.1. *Table 7* provides a summary of the headline results of the assessment completed for the proposals. The full metric has been provided in *Appendix F*.

Table 7: Statutory Biodiversity Metric 4.1 Headline Results

On-Site		
Baseline	Habitat Units	0.07
	Hedgerow Units	0.16
	Watercourse Units	0.00
Post-Intervention	Habitat Units	0.77
	Hedgerow Units	0.54
	Watercourse Units	0.00
Total Net Unit Change	Habitat Units	+0.70
	Hedgerow Units	+0.38
	Watercourse Units	0.00
Total Net Percentage Change	Habitat Units	+1053.21 %
	Hedgerow Units	+244.99 %
	Watercourse Units	0.00 %

Habitat Trading

Trading Summary

- 6.2 The vast majority of habitat to be lost across the Site comprised of developed land-sealed surface contributing to the loss of 0.00 habitat units. The low distinctiveness habitat which will be lost as part of the proposals is modified grassland in Poor condition. The medium distinctiveness habitat that will be lost as part of the proposals is mixed scrub in poor condition. Low distinctiveness habitats that will be created include modified grassland in poor condition and introduced shrub, rain gardens and vegetated gardens within the building plots. Medium distinctiveness habitats that will be created include other neutral grassland in poor condition, individual trees in poor condition and mixed scrub in moderate condition.
- 6.3 The proposals provide sufficient amounts of on-site habitat creation and enhancement to offset impacts to medium distinctiveness habitats through habitat creation and enhancement.
- 6.4 *Table 8* summarises the habitat trading summaries across the Site.

Table 8: Habitat Trading Summary

Trading Summary		
Distinctiveness Group	Trading Rule	Trading Satisfied?
Very High	Bespoke compensation likely to be required	N/A
High	Same habitat required	N/A
Medium	Same broad habitat or a higher distinctiveness habitat required	Yes

Low	Same distinctiveness or better habitat required	Yes
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Additional Faunal Enhancements

- 6.5 The Ecological Appraisal (FPCR, March 2024) also recommends that nest boxes for birds and bats bricks be incorporated into the scheme. The Habitat Management and Monitoring Plan or similar, which may be conditioned as part of this application, may also include the final Ecological Mitigation and Enhancement Plan that shows the location of wildlife boxes and other proposed features.
- 7.0 CONCLUSION
- 7.1 The approach to habitat creation and enhancement has aimed to maximise the future biodiversity value on the Site through the creation of areas of wildflower grassland, mixed scrub, and the planting of additional tree and native hedgerows through a considered landscape and planting scheme. Faunal enhancements, including the provision of bat bricks and swift boxes will also be integrated in to the buildings to support the restoration of the Site for wildlife.
- 7.2 Biodiversity Net Gain has been used to inform the habitat creation and enhancement proposals for the scheme and the resulting habitats will provide a betterment for local wildlife.
- 7.3 The results of the assessment demonstrate that the proposal will lead to an overall gain of 0.77 biodiversity habitat units; an increase of 1053.21%, and 0.38 hedgerow units; an increase of 244.99%.
- 7.4 The proposals have demonstrated the ability for the Site to lead to the delivery of a net gain for habitats and linear features.



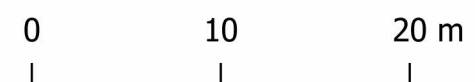
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Key

- Red Line Boundary
- Baseline Habitats**
- Developed land; sealed surface
- Mixed scrub
- Modified grassland
- Baseline Hedgerows**
- Non-native and ornamental hedgerow
- Line of trees



client
Altus Homes
project
London Road, Stroud
drawing title
BASELINE HABITATS

scale @ A3
1:400

drawn
DAHM

issue date
24/4/2024



drawing / figure number
Figure 1

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Key

- Red Line Boundary**
- Proposed Habitats**
- Developed land; sealed surface**
- Introduced shrub**
- Mixed scrub**
- Modified grassland**
- Other neutral grassland**
- Rain garden**
- Vegetated garden**
- Proposed Hedgerows**
- Non-native and ornamental hedgerow**
- Line of trees**
- Native hedgerow**
- Species-rich native hedgerow**
- Proposed Individual Trees**
- Proposed Small Urban Tree**



client
Altus Homes

project
London Road, Stroud

drawing title
PROPOSED HABITATS

scale @ A3
1:400

drawn
DAHM




issue date
24/4/2024

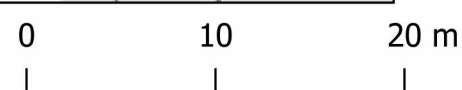
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Key

-  Red Line Boundary
- Retained Habitats**
 -  Lost
- Retained Hedgerows**
 -  Created
 -  Retained
 -  Lost
- Retained Individual Trees**
 -  Created



client
Altus Homes


project
London Road, Stroud


drawing title
HABITAT RETENTION

scale @ A3
1:400

drawn
DAHM

issue date
24/4/2024





drawing / figure number
Figure 3

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Key

 **Red Line Boundary**

Baseline Habitat Condition

 **Poor**

 **N/A - Other**

Baseline Habitat Distinctiveness

 **Medium**

 **Low**

 **V.Low**

Baseline Hedgerow Condition

 **Poor**

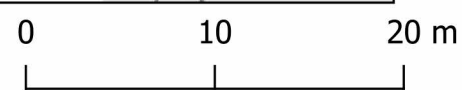
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Baseline Hedgerow Distinctiveness

 **Low**

 **V.Low**

 **N/A**




 client: Altus Homes
 project: London Road, Stroud
 drawing title: **BASELINE HABITAT CONDITION / DISTINCTIVENESS**
 scale @ A3: 1:400
 drawn: DAHM
 issue date: 24/4/2024
 drawing / figure number: **Figure 4**

\\FPCR-FS-01\Projects2\12200\12228\ECO\QGIS\QGIS 2.14\Plans\BNG\Statutory Biodiversity Metric\Net Gain Habitat Mapping.qgz

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Key

 Red Line Boundary

Proposed Habitat Condition

 Poor

 N/A - Other

 Condition Assessment N/A

Proposed Habitat Distinctiveness

 Medium

 Low

 V.Low

Proposed Hedgerow Condition

 Poor


Proposed Hedgerow Distinctiveness

 Medium

 Low

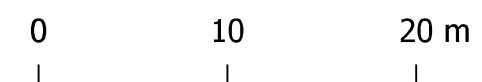
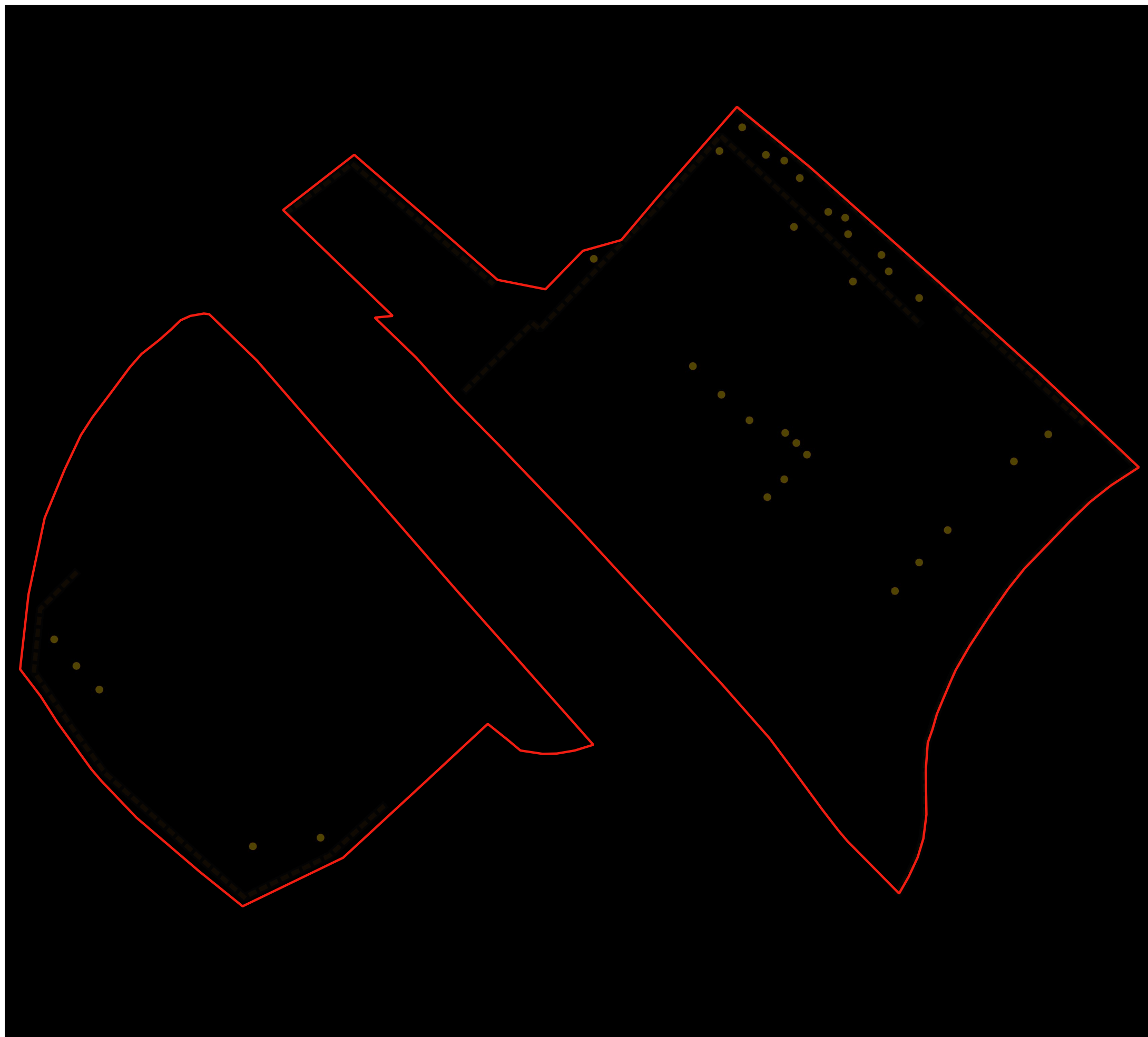
 V.Low

Proposed Individual Tree Distinctiveness

 Medium

Proposed Individual Tree Condition

 Poor



client
Altus Homes

project
London Road, Stroud

drawing title
PROPOSED HABITAT CONDITION /
DISTINCTIVENESS

scale @ A3
1:400

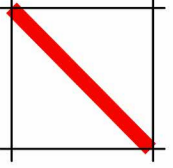
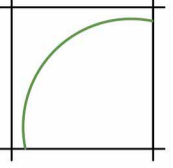
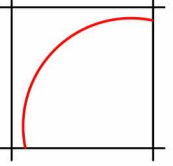
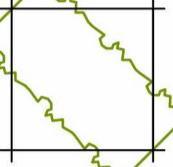
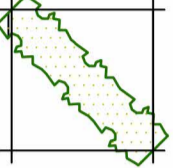
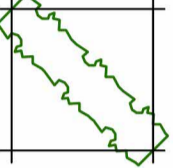
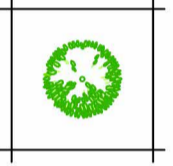
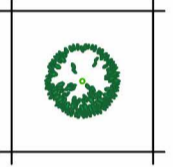
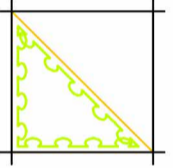
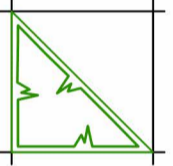
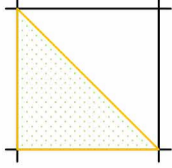
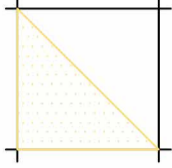
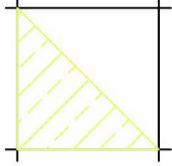
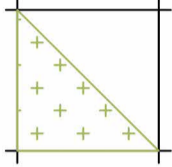
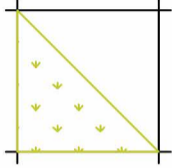
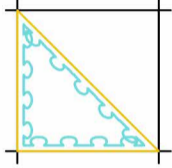
drawn
DAHM

issue date
24/4/2024

drawing / figure number
Figure 5

Appendix A: Landscape BNG Strategy, Zebra Landscape Architects

LEGEND

-  Boundary
-  Existing trees retained
-  Existing trees removed
-  Proposed species-rich native hedgerow
-  Proposed native hedgerow
-  Proposed ornamental non-native hedgerow
-  Proposed native trees within native hedgerow
-  Proposed individual native/non-native trees
-  Proposed introduced shrub/amenity planting
-  Proposed native mixed scrub
-  Proposed vegetated garden (front)
-  Proposed vegetated garden (rear)
-  Proposed modified grassland/amenity grass
-  Proposed shade tolerant grass mix other neutral grassland (Emorsgate EH1)
-  Proposed flowering lawn other neutral grassland (Emorsgate EL1)
-  Proposed rain garden



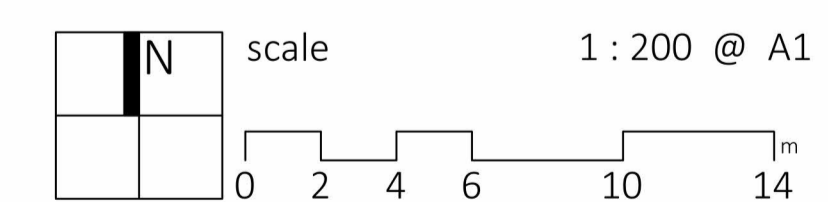
PIPER LAND DEVELOPMENT

ZLA_1518
Land at London Road
 Stroud

L-200
Landscape BNG Strategy

date March 2024
 status planning

rev -



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Appendix B: Biodiversity Net Gain Metric – London Road, Stroud