



Construction and Environmental Management Plan: Biodiversity

Oldland Common, Bristol

Countryside Partnerships West

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Contents

1	Introduction, background and approach	1
1.1	Introduction	1
1.2	Proposed development	2
1.3	Approach	2
1.4	Format of the CEMP: Biodiversity	2
2	Ecological constraints and management objectives	4
2.1	Ecological baseline	4
2.2	Legislation	5
2.3	Ecological management objectives	6
3	Pre-construction management actions	7
3.1	Ecological Clerk of Works (ECW)	7
3.2	Habitats	7
3.3	Protected and notable species	7
3.4	Pre-construction summary plan	10
4	Construction management actions	14
4.1	General	14
4.2	Habitats	14
4.3	Protected and notable species	14
4.4	Construction summary plan	16
5	Post-construction management actions	19
5.1	Habitats	19
5.2	Protected and notable species	19
5.3	Post-construction summary plan	20
6	Responsibilities, supervision and monitoring	22
6.1	Key personnel and responsibilities	22
6.2	Site delivery and induction	22
6.3	Ecological supervision, monitoring and reporting	22
6.4	Variations and incidents	22
7	References	24

Tables

Table 2.1: Summary of relevant legislation 5
Table 3.1: Pre-construction summary plan 10
Table 4.1: Construction summary plan 16
Table 5.1: Post-construction summary plan..... 20
Table 6.1: Key personnel and responsibilities 22

Figures

- Figure 1: Site location plan
- Figure 2: Phasing plan
- Figure 3: Landscape plan
- Figure 4: Phase 1 Habitat Survey plan
- Figure 5: Bat and bird box plan
- Figure 6: Badger survey plan
- Figure 7: Tree Protection Plan

Appendices

- Appendix 1: Species legislation
- Appendix 2: Example reptile hibernacula design

1 Introduction, background and approach

1.1 Introduction

1.1.1 EAD Ecology was commissioned by Countryside Partnerships West to produce a Construction and Environmental Management Plan specific to ecology (CEMP: Biodiversity) for the Phases A & E of the approved mixed-use development on land at Oldland Common, Bristol (Planning Reference: P21/05366/F); refer to Figures 1-3.

1.1.2 Condition 10 of the Hybrid Planning Consent states that:

'Construction environmental management plan (CEMP: Biodiversity) for all phases (pre-commencement condition)

No development shall take place in any development phase approved in both full and outline (including demolition, ground works, vegetation clearance) until a construction environmental management plan for that phase (CEMP: Biodiversity) has been submitted to and approved in writing by the local planning authority. The CEMP: Biodiversity shall be written in accordance with BS42020, including mitigation details on birds, reptiles, badger and any other wildlife that may be impacted by the proposal, as well as any pollution prevention measures. The approved CEMP: Biodiversity shall be adhered to and implemented throughout the construction period strictly in accordance with the approved details, unless otherwise agreed in writing by the local planning authority.

REASON: In the interests of protected species and the biodiversity of the location, to accord with Policy PSP19 of The South Gloucestershire Local Plan: Policies, Sites and Places Plan (Adopted) Nov. 2017 and Policy CS9 of The South Gloucestershire Local Plan Core Strategy (Adopted) Dec. 2013. This is a pre-commencement condition to ensure that appropriate precautionary measures in place prior to any works start on site.'

1.1.3 A CEMP: Biodiversity was prepared and submitted in relation to Condition 10 in November 2022 by Ethos Environmental Planning Ltd (hereafter 'Ethos CEMP'). The scope of the Ethos CEMP was habitat and species protection measures for site clearance, groundworks and remediation works across the entire site, including all phases (including A and E). We understand this work was subsequently undertaken between January and April 2023 by Wring Group Limited under ecological advice and/or supervision of Ethos Environmental Planning Limited. The baseline for the current CEMP: Biodiversity is therefore a cleared site (refer to Figure 4), with the exception of some boundary habitats, trees and woodland, which were retained.

1.1.4 This CEMP: Biodiversity includes habitat and species protection measures for the pre-construction and construction phases for development of Phases A & E, which is expected to commence in summer 2023. As detailed above, the Phase A & E development area has already been cleared and remediation works completed; therefore, the scope of the habitat and species protection measures reflect this.

1.1.5 Implementation of the measures contained in this CEMP: Biodiversity is the responsibility of Countryside Partnerships West.

1.1.6 A Landscape and Ecological Management Plan (LEMP; David Jarvis Associates 2023) has been prepared in respect of Condition 19 of the approval; the LEMP provides details of habitat creation and long-term habitat maintenance within the Site.

1.2 Proposed development

- 1.2.1 Phase A & E of the development comprise construction of the access road into the site, 50 residential units with associated gardens, parking and infrastructure and public open space (refer to Figure 3).
- 1.2.2 Ecological avoidance and mitigation measures for the pre-construction and construction phases include:
- Retention and protection of retained hedgerows and trees.
 - Protection of retained badger setts or where this is not possible, provision of an appropriate strategy for sett closure under a Natural England Mitigation Licence.
 - Measures to ensure the welfare of any badgers that enter the development site.
 - Measures to ensure that bats that forage/commute within the site are not affected by construction lighting and that boundary habitats are retained and protected to maintain commuting routes for bats.
 - Provision of:
 - Bat roost and bird nest boxes integrated into the walls of buildings and on retained trees.
 - Bee bricks integrated into walls of new buildings and provision of 'bug hotels' in POS.
 - Reptile hibernacula to be created in east of the site.
 - Hedgehog 'passes' in garden fences.

1.3 Approach

Review of existing information

- 1.3.1 The following documents were reviewed to provide the ecological baseline for the site, prior to site clearance:
- Ethos Environmental Planning July 2021, Ecological Assessment, Oldland Common Trading Post Report to Oldland Common LLP. (Hereafter '2021 Ecological Assessment').
 - Ethos Environmental Planning November 2022, CEMP: Biodiversity, Oldland Chief Trading. Report to Oldland Common LLP. ('Ethos Planning CEMP').
- 1.3.2 These reports were informed by habitat and protected species surveys carried out by Ethos Environmental Planning between 2019 and 2022; these included great crested newt, reptile, bat activity, bat roost and badger survey; a summary was provided in the Ethos CEMP.
- 1.3.3 In addition, an ecologist from EAD Ecology (Elliott Hails ACIEEM) undertook a site walkover survey on 6 March 2023. As the majority of habitat on site had been cleared, this focused on the boundary habitats. The site walkover comprised an Extended Phase 1 Habitat surveys undertaken following standard guidelines published by JNCC (2010) and Institute of Environmental Assessment (1995). An ecologist from EAD Ecology (Dr Linda Hamilton MCIEEM) also undertook a badger survey of the site in November 2022 to establish the badger baseline; this survey was undertaken in accordance with Harris *et al.* (1989). A further badger survey was undertaken on 11 May 2023 by EAD Ecology (Lee Haley ACIEEM) to determine the badger baseline following completion of the site remediation works (refer to 1.1.3 above).

1.4 Format of the CEMP: Biodiversity

- 1.4.1 Section 2 summarises baseline ecological information for the development area and also identifies ecological management objectives.

- 1.4.2 Sections 3 to 5 provide ecological management actions for the pre-construction and construction and phases of the development.
- 1.4.3 Section 6 details monitoring proposals and responsibilities.
- 1.4.4 The following are not included within the CEMP: Biodiversity:
- Soft and hard landscape specifications (these are included in the LEMP for discharge of Condition 19).

2 Ecological constraints and management objectives

2.1 Ecological baseline

2.1.1 A summary of the ecological baseline is provided below.

Statutory designated sites

2.1.2 The site does not lie within, or adjacent to, any statutory designated sites of nature conservation importance. The closest statutory designated sites are Willsbridge Valley Local Nature Reserve (LNR; located approximately 0.5km west) and Cleve Wood, Hanham Site of Special Scientific Interest (SSSI; located approximately 1.2km south-west). This SSSI is designated primarily for the population of Bath Asparagus (*Ornithogalum pyrenaicum*).

Non-statutory designated sites

2.1.3 The site does not lie within, or adjacent to, any non-statutory designated sites of nature conservation importance. Eighteen Sites of Nature Conservation Importance (SNCl) were located within 2km of the site. The closest of these was Avon Valley, Cleve Wood SNCl, located approximately 1.25km south-west of the site. This site was designated for habitats and population of Bath Asparagus (*Ornithogalum pyrenaicum*), amongst other species.

Habitats

2.1.4 The site was previously identified as:

'A mosaic of developed and bare ground with areas of landscaped amenity grassland, ephemeral vegetation and bramble and mixed scrub. Two ponds were present on site and a small stand of broadleaved woodland was present on the northern boundary, while structures and hardstanding dominated the centre of the site. The boundaries were formed by native hedgerows with trees.'

2.1.5 Following site clearance and remediation, the site was comprised predominately of bare ground; refer to Figure 4. Hedgerows, including some trees, were present on eastern and southern boundaries, with a vegetated margin of between 3-20m. The margins in some locations had been subject to habitat removal. A stand of mature trees (classified as semi-natural broadleaved woodland) was retained in the north of the site.

Protected and notable species

Amphibians

2.1.6 The presence of great crested newt (a fully protected amphibian species) within the site was discounted based on previous survey results (eDNA; Ethos Environmental Planning, 2021). The hedgerows, woodland and scrub around the periphery of the site provided suitable terrestrial habitat for other amphibian species.

Reptiles

2.1.7 The hedgerows and scrub and their margins around the periphery of the site provided suitable habitat for reptiles, including slow-worm and grass snake. A maximum count of nine slow-worms and three grass snakes have previously been recorded within the site (Ethos Environmental Planning, 2021); the majority of the suitable habitat for reptiles has been removed during site clearance works.

Birds

- 2.1.8 The majority of suitable nesting habitat had been removed by site remediation works. The hedgerows, woodland and scrub around the margins of the site and a pond provided suitable nesting habitat for common and widespread bird species. The site was previously assessed as providing 'moderate' suitability for a range of common bird species (Ethos Environmental Planning, 2021).

Bats

- 2.1.9 No bat roosts were identified within the site. At least twelve species of bat were previously recorded commuting within the site, including greater horseshoe bat and *Myotis* species. The northern, eastern and southern hedgerows were assessed as the most valuable habitat for bat activity within the site (Ethos Environmental Planning, 2021). The eastern and southern boundary hedgerows were present at time of EAD Ecology site survey (6 March 2023); the northern boundary hedgerow had been removed.

Hazel dormouse

- 2.1.10 The presence of hazel dormouse within the site was discounted based on previous survey results (Ethos Environmental Planning, 2021).

Badgers

- 2.1.11 Three badger setts were recorded within site, including a main sett, subsidiary sett and outlier sett; refer to Figure 6. The hedgerows, woodland and scrub around the margins of the site provided suitable foraging habitat for badgers.

Hedgehog

- 2.1.12 The remaining hedgerow and scrub along the boundaries of the site provided suitable foraging, sheltering and hibernating habitat for hedgehog; presence of this species was therefore assumed. Hedgehog is a Priority Species.

2.2 Legislation

- 2.2.1 A summary of wildlife legislation is provided in Table 2.1 with further detail in Appendix 1.

Table 2.1: Summary of relevant legislation

Receptor	Detail
Amphibians	All native amphibian species receive partial legal protection and common toad is a Priority Species.
Reptiles	All reptiles (including slow-worm) are protected against intentional killing and injury under the Wildlife and Countryside Act 1981 (as amended).
Birds	All breeding birds, their eggs, nests and young are protected under the Wildlife and Countryside Act 1981 (as amended). Some species are afforded special protection whilst nesting under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).
Bats	All bat species and their roosting sites are legally protected under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended).
Badger	Badgers and their setts are legally protected under the Protection of Badgers Act 1992 (as amended).

2.3 Ecological management objectives

2.3.1 The objectives of the CEMP: Biodiversity are as follows:

1. Protect retained habitats including trees, woodland and hedgerows during the pre-construction, and construction phases.
2. Minimise construction impacts on bats and maintain/create roosting habitat and foraging and movement networks across the site.
3. Minimise construction impacts on reptiles and create hibernacula.
4. Minimise construction impacts on birds and create nesting habitat.
5. Minimise construction impacts on badgers and their setts and maintain badger movement corridors across the site.
6. Minimise construction impacts on hedgehog and create foraging and sheltering habitat. Maintain hedgehog movement corridors across the site.
7. Create sheltering habitat for a range of invertebrate species.
8. Monitor the implementation of the measures in the CEMP: Biodiversity report, and monitor the success of the implemented measures.

3 Pre-construction management actions

3.1 *Ecological Clerk of Works (ECW)*

- 3.1.1 An appropriately experienced ECW will be appointed prior to the commencement of construction of Phases A and E to oversee ecological matters during construction. The ECW will be responsible for advising on the measures set out within this CEMP: Biodiversity.

3.2 *Habitats*

Retained habitats

- 3.2.1 Retained hedgerows, woodland and trees adjacent to the site will be protected from potential damage from construction activities through the use of temporary barriers (e.g., Heras fencing). These will be installed prior to construction; for trees and hedgerows, this will be in accordance with the Tree Protection Plans (refer to Figure 7) and BS5837:2012 '*Trees in relation to design, demolition and construction*'.
- 3.2.2 Pollution avoidance measures set out in the Defra pollution prevention guidance (<https://www.gov.uk/guidance/pollution-prevention-for-business>) will be followed.
- 3.2.3 Any contractors' compounds will be located at least 10m away from the retained trees, woodland and hedgerow adjacent to the site boundary and outside of the Badger Protection Zone, in order to minimise potential lighting and disturbance impacts. No night working is envisaged and therefore no construction lighting is proposed. Where essential security lighting is required, this would be positioned at low-light, on short duration timers and directed away from boundaries.

3.3 *Protected and notable species*

Invertebrates

- 3.3.1 The locations of 15 Green & Blue bee blocks or bricks (or similar approved) to be integrated into the walls of new buildings, will be included on detailed construction drawings; proposed locations are shown on Figure 5. The construction drawings will specify that the boxes will be installed at a height of 1-2m, adjacent to gardens. A further two bug hotels will be installed within the east of the site. Green and Blue Beepost (or similar approved) are recommended; these can be installed directly into the POS as a free-standing feature. The ECW will advise on suitable locations on-site.

Reptiles

- 3.3.2 Two reptile hibernacula and five log piles will be created within the east of the site prior to construction; refer to Figure 3 and Appendix 2. The ECW will advise on installation, as required.
- 3.3.3 The clearance of any suitable reptile habitat (scrub, hedgerow and field margins) (not already removed from site as part of the site clearance/remediation works) will be undertaken under ECW supervision. Any reptiles that are identified will be moved by the ECW to a suitable area outside of the construction footprint.

Birds

- 3.3.4 The locations of 10 integrated CJ Wildlife woodstone bird bricks (or similar approved) to be integrated into the walls of new buildings, will be included on detailed construction drawings; proposed locations are shown on Figure 5. The construction drawings will specify that the boxes will be installed above 4m under the eaves or at gable ends, individually or in groups of three. A

further five CJ Wildlife woodstone bird boxes (or similar approved) will be installed within the retained woodland and trees around the site boundaries. The ECW will advise on suitable locations on-site.

- 3.3.5 Tree, woodland and hedgerow protection fencing will be installed prior to construction (refer to Paragraph 3.2.1) to ensure that retained suitable bird nesting habitat was protected by accidental damage or transgression of machinery during construction.
- 3.3.6 The clearance of any habitats that have not already been removed from site as part of the site clearance/remediation works will be undertaken outside of the main bird breeding season (i.e., between October and February) to ensure that there were no direct effects on nesting birds. If any site clearance/vegetation removal is to be undertaken during the bird breeding season, the ECW would first check the habitat for active nests. If any were found, the nest and its immediate surroundings would be left undisturbed until the eggs had hatched and young had fledged.

Badger

- 3.3.7 Based on the results of the badger survey undertaken by EAD Ecology in November 2022 and May 2023, the two badger setts in the north of the site (outlier and subsidiary) are likely to be impacted by the development of Phases A and B. The following methodology will be adhered to:
- Prior to construction, a re-survey of the site will be undertaken to re-confirm the status of the badger setts within the site boundary and to identify any new and active badger setts;
 - A Badger Protection Zone will be agreed with the ECW around all active sett entrances, and protective fencing will be installed around this zone, the Badger Protection Zone will be a minimum of 20m around the main sett entrances, unless otherwise agreed with the ECW.
 - The main sett on eastern boundary (including all entrances) will be retained; other active badger setts (outlier or subsidiary) which would be affected by remediation works, soil deposition and/or construction will be subject to a Natural England Badger Development Licence for temporary or permanent sett closure. Full details of the methodology will be detailed within the Licence Method Statement. This will include the following:
 - Badger-sett closure would be undertaken between July and November inclusive;
 - On receipt of a Licence, the affected sett entrances will be fitted with a one-way badger gate (to allow badgers to leave but not re-enter);
 - Chain-link wire netting will be used where required to secure the gates and reduce the risk of badgers digging around them;
 - The gates will be monitored for signs of badger activity at least once every three days for a 21-day exclusion period; and
 - On completion of the exclusion period, the sett would be closed/ excavated under supervision of the named ecologist.
 - The Badger Protection Zones and associated fencing is to remain in situ until construction activities and/or permanent sett closures have been undertaken. Retained badger setts will be fenced for the entirety of the construction period. No works or storage will take place in the Badger Protection Zone without consultation and agreement from the ECW.

Bats

- 3.3.8 Provision of at least 10 integrated Schwegler 1FR bat tubes/ boxes (or similar approved), to be installed within new buildings, and will be shown on construction drawings; proposed locations are shown on Figure 5. Boxes/ tubes would be placed above 3m height in locations not subject to lighting, avoiding north-facing aspects. Additionally, at least five Schwegler 2F bat boxes (or

similar approved) to be installed within the retained woodland/trees; the ECW will advise on the final locations, as required.

- 3.3.9 Contractor compounds will be located away from the retained woodland, hedgerows and trees and outside of the Badger Protection Zones to minimise potential lighting and disturbance impacts. Any security lighting will be on short, motion activated timers, avoiding permanent illumination (refer to Paragraph 3.2.3). This will be specified in the CEMP.

Hedgehog

- 3.3.10 A search for hedgehogs will be undertaken prior to any remaining vegetation clearance (in association with reptile and bird mitigation measures; refer to Paragraph 3.3.6). Any sheltering hedgehogs will be relocated to the retained hedgerows outside of the construction area within the wider site.
- 3.3.11 Inclusion of 'hedgehog passes' will be specified on the Boundary Treatment Plans for all garden fences to allow hedgehogs to move between gardens. Each gap will have a minimum dimension of 13cm x 13cm and be cut out of the graven board at the base of the fence, or similar sized gap left at the end of the board. One hedgehog pass will be created in each boundary fence and will be shown on construction drawings.

3.4 Pre-construction summary plan

3.4.1 The pre-construction actions are summarised in Table 3.1.

Table 3.1: Pre-construction summary plan

Receptor	Action	Management objective no.	Timing	Responsibility	Further information	Completion (Y/N)
General	Appoint Ecological Clerk of Works (ECW)	All	Pre-construction	Countryside Partnerships West	-	
Habitats	Landscape specifications produced for site.	1	Pre-construction	Countryside Partnerships West	-	
	Installation of tree and hedgerow protection fencing in accordance with Tree Protection Plan (Figure 7).	1	Pre-construction	Countryside Partnerships West	Tree Protection Plan (Figure 7).	
	Pollution prevention guidance detailed in the CEMP. Locations of compounds and lighting also to be specified.	1	Pre-construction	Countryside Partnerships West	https://www.gov.uk/guidance/pollution-prevention-for-business	
Invertebrates	Locations of bee bricks to be shown on detailed building design drawings.	7	Pre-construction	Countryside Partnerships West		
	Install bug hotels within retained habitat.	7	Pre-construction	Countryside Partnerships West; Site Manager; ECW	Landscape Plans (Figure 4).	
Reptiles	Install reptile hibernacula and log piles within Public Open Space. ECW will advise on installation, as required.	3	Pre-construction	Countryside Partnerships West; Site Manager; ECW	Landscape Plans (Figure 4).	
	Clearance of suitable vegetation under ECW watching brief.	3	Pre-construction	Countryside Partnerships	-	

Table 3.1: Pre-construction summary plan

Receptor	Action	Management objective no.	Timing	Responsibility	Further information	Completion (Y/N)
				West; Site Manager; ECW		
Birds	Locations of bird boxes to be shown on detailed building design drawings.	4	Pre-construction	Countryside Partnerships West	-	
	Install bird boxes within retained woodland/trees. Location to be specified on-site by ECW	4	Pre-construction	Countryside Partnerships West; Site Manager; ECW	ECW to confirm locations on site.	
	Install tree and hedgerow protection fencing prior to start of construction.	1 and 4	Pre-construction	Countryside Partnerships West	Tree Protection Plan (Figure 7).	
	Clearance of vegetation between October and February, or subject to check by ECW.	4	October – February (or subject to ECW check)	Countryside Partnerships West; ECW	-	
Badger	Undertake a re-survey of the site prior to construction works. Installation of badger protection fencing to establish Badger Protection Zones; location to be determined by ECW.	5	Pre-construction	Countryside Partnerships West; ECW	Badger survey plan (Figure 6)	
	Any active badger setts (excluding main sett) which could be affected by development works subject to a Natural England Badger Development Licence and mitigation (e.g., temporary or permanent sett closure). Sett closure would be undertaken in	5	Pre-construction	Countryside Partnerships West; ECW	Badger survey plan (Figure 6)	

Table 3.1: Pre-construction summary plan

Receptor	Action	Management objective no.	Timing	Responsibility	Further information	Completion (Y/N)
	accordance with Method Statement approved as part of the licence application.					
	Badger protection fencing is to remain in situ until construction activities and/or permanent sett closures have been undertaken. Retained main badger sett will be fenced for the entirety of the construction period. Any access within Badger Protection Zone to be subject to ECW agreement	5	Pre-construction	Countryside Partnerships West; ECW	-	
Bats	Locations of bat boxes/ tubes in building to be shown on construction drawings.	2	Pre-construction	Countryside Partnerships West	-	
	Install bat boxes within retained woodland/trees. Location to be specified on-site by ECW	2	Pre-construction	Countryside Partnerships West; Site Manager; ECW	ECW to confirm locations on site.	
	External lighting strategy (Condition 21) to be reviewed by ECW to ensure wildlife buffers along the northern and southern site boundaries will be retained as 'dark corridors'.	2	Pre-construction	Countryside Partnerships West; ECW	Condition 21.	
	DCMP (Condition 6) to specify compound location and lighting control measures.	2	Pre-construction	Countryside Partnerships West	DCMP (Condition 6).	
Hedgehog	Search for hedgehogs to be undertaken at same time as	6	Pre-construction	Countryside Partnerships West; ECW	-	

Table 3.1: Pre-construction summary plan

Receptor	Action	Management objective no.	Timing	Responsibility	Further information	Completion (Y/N)
	reptile habitat manipulation and bird habitat removal.					
	Boundary Treatment Plans to specify inclusion of 'hedgehog passes' within garden fences.	6	Pre-construction	Countryside Partnerships West	Boundary Treatment Plan	

4 Construction management actions

4.1 *General*

4.1.1 The ECW will provide an Ecological Tool Box Talk at the start of the construction to the Site Manager and core construction staff. The ECW will also provide Ecological Induction Notes to the Site Manager, which will detail the key ecological constraints and management actions for the construction period. The Ecological Induction notes will be used for all subsequent staff induction on the site, which will be undertaken by the Site Manager.

4.2 *Habitats*

4.2.1 Habitat protection fencing will be maintained during construction in accordance with the Tree Protection Plan; refer to Figure 7. No contractor vehicles or construction materials will be permitted to enter or be stores within the fenced zones.

4.2.2 All landscape softworks will be implemented in accordance with the Landscape Softworks Specification and Planting Plans for the site. Where necessary, planting stock and seeding will be checked on site by a Landscape Architect, as required by the specification.

4.3 *Protected and notable species*

Invertebrates

4.3.1 A total of 15 Green & Blue bee blocks or bricks (or similar approved) to be integrated into the walls of new buildings, in accordance with the detailed construction drawings and Figure 5. The boxes will be installed at a height of 1-2m in groups.

Reptiles

4.3.2 Any clearance of hedgerow, scrub or field margins not undertaken during the pre-construction phase will be undertaken under ECW supervision. Any reptiles that are identified will be moved by the ECW to a suitable area outside of the construction footprint.

Birds

4.3.3 A total of 10 integrated CJ Wildlife woodstone bird bricks (or similar approved) will be integrated into the walls of new buildings in accordance with the detailed construction drawings and Figure 5. The boxes will be installed above 4m under eaves at gable ends, individually or in groups.

4.3.4 Any clearance of trees, hedgerow or scrub not undertaken during the pre-construction phase will be undertaken between October and February or under supervision of the ECW. If nesting birds are subsequently recorded within the area of works (e.g., on construction equipment, compound area), no work will be undertaken that could impact upon the nesting bird, eggs, young or nest, until the young had fledged. Monitoring will be undertaken by the ECW, who will confirm to the Site Manager when chicks have fledged or the nest is no longer in use.

Badger

4.3.5 The following measures will be undertaken to minimise potential impacts on badgers:

- The fenced 'exclusion zone' around the main sett, will be maintained throughout the construction period to reduce the risk of accidental transgression of machinery or personnel or of badgers entering the construction site. The zone within the protective fencing will not

be accessed or used for storage. Any works within the exclusion zones will be carried out in consultation with the Named Ecologist.

- Any licensed badger sett closures not undertaken during the pre-construction phases will be completed in accordance with the Natural England Badger Development Licence under direction of the Named Ecologist.
- Given the potential for increased badger activity, particularly surrounding the main sett, monitoring of badger activity will be undertaken by ECW during the construction period to ensure that the fenced 'exclusion zone' provides a sufficient buffer to construction.
- Best practice measures will be employed during construction to protect badger welfare; excavations and piping (>200mm in diameter) will be fenced/capped overnight to deter badgers from entering. Excavations that cannot be covered will have a means of escape for any animals that may fall in (e.g. sloping sides/ramps a maximum of 1:2 gradients). Fuel, oil and chemicals will be stored in secure sites within the construction compound, and no fires will be lit.

Bats

- 4.3.6 Construction will be undertaken in accordance with the CEMP, which will include agreed compound locations and lighting-control measures.
- 4.3.7 Ten Schwegler 2FR bat tubes/boxes (or similar approved) will be integrated into the walls of new buildings as detailed within the construction drawings and Figure 5. The boxes will be installed above 3m under eaves at gable ends, individually or in groups

Hedgehog

- 4.3.8 Hedgehog passes will be created within the boundary garden fences as per the Boundary Treatment Plan and construction drawings. Advice will be sought from the ECW as required. Measures to prevent direct effects on badgers during construction will also protect hedgehog welfare; refer to 4.3.5 above.

4.4 Construction summary plan

4.4.1 The construction actions are summarised in Table 4.1.

Table 4.1: Construction summary plan

Receptor	Action	Management objective no.	Timing	Responsibility	Further information	Completion (Y/N)
General	ECW to provide Ecological Toolbox Talk and Ecological Induction Notes to Site Manager.	All	At start of construction	Site Manager; Countryside Partnerships West; ECW	-	
Habitats	Construction undertaken in accordance with DCMP (Condition 6) and Tree Protection Plan.	1	Throughout construction	Site Manager; Countryside Partnerships West	DCMP (Condition 6) BS5837. Tree Protection Plan (Figure 7).	
	Landscape planting implemented in accordance with detailed specifications.	1	As per programme	Site Manager; Countryside Partnerships West	Landscape Plan (Figure 3)	
Invertebrates	Bee bricks integrated into walls of new buildings in accordance with detailed construction drawings.	7	Throughout construction	Site Manager; Countryside Partnerships West	Bat and bird box plan (Figure 5)	
Reptiles	Any remaining suitable reptile habitat clearance to be undertaken under ECW supervision.	3	Throughout construction	Site Manager; Countryside Partnerships West; ECW	-	
Birds	Any remaining suitable bird nesting habitat clearance to be undertaken between October and February, or under ECW supervision. If nesting birds are recorded	4	Throughout construction	Site Manager; Countryside Partnerships West; ECW	-	

Table 4.1: Construction summary plan

Receptor	Action	Management objective no.	Timing	Responsibility	Further information	Completion (Y/N)
	within the works area, advice will be sought from the ECW.					
	Bird boxes integrated into walls of new buildings in accordance with detailed construction drawings.	4	As per programme	Site Manager; Countryside Partnerships West	Bat and bird box plan (Figure 5)	
Badger	Maintain Badger Protection Zone throughout construction period. All works in accordance with Natural England Badger Development Licence. No access to Badger Protection Zones without consultation/agreement with ECW. Implement general site management measures to protect badger welfare (4.3.5 above)	5	Throughout construction	Site Manager; Countryside Partnerships West	Badger survey plan (Figure 6), para 4.3.5 above	
	ECW to undertake monitoring visit to assess badger activity and advise on revised protection fencing where necessary.	5	Approx. Bi-annual Throughout construction	Site Manager; Countryside Partnerships West; ECW	-	
Bats	Construction to be undertaken in accordance with the DCMP (Condition 6)	2	Throughout construction	Site Manager; Countryside Partnerships West	DCEMP (Condition 6)	
	Bat boxes/ tubes to be installed within new buildings	2	As per programme	Site Manager;	Bat and bird box plan (Figure 5)	

Table 4.1: Construction summary plan

Receptor	Action	Management objective no.	Timing	Responsibility	Further information	Completion (Y/N)
	in accordance with detailed construction drawings.			Countryside Partnerships West		
Hedgehog	Hedgehog passes created in garden fence as per Boundary Treatment Plan.	6	As per programme	Site Manager; Countryside Partnerships West	Boundary Treatment Plan	
	Implement measures to protect animal welfare.	6	Throughout construction	Site Manager; Countryside Partnerships West	-	

5 Post-construction management actions

5.1 *Habitats*

- 5.1.1 New and retained habitats will be managed in accordance with the LEMP (David Jarvis Associates, 2023). Habitat management requirements relating to specific protected species are outlined below.

5.2 *Protected and notable species*

Invertebrates

- 5.2.1 Integral bee bricks in properties are designed to require no on-going maintenance. Bug hotels situated in the east of the site to be checked annually and maintained and replaced, where appropriate.

Reptiles

- 5.2.2 Reptile hibernacula are to be checked annually and maintained and replaced, where appropriate. ECW to advise as required.

Birds

- 5.2.3 Integral bird boxes in properties are designed to require no on-going maintenance. Bird boxes mounted on retained trees to be checked annually (winter) and maintained and replaced, where appropriate. Landscape management works and maintenance of bird boxes will be undertaken outside the bird nesting season (i.e., Between mid-September and February only).

Bats

- 5.2.4 Integral bat boxes on buildings have been designed to avoid the need for maintenance. Bat boxes mounted on retained trees to be checked annually and maintained and replaced, where appropriate.

5.3 Post-construction summary plan

5.3.1 The post-construction actions are summarised in Table 5.1.

Table 5.1: Post-construction summary plan

Receptor	Action	Management objective no.	Timing	Responsibility	Further information	Completion (Y/N)
Habitats	Habitats to be managed in accordance with the LEMP and checked for implementation.	1 & 8	As per programme	Countryside Partnerships West	LEMP	
Invertebrates	Bug hotels will require annual inspection. Bug hotels are to be replaced where necessary.	7 & 8	As per programme	Countryside Partnerships West; ECW	-	
Reptiles	Hibernacula require annual inspection. Hibernacula will be replaced/repared where necessary. ECW to advise as required.	3 & 8	As per programme	Countryside Partnerships West; ECW	-	
Birds	Landscape management to be undertaken between October and February, or under ECW supervision. If nesting birds are recorded within the works area, advice will be sought from the ECW.	1, 4 & 8	As per programme	Countryside Partnerships West; ECW	-	
	Bird boxes attached to retained vegetation will require annual inspection to ensure they are intact and accessible. Boxes are to be replaced where necessary.	4 & 8	As per programme	Site Manager; Countryside Partnerships West	-	

5.3 Post-construction summary plan

5.3.1 The post-construction actions are summarised in Table 5.1.

Table 5.1: Post-construction summary plan

Receptor	Action	Management objective no.	Timing	Responsibility	Further information	Completion (Y/N)
Bats	Bat boxes attached to retained vegetation will require annual inspection to ensure they are intact and accessible. Boxes are to be replaced where necessary.	3 & 8	As per programme	Countryside Partnerships West; ECW	-	

6 Responsibilities, supervision and monitoring

6.1 Key personnel and responsibilities

6.1.1 Key personnel and responsibilities for implementation of the CEMP: Biodiversity are summarised in Table 6.1.

Table 6.1: Key personnel and responsibilities

Name	Responsibility	Comments
TBC	Project Manager; Countryside Partnerships West	Overall responsibility for project delivery.
TBC	Site Manager; Countryside Partnerships West	Day-to-day responsibility for construction and implementation of construction-related ecological measures.
TBC	Ecological Clerk of Works (ECW)	Day-to-day responsibility for ecological advice and supervision, working closely with the Site Manager.

6.2 Site delivery and induction

6.2.1 The Project Manager will be responsible for appointing the ECW and ensuring the delivery of all pre-construction ecological management actions. The Project Manager will be responsible for appointing the Site Manager. The Site Manager will be responsible for the delivery of all construction, ecological management actions; other environmental professionals (landscape architect; arboriculturist) will also be appointed as required by the Site Manager.

6.2.2 The ECW will provide Ecological Induction Notes and any protected species licences to the Site Manager. This information will be available to all site personnel and included as part of the general site induction. This will ensure that all site personnel are aware of the key ecological issues on the site and the appropriate action to take if unexpected ecological issues arise.

6.3 Ecological supervision, monitoring and reporting

6.3.1 Ecological supervision will be undertaken in accordance with this document. The ECW will maintain regular contact with the Site Manager via telephone and email. The ECW will be available to attend site where unscheduled or unexpected ecological issues arise. A written record of all ecology site visits will be provided by the ECW to the Site Manager and copied to the Project Manager. This information will be available for issue to South Gloucestershire Council, if required.

6.4 Variations and incidents

6.4.1 Where the site personnel encounter unexpected ecological issues during construction activities, the following procedure will be followed:

- The relevant activity will be suspended immediately and reported to the Site Manager.
- The Site Manager will contact the ECW by telephone to discuss the issue.
- Depending on the nature of the issue, advice may be provided via telephone or require a site visit by the ECW.

- 6.4.2 The ECW will confirm the recommended measures to the Site Manager, who will then instruct accordingly. Where appropriate, the ECW will consult with appropriate agencies such as Natural England or South Gloucestershire Council and ensure any legal requirements, such as protected species licensing, are met. The ECW will supervise resulting instructions, as required.

7 References

David Jarvis Associates (2023). *Landscape and Ecology Management Plan. Phase A & E, Chief Trading Post*. Report on behalf of Countryside Partnerships West.


Ethos Environmental Planning (2021). *Ecological Assessment. Oldland Common Trading Post*. Report on behalf of Oldland Common LLP.

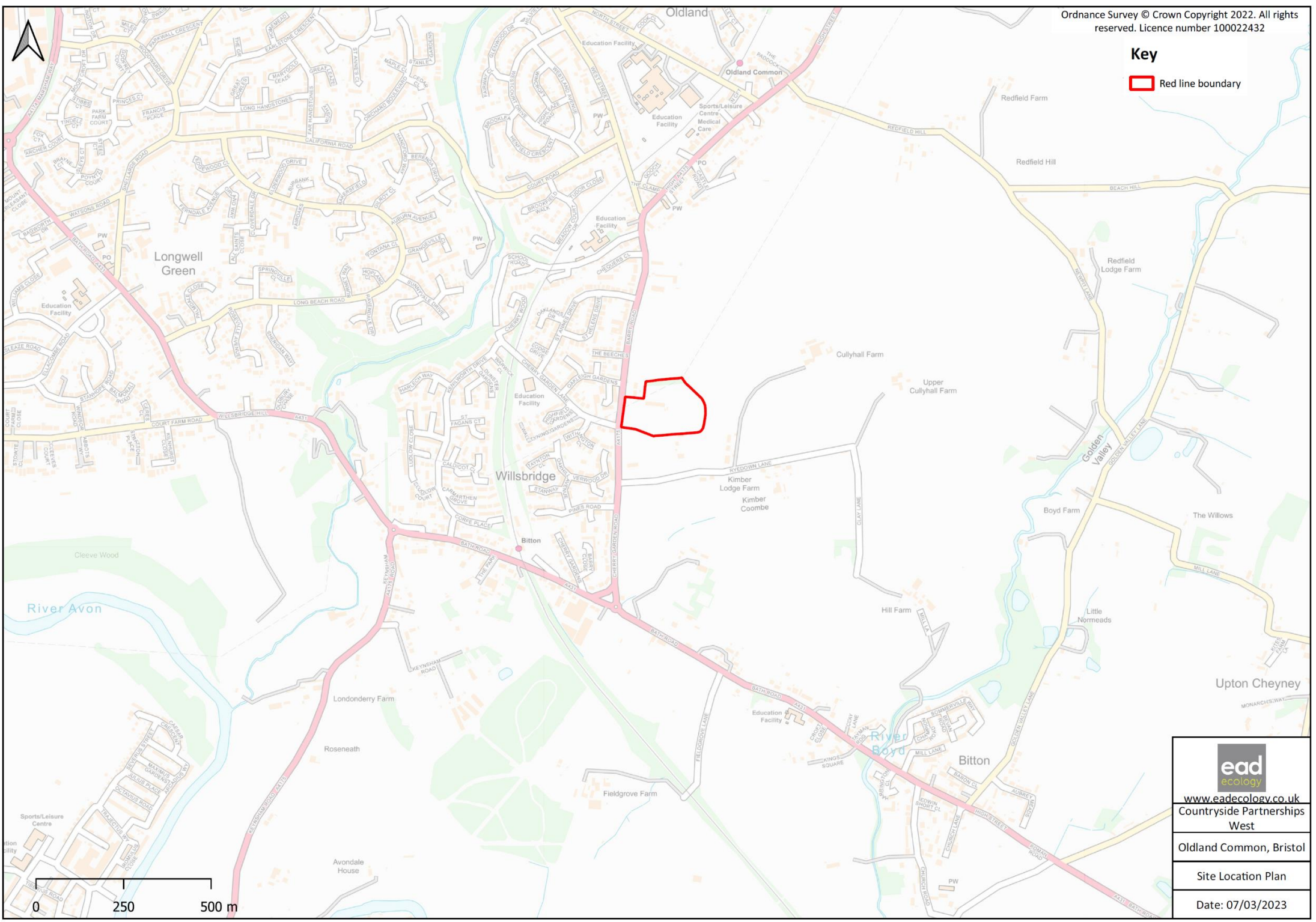
Ethos Environmental Planning (2022). *Construction Environmental Management Plan. Oldland Common, Chief Trading*. Report on behalf of Oldland Common LLP.

Figure 1: Site location plan



Key

 Red line boundary

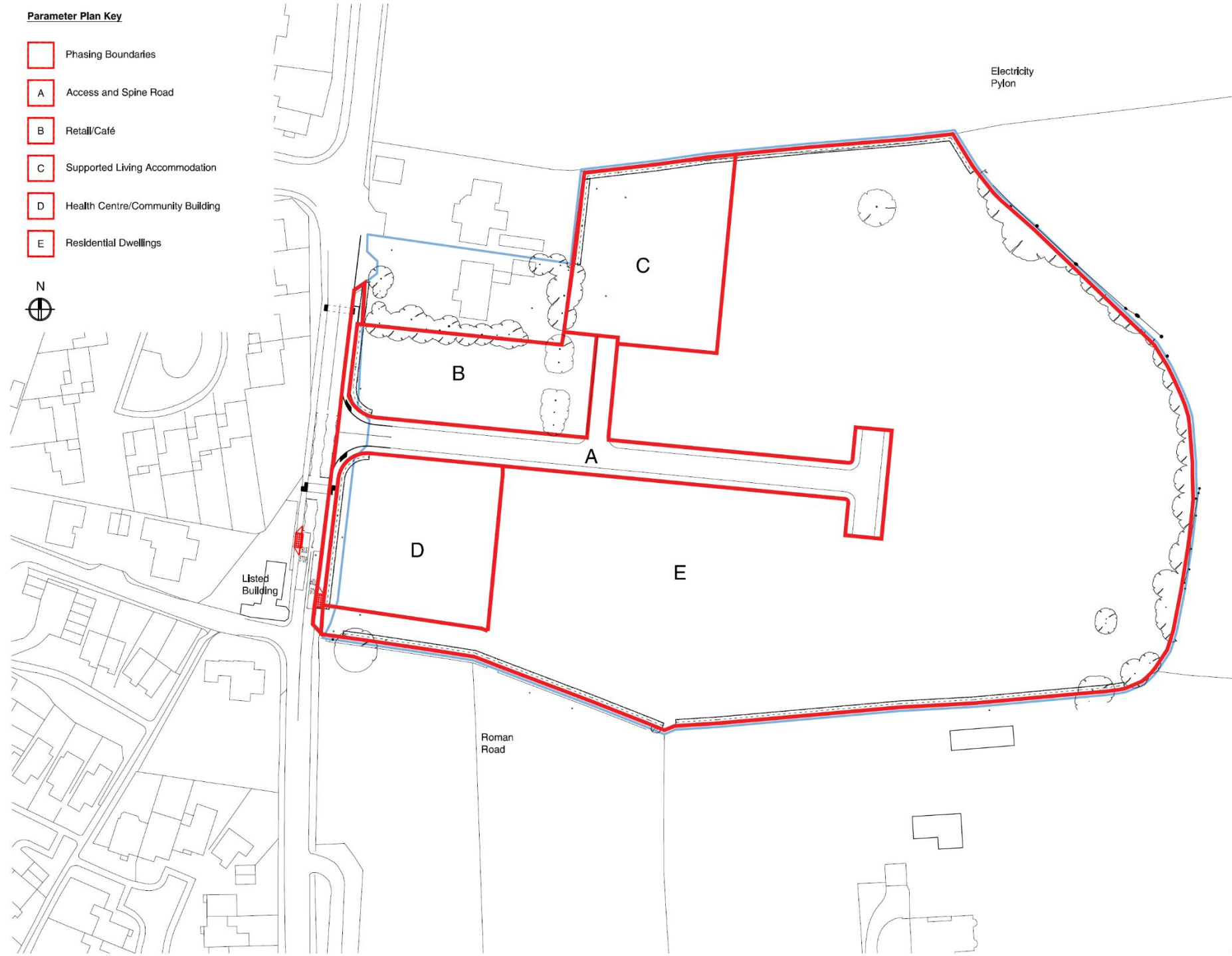



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 Countryside Partnerships
 West
 Oldland Common, Bristol
 Site Location Plan
 Date: 07/03/2023

Figure 2: Phasing plan

Parameter Plan Key

- Phasing Boundaries
- A Access and Spine Road
- B Retail/Café
- C Supported Living Accommodation
- D Health Centre/Community Building
- E Residential Dwellings



Responsibility is not accepted for errors made by others in scaling from this drawing. Contractors must check all dimensions on site. Discrepancies must be reported immediately to the architect before proceeding. This drawing is copyright ©2020 Nash Partnership. All rights reserved.

Rev.	Date	Notes	Int.
1	24.05.21	Issued for comment	LM
2	02.07.21	CH (Planning) & DT (Highway) comments included	LM
3	28.07.21	Planning Issue	RB
4	02.08.22	Planning Amends	LM

CDM Regulations
xxx

Drawing Scale: 1:1000 @ A3



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File Name: 19009-NP-XX-XX-DR-A-1201

PLANNING

Job Number 19009	Originator NP	Zone XX	Level XX
Type DR	Role A	Drawing Number 1201	Revision 4

Project
Oldland Common, South Gloucestershire

Title
Parameter Plan - Phasing

Drawn by LM	Project Manager AT	Scale 1:1000 @ A3
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Figure 3: Landscape plans



SPECIMEN TREES		Girth	Height	Specification	Pot Size	Quantity
Acer campestre 'Eunji'	18-20cm	450-500cm	3x; Extra Heavy Standard; clear stem minimum 200cm	8B	3	
Betula pendula	18-20cm	450-500cm	3x; Extra Heavy Standard; clear stem minimum 200cm	8B	3	
Betula pendula	20-25cm	500-550cm	SM 3x; CSH 200mm	8B	3	
Betula utilis (Jermantsevii) (multi-stemmed)	15-18cm	400-450cm	1M; 4-3 stem min.	8B	6	
Carpinus betulus	18-20cm	450-500cm	3x; Extra Heavy Standard; clear stem minimum 200cm	8B	6	
Carpinus betulus	20-25cm	500-550cm	SM 3x; CSH min.	200cm	8B	
Magnolia petersii	115-100cm	115-100cm	By 2 brks C	45-70L	12	
Prunus 'Sunset Boulevard'	18-20cm	450-500cm	EH 3x; CSH 100mm	8B	4	
Prunus avium	16-18cm	400-450cm	EH 3 brks C; CSH 175-200mm	8B	2	
Prunus coccinea 'Chanticleer'	16-18cm	400-450cm	EH 3x; CSH 100mm	8B	10	
Quercus robur	18-20cm	400-450cm	EH CSH 200mm	8B	7	
Quercus robur 'Sheerwater Sealing'	30-35cm	500-550cm	SM 3x; CSH min.	200cm	8B	
					Total 64	

SPECIMEN SHRUBS		Spread	Height	Specification	Pot Size	Quantity
Hydrangea 'Mophead Pink'	60-80cm	Branched 7 brks C	30L	15 no.		
Physocarpus opulifolius 'Dart's Gold'	40-60cm	Bushy 7 brks C	30L	11 no.		
Physocarpus opulifolius 'Diabolo'	40-60cm	Bushy 8 brks C	30L	20 no.		
Rubus 'Black Satin'	60-80cm	Branched 4 brks C	30L	1 no.		
Rubus 'Black Satin'	60-80cm	Branched 5 brks C	30L	15 no.		
				Total 67 no.		

SHRUBS		Spread	Height	Specification	Pot Size	Density	Quantity
Cornus alba 'Sibirica'	40-60cm	Branched 3 brks C	3L	3/m ²	137 no.		
Cornus sanguinea	60-80cm	1+1; Transplant - seed raised; Branched 3 brks B	3L	3/m ²	95 no.		
Corylus avellana	80-100cm	1+2; Transplant - seed raised; Branched 4 brks B	3L	3/m ²	196 no.		
Eunymus europaeus	60-80cm	1+2; Transplant - seed raised; Branched 3 brks B	3L	3/m ²	85 no.		
Eunymus japonicus	30-40cm	Bushy 3 brks C	3L	5/m ²	168 no.		
Hamamelis 'Green Globe'	15-20cm	Bushy 7 brks C	3L	6/m ²	143 no.		
Hamamelis virginica	30-40cm	Bushy 3 brks C	3L	6/m ²	206 no.		
Lonicera nitida 'Maygreen'	30-40cm	Bushy 6 brks C	3L	5/m ²	328 no.		
Prunus laurocerasus 'Otto Luyker'	40-60cm	Bushy 4 brks C	3L	4/m ²	536 no.		
Prunus laurocerasus	60-80cm	1+1; Transplant - seed raised; Branched 2 brks B	3L	4/m ²	65 no.		
Sambucus nigra	60-80cm	1+1; Transplant - seed raised; Branched 3 brks B	3L	5/m ²	48 no.		
Sarcococca humilis	30-40cm	Bushy 3 brks C	3L	5/m ²	184 no.		
Spiraea japonica 'Rubella'	30-40cm	Bushy 3 brks C	3L	5/m ²	249 no.		
Spiraea japonica 'Goldflame'	30-40cm	Bushy 3 brks C	3L	6/m ²	30 no.		
Viburnum opulus	80-100cm	1+2; Transplant - seed raised; Branched 3 brks B	3L	5/m ²	48 no.		
				Total 2523 no.			

HEDGES		Height	Specification	Pot Size	Density	Quantity
Cornus betulus	100-125cm	1+2; Transplant - seed raised; BR	3L	0.45Cr	151 no.	
Crataegus laetevirens	60-80cm	Bushy 5 brks C	3L	0.45Cr	233 no.	
Ligustrum ovalifolium	60-80cm	0+1; Cuttings branched; 5 breaks; BR	2L	0.45Cr	188 no.	
Ligustrum ovalifolium	40-60cm	Branched 5 brks C	2L	0.45Cr	188 no.	
Osmanthus x burkwoodii	30-40cm	Bushy 4 brks C	3L	0.45Cr	189 no.	
				Total 1143 no.		

NATIVE HEDGE PLANTING		Height	Specification	Pot Size	Density	Quantity
Cornus betulus	100-125cm	1+2; Transplant - seed raised; BR	3L	0.45Cr	134 no.	
Cornus sanguinea	40-60cm	1; 1 brks; 2 brks; BR	3L	0.45Cr	62 no.	
Corylus avellana	60-80cm	1+1; BR	3L	0.45Cr	128 no.	
Eunymus europaeus	60-80cm	1+1; BR	3L	0.45Cr	104 no.	
Viburnum opulus	60-80cm	1+1; BR	3L	0.45Cr	109 no.	
				Total 537 no.		

CLIMBERS		Height	Specification	Pot Size	Density	Quantity
Lochnera japonica 'Halls Proficit'	80-100cm	Canes x 3; General Shrub; 3 brks C	3L	1; Covered	15 no.	
				Total 15 no.		

GRASSES		Specification	Pot Size	Density	Quantity
Stipa pennata	Full Pot C	3L	6/m ²	213 no.	
Stipa pennata	Full Pot C	3L	6/m ²	109 no.	
				Total 324 no.	

HERBACEOUS		Specification	Pot Size	Density	Quantity
Echinacea purpurea	Full Pot C	3L	6/m ²	311 no.	
Erigeron annuus	Full Pot C	3L	6/m ²	81 no.	
Rudbeckia hirta	Full Pot C	3L	6/m ²	230 no.	
				Total 622 no.	

BULBS		Grade	Density	Quantity
Galanthus nivalis	Grade 5/6	10/m ²	51 no.	
Narcissus pseudonarcissus	Grade 5/6	10/m ²	403 no.	
			Total 454 no.	

SCRUB		Height	Specification	Density	Quantity
Cornus sanguinea	60-80cm	1+1; Transplant - seed raised; Branched 3 brks B	2Cr	66 no.	
Cornus avellana	80-100cm	1+2; Transplant - seed raised; Branched 4 brks B	2Cr	132 no.	
Eunymus europaeus	60-80cm	1+2; Transplant - seed raised; Branched 3 brks B	2Cr	33 no.	
Prunus spinosa	60-80cm	1+1; Transplant - seed raised; Branched 3 brks B	2Cr	33 no.	
Sambucus nigra	60-80cm	1+1; Transplant - seed raised; Branched 3 brks B	2Cr	33 no.	
Viburnum opulus	80-100cm	1+2; Transplant - seed raised; Branched 3 brks B	2Cr	33 no.	
				Total 330 no.	

WOODLAND		Height	Specification	Density	Quantity
Acer campestre	60-80cm	1+1; 1 BR	2Cr	32 no.	
Cornus betulus	60-80cm	1+1; 1 BR	2Cr	32 no.	
Cornus sanguinea	60-80cm	1+1; Transplant - seed raised; Branched 3 brks B	2Cr	32 no.	
Corylus avellana	80-100cm	1+2; Transplant - seed raised; Branched 4 brks B	2Cr	64 no.	
Eunymus europaeus	60-80cm	1+2; Transplant - seed raised; Branched 3 brks B	2Cr	32 no.	
Prunus laurocerasus	60-80cm	1+1; 1 BR	2Cr	32 no.	
Prunus spinosa	60-80cm	1+1; Transplant - seed raised; Branched 2 brks B	2Cr	32 no.	
Quercus robur	60-80cm	1+1; 1 BR	2Cr	32 no.	
Sambucus nigra	60-80cm	1+1; Transplant - seed raised; Branched 3 brks B	2Cr	16 no.	
Viburnum opulus	80-100cm	1+2; Transplant - seed raised; Branched 3 brks B	2Cr	16 no.	
				Total 320 no.	

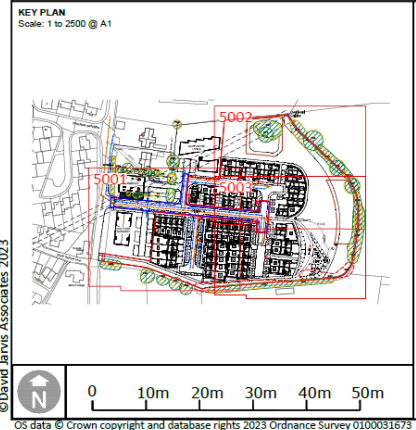


TABLE 1: Amenity Turf Categories

CATEGORY	Height Parameters (mm)		Likely Cutting Frequency
	Maximum height setting of mower	Maximum recommended height of growth	
A	50	75	Turf or sward
B	15	25	Meadow
C	50	50	Every 3-13 weeks
D	25	50 to 75	Weekly or fortnightly
E	50	50	Fortnightly
F	75	150	Monthly every 3 - 6 weeks
G	150	250	Monthly every 3 - 6 weeks
H	100	100	Not applicable
I	150	200	Every 2 - 4 weeks

Notes:
 1. Recommendations are as illustrated from: Table 1, BS 7270: 1991
 2. While every attempt is made to address the most suitable plant related (within the literature), this table should not be considered exhaustive as it is presented in general terms only. For further information, the reader is referred back to the relevant data sources.
 3. All plant materials to be planted at the density and quantities shown.

TABLE 2: Key to Plant Abbreviations

Abbreviation	Plant Name	Abbreviation	Plant Name
A	Acer	Q	Quercus
B	Betula	R	Rubus
C	Cornus	S	Spiraea
D	Crataegus	T	Taxus
E	Corylus	V	Viburnum
F	Eunymus		
G	Hamamelis		
H	Hydrangea		
I	Ligustrum		
J	Lonicera		
K	Magnolia		
L	Osmanthus		
M	Prunus		
N	Quercus		
O	Rubus		
P	Sambucus		
Q	Spiraea		
R	Spiraea		
S	Spiraea		
T	Taxus		
U	Taxus		
V	Viburnum		

KEY

- SITE AREA
- LAND OWNERSHIP
- GREENSPACE: PRIVATE
- GREENSPACE: AMENITY
- GREENSPACE: SPECIES RICH
- GRASS TRACK: REINFORCED
- GREENSPACE: PLANTED BEDS
- WOODLAND: PROPOSED
- SCRUB: PROPOSED
- EXISTING RETAINED VEGETATION
- TREES & VEGETATION: TRIMMED / REMOVED
- TREES: PROPOSED
- SPECIMEN SHRUBS
- HEDGE: PROPOSED
- NATIVE HEDGE: PROPOSED
- EXISTING HEDGE: GAPPING UP
- RULES
- CLIMBERS

FOR ADDITIONAL LANDSCAPE INFORMATION, REFER TO DRAWINGS: 3150-S-2 OR...

Status: **PLANNING**

DAVID JARVIS ASSOCIATES

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Client: **COUNTRYSIDE PROPERTIES LTD.**

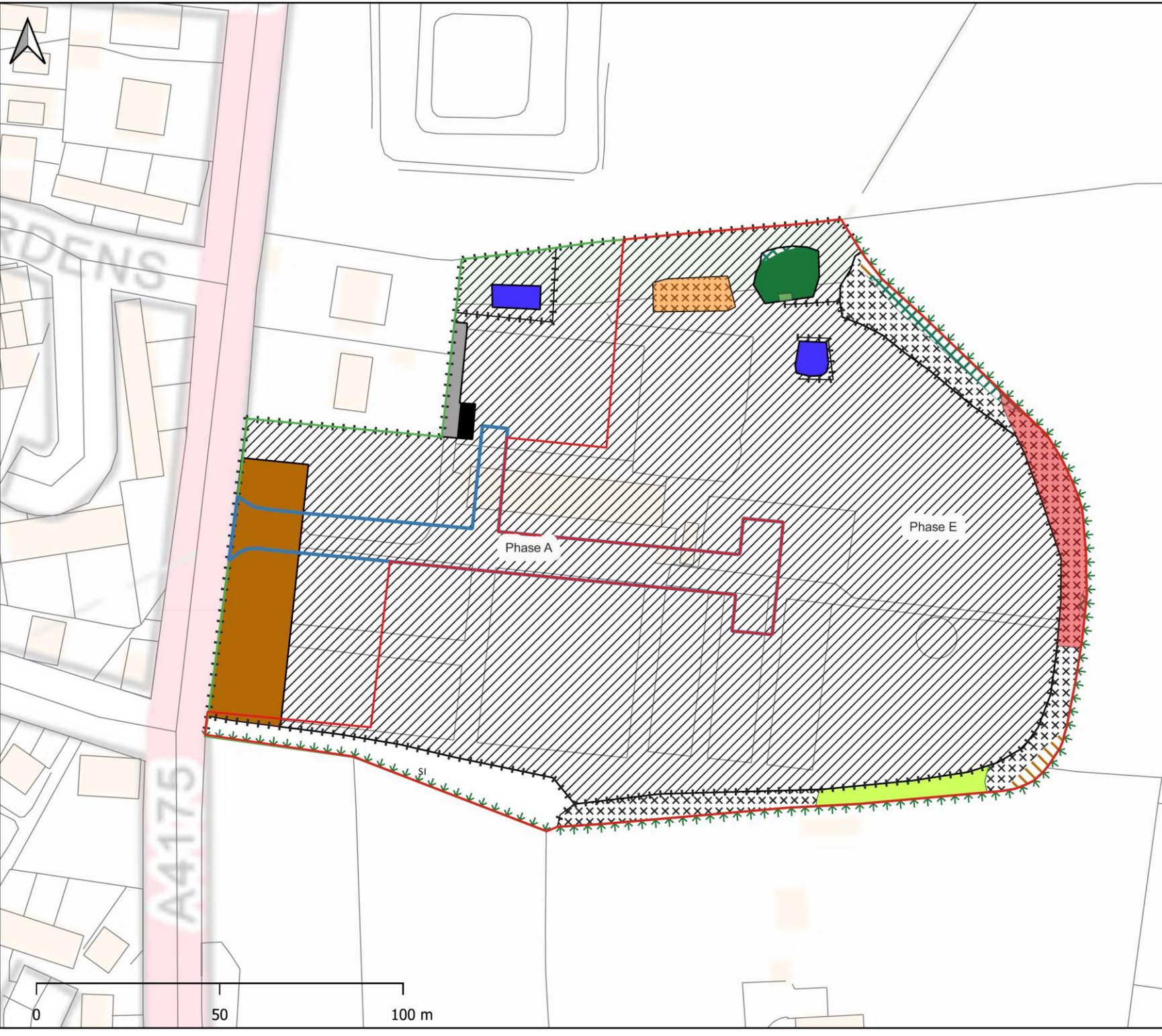
Project: **OLDLAND COMMON, SOUTH GLOS**

Drawing Title: **LANDSCAPE MASTERPLAN**

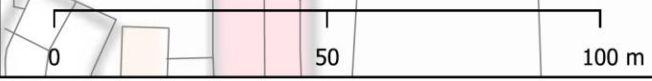
Scale: **1:500** Sheet Size: **A1** Date: **MAR 2023**

Client Ref: **3150-S-2** Drawing Ref: **DR-5000** Status: **SS-P5**

Figure 4: Phase 1 Habitat Survey plan



- Key**
- Development Phase A
 - Development Phase E
 - Site boundary
 - Main sett - active
 - Subsidiary sett - active
 - Outlier sett - active
 - Amenity grassland
 - Building
 - Construction area
 - Dense scrub
 - Ephemeral short perennial
 - Hardstanding
 - SI Poor semi-improved grassland (no access)
 - Semi-natural broadleaved woodland
 - Site compound
 - Standing water
 - Tall ruderal
 - Fence
 - Species-rich hedgerow with trees



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Countryside Partnerships
West
Oldland Common, Bristol
Phase 1 Habitat Survey
Plan
Date: 29/03/2023

Figure 5: Bat and bird box plan



Key

- 1FR Schwegler Bat Tube (or similar approved)
- Cambridge system integrated bird nesting brick (or similar approved)
- Bee Brick - positioned south-facing at a minimum height of 1m from the ground.

Note: All locations approximate



0 50 100 m


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Countryside Partnerships West
Oldland Common, Bristol
Bat, Bird and Bee Box Plan
Date: 04/09/2023

Figure 6: Badger survey plan




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Countryside Partnerships West
Oldland Common, Bristol
Badger Survey Plan
Date: 06/09/2023



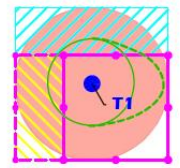
- Key**
- Main sett - active
 - Main sett - disused
 - Outlier sett - active
 - Subsidiary sett - disused
 - Subsidiary sett - active
 - Main sett - active
 - Subsidiary sett - active
 - 30m buffer
 - 20m buffer

Note: All locations approximate

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Oldland Common, Bristol
Badger Survey Plan
Date: 06/09/2023

0 50 100 m

Figure 7: Tree protection plan



- | | |
|------------------------------------|--|
| Tree or Group Reference Number | Tree Protection Fencing |
| Tree Stem Position A Category Tree | Initial Tree Protection Fencing |
| Tree Stem Position B Category Tree | Ground Protection |
| Tree Stem Position C Category Tree | Special Engineering Supervised Excavations |
| Tree Stem Position U Category Tree | Construction Exclusion Zone |
| Tree Crown | Pruning/Tree Removal |
| Root Protection Area | Site Boundary |
| | Survey Boundary |

Date: March 2023

Scale: 1:1000 @ A3

Project Name: Oldland Common, Bristol

Drawing Title: Tree Protection Plan

Drawing Number: 240323-2.1-OCB-TPP-SH



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 Monarch House
 1-7 Smyth Road
 Bedminster
 Bristol
 BS3 2BX
 Tel: 0117 244 0012
 Web: www.treeworks.co.uk
 Email: info@treeworks.co.uk

- A** Trees T3 - T8 to be felled as part of application P21/05366/F
- B** Soil within the public open space to be protected during the construction phase of the development to minimise compaction/contamination.



Appendix 1: Species legislation

Amphibians

There are seven native amphibian species present in Britain. These are afforded varying degrees of protection under national and European legislation. Great crested newts (*Triturus cristatus*) and their habitat are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way (CROW) Act 2000 and the Conservation of Habitats and Species Regulations 2017. Together, this legislation makes it illegal to:

- Deliberately capture, injure or kill a great crested newt.
- Damage or destroy any place used for shelter or protection by great crested newts, including resting or breeding places; or intentionally or recklessly obstruct access to such a place.
- Deliberately, intentionally or recklessly disturb great crested newts.

Great crested newt and common toad (*Bufo bufo*) are Priority Species.

Reptiles

Slow-worm (*Anguis fragilis*), viviparous/common lizard (*Zootoca vivipara*), adder (*Vipera berus*) and grass snake (*Natrix natrix*) are protected under the Wildlife and Countryside Act 1981 (as amended) against intentional killing and injuring. These species are also Priority Species.

Birds

The bird breeding season generally lasts from March to early September for most species. All birds are protected under the Wildlife and Countryside Act (1981) (as amended) and the Countryside & Rights of Way (CROW) Act 2000. This legislation makes it illegal, both intentionally and recklessly, to:

- kill, injure or take any wild bird.
- take, damage or destroy the nest of any wild bird while it is being built or in use.
- take or destroy the eggs of any wild bird.

Furthermore, birds listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) are protected against intentional or reckless disturbance whilst nest building and when at or near a nest containing eggs or young. Dependent young of Schedule 1 species are also protected against disturbance.

In addition to this legal protection, the leading governmental and non-governmental conservation organisations in the UK have reviewed the population status of the birds regularly found here and produced a list of birds of conservation concern. Of the 244 species assessed, 67 were placed on the Red List of high conservation concern, 96 on the Amber List of medium conservation concern and 81 on the Green List of low conservation concern:

- Red list species are those that are Globally Threatened according to IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery.
- Amber list species are those with an unfavourable conservation status in Europe; those whose population or range has declined moderately in recent years; and those with internationally important or localised populations.

Badgers

Badger (*Meles meles*) is a widespread and common species. However, they are legally protected under The Protection of Badgers Act 1992, due to animal welfare concerns. Under this legislation it is illegal to:

- Wilfully kill, injure, take, or cruelly ill-treat a badger, or attempt to do so.
- Intentionally or recklessly interfere with a sett by disturbing badgers whilst they are occupying a sett, damaging or destroying a sett, or obstructing access to it.

A badger sett is defined in the legislation as “any structure or place, which displays signs indicating current use by a badger”.

Bats

There are 18 species of bats found in the UK, 17 of which are known to breed here. The conservation status of these species is summarised in the table below:

Common name	Scientific name	IUCN Red List*	Priority Species
Greater horseshoe	<i>Rhinolophus ferrumequinum</i>	LC	Yes
Lesser horseshoe	<i>Rhinolophus hipposideros</i>	LC	Yes
Daubenton’s	<i>Myotis daubentonii</i>	LC	No
Brandt’s	<i>Myotis brandtii</i>	LC	No
Whiskered	<i>Myotis mystacinus</i>	LC	No
Natterer’s	<i>Myotis nattereri</i>	LC	No
Bechstein’s	<i>Myotis bechsteinii</i>	NT	Yes
Alcathoe bat	<i>Myotis alcathoe</i>	DD	No
Greater mouse-eared	<i>Myotis myotis</i>	LC	No
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	LC	No
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	LC	Yes
Nathusius’ pipistrelle	<i>Pipistrellus nathusii</i>	LC	No
Serotine	<i>Eptesicus serotinus</i>	LC	No
Noctule	<i>Nyctalus noctula</i>	LC	Yes
Leisler’s	<i>Nyctalus leisleri</i>	LC	No
Barbastelle	<i>Barbastella barbastellus</i>	NT	Yes
Brown long-eared	<i>Plectorus auritus</i>	LC	Yes
Grey long-eared	<i>Plectorus austriacus</i>	LC	No

*IUCN categories: LC Least Concern, NT Near Threatened, DD Data Deficient

All bat species are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017. Together, this legislation makes it illegal to:

- Deliberately capture, injure or kill a bat.
- Damage or destroy a bat roost; or intentionally or recklessly obstruct access to bat roosts.
- Deliberately, intentionally or recklessly disturb a bat, including in particular any disturbance which is likely:
 - to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or

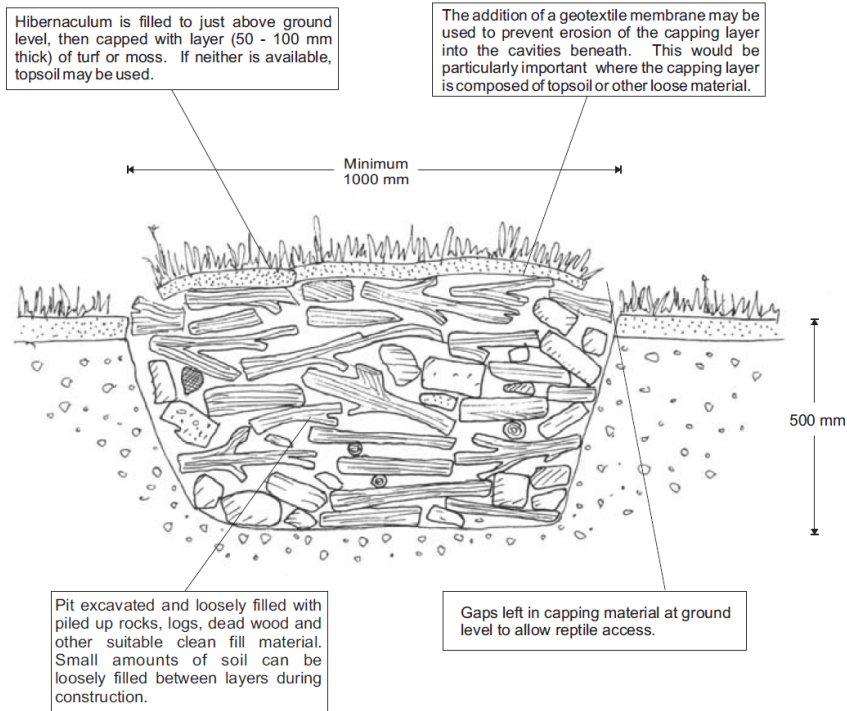
- in the case of animals of a hibernating or migratory species, to hibernate or migrate; or
 - to affect significantly the local distribution or abundance of the species to which they belong.

A bat roost is defined in the legislation as “*any structure or place which a bat uses for shelter or protection*”.
Roosts are protected whether or not bats are present at the time.

Appendix 2: Example reptile hibernacula design

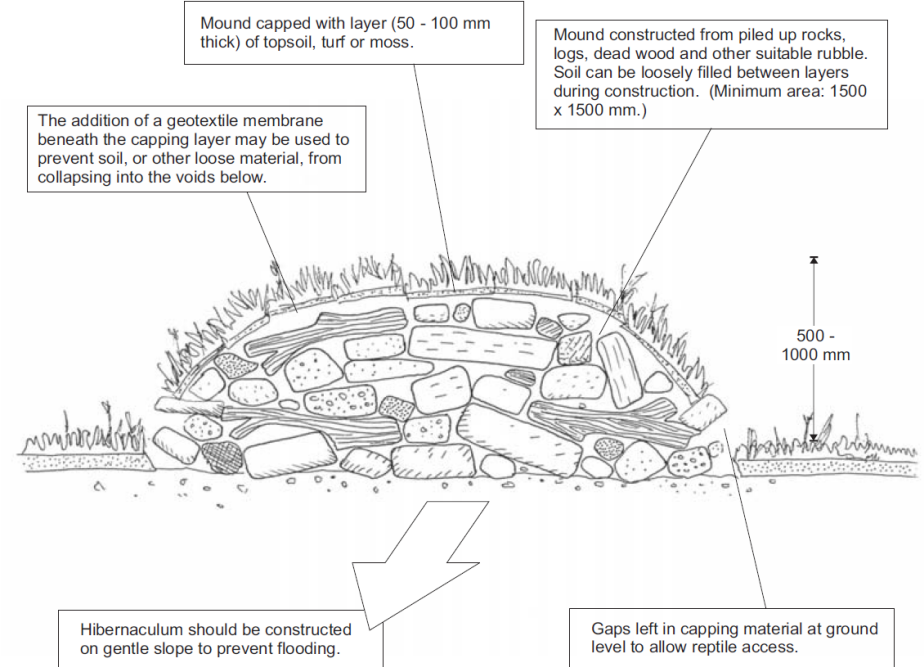
Hibernaculum on free-draining ground

Where ground conditions allow, the hibernaculum should be incorporated into a shallow pit. This design is more likely to remain frost-free, and will be less obtrusive and thus unlikely to be subject to interference.



Hibernaculum on impermeable ground

Where ground conditions are impermeable, then an 'above-ground' or mounded design should be utilised in order to prevent the hibernaculum from flooding. This design should also be used if it is not possible to excavate a pit for any other reason.





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