AKB Ecology

Biodiversity Net Gain Assessment

Land to the East side of Lodge Road

Lodge Road
Hurst
Reading
RG10 0SG

October 2025
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Project Details

Client	Forays Homes
Site location	Land off Lodge Road, Hurst, RG10 0SG
Grid Reference	SU 79279 73580
Agent	Luke Cleary
Report Title	Land off Lodge Road BNG report
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Surveyed By	Annika Binet MCIEEM BSc (Hons)

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Reviewed/approved by	Lia Hutchinson Qual CIEEM BA
This report remains valid for 18 months from date of issue. Survey data are valid for 12-24 months from the date the survey was undertaken.	

This report has been prepared by AKB Ecology, in accordance with the 'Guidelines for Preliminary Ecological Appraisal' and 'Code of Professional Conduct' issued by the Chartered Institute of Ecology and Environmental Management (CIEEM). We confirm that the opinions expressed are our true and professional bona fide opinions.

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This is a technical report which does not represent legal advice. This report is intended to be submitted with a planning application for a development it is the duty of care of the landowner / developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to works.

Executive Summary

- Forays Homes commissioned AKB Ecology to undertake a Biodiversity Net Gain calculation for Land off Lodge Road, Hurst, RG10 0SG at central grid reference SU 79279 73580.

- A Preliminary Ecological Appraisal was carried out in January 2025 with a subsequent grassland condition assessment in May 2025 to help inform the Biodiversity Net Gain calculations for the site; the results of the surveys carried out are detailed within the associated Preliminary Ecological Appraisal and Grassland survey reports.

- The site is approximately 0.85ha in size and contains modified grassland, blackthorn scrub, a small block of woodland, individual trees and ecologically valuable tree lines. A ditch is present along the eastern boundary of the site.

- The development includes the construction of three residential properties with associated gardens, parking and access drive.

- The estimated existing and post-development biodiversity value of the habitats on the site is calculated using the Defra Statutory Biodiversity Metric Calculation Tool with condition assessment made using the Defra Statutory Biodiversity Metric calculation Tool which should be read in conjunction with this report.

- Ecological enhancements built into the communal areas of the development include tree planting, the enhancement of retained grassland, woodland and scrub, creation of a balancing pond with native species planting and associated ditch and new hedgerows. In terms of the BNG metric, these are sufficient to offset the loss of the existing habitats on the site and to meet all trading rules.

- The headline results indicate that there is an estimated gain of 1.13 habitat units, which corresponds to a 26.98% gain in habitats. The hedge-line results show an estimated increase of 0.24 hedgerow units which corresponds to a 12.44% increase. The watercourse results show an estimated increase of 0.10 watercourse units which corresponds to a 36.65% increase.

- A Habitat Management and Monitoring Plan (HMMP) will need to be produced for the proposed hedgerow and watercourse creation in addition to habitat creation and enhancements. This will set out exactly how the proposed habitats will be created or enhanced through planting and ongoing management. Regular monitoring will be required to ensure the habitats maintained at the quality that has been proposed. The HMMP will need to secure the land management for a period of at least 30 years.

Contents

1. Introduction

1.1 Forays Homes commissioned AKB Ecology to undertake a Biodiversity Net Gain calculation for Land off Lodge Road, Hurst, RG10 0SG following a preliminary ecological appraisal in January 2025 and grassland condition assessment in May 2025.

1.2 This report summarises the estimate of the BNG units that may be achieved under the current development proposals, where a BNG of +10% is not achieved suggestions for additional ecological enhancement are provided.

2. Background

2.1 Previous ecology surveys have been conducted by AKB Ecology these are as follows:

- Preliminary Ecological Appraisal – January 2025
- GCN eDNA survey – April 2025
- Grassland condition assessment – May 2025

2.2 The proposed development site is located at central grid reference SU 79279 73580. The site is located between the city of Reading and village of Hurst in Berkshire. The surrounding landscape comprises residential development interspersed with agricultural land. The River Lodden and a series of lakes associated with the river are located to the west of the site, to the east of Reading. See FIGURE 1.

FIGURE 1: SHOWING THE SITE LOCATION

2.3 The site is approximately 0.85ha and largely comprises an agricultural field which was previously used for grazing pasture but has not been in active use for a number of years, with current management of the grassland through cutting and rotovating with a tractor. See FIGURE 2.

FIGURE 2: AERIAL VIEW OF THE SITE SHOWING THE BOUNDARY

2.4 The proposed development consists of the construction of three residential properties with associated vegetated gardens, parking and access. See FIGURE 3.

FIGURE 3: PROPOSED WORKS

3. Ecologist Information

TABLE 1: ECOLOGIST INFORMATION

Surveyor	Licences	Ecological Experience or qualification
Annika Binet – PEA and GCN plus BNG calculations	Class licence CL19 and CL20 (Bats): 2018-38642-CLS-CLS and 2018-38643-CLS-CLS CL47 (bats earned recognition) Registered consultant: BER0127 Class survey licence GCN: 2025-81015-SCI-CL08 Class Licence CL29 (barn owl): Accredited agent under 00288	Full member of the Chartered Institute of Ecology and Environmental Management BSc (Hons) Environmental Chemistry Certificate in Ecological Consultancy
Kelly Jones – Grassland condition assessment	Class licence CL19 and CL20 (Bats): 2020-45088-CLS-CLS & 2020-45091-CLS-CLS Class licence CL08 (GCN) Class licence CL10a (dormice)	Full member of the Chartered Institute of Ecology and Environmental Management MSc Conservation Ecology CS38 Climbing and Aerial Rescue certificate

4. Methods

Biodiversity Net Gain

4.1 BNG is a statutory requirement for all developments in England that do not meet the exemption criteria. It is based around ten good practice principles for development (CIRIA, 2016):

- Principle 1: Apply the mitigation hierarchy;
- Principle 2: Avoid losing biodiversity that cannot be offset elsewhere;
- Principle 3: Be conclusive and equitable;
- Principle 4: Address risk;
- Principle 5: Make a measurable net gain contribution;
- Principle 6: Achieve the best outcomes for biodiversity;
- Principle 7: Be additional;
- Principle 8: Create a net gain legacy;
- Principle 9: Optimise sustainability; and
- Principle 10: Be transparent.

4.2 The Statutory Biodiversity Metric User Guide (DEFRA, 2025) details a further nine Biodiversity Metric Principles which inform the use of the Statutory Biodiversity Metric Calculation Tool (hereafter 'the Metric') to ensure that appropriate methods and reasoning are applied when undertaking BNG assessment. Trading rules within the Metric dictate compensation requirements for lost habitats. Depending on the distinctiveness of a habitat type, it may require the delivery of Biodiversity Units through creation of the same habitat type either on-site or off-site. Impacts to 'irreplaceable' habitats are against the National Planning Policy Framework and therefore these cannot be compensated for, and impacts must be avoided.

4.3 The proposals detailed within this report are based on information provided by the client. Wherever practicable discussions are held to amend proposed plans to avoid impacts to habitats which are of higher biodiversity value in line with the mitigation hierarchy.

4.4 Where sites have been cleared prior to the 25th August 2023 under extant, but not completed, planning applications the existing baseline is used. Where any clearance works have been carried out after 25th August 2023 the pre-degradation baseline is used regardless of whether the clearance was done under pre-existing planning consent, unless the consent has been fully built out. For sites where clearance has been undertaken outside of planning permission since 30th January 2020 the pre-clearance baseline habitats are used for the calculations. Pre-clearance habitat assessments are based on Google Earth historic satellite imagery and any remaining habitats present on the site, with a precautionary approach taken to condition assessment.

4.5 The estimated existing and post-development biodiversity value of the habitats on the site are calculated using the latest version of the Defra Statutory Biodiversity

Metric Calculation Tool. Habitat condition was assessed using the Statutory Biodiversity Metric – Technical Annex 1 Condition Assessment Sheets.

4.6 Calculations may need to be adjusted in future should the BNG metrics or requirements be revised.

5. Constraints/Limitations

5.1 The following assumptions have been made and therefore associated constraints should be considered when looking at BNG unit values obtained:

- The potential for protected and notable species is not covered within the scope of this report;
- Existing habitats on-site are taken from those identified within the surveys undertaken in January, April and May 2025 and a review of historic satellite imagery of the site;
- Post-development habitats have been inferred from those given with the Proposed Site Layout as shown in FIGURE 3 and discussions with the client which may have altered the layout to that shown within FIGURE 5;
- Habitat quality has been estimated in some instances (i.e. for post-development habitats);
- All areas and lengths are approximate;
- Mapping is carried out in the BNG QGIS template with all areas exported from QIS and imported into the Metric using the QIG Import Tool. Areas and lengths shown within the Metric are therefore as mapped and shown in FIGURE 4 and FIGURE 5.
- Tree areas are calculated using the tree helper tool within the metric.
- Within amenity gardens only medium and large trees are included within calculations in line with the current BNG guidance documentation, but small trees may be shown on mapping for site context;
- The area of planted trees is estimated using small trees in the tree helper tool.

5.2 Given the above constraints the values for BNG obtained should be considered to be an estimate only.

6. Habitat data

6.1 The results of the habitat surveys and condition assessments are as detailed within the associated PEA and Grassland survey reports and condition assessment Excel workbook and will not be repeated here. The existing and post-development habitats used for this assessment are illustrated in FIGURE 4 and FIGURE 5 respectively.

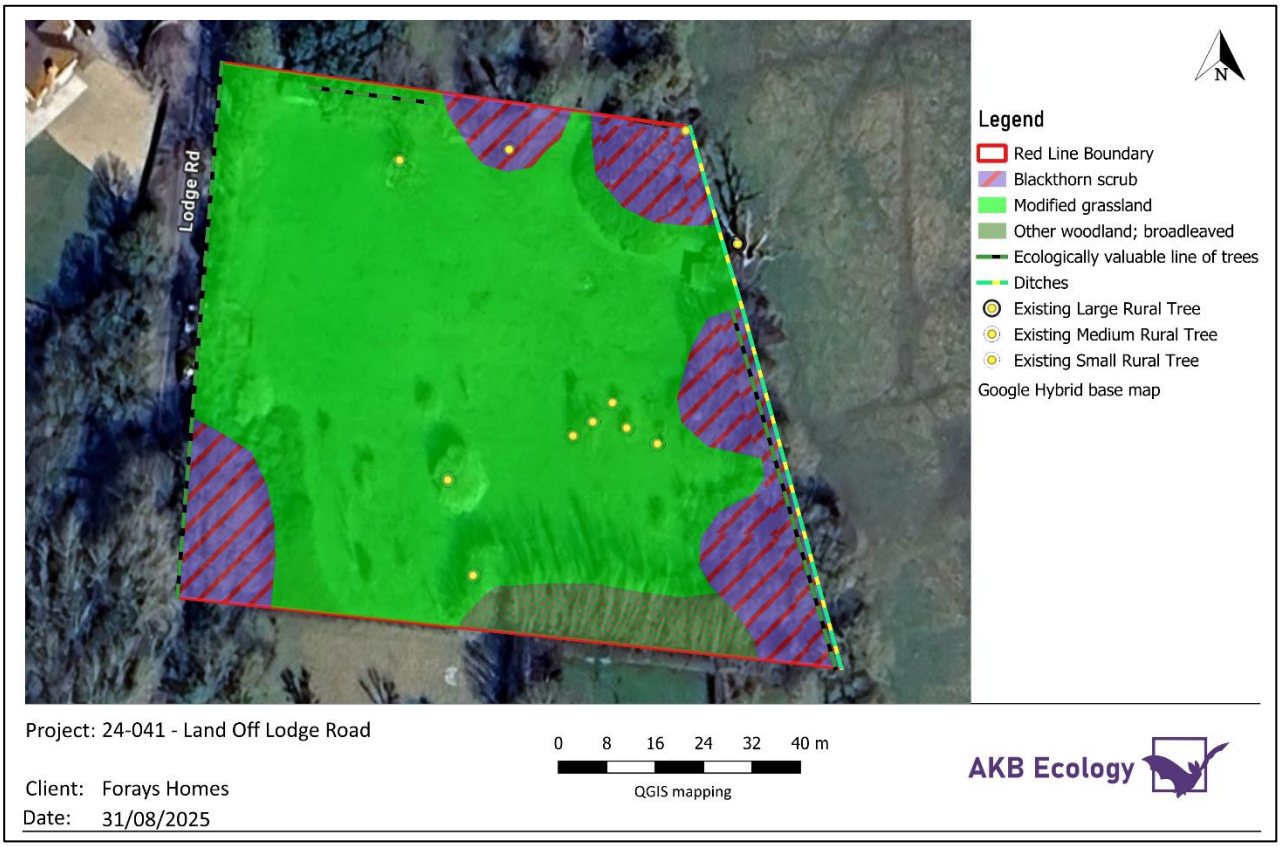


FIGURE 4: EXISTING ON SITE HABITATS

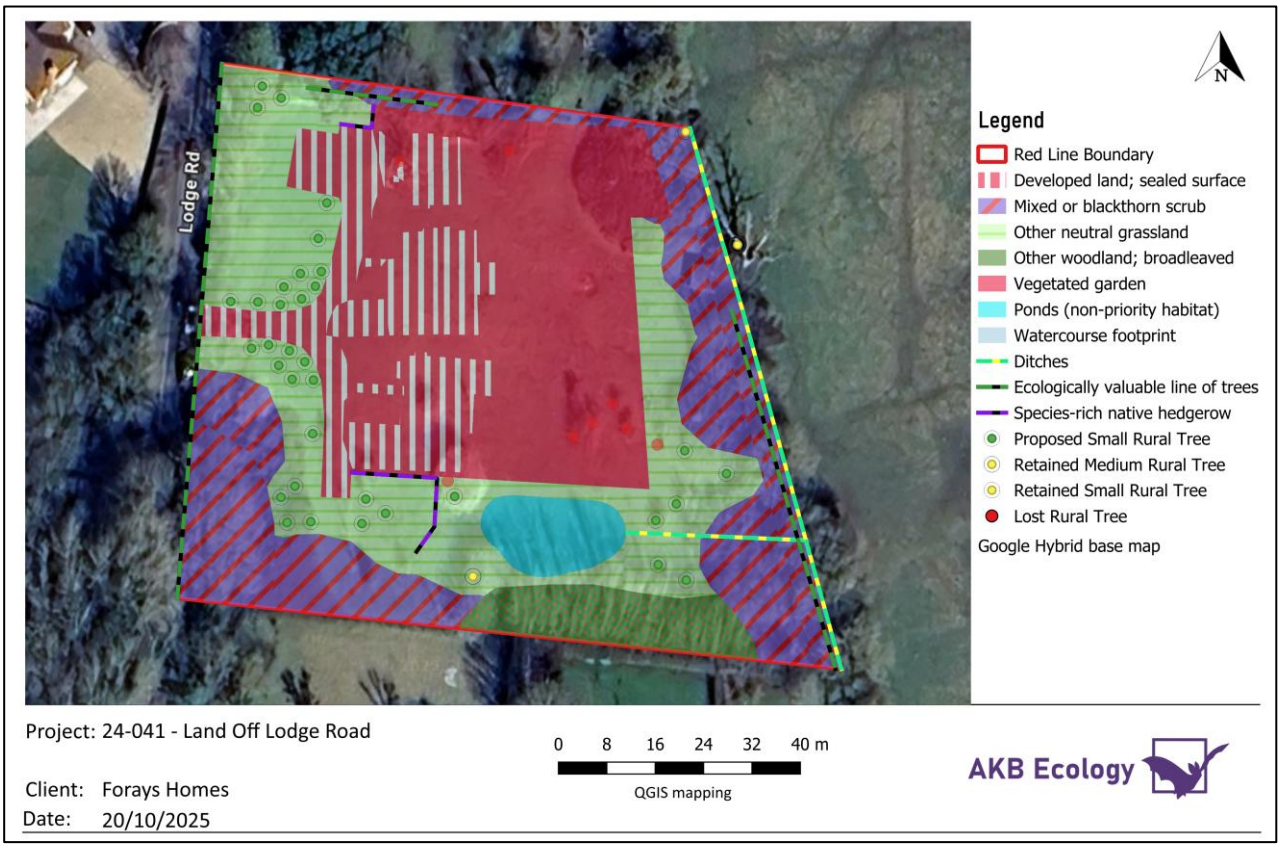


FIGURE 5: POST-DEVELOPMENT ON SITE HABITATS

7. Biodiversity Net Gain Calculation Results

7.1 The headline results using the above habitats and calculations are given below (refer to the metric for full details).

TABLE 2: HEADLINE ESTIMATED BNG VALUES

FINAL RESULTS		
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	*Area habitat units*	1.13
	Hedgerow units	0.24
	Watercourse units	0.10
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	*Area habitat units*	26.98%
	Hedgerow units	12.44%
	Watercourse units	36.65%
Trading rules satisfied?	Yes ✓	

8. Conclusions & Recommendations

8.1 The development includes the loss of some existing modified grassland, scrub and individual trees.

8.2 Ecological enhancements built into the communal areas of the development include tree planting, the enhancement of retained grassland, woodland and scrub, creation of a balancing pond with native species planting and associated ditch and new hedgerows. In terms of the BNG metric, these are not sufficient to offset the loss of the existing habitats on the site but are sufficient to meet statutory requirements for hedgerows and watercourses.

8.3 The headline results indicate that there is an estimated gain of 1.13 habitat units, which corresponds to a 26.98% gain in habitats. The hedge-line results show an estimated increase of 0.24 hedgerow units which corresponds to a 12.44% increase. The watercourse results show an estimated increase of 0.10 watercourse units which corresponds to a 36.65% increase.

8.4 In England BNG is becoming mandatory under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021). This came into force in February 2024 for major developments and April 2024 for minor developments. Under the legislation developers must deliver a minimum biodiversity net gain of 10%. Some local authorities have implemented higher gains requirements.

8.5 A Habitat Management and Monitoring Plan (HMMP) will need to be produced for the proposed hedgerow and watercourse creation as well as for habitat creation and enhancements. This will set out exactly how the proposed habitats will be created

or enhanced through planting and ongoing management. Regular monitoring will be required to ensure the habitats maintained at the quality that has been proposed. The HMMP will need to secure the land management for a period of at least 30 years.

9. Recommended species for planting and design

9.1 Planting a wide range of species helps to protect against threats from pests, disease and changing climate.

9.2 The Forestry commission has recently released a list of 'tree species for the future'[1] and it is recommended that this list is utilised when selecting species for the proposed individual trees. Based on the site location and existing species on site the following species, from the list, are particularly recommended.

- Beech *Fagus sylvatica*
- Downy birch *Betula pubescens*
- Field maple *Acer campestre*
- Hornbeam *Carpinus betulus*
- Pedunculate oak *Quercus robur*
- Red oak *Quercus rubra*
- Rowan *Sorbus aucuparia*
- Sessile oak *Quercus petraea*
- Silver birch *Betula pendula*
- Sweet chestnut *Castanea sativa*
- Wild cherry *Prunus avium*

9.3 Species rich native hedging is proposed. This must comprise of a minimum of six woody species from the below list:

- Hawthorn *Crataegus monogyna*
- Blackthorn *Prunus spinosus*
- Beech
- Holly *Ilex aquifolium*
- Hazel *Carylus avellana*
- Field maple
- Crab apple *Malus sylvestris*
- Guelder rose *Viburnum opulus*
- Wayfaring tree *Viburnum lantana*
- Spindle *Euonymum europaeus*
- Buckthorn *Rhamnus cathartica*

9.4 The proposed balancing pond is to be designed to support native amphibian and reptile species and therefore the design should prevent/discourage the introduction of fish and wildfowl through dense planting on the slopes. This will additionally work to deter dogs from entering the pond.

[1] https://www.forestryengland.uk/nature-wildlife/species-for-the-future

9.5 In line with recommendations within the SuDs manual chapter 23 the banks should additionally be designed to have a varied profile to create a range of pond depths and habitat areas. A vegetated aquatic bench can help prevent children from entering open-water areas and discourage the use of adjacent grassed areas by geese.

9.6 Sparse planting of native species at no more than 4-8 plants per m^2 is encouraged along the aquatic bench and the safety bench (fringe wetlands), on the side slopes (emergent wetlands). Dense planting of marginal floating leaved and aquatic plants should be avoided with the wetlands allowed to colonise as naturally as possible. Non-native invasive species must not be planted.

9.7 Suitable marginal plant species include:

- Flowering Rush *Butomus umbellatus*
- Lady's Smock *Cardamine pratensis*
- Marsh Marigold *Caltha palustris*
- Purple Loosestrife *Lythrum salicaria* (tall, good for bees)
- Gipsywort *Lycopus europaeus*
- Meadowsweet *Filipendula ulmaria* (tall, good for birds in autumn)
- Brooklime *Veronica beccabunga*
- Ragged-Robin *Lychnis flos-cuculi*
- Soft Rush *Juncus effusus*
- Water Forget-me-not *Myosotis scorpioides*
- Bugle *Ajuga reptans*
- Water Avens *Geum rivale* (spreading)
- Marsh Woundwort *Stachys palustris* (tall)
- Great Willowherb *Epilobium hirsutum* (tall)
- Hemp Agrimony *Eupatorium cannabinum* (tall)
- Fleabane *Pulicaria dysenterica*
- Creeping Bent *Agrostis stolonifera*
- Marsh Foxtail *Alopecurus geniculatus*
- Fool's Watercress *Apium nodiflorum*
- Common Spike-rush *Eleocharis palustris*
- Water Pepper *Persicaria hydropiper*
- Silverweed *Potentilla anserina*

9.8 Suitable emergent (shallow water) plant species include:

- Amphibious bistort *Persicaria amphibium*
- Arrowhead *Sagittaria aquatilis*
- Water crowfoot *Ranunculus aquatilis*
- Water mint *Mentha aquatica*
- Flowering rush *Butomus umbellatus*
- Water plantain *Alisma plantago-quuatica*
- Water forget-me-not *Myosotis scorpiodes*
- Marsh cinquefoil *Potentilla palustris*
- Greater pond-sedge *Carex riparia*

9.9 Suitable submerged oxygenating plant species include:

- Spiked Water-milfoil *Myriophyllum spicatum*
- Hornwort *Ceratophyllym demersum* (pollution intolerant)
- Shining Pondweed *Potamogeton lucens*
- Horned Pondweed *Zannichellia palustris*
- Fennel Pondweed *Potamogeton pectinatus* (pollution tolerant)
- Water Starwort *Callitriche stagnalis* (pollution intolerant)

10.Wildlife Enhancements

10.1 Biodiversity Net Gain only covers habitats, hedgerows and waterbodies, specific wildlife enhancements are not included. Based on the location of the site and known information regarding presence of protected species the following wildlife enhancements are additionally recommended.

Bats and Birds

10.2 To enhance the site for bats and birds known to be present within the local area it is recommended that two bat boxes and two bird boxes be installed within the site. Boxes could be installed on existing retained trees within the site or integrated into the new development.

10.3 Ideally bat boxes would be woodcrete or similar hard-wearing material (rather than the less durable wooden boxes) and should be installed at least 3m above the ground (where safe installation is possible), sheltered from strong winds and exposed to the sun for part of the day (usually south or south-west facing).

10.4 Example tree-mounted bat boxes are shown below: Schwegler 1FF bat box (below left, suitable for pipistrelle bats *Pipistrellus sp.*), and a Schwegler 2F bat box (below right, suitable for long-eared bats *Plecotus sp.*), or similar bat boxes.

10.5 Example integrated bat boxes are shown below: Integrate Eco Bat Box (below left), Habibat Bat box - Plain for rendering (below centre) and a Schwegler 1WI Summer and Winter bat box (below right) or similar bat boxes.



10.6 Tree-hung bird boxes should comprise a mix of traditional '32mm round-holed' (below left: which are suitable for tits, sparrows, redstarts and nuthatches) and open-fronted boxes (below right: these are suitable for pied wagtails, robins and wrens) and also ideally be woodcrete or similar hard-wearing material (rather than the less durable traditional wooden boxes). Boxes should be installed with an aluminium nail or screw to prevent tree damage between 2m and 4m above ground for round-holed and low down, below 2m, well hidden in vegetation for open-fronted boxes and (unless shaded by buildings or trees) be facing north or east.


10.7 Integrated bird boxes should comprise of swift bricks which are suitable for a range of species (below left), these should be installed at a minimum of 4m above the ground, north or east facing and with open flight access, or sparrow terraces (below centre) which should be installed in line with vegetation such as trees or hedge lines to allow the birds the use of jumping off points and be installed a minimum of 3m above the ground on a north or east elevation. Where suitable overhanging eaves are present house martin cups (below right) may also be suitable.

Reptiles and amphibians

10.8 To enhance the site for reptiles and amphibians a 'hibernaculum' could be created in a sunny corner of the site. This will use materials such as logs, inert hardcore, bricks or building rubble to form the body of each hibernaculum, ensuring that materials likely to decompose are not placed beneath bricks or rubble to avoid collapse. Woodchips or soil may be incorporated to fill some of the larger cavities within the structure.

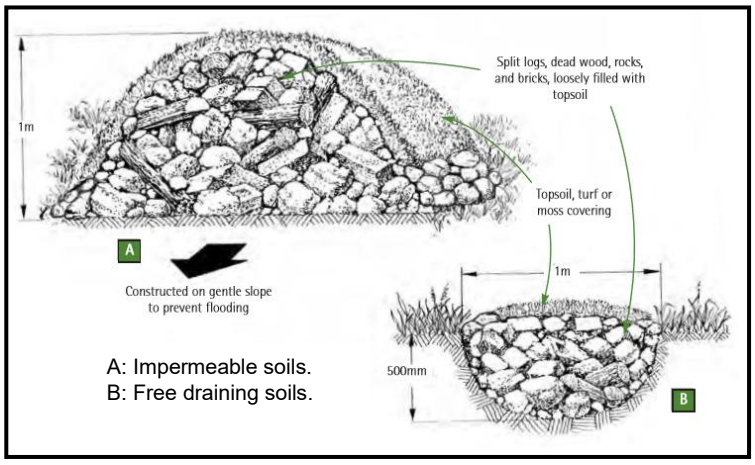
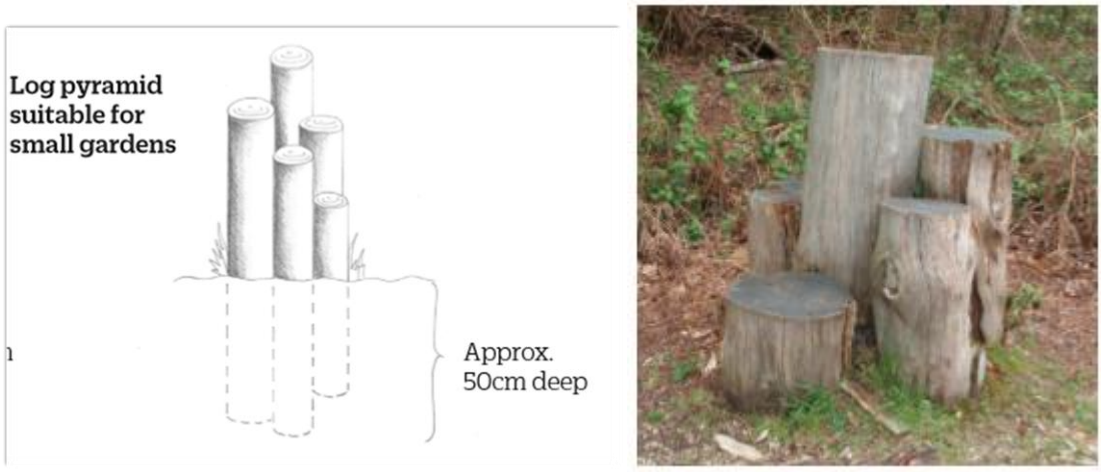


Diagram from Great Crested Newt Conservation Handbook

Stag Beetles

10.9 A log stack could be created in a discrete corner of the site to provide dead wood habitat features for stag beetle another species.

10.10 A suitable logpile comprises of a variety of lengths of hard wood at least 5cm in diameter, this should be sighted in partial shade and the wood partially buried to prevent it drying out. See below diagram and picture below from the PTES 'how to build a loggery' factsheet, (*https://ptes.org/get-involved/wildlife-action/help-stag-beetles/*)



Hedgehogs

10.11 Where closed board fencing is to be installed, 'hedgehog highways' are recommended to be created through the base of the fence. Access holes will be 13cm by 13cm which is sufficient for hedgehogs to pass through but too small for the majority of pets.

Solitary bees

10.12 It is recommended that a minimum of one bee brick is integrated into each new building to enhance the site for solitary bee species which are non-aggressive.

10.13 Suitable bee bricks include holes of varying sizes to encourage different species. Bricks should be installed in warm sunny spots on a south-facing wall at a minimum height of 1m, with no vegetation obstructing the holes. It is highly recommended that bee-friendly plants such as lavender and honeysuckle are planted nearby so that the bees using the bricks have food, otherwise it is unlikely that the brick will be used.

11. References

CIEEM (2013) *Competencies for Species Survey guidance documents*. Chartered Institute of Ecology and Environmental Management, Winchester

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DEFRA (2024) *Defra Biodiversity Statutory Metric Auditing and accounting for biodiversity calculation Tool*

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