



ECOLOGYSOLUTIONS

Part of the ES Group

BLOOR HOMES

LAND NORTH OF BUNNY LANE
KEYWORTH,
NOTTINGHAMSHIRE, NG12 5LP
(REF NO: 18/02515/FUL)

**Landscape and Ecology
Management Plan (LEMP)**

July 2021
6633.LEMP.vf3

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1. INTRODUCTION

1.1 Ecology Solutions has been appointed by Bloor Homes to prepare the working method statement for ecological mitigation (including protection measures and enhancement of the habitats and species) for Land North of Bunny Lane Keyworth, Nottinghamshire hereafter referred to as the 'site'. This has been set out in the form of a Landscape and Ecology Management Plan (LEMP) which sets out the protection of features of ecological interest and management of those due to be retained and created within the development site.

1.2 This LEMP is submitted to discharge condition 14 (reproduced below) of outline planning consent 18/02515/FUL

1.3 Condition 14 states that:

"No development shall take place until a Landscape & Ecology Management Plan (LEMP) is submitted to and approved in writing by the local planning authority. The LEMP shall have full regard to the mitigation and enhancements together with the summary and conclusions of the Ecological Assessment dated October 2018 (6633.EcoAss.vf1) by Ecology Solutions Ltd (or as amended / updated as part of the discharge other conditions) and shall include:

- *Details of habitat creations and enhancement of hedgerows;*
- *Bird and bat boxes shall be integrated into the building fabric (the former targeting house sparrow, starling and swift) into the fabric of a proportion (circa 20%) of the proposed dwellings/their garages;*
- *Ongoing management of the SUDS and landscaped areas for the benefit of wildlife and biodiversity;*
- *The plan will detail the formal management agreement, aftercare and monitoring of the retained and newly created habitats on the site and shall their the ongoing maintenance;*
- *A pre-commencement walkover survey for badgers by an appropriate ecologist; and*
- *If the Ash tree, with potential as a bat roost is to be removed, it should be surveyed by an appropriate ecologist prior to works and any recommendations followed*

The development shall be undertaken in accordance with the approved LEMP."

1.4 With regard to condition 14, this LEMP has been written in accordance with the mitigation and enhancements set out in Section 5 within the Ecological Assessment by Ecology Solutions dated October 2018 (6633.EcoAss.vf1).

1.5 Ecology Solutions has been appointed to advise and ensure that ecological mitigation works are carried out as detailed within the LEMP.

1.6 This LEMP provides a template for safeguarding wildlife and future enhancements and guidelines for future management regimes.

1.7 The plan is intended to be an iterative process that is subject to annual review. Any future amendments to the plan will be dependent on

prevailing conditions and the opinion and judgement of land managers on the ground. Nevertheless, the spirit of the plan and their ultimate goal is to provide effective ecological enhancement, to benefit local wildlife interests and work towards national and local Species / Habitats of Principal Importance (Priority Species / Habitats) targets.

- 1.8 This LEMP has been written with reference to published guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM) and with regard to Natural England guidelines for protected species.
- 1.9 The document is set out as follows:
 - Ecological baseline and evaluation of important features within the development site;
 - Aims and objectives of the LEMP in order to safeguard wildlife and maximise the ecological potential of features due to be retained and created within the site;
 - Management prescriptions in order to achieve objectives. These include any monitoring requirements; and
- 1.10 A copy of this report and the management plan should be provided to all interested parties as necessary to ensure compliance with its prescriptions and the protection and enhancement of the biodiversity interest.

2. ECOLOGICAL BASELINE AND EVALUATION

- 2.1 Habitat surveys were carried out by Ecology Solutions between May and July 2015 in March and September 2018, in order to ascertain the general ecological value of the site and to identify the main habitats and associated plant species. Habitat surveys were based upon an extended Phase 1 survey technique. The habitats and dominant plant species were recorded, together with conspicuous faunal activity and evidence of the presence, or potential presence, of protected species.
- 2.2 During the surveys undertaken, all obvious faunal activity such as birds or mammals observed visually or by call, was also recorded. Specific attention was paid to any potential use of the site by protected species, Priority Species, or other notable species. Specific surveys were also carried out for bats and Badgers. Specific details of these surveys can be found within the Ecological Assessment dated October 2018.
- 2.3 The site itself comprises improved grassland fields that are subject to regular cattle grazing with boundary hedgerows.
- 2.4 No evidence of Badgers was recorded within the site.
- 2.5 The hedgerows within the site offer suitable foraging opportunities for a range of bats and birds (including nesting for birds).
- 2.6 A single tree within the site that have developed features potentially suitable to support roosting bats. A single Common Pipistrelle was recorded re-entering building B1 on the 29th June 2018. The remaining

buildings are not considered suitable for roosting bats and no evidence of bats was recorded within any other buildings.

- 2.7 The site is expected to support a range of common invertebrate species, but there is no evidence to suggest that any other protected or notable species are likely to be present. The management regime of the site also reduces the suitability for this group.

3. AIMS AND OBJECTIVES

- 3.1 The aims and objectives of the LEMP are to maintain and avoid any harm / damage to features of ecological interest, in addition to safeguarding populations of protected species on site.
- 3.2 The aims and objectives of the LEMP are also to maintain and enhance features of ecological interest retained within the development, in addition to maintaining populations of protected species on site, whilst providing for ecological / biodiversity enhancements within the proposed development.
- 3.3 The following objectives have been identified:
- Objective 1: Safeguard, maintain and enhance retained and newly created habitats within the development site;
 - Objective 2: Safeguard and maintain populations of protected species identified within the development site area at a favourable conservation status; and
 - Objective 3: Increase biodiversity by maximising opportunities for flora and fauna.

4. CONSTRUCTION MEASURES

- 4.1 Full detail regarding construction mitigation is detailed in the Construction Environmental Management Plan (CEMP) for condition 22, although as stated in condition 14 for the LEMP: *"A pre-commencement walkover survey for badgers by an appropriate ecologist"*. As such, prior to any construction and groundworks within the site, a Badger survey will be undertaken by an appropriate ecologist. Should any Badger setts be recorded within development site that is within 30m of any ground and construction work, these works will first be discussed with an ecologist and a 30m exclusion zone will be created with Heras fencing to protect the sett from construction. Should the Badger sett need to be removed or temporarily closed for the proposed development, a licence from Natural England will be obtained to undertake these works.
- 4.2 Condition 14 also states: *"If the Ash tree, with potential as a bat roost is to be removed, it should be surveyed by an appropriate ecologist prior to works and any recommendations followed"*. The Ash tree with bat potential is to be removed as part of the proposed development. As such, the tree will be subject to additional surveys by an ecologist to determine if the tree supports roosting bats, which will also determine if a licence is required from Natural England.

- 4.3 Building B1 supports a single Common Pipistrelle roost, and a such a Low Impact Bat Licence will be obtained from Natural England, prior to removal of the building. Further detail is provided within the CEMP.

5. MANAGEMENT MEASURES

- 5.1 How each habitat should be managed and monitored is described below, in relation to each of the three objectives.
- 5.2 The proposals include new landscape planting throughout the site, including new tree, hedgerow and shrub planting, and areas of wildflower meadow. The detailed landscape proposals are included at Appendix 1.
- 5.3 A summary of the post-development management measures is included alongside protective measures in the table in Chapter 5. This LEMP and its management measures will be followed by the management company in charge of post-development management of the habitat within the site.

Objective 1: Maintain and Enhance Retained and Created Habitats

Management of Habitat

Amenity Grassland and Turf

- 5.4 New areas of amenity grassland will be sown (seeded with Emorsgate EG22) in line with good horticultural practices. Areas of turf will also be laid in line with good horticultural practices.
- 5.5 The areas of amenity grassland will be cut on a regular basis. Checks will be made monthly, and the grass will be cut when it reaches **100mm** long, back to a length of **35mm**. Mowing will be required more frequently during the spring / summer seasons.

Wildflower Meadow

- 5.6 New areas of wildflower meadow (seeded with Emorsgate EM3) will be created around the site.
- 5.7 The grassland will be managed with a more intensive mowing regime in the first year to aid the initial establishment of the wildflower species. The grassland will then only be cut to **150mm and only half will be mown rotationally every year** to allow the grassland to maintain a long nature. This grassland will be cut between **August and September**. Cuttings will be left in discrete habitat piles.

- 5.8 Any areas of failed grassland (a loss of more than 5% in grassland cover) will be reseeded with a seed mix of similar species content.

Attenuation Area and Seasonal Wetland

- 5.9 Seasonal Wetlands mixture (seeded with Emorsgate EM8) will be sown around the attenuation areas prior to the completion of the development during either the autumn or spring to ensure best results.

- 5.10 The grassland will be managed with a more intensive mowing regime in the first year to aid the initial establishment of the wildflower species. The grassland will then only be cut to **150mm every year**. This grassland will be cut between **August and September**.
- 5.11 Aquatic vegetation (if present) will be removed if the attenuation ponds become overgrown. This vegetation will be removed in the **autumn** and left adjacent to the ponds for 48 hours to ensure no amphibians or invertebrates are present within the vegetation before the vegetation is removed.
- 5.12 The attenuation ponds will be monitored on a yearly basis to ensure no invasive species colonise the ponds. Should invasive species be noted, these will be treated appropriately and with due consideration to the wildlife present within the pond.

Attenuation Marginal Vegetation

- 5.13 Marginal vegetation (pond edge mix) will be managed if it becomes overgrown. This vegetation will be cut in the **autumn** and left adjacent to the pond for 48 hours to ensure amphibians and invertebrates have left the vegetation before the vegetation is removed.

Amenity Planting (including new and retained trees)

- 5.14 The proposals include new areas of amenity planting (i.e. shrubs, herbaceous plants, grasses and specimen planting) and the inclusion of new trees throughout the site.
- 5.15 All retained and new trees within the site will be subject to appropriate arboriculture maintenance where necessary, to help prolong their life and ensure they are safe. The condition of the mature trees within the site will be monitored during the first five years following completion of the development, to ensure a favourable condition is maintained.
- 5.16 Any arboricultural management e.g. pruning / lopping will be carried outside the bird nesting season (**March-August inclusive**) to avoid any potential offence, or after a suitably qualified ecologist has undertaken checks to ensure no nesting birds are present. Where possible any dead wood produced will be retained as an ecological feature, either as standing deadwood or as log piles, offering new habitat for saproxylic invertebrates.
- 5.17 Planting of new trees will be undertaken during the **autumn, winter or spring**. For the first five years after planting, regular health checks of the trees will be undertaken to ensure successful establishment especially during periods of dry weather, to ensure that they are not affected by drought and to identify any potential gaps where plants have not survived. Any failed new tree planting will be replaced with native species of local provenance and of similar species content to that within the site.

Retained and New Hedgerows

- 5.18 The majority of the hedgerows are to be retained with only minor losses. The retained hedgerows will retain habitats for invertebrates, small mammals and birds, as well as foraging and navigational opportunities for bats and Badgers.
- 5.19 New native and ornamental hedgerows are to be planted throughout the site.
- 5.20 Appropriate management of the new and existing hedgerows will be undertaken in order to enhance their ecological value, and this will include trimming being only undertaken during **winter months** when berries are no longer present to maximise foraging opportunities for birds in autumn.
- 5.21 Existing and new native hedgerows will be trimmed **every three years, or alternate sides of the hedgerow cut once every two years**, and the hedgerow maintained at a height of at **least 3-4m**. The hedgerows will be managed with a thick structure, and should the hedgerows become gappy or with sparse growth at their bases, the hedgerows will be subject to coppicing / laying to improve their structure. Should significant gaps be present within the hedgerows, additional native species planting will be undertaken to fill the gaps.
- 5.22 Hedgerows will be cut back every **January / February** in order to maintain healthy growth and a good structure and to also avoid the main bird-nesting season, March-July (inclusive).
- 5.23 For the first five years after planting, regular health checks of the hedgerows will be undertaken especially during periods of dry weather, to ensure that the hedgerows are not affected by drought. Any failed sections of existing hedgerows will be replaced with similar species content and size to that within the site.

Native Buffer Mix

- 5.24 Native Buffer Mix planting is to be undertaken within the site. The planting comprises native species and will provide foraging and navigation opportunities for a range of wildlife.
- 5.25 For the first five years after planting, regular health checks of the planting will be undertaken especially during periods of dry weather, to ensure that the hedgerows are not affected by drought. Any failed sections will be replaced with similar species content and size to that within the site.
- 5.26 The native buffer mix will be cut back every **January / February** in order to maintain healthy growth and a good structure and to also avoid the main bird-nesting season, March-July (inclusive).
- 5.27 The native buffer mix will be coppiced once the whips and tree planting has established and matured. Coppicing will improve the structure of the planting and will also be undertaken outside the bird-nesting season, March-July (inclusive).

Objective 2: Maintain Populations of Protected Species at a Favourable Conservation Status

Bats

- 5.28 The majority of hedgerows in the site are to be retained which will maintain existing foraging and navigational opportunities.
- 5.29 The creation of new areas of wildflower meadow, hedgerow planting and the creation of new attenuation areas, will also provide new and enhanced foraging and navigational opportunities for bats that will more than offset any minor losses resulting from the proposals.
- 5.30 As detailed in the condition, 20% of the proposed dwellings/their garages will include bat and bird boxes. The proposed development includes 221 dwellings and therefore, a total of 44 bat or bird boxes will be installed.
- 5.31 22 garages / dwellings will have bat boxes (see Plan ECO7 for locations and specification). These bat boxes will be integrated into the building and will face south or southwest and are known to be attractive to a number of the smaller bat species, including Pipistrelle bats, which are the most abundant species recorded within the site.
- 5.32 Bat boxes will be checked **annually** to ensure they are in place and in the unlikely event that a bat boxes needs to be replaced or repaired, it will be first checked by a licences bat worker.

Birds

- 5.33 The development proposals will retain many of the existing foraging and nesting opportunities for birds. The provision of a new native hedgerow, shrub and trees, as part of the landscape proposals will provide new suitable nesting and foraging opportunities for birds to offset any losses. The provision of new berry/fruit-bearing species will also provide seasonal resources for birds. The creation of new species-rich wildflower grassland will also maintain further suitable foraging opportunities for a range of bird species.
- 5.34 22 garages / dwellings will have bird boxes, which does not include garages / dwellings that already include bat boxes (see Plan ECO7 for specifications and locations).
- 5.35 These bird boxes will be integrated into the building and will face between north and east and are suitable for House Sparrow, Starling and Swift.
- 5.36 Bird boxes will be checked **annually** to ensure they are in place and will be replaced and repaired if damaged.
- 5.37 Management of habitats will be undertaken with due consideration for potential use by birds. Cutting of vegetation, particularly those features that provide important nesting habitats (including hedgerows and trees) will be undertaken during the winter months. Should the above timing constraints conflict with any timetabled works, it is recommended that

works commence only after a suitably qualified ecologist has undertaken checks to ensure no nesting birds are present. If nesting birds are found to be present during checks then clearance would need to be delayed until young have fledged.

Invertebrates

- 5.38 The proposed new attenuation area, wildflower grassland, tree and shrub planting will offer new opportunities for invertebrates. A variety of plant species will be used as part of the landscape scheme which will increase the attractiveness of the site for a range of different invertebrate species.
- 5.39 In addition, log piles will be created from vegetation removal required as part of the proposed development to create habitats for invertebrates.

Objective 3: Increase Biodiversity by Maximising Opportunities for Flora and Fauna

- 5.40 The new planting within the proposed development will comprise native species of local provenance or those of benefit to wildlife and will increase the floristic diversity of the site. The attenuation area, new grassland and wildflower meadow will provide enhanced foraging and nesting resources for birds, foraging and navigational resources for bats and terrestrial habitats for Badgers.

6. SCHEDULE OF WORKS

Objective	Receptor	Management Prescription	Timing of Works	Responsible Person / Organisation
MANAGEMENT MEASURES				
MAINTAIN AND ENHANCE RETAINED AND CREATED HABITATS	Grassland	Amenity Grassland - will be cut on a regular basis. Checks will be made monthly and the grass will be cut when it reaches 100mm long, back to a length of 35mm .	Regular periods each year.	Management Company
		Wildflower Meadow - will only be cut to 150mm and mown <u>rotationally</u> every year to allow the grassland to maintain a tussocky nature. Cuttings will be left in discrete habitat piles.	Every year <u>rotationally</u> between August and September.	Management Company
		Season Wetland - will only be cut to 150mm and mown every year to allow the grassland to maintain a tussocky nature. Cuttings will be left in discrete habitat piles.	Every year between August and September.	Management Company
		Any areas of failed grassland will be reseeded with a seed mix / turf of similar species content.	Annually	Management Company
	Amenity Planting	New tree planting utilising native species of local provenance and those of benefit to wildlife will be planted during Autumn, Winter or Spring.	Prior to completion of the development	Management Company
		For the first five years after planting, regular health checks of newly planted trees and shrubs will be undertaken during periods of dry weather, to ensure that the trees are not affected by drought.	First five years – annually.	Management Company
		Retained trees will be monitored and subject to appropriate arboricultural maintenance where necessary to help prolong their life and ensure they are safe.	Annually where necessary.	Management Company

		Any arboricultural management, e.g. pruning / lopping, will be carried outside the breeding bird season (March – July inclusive) or checks will be undertaken by a suitably qualified ecologist to ensure there are no nesting birds present and to avoid any potential effects on roosting bats.	Annually following tree health checks (outside March – August inclusive unless checks undertaken to ensure no nesting birds present).	Management Company
		Replace any failed plants with similar / same species.	Annually.	Management Company
	Marginal and Aquatic Vegetation	Aquatic and marginal vegetation will be removed if the pond becomes overgrown. This vegetation will be removed in the autumn and left adjacent to the pond for a day to ensure no amphibians are present within the vegetation before the vegetation is removed.	Dependent on vegetation growth	Management Company
	Attenuation Ponds	The attenuation ponds will be monitored to ensure no fish are introduced and if fish are found present this will be removed.	Annually.	Management Company
	Hedgerows, and Native Buffer Mix	New hedgerow and Native Buffer Mix planting will be planted during the autumn, winter or spring .	Prior to completion of the development.	Bloor Homes / Site Manager / Contractor
		For the first five years after planting, regular health checks will be undertaken especially during periods of dry weather, to ensure that the hedgerows are not affected by drought.	First five years annually.	Management Company
		Replace any failed sections / gaps of new hedgerow with similar species content and size to that within the site.	Annually following annual hedgerow checks.	Management Company
		Cutting will be carried outside the breeding bird season (March – July inclusive) or checks will be undertaken by a suitably qualified ecologist to ensure there are no nesting birds present.	Every 2 years (outside March – August inclusive unless checks undertaken by an ecologist to ensure no nesting birds present).	Management Company

MAINTAIN POPULATIONS OF PROTECTED SPECIES AT A FAVOURABLE CONSERVATION STATUS	Bats	Bat boxes will be checked annually to ensure they are in place and replacements supplied if necessary. A licensed bat worker will check the boxes if they are to be replaced or repaired.	Annually	Management Company / Licensed bat worker
		New hedgerow and tree planting will provide new foraging and navigational opportunities for bats.	Prior to completion of development.	Bloor Homes / Landscape Contractor
		The sympathetic lighting regime will minimise light spillage into key foraging areas used by bats and new roosting boxes.	Prior to completion of development.	Bloor Homes / Landscape Contractor
		Checks of suitable tree for roosting bats, if trees are to be felled.	Prior to completion of development.	Ecology Solutions / other professional ecologist
	Birds	New hedgerow and tree planting will provide new nesting and enhanced foraging opportunities for birds.	Prior to completion of development.	Bloor Homes / Landscape Contractor
		Any management of vegetation (in particular hedgerows and trees) will be carried outside the breeding bird season (March – July inclusive) or checks will be undertaken by a suitably qualified ecologist to ensure there are no nesting birds present.	Annually (outside March-August inclusive, unless checks are undertaken to ensure no nesting birds present).	Management Company
		Provision of new bird boxes to provide new nesting opportunities for birds over the existing situation.	Prior to completion of development.	Ecology Solutions / other professional ecologist
		Bird boxes will be checked annually to ensure they are in place and replacements supplied if necessary.	Annually	Management Company
	Invertebrates	New hedgerow, tree and shrub planting will provide new opportunities for invertebrates.	Prior to completion of development.	Bloor Homes / Landscape Contractor
		Log piles will be created from the removal of vegetation, as part of the proposed development.	Prior to completion of development.	Bloor Homes / Landscape Contractor

PLANS

PLAN ECO7

Bat Box and Bird Box Locations

Bat boxes will be position 4/6m above the ground and face south or southwest.

House Sparrow boxes will be position underneath the eaves / roofline of the building and face between north and east.

Swift boxes will be positioned 6/7m above the ground and face between north and east.

Starling boxes should be positioned 2/4m above the ground and face between north and east.



SPARROW BOX



SWIFT BOX







BAT BOX



STARLING BOX

KEY:

-  SPARROW BIRD BOX POSITIONED NORTH / EAST AND JUST BELOW ROOF (HABIBAT)
-  STARLING BIRD BOX POSITIONED NORTH / EAST 2-4M HIGH (HABIBAT)
-  SWIFT BIRD BOX POSITIONED NORTH / EAST AND JUST BELOW ROOF LINE (HABIBAT)
-  INTEGRATED BAT BOX POSITIONED SOUTH / SOUTHWEST AND JUST BELOW ROOF LINE (HABIBAT)



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PLAN ECO7: BAT AND
BIRD BOX LOCATIONS

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APPENDICES

APPENDIX 1

Landscape Masterplan





ECOLOGYSOLUTIONS

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