



PROPOSED DEVELOPMENT:

LAND ADJACENT TO MANSFIELD TERRACE, MERTHYR TYDFIL

LANDSCAPE HABITAT MANAGEMNET PLAN (LHMP)

2024

ISSUE 1VB

BE Ecological Ltd
Suite 2 Rabart House
Pontsarn Road
Merthyr Tydfil,
CF48 2SR
info@beecological.co.uk
www.beecological.co.uk

Page intentionally left blank

Page intentionally left blank

Mansfield Terrace

Landscape Habitat Management Plan

Document control

Issue	Stage	Author	Checked	Approved	Date
1	DRAFT FOR COMMENT	BE	BE	BE	01/06/24

Contents Amendment Record
This report has been issued and amended as follows:

Issue	Revision	Description	Approved by	Date
1	VB	Minor Amendmnets	BE	07/08/24

Disclaimer

No part of this report may be copied or reproduced by any means without prior written permission from BE Ecological Ltd. If you have received this report in error, please destroy all copies in your possession or control.

This report has been prepared for the exclusive use of the commissioning party and unless otherwise agreed in writing by BE Ecological Ltd, no other party may use, make use of or rely on the contents of the report. No liability is accepted by BE Ecological Ltd for any use of this report, other than for the purposes for which it was originally prepared and provided.

Opinions and information provided in the report are on the basis of BE Ecological Ltd using due skill, care and diligence in the preparation of the same and no explicit warranty is provided as to their accuracy.

All documents remain the property of BE Ecological Ltd and may not be used for any purpose whatsoever until full payment has been received for them unless written permission has been sought and obtained from BE Ecological Ltd.

CONTENTS

1 INTRODUCTION2

1.1 BACKGROUND 2

1.2 PREVIOUS SURVEYS 2

1.3 SCOPE 2

1.4 AIMS AND OBJECTIVES 2

1.5 DESCRIPTION OF SITE 3

2 PROTECTED AND NOTEABLE FAUNA3

3 EVALUATION4

3.1 POTENTIAL/FUTURE BASELINE 4

4 MITIGATION5

4.1 BIODIVERSITY COMPENSATION 5

4.2 BIODIVERSITY ENHANCEMENT 6

4.3 PLANTING PLAN 7

5 MANAGEMENT SPECIFICATION9

6 Roles and Responsibilities16

APPENDIX A -ANNUAL WORK SCHEDULE 18

APPENDIX B- LANDSCAPING PLAN SHOWING PLANTING COMPENSATION AND ENHANCEMENTS 27

1 INTRODUCTION

1.1 BACKGROUND

BE Ecological Ltd was commissioned by the client to produce a Landscape Habitat Management Plan of land adjacent to Mansfield Terrace, Merthyr Tydfil, South Wales.

Planning permission has been sought for the erection of a pair of semi-detached houses.

The local planning authority ecologist has requested that a LHMP be provided prior to planning being granted.

1.2 PREVIOUS SURVEYS

An ecological appraisal was undertaken in 2024 by BE Ecological Ltd. This should be read in conjunction with this LHMP.

1.3 SCOPE

The following objectives have been identified:

- 1) Description and evaluation of features to be managed
- 2) Ecological trends and constraints on the site that might influence management
- 3) Aims and objectives of management
- 4) Appropriate management options for achieving aims and objectives
- 5) Prescriptions for management actions
- 6) Preparations of a work schedule
- 7) Details of the body or organisation responsible for the implementation of the plan
- 8) Ongoing monitoring and remedial measures

1.4 AIMS AND OBJECTIVES

Full details of the site can be found in the BE Ecological Ltd Ecological Assessment dated 2024.

The LHMP contained within will include

- 1) Details of biodiversity enhancement features and their location
- 2) Details of landscaping features and their location

The aims of the LHMP are to protect and enhance habitats of importance to biodiversity.

1.5 DESCRIPTION OF SITE

The red line development site boundary is located at land adjacent to 1 Mansfield Terrace, Merthyr Tydfil.

The majority of the site comprises of semi-improved grassland. There is a disused building present in the middle of the site. The building is severely dilapidated. The building is more of a cabin than a dwelling with a ridge that runs from north east to south west. The materials of the building are a mix of wood and bitumen. There are rubble piles present on the site.

The wider landscape comprises of fields and patches of broadleaved woodland. There are roads and tracks around the entire perimeter of the site.

2 PROTECTED AND NOTEABLE FAUNA

Bats

It is considered unlikely that the site supports bat roosts, however, it is likely that foraging and commuting bats may use the site in low numbers.

Birds

There is breeding bird habitat on site in the form of brash piles.

Invertebrates

It is likely that common and widespread invertebrates will utilise the site and possibly some section 7 species..

Hedgehog

The Site offers foraging and hibernation habitat for hedgehog *Erinaceus europaeus* in the form of grassland. Furthermore, the Site is well connected to wider landscape, the habitats on site provide some potential to support this species.

Reptiles and amphibians

The site offers some limited habitat for this species for foraging, basking and sheltering purposes and it should be assumed that low numbers of slow worm (*Anguis fragilis*) and common lizard (*Lacerta vivipara*) may use the site. It is likely that the population densities of these species are at perhaps lower levels given the proximity of housing, tracks and roads.

3 EVALUATION

The development will not impact any Statutory or Non-statutory sites.

Identification of important features on site

The habitats within the site boundary are considered to be of low to moderate value, with the site being of some value to protected and notable species.

3.1 POTENTIAL/FUTURE BASELINE

New habitats in the form of tree planting, formal hedge planting, and species rich flowering lawn will be incorporated into the Development as part of the landscape proposals. An existing grass area is to be retained and improved and overseeded with yarrow. A EM34 seed mix wildflower area will be incorporated within the development within the north eastern rear garden of the properties. A EM2 wildflower area will be incorporated within the north western rear garden of the properties.

Given the current low ecological value and limited extent of those habitats present within the Site pre-Development, it is considered that the provision of these new habitats would provide habitats of greater ecological value.

The existing grassland on the site is made up of the following species: Black knapweed, hogweed, soft rush, perennial ryegrass, red fescue, Yorkshire fog, creeping bent, common bent, smooth meadow grass, rough meadow grass, rosebay willow herb, dandelion, silverweed, common sorrel, common nettle, ribwort plantain, bramble, meadow fescue, buttercup, meadowsweet and tufted hairgrass (21 species).

The combination of EM2 and EM34 will create a net gain for floral species with the species composition being as follows: Yarrow, kidney vetch, betony, common knapweed, hedge bedstraw, lady's bedstraw, field scabious, rough hawkbit, oxeye daisy, black medick, ribwort plantain, hoary plantain, cowslip, selfheal, meadow buttercup, bulbous buttercup, white clover, common bent, crested dogtail, red fescue, smaller catstail, smooth-stalked meadow grass, Glaucous Sedge, Eyebright, Catsear, Rough Hawkbit, Oxeye Daisy, Fairy Flax, Birdsfoot Trefoil, Ribwort Plantain, Cowslip, Selfheal, Meadow Buttercup, Yellow Rattle, Autumn Hawkbit, Wild Red Clover, Sweet vernal-grass, False Oat-grass, Upright Brome, Crested Dog's-tail, Red Fescue, Meadow Oat-grass, Perennial Ryegrass

Furthermore, artificial features in the form of bird boxes, bat boxes and invertebrate boxes will be incorporated within the Development, which will provide additional nesting and sheltering opportunities for these species' groups at the Site in the long-term

Through the implementation of those maintenance and management specifications set out within this LHMP, it is anticipated that over the lifespan of the Development the ecological value of those habitats to be created would gradually increase as they become established. Once fully established, the ecological value of these habitats would then be maintained.

Whilst it is considered that the creation of the above habitats would mitigate the Site for biodiversity, there also exists the potential to further enhance and maintain the ecological value of the Site through the appropriate management of these habitats. Detailed maintenance and management specifications, covering at least the first five years following completion of the Development, for those retained and newly created habitats are provided below.

The Site itself is situated within an urbanised environment and provides limited existing connectivity to habitats of ecological value within the local area. The greater extent of semi-natural habitat to be created on Site will provide a 'stepping stone' to allow for enhancement of faunal species movement across the site and wider the local area

4 MITIGATION

Protection of habitats and fauna

In order to protect faunal species during the operation of the Development, the following is proposed:

In the unlikely event that roosting bats are discovered during the course of works, all works should immediately cease and an ecologist notified for further advice. Further consultation would then likely be required with Natural England, together with the submission and granting of a European Protected Species Mitigation Licence by Natural Resources Wales to allow works to proceed.

The removal of any habitats of value to nesting birds including buildings, trees and brash piles will be undertaken outside of the breeding bird season (March to August inclusive). However, if works cannot be undertaken outside the breeding bird season an experienced ecologist will be deployed to carry out an inspection at least within 24 hours prior to the clearance. If an occupied nest is detected, an appropriate buffer zone will be created around the nest (to be determined by the ecologist), and clearance of this area delayed until the young have fledged.

Clearance of any vegetation with the potential to support hedgehog, such as longer vegetation and brash piles will be undertaken in a sensitive manner with a check for hedgehog undertaken by contractors beforehand. Should any hedgehogs be found, they would be placed within similar habitats away from any works areas.

The reptile mitigation strategy within the BE Ecological report will be closely followed.

Any site lighting will conform to the following guidance to prevent any indirect impacts on foraging bats <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>.

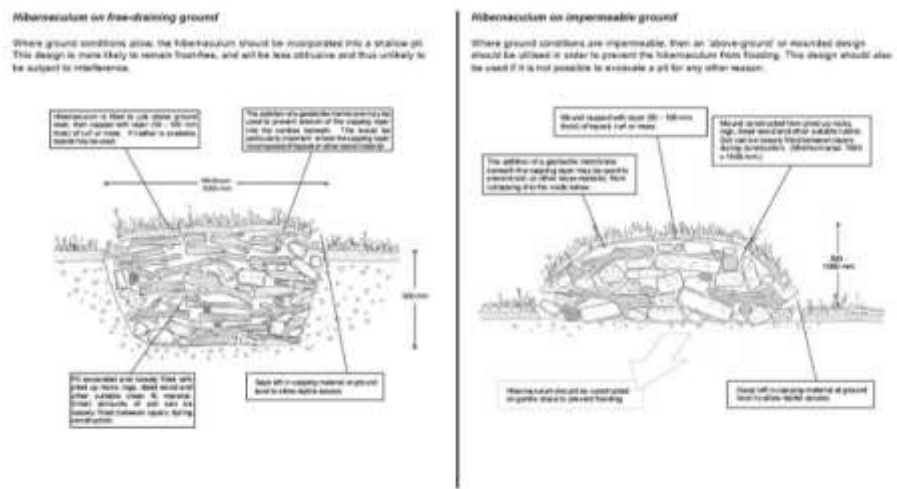
4.1 BIODIVERSITY COMPENSATION

A retained area will be kept within the development (boxed yellow in the reptile method statement below). On completion of the works, this area will be overseeded with yellow rattle to reduce the growth of vigorous grasses.

Any proposed lawned areas will be seeded with EL1 – Flowering Lawn Mixture (<https://wildseed.co.uk/mixtures/view/56>), this contains slow growing grasses with a selection of wild flowers that respond well to regular short mowing. The inclusion of these habitats within the development will allow a stepping stone habitat to the wider habitat, whilst allowing continued use of the site for a number of species. A hibernaculum will be included within the design to compensate for brash and rubble pile removal. 13cm x13cm gaps will be created at the bases of fences at the site boundaries to allow passage of hedgehogs across the site. All lighting will be controlled.

Reptiles

A hibernaculum will be installed within the retained reptile area using the following design



4.2 BIODIVERSITY ENHANCEMENT

Bats

A bat block will be placed within the south eastern elevation of the new build. The following bat block will be installed within the property https://www.nhbs.com/bat-block?bkfno=246596&ca_id=1495&adlocale=uk&gclid=CjwKCAiAp8iMBhAqEiwAJb94z1jwagEOaWChQNM957K6fxiWJdhKNG_HFkgr8vKVOCKVXrGTXVHvkxoCiHAQAvD_BwE . The box will be placed at least 3m in height and away from windows.

The new bat box will remain unlit. The bat boxes are self-contained and will require no cleaning. Should any remedial measures be required, ecological advice will be sought.

Birds

A Vivara Pro house sparrow nest boxes <https://www.nhbs.com/vivara-pro-woodstone-house-sparrow-nest-box> will be integrated into the north western elevation of the new build. The box will be at least 3m in height and away from windows.

A native species hedgerow will be planted on the south eastern boundary of the site. Species will be as of a local provenance as possible.

Two specimen trees will be planted within the gardens of the properties along with a native species hedge.

4.3 PLANTING PLAN (GENERAL REQUIREMENTS)

SPECIFICATION

All works carried out in accordance with BS4428:1989 Code of Practice for General Landscape Operations.

Peat or products containing peat must not be used.

Planting soils certified in accordance with British Standards (3882:2015 topsoil, 8601:2013 subsoil). 300mm topsoil over 300mm subsoil.

All bare root stock to be planted between Nov and March. To be supplied in accordance with the plant schedules. Plant stock to be healthy, free from diseases and suitably hardened off.

Planting soils to be certified in accordance with British Standards (3882:2015 topsoil, 8601:2013 subsoil)

Tree planting soils should meet the sandy loam range and be of no more than pH 6.5 on planting.

The soil shall be 300mm topsoil over 600mm subsoil within the tree pit. Subsoil shall be compacted as a gentle dome immediately beneath the root-ball in order to support the root-ball, but not to the extent that growth is prevented.

Position the tree stakes with galvanised nails as close as possible to stem and drive vertically at least 300mm into bottom of pit before planting. Consolidate material around stakes and cut to approx. 600mm above ground. Secure tree to stake or cross bar firmly but not to rigidly with approved rubber and spacer tie.

Use medium bark mulch for planting, 75mm deep, free from pests, disease, fungus and weeds.

Apply mulch 75mm depth in 1m wide strip along hedge length and fit spiral rabbit guards to all whips and transplants

Wildflower Seed Specification: Emorsgate EM2 – Standard general purpose meadow mixture
Wildflower grass seed to be sown in calm weather between April and October (inclusive). At a rate of 4g/m2 on finely cultivated subsoil; spread with 10-15mm layer of compost, worked into the top layer and watered in

Wildflower Seed Specification: Emorsgate EM34 – Diverse meadow mixture
Wildflower grass seed to be sown in calm weather between April and October (inclusive). At a rate of 4g/m2 on finely cultivated subsoil; spread with 10-15mm layer of compost, worked into the top layer and watered in

Hedgerow planting

Bed Area	58m				
No of plants (/m)	5				
SPECIES	TYPE	SIZE	%	No of plants	
Corylus avellana	1+1 bare root	600-900mm	30%	87	
Crataegus monogyna	1+1 bare root	600-900mm	30%	87	

Prunus spinosa	1+1	bare root	600-900mm	30%	87	
Ilex aquifolium	1+1	bare root	2L	5%	14.5	
Quercus robur	1+1	bare root	600-900mm	5%	14.5	
TOTAL				100%	290	

Tree Planting

Tree	Latin Name	Size
	Quercus robur	12-14cm root ball

5MANAGEMENT SPECIFICATION

Implementation

Implementation shall be carried out in the appropriate season for each landscape element, when soil and weather conditions are suitable. This includes:

- Wildflower seeding - April to early June or late August to October;
- Rootballed trees - late October to late March;
- All setting out of trees, shrubs and grass within new soft landscape areas shall be inspected and approved prior to planting operations commencing.

General Requirements

- All landscape maintenance work is to be carried out to a high and consistent standard and undertaken by an experienced landscape maintenance Contractor.
- The use of any pesticides (insecticides, fungicides and slug pellets) is discouraged and herbicides should be avoided as far as practicable. Any pesticides used shall be non-residual contact pesticides and chemical applications shall only be undertaken in suitable weather conditions as described by the manufacturers. If herbicide treatment is required, this should be in the form of spot treatment with Glyphosate. No chemicals shall be used in close proximity to water or drains.
- Peat free composts, biodegradable mulches and soil conditioners shall be used.
- All works with the potential to affect nesting birds are to be undertaken between September and February, outside of the nesting bird season (March to August inclusive).
- Other than for creating dead wood areas all arisings are to be removed from Site during each scheduled maintenance visit.

Detailed maintenance and management specifications to maintain the ecological value of those retained and newly created habitats to be implemented as part of the Development over an initial five-year period are provided below.

A summary table outlining the key annual management actions required to be undertaken following completion of the Development can be found in Appendix A.

Newly Planted Trees

Table 3: Management specifications for newly planted trees

SPECIFICATION	FREQUENCY & TIMINGS
Establishment	
After initial planting dead wood, damaged branches and snags are to be removed and soil to be firmed around the base of the plants.	During year 1 after initial planting.
Provide irrigation as needed to maintain healthy growth of all new tree planting.	During growing season in years 1 to 3 (minimum) and additionally as needed.
Adjust and replace all stakes, ties and tree guards to ensure healthy establishment of all new tree planting.	Years 1 and 2 during each scheduled maintenance visit as required.
Check trees for abrasions and chaffing with tree stakes, guards and ties. Loosen tree ties and as required. Trees found to be rubbing against each other should have their	Years 3 to 5 during each scheduled maintenance visit as required.

SPECIFICATION	FREQUENCY & TIMINGS
crossing over limbs removed to limit the possibility of disease in the future.	
Where trees have become sufficiently established, remove tree stakes and ties and dispose of off-site at a suitable recycling facility.	Annually during Years 3 to 5 in September/ October. (All remaining plant stakes and ties to be removed at year 5).
General Management	
Safety inspection (and dated record keeping) of all trees or woody vegetation within falling or failing distance of public footpaths, access tracks, property.	Annually after trees have reached sufficient size that they could pose an unacceptable hazard to persons or property and within 72 hours of high winds (with the potential to cause tree damage/ failure).
Record hazardous trees or tree defects during each scheduled maintenance visit and take immediate action to manage the risk to persons or property.	
Clear non-hazardous fallen trees or branches from paths and access tracks within 72 hours of reporting.	
Note: risk assessments in connection with the above to be proportionate to the level of risk and target value/ frequency. Clear fallen trees or branches where blocking roads or paths.	
Report presence invasive species or pests/diseases and seek further specialist advice to prevent spread and allow effective management and/or eradication.	Check undertaken during each scheduled maintenance visit.
Report sightings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA as necessary.	
Record and report presence of ill-health / stress and seek further specialist advice to prevent spread and allow effective management and/or eradication.	Check undertaken during each scheduled maintenance visit.
Minimum 500mm diameter area around all new trees to be kept in weed free condition by topping up of mulch and hand weeding as necessary.	Biannually during years 1 to 5 in April/ May and July, or as required during each scheduled maintenance visit.
Re-firm plants affected by wind-rock, frost heave or snow.	Annually during years 1 to 5 as required in February/ March.
Identify new trees which have failed to establish and cause of failure. Submit proposals to alleviate future planting failures.	Annually during years 1 – 5 in September / October.
Undertake replacement tree planting in accordance with original specifications (unless otherwise agreed).	Annually during years 1 – 5 between October and March and during suitable weather / planting conditions.
Note: Maintenance tasks for all new planting to be re-set to year 1 / establishment.	
Undertake formative pruning to new tree planting to: • ensure adequate highway, access track and footpath clearances are maintained. • ensure development of a single, strong leader shoot. • alleviate duplicating/crossing branches. • ensure balanced canopy development/natural form. • remove all sucker and epicormic growth as necessary. • tidy torn branch stubs. • undertake progressive crown-lifting to achieve 1/3 clear	Annually during years 1 to 5 between November and February.

SPECIFICATION	FREQUENCY & TIMINGS
stem to 2/3 canopy, up to a maximum clear stem of 3.0m height. Pruning works to be undertaken by an Arboricultural Association Approved Contractor in accordance with BS3998:2010 Tree work – recommendations. Arisings to be removed from Site or chipped and used for mulching within other landscape areas.	
Collect litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	Years 1 to 5 during each scheduled maintenance visit.

Success Indicators

Trees would show good growth structure and form with no evidence of disease or other impairment. In addition, evidence of invertebrates and nesting/foraging birds may be present.

5.1.1 Formal Hedge

Table 1: Mangement specifications for hedgerow planting

SPECIFICATION	FREQUENCY AND TIMINGS
Establishment (where applicable)	
Provide irrigation as needed to maintain healthy growth of all new tree planting.	During growing season in years 1 to 3 (minimum) and additionally as needed.
Adjust and replace all stakes, ties and tree guards to ensure healthy establishment of all new tree planting.	Years 1 and 2 during each scheduled maintenance visit as required.
Check trees for abrasions and chaffing with tree stakes, guards and ties. Loosen tree ties and as required. Trees found to be rubbing against each other should have their crossing over limbs removed to limit the possibility of disease in the future.	Years 3 to 5 during each scheduled maintenance visit as required.
Where trees have become sufficiently established, remove tree stakes and ties and dispose of off-site at a suitable recycling facility.	Annually during Years 3 to 5 in September/ October. (All remaining plant stakes and ties to be removed at year 5).
After initial planting dead wood, damaged branches and snags are to be removed and soil to be firmed around the base of the plants.	During year 1 after initial planting.
General Management	
Report presence invasive species or pests/diseases and seek further specialist advice to prevent spread and allow effective management and/or eradication.	During years 1 to 5 during each scheduled maintenance visit.

SPECIFICATION	FREQUENCY AND TIMINGS
Report sightings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA as necessary.	
Identify plants which are damaged/ failed to establish and investigate cause of damage/ failure.	Annually during years 1 to 5 at the end of each growing season.
Undertake replacement planting in accordance with original specifications (unless otherwise agreed). Note: Maintenance tasks for all new planting to be re-set to year 1.	Annually during 1 to 5 between October and March and during suitable weather / planting conditions.
Keep planting areas free of weeds, using hand weeding. Any perennial weeds shall be controlled by spot treatment using appropriate herbicide.	Biannually during years 1 to 5 in April/ May and July, or as required during each scheduled maintenance visit.
Hedgerow plants initially to have any long growth pruned back to encourage a dense formation of side branches.	Annually during years 1 to 3, depending on growth rates, between November and February.
Pruning by topping and siding to maintain the desired height and width.	Annually during years 4 to 5, depending on growth rates, between November and February.
Application / topping up of bark mulch at a depth of 50mm.	Annually during years 1 to 5 in March/ April and September, if required.
Provide irrigation as needed to maintain healthy growth of planting.	During growing season in years 1 to 3 (minimum) and additionally as needed.
Collect litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	Years 1 to 5 during each scheduled maintenance visit.

Success Indicators

Hedgerows shall have a full and thick appearance with no evidence of disease or other impairment.
Evidence of invertebrates and nesting/foraging birds may also be present.

Species Rich Flowering Lawn and Existing Grass area to be Improved

Mangament specifications for wildflower areas

SPECIFICATION	FREQUENCY AND TIMINGS
Establishment	

SPECIFICATION	FREQUENCY AND TIMINGS
Regular mowing to maintain a height of 50mm to reduce any annual weed competition and prevent seeding, push faster growing plants to become more robust and compact, and give smaller/ slower plants more light and space to grow.	Year 1 every 7 to 10 days, or as required to maintain sward height during the growing season, dependent on growth rates.
Carefully dig out or spot treat any residual perennial weeds.	Year 1 during each scheduled maintenance visit or as required.
General Management	
Report presence invasive species or pests/diseases and seek further specialist advice to prevent spread and allow effective management and/or eradication.	Years 1 to 5 during each scheduled maintenance visit.
Report sightings of invasive pests or diseases to overseeing authority e.g. FERA or DEFRA as necessary.	
Mow regularly as a lawn (25-40mm).	Annually during years 2 to 5 in March to April and October to March as required to maintain sward height.
To permit flowering mowing to be relaxed from May to September and cut every 4-8 weeks when the sward becomes untidy and any flower seeds have shed and been allowed to disperse in order maintain floral diversity.	Annually every 4 to 8 weeks during years 2-5.
A full cut shall be undertaken during each visit.	Years 1 to 5 during each scheduled maintenance visit.
Control scrub and pernicious/competitive weeds as required following the first year of management to maintain the diversity of the grassland. Should excessive weed growth continue treatment with selective herbicide in accordance with the manufacturer’s instructions may be required.	Years 2 to 5 in March/April and September/ October, or as required.
Application of fertiliser to be avoided.	N/A
Areas to be watered during the growing season until established. Supplementary watering may also be required in additional years during times of drought.	Years 2 to 5 during growing season and establishment period (minimum 18 months) and additionally as needed.
Grass is not to be mown in wet or frosty conditions.	N/A
Collect litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible).	Years 1 to 5 during each scheduled maintenance visit.

Success Indicators

The wildflower planting will appear ‘naturalised’ and provide wildlife value. A healthy grass sward will be created with a diverse number of wildflower species visible during the summer months. Evidence of invertebrates and foraging birds utilising this habitat may be present.

Bat Boxes

The following bat boxes are proposed to be provided as part of the Development:

- An integrated bat tube

Installation

The erection of bat boxes should be undertaken during winter months to allow weathering in prior to the active season.

The instructions for bat box instalment will be followed as provided by the product supplier. The CDM Regulations 2015 have been considered for the installation of the bat boxes as outlined in risk assessment in **Appendix B**.

General Siting Guidance

Boxes should:

- Be installed on a facing a south, south-eastern or south-western elevation adjacent to areas of boundary planting and minimal night lighting; and
- Be installed at least 3m above ground level to avoid vandalism and minimise disturbance.

Management Specifications

The bat boxes are maintenance free, however any damaged boxes should be repaired or replaced as necessary in their original positions and in the presence of a licenced ecologist.

Bird Boxes

The following bird boxes are currently proposed to be provided as part of the Development:

- A Vivara Pro woodcrete nest box

Installation

The erection of bird boxes should be undertaken during winter months to allow weathering in prior to the active season, therefore minimising impact on nesting birds.

The instructions for bird box instalment will be followed as provided by the product supplier. The CDM Regulations 2015 have been considered for the installation of the bird boxes as outlined in risk assessment in **Appendix B**.

General Siting Guidance

Boxes should:

- Be installed in shaded areas to avoid direct sunlight, wind and rain¹;
- Be installed at least 3m above ground level to avoid vandalism and minimise disturbance.

The boxes are to be installed on a building, incorporated into the wall

5.1.2 Management Specifications

Damaged boxes to be repaired or replaced as necessary in their original positions.
Should any boxes need to be replaced due to damage, this should be done by an appropriate individual in consultation with a suitably qualified ecologist

6 Roles and Responsibilities

Roles and responsibilities for implementation of those management and maintenance prescriptions detailed within this LHMP are set out within **Table 8** below:

Table 2: Role and responsibilities

	onsibility
Implementation of management and maintenance prescriptions.	Landscape Contractor.
General monitoring and Reporting.	Landscape Contractor
Ecological audit / habitat condition monitoring at end of year 5	Ecologist
Design of any required remediation measures (including different planting and/or management operations).	Agreed between Landscape Contractor and Ecologist.
Implementation of required remediation measures.	Landscape Contractor.

7 Monitoring and Remediation

8 Monitoring

Monitoring of habitats species at the Site shall be undertaken to ensure their continued value during the operation of the Development. At the end of year 5 an ecological audit of habitats shall be undertaken by a suitably qualified ecologist to ensure that those habitats which have been retained and created are meeting the post-intervention conditions set out within the Biodiversity Net Gain Assessment. Further monitoring shall be undertaken for at least a 30-year period, details of which will be set out within the HMMP.
In addition to the above, general monitoring of the condition of those areas of soft landscaping to be provided should be undertaken and recorded to ensure that the aims and objectives set out within this LHMP are being met.

The general condition monitoring should be undertaken in the form of an annual review. As part of the annual review a letter report should be produced. As a minimum, this should summarise those key management works which have been undertaken during that period, together with an assessment against those aims and objectives and management specification success indicators set out within this LHMP. Any observations with regard to general habitat condition, including deterioration and deviation from the aims and objectives and success indicators should be noted, together with any recommendations for any remedial measures if required. The landscape architect and ecologist should be notified of any recommended remedial measures so that these can be agreed and implemented at the earliest opportunity and ensure that targeted habitat conditions would still be met. Updates to this LHMP should also be made as necessary.

The general condition monitoring and reporting does not need to be undertaken by an ecologist, but by a competent person with sufficient authority and time on Site to influence activities that may affect biodiversity, as well as monitor the measures that have been put in place, such as the appointed Landscape Contractor or Biodiversity Champion.

To aid in monitoring and reporting a Site inspection form should also be completed following each maintenance visit. An example Site inspection form for use by the Landscape Contractor is provided in **Appendix D**.

9 Remediation

Specific remediation measures cannot be provided until the findings of on-going monitoring are reviewed.

However, following the above monitoring visits, should a review of their findings show that the conservation aims and objectives of this LHMP and targeted habitat conditions are not being met, remediation measures shall be set in place to overcome any such deviations, with updates to this LHMP made as necessary.

APPENDIX A -Annual Work Schedule

Manage ment Area	Specification and Timing	Frequency				
		1	2	3	4	5
Newly Planted Trees	Establishment					
	After initial planting dead wood, damaged branches and snags are to be removed and soil to be firmed around the base of the plants. After initial planting.	✓	-	-	-	-
	Provide irrigation as needed. During growing season in years 1 to 3 (minimum) and additionally as needed.	✓	✓	✓	-	-
	Adjust and replace all stakes, ties and tree guards. Years 1 and 2 during each scheduled maintenance visit as required.	✓	✓	-	-	-
	Check for abrasions and chaffing with tree stakes, guards and ties. Loosen tree ties and as required. Trees found to be rubbing against each other should have their crossing over limbs removed. During each scheduled maintenance visit as required.	-	-	-	✓	✓

Manage ment Area	Specification and Timing	Frequency				
		1	2	3	4	5
	Where trees have become sufficiently established, remove tree stakes and ties and dispose of off-site at a suitable recycling facility. September/October. (All remaining plant stakes and ties to be removed at year 5).	-	-	-	✓	✓
	General Management					
	Safety inspection (and dated record keeping) of all trees or woody vegetation within falling or failing distance of public footpaths, access tracks, property or on woodland boundaries. Annually and within 72 hours of high winds (with the potential to cause tree damage/failure).	✓	✓	✓	✓	✓
	Report presence invasive species or pests/diseases. During each scheduled maintenance visit as required.	✓	✓	✓	✓	✓
	Record and report presence of ill-health / stress. During each scheduled maintenance visit as required.	✓	✓	✓	✓	✓

Manage ment Area	Specification and Timing	Frequency				
		1	2	3	4	5
	Minimum 500mm diameter area around all new trees to be kept weed free by topping up of mulch and hand weeding. Biannually during years 1 to 5 in April/ May and July, or as required during each scheduled maintenance visit.	✓	✓	✓	✓	✓
	Re-firm plants affected by wind-rock, frost heave or snow. As required in February/ March.	✓	✓	✓	✓	✓
	Identify new trees which have failed to establish and cause of failure. Submit proposals to alleviate future planting failures. September / October.	✓	✓	✓	✓	✓
	Undertake replacement tree planting in accordance with original specifications (unless otherwise agreed). Note: Maintenance tasks for all new planting to be re-set to year 1 / establishment. October to March during suitable weather planting conditions.	✓	✓	✓	✓	✓

Manage ment Area	Specification and Timing	Frequency				
		1	2	3	4	5
	Undertake formative pruning (refer to Table 3). Arisings to be removed from Site or chipped and used for mulching within other landscape areas. November to February.	✓	✓	✓	✓	✓
	Collect litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible). During each scheduled maintenance visit.	✓	✓	✓	✓	✓
Formal Hedge	Establishment (where applicable)					
	After initial planting dead wood, damaged branches and snags are to be removed and soil to be firmed around the base of the plants. After initial planting.	✓	-	-	-	-
	Provide irrigation as needed. During growing season.	✓	✓	✓	✓ as required	✓ as required
	Adjust and replace all stakes, ties and guards. During each scheduled maintenance visit.	✓	✓	✓ as required	✓ as required	✓ as required

Manage ment Area	Specification and Timing	Frequency				
		1	2	3	4	5
	Check for abrasions and chaffing with stakes, guards and ties. Loosen ties and as required. Plants found to be rubbing against each other should have their crossing over limbs removed. During each scheduled maintenance visit.	-	-	-	✓	✓
	Where plants have become sufficiently established, remove stakes and ties and dispose of off-site at a suitable recycling facility. September/October. (All remaining stakes and ties to be removed at year 5).	-	-	-	✓	✓
	General Management					
	Report presence invasive species or pests/diseases. During each scheduled maintenance visit as required.	✓	✓	✓	✓	✓
	Identify new plants which have failed to establish and investigate cause of failure. Submit proposals to alleviate future planting failures. At the end of each growing season.	✓	✓	✓	✓	✓

Manage ment Area	Specification and Timing	Frequency				
		1	2	3	4	5
	Undertake replacement planting in accordance with original specifications (unless otherwise agreed). Note: Maintenance tasks for all new planting to be re-set to year 1. October to March and during suitable weather / planting conditions.	✓	✓	✓	✓	✓
	Keep planting areas free of weeds, using hand weeding. Any perennial weeds shall be controlled by spot treatment using appropriate herbicide. Biannually in April/ May and July, or as required during each scheduled maintenance visit.	✓	✓	✓	✓	✓
	Hedgerow plants initially to have any long growth pruned back to encourage a dense formation of side branches. November to February.	✓	✓	✓	-	-
	Pruning by topping and siding to maintain the desired height and width. November to February.	-	-	-	✓	✓
	Application / topping up of bark mulch at a depth of 50mm. March/ April and September, if required.	✓	✓	✓	✓	✓

Manage ment Area	Specification and Timing	Frequency				
		1	2	3	4	5
	Provide irrigation as needed. During growing season.	✓	✓	✓	✓ as req uire d	✓ as req uire d
	Collect litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible). During each scheduled maintenance visit.	✓	✓	✓	✓	✓
Species Rich Flowering Lawn and Existing Grass area to be Improved	Establishment					
	Regular mowing to maintain a height of 50mm. Every 7 to 10 days, or as required to maintain sward height during the growing season, dependent on growth rates.	✓	-	-	-	-
	Carefully dig out or spot treat any residual perennial weeds. During each scheduled maintenance visit.	✓	-	-	-	-
	General Management					
	Report presence invasive species or pests/diseases. During each scheduled maintenance visit as required.	✓	✓	✓	✓	✓
	Mow regularly as a lawn (25-40mm). March to April and October to March as required to maintain sward height.	-	✓	✓	✓	✓

Manage ment Area	Specification and Timing	Frequency				
		1	2	3	4	5
	Cut every 4-8 weeks when the sward becomes untidy and any flower seeds have shed and been allowed to disperse. May to September.	-	✓	✓	✓	✓
	A full cut shall be undertaken. During each scheduled maintenance visit.	✓	✓	✓	✓	✓
	Control scrub and pernicious/competitive weeds as required. March/April and September/October, or as required.	-	✓	✓	✓	✓
	Application of fertiliser to be avoided. N/A	✓	✓	✓	✓	✓
	Areas to be watered during the growing season until established. Supplementary watering may also be required in additional years during times of drought. During growing season.	✓	✓	✓ as required	✓ as required	✓ as required
	Grass is not to be mown in wet or frosty conditions. N/A.	✓	✓	✓	✓	✓
	Collect litter and foreign materials and dispose of off-site to a suitable recycling facility (where possible). During each scheduled maintenance visit.	✓	✓	✓	✓	✓

Management Area	Specification and Timing	Frequency				
		1	2	3	4	5
Bat Boxes	Replace if broken or damaged. Licenced ecologist must be present. November to February.	✓ as req uire d	✓ as req uire d	✓ as req uire d	✓ as req uire d	✓ as req uire d
Bird boxes	Clear out – annually remove old nests and wash with soapy water. Novem ber to Februa ry.	✓	✓	✓	✓	✓
	Replace if broken or damaged. November to February.	✓ as req uire d	✓ as req uire d	✓ as req uire d	✓ as req uire d	✓ as req uire d