



ALDER ECOLOGY UK LTD

Working for the Client - Working with Wildlife

Dragon Park, Merthyr Tydfil, CF48 1YT Ecological Management Plan (as part of LEMP)

Roger Martindale BA (Hons), MSc, CEnv, MIEEM

Chartered Environmentalist

10th April 2025



Registered Company address:

Alder Ecology UK Ltd, 22, Millards Close, Hilperton Marsh, Trowbridge, Wiltshire BA14 7UN

Tel: 01225 765604 Mob: 07533 273939 e-mail: rmartindale@btinternet.com

Company registration number 6852967

Contents

1	INTRODUCTION.....	4
2	BACKGROUND.....	7
3	PRIMARY PURPOSE OF THE MANAGEMENT PLAN	7
4	PLAN FORMAT AND ORGANISATION.....	8
5	DESCRIPTION.....	9
6	LOCATION	9
7	BIOLOGICAL INFORMATION	10
8	CONSERVATION STATUS OF THE SITE.....	12
9	EVALUATION AND IDENTIFICATION OF IMPORTANT ECOLOGICAL FEATURES.....	14
10	THE SITE IN A WIDER PERSPECTIVE AND THE IMPLICATIONS OF THIS MANAGEMENT	15
11	THE SITE IN A WIDER PERSPECTIVE AND THE IMPLICATIONS OF THIS MANAGEMENT	17
12	OBJECTIVES, CONDITION AND ACTION PLANS	22
13	GRASSLAND TRANSLOCATION METHODOLOGY	24
14	REPTILE MITIGATION STRATEGY	27
15	HEDGEROWS.....	30
16	WOODLAND.....	33
17	EPHEMERAL/INTERMITTENT/PERMANENT WATERBODIES.....	36
18	WILDFLOWER MEADOW GRASSLAND	39
19	MARSHY/NEUTRAL GRASSLAND	42
20	ORNAMENTAL AND AMENITY PLANTING.....	45
21	SITE TREES AND ORCHARD TREES	47
22	BATS.....	49



23	BIRD ASSEMBLAGE	52
24	REPTILES.....	55
25	AMPHIBIANS	57
26	OTTERS	59
27	HEDGEHOG	61
28	SUMMARY OF MANAGEMENT TIMINGS AND RESPONSIBILITIES.....	63
29	ANNUAL REVIEW AND ANNUAL REPORT.....	64
30	APPENDIX 1 BIRD, BAT & HEDGEHOG BOXES.....	65
31	APPENDIX 2 BAT BIRD AND HEDGEHOG BOXES	66

1 Introduction

The site Dragon Parc is located at Graig Road, Troed-y-rhiw, Abercanaid, Merthyr Tydfil CF48 1YT and is centred on National Grid reference SO054042 (What3words fever.onions.advice). The site is a former industrial site which has undergone demolition leaving building rubble and access roads with a grassed swale and vegetated boundary on the west side. The site runs parallel to the River Taff on the east boundary and the river sits over 10m below the height of the site and has a mixture of native and non native species along the bankside.

The site has been subject to a number of ecological surveys over the past 5 years during different stages of the site and the site has continued to remain ecologically poor in terms of habitats and species composition.

A Preliminary Ecological Appraisal (PEA) survey was previously undertaken of the site in 2019 and 2020 by Ecological Services Ltd and a NVC, reptile and bat surveys by Ecological Services Ltd during 2022 which recorded no reptile species using the site, a total of 7 bat species have been recorded associated with the site. The NVC survey found M23b Rush pasture and M22 Fen meadow habitat which were considered good quality habitats although they did not quite fit the criteria for each category but closely matched.

Condition 6 Planning permission P/23/0053

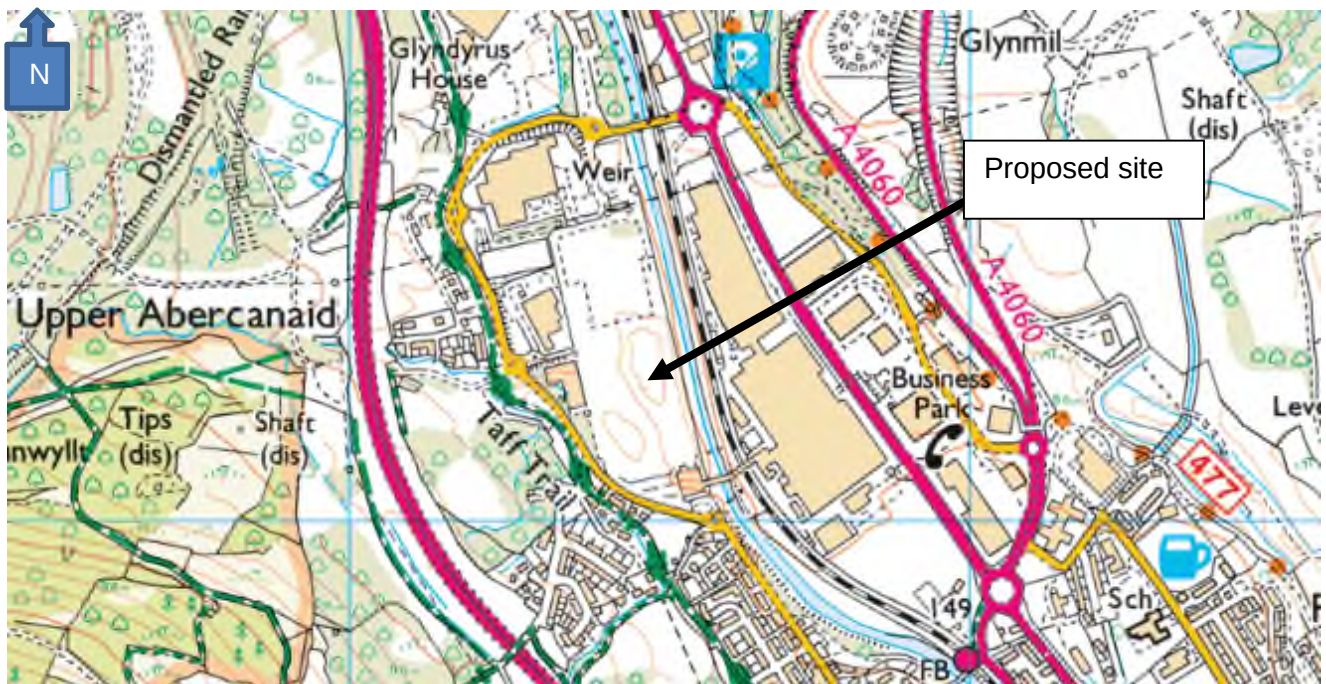
Prior to the commencement of development of any dwelling, a detailed 25 year Landscape and Ecological Management Plan (LEMP), including management responsibilities and maintenance schedules for all landscaped and habitat areas shall be submitted to and approved in writing by the local planning authority. The LEMP must include:

- Details for the protection, management and enhancement of all retained, translocated and existing onsite habitat, including, but not limited to habitat along the riparian corridor, marshy grassland and pond habitat.
- Maintenance and enhancement of biodiversity needs to be demonstrated in a quantitative way.
- Details (including specifications and positions) of 'integrated' bat and bird boxes in the proposed new housing stock. All relevant site plans and elevations will include the positions of the boxes. A range of sizes and types will be installed, for different types of bat roosts (e.g., winter hibernation, summer maternity) and for a range of bird species (e.g., starlings, house sparrows, swifts).
- A reptile mitigation strategy for site clearance of suitable habitat will be required to include enhancement measures suitable for reptiles. Reptile enhancement measures will be marked on all relevant site plans.

The LEMP shall be carried out as approved.



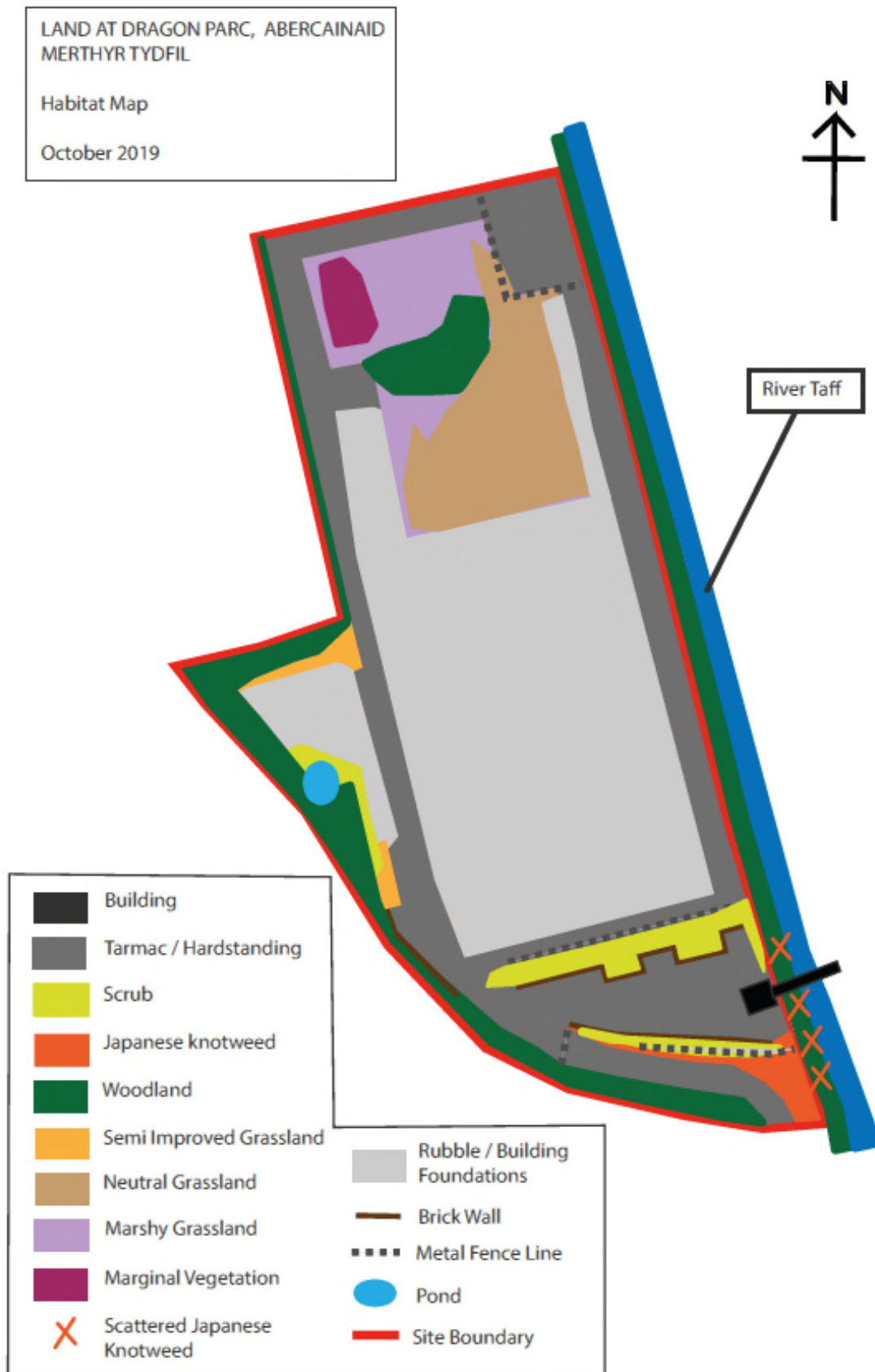
Site location not to scale



Map 1 Showing site location on the outskirts of Merthyr Tydfil



Aerial 1 Showing the approximate survey site and site of approved development.



Map 2 Showing red line boundary around the site and previously recorded habitats By Ecological Services Ltd

2 Background

The plan is for a period of 25 years, during which time it will be regularly reviewed and updated where appropriate.

The plan is organised into sections which deal with:

- Descriptive information about the site
- The value of the ecological features on the site
- Major factors influencing the ecological features on the site
- The objectives for the important ecological features
- An action plan for the important ecological features

Management principles and practices

All the land comprising the existing site is considered within the plan and it incorporates any new features. All work carried out will be based on recognised ecological practices within the overall aim of maintaining an environment that is in keeping with the local landscape.

3 Primary Purpose of the Management Plan

The primary purpose of the management plan is to provide habitats for local wildlife and to provide links to, from and through the site to the wider landscape. The plan is designed to complement the consented residential housing scheme while at the same time ensuring wildlife is able to locally persist in conjunction with the development.

4 Plan format and organisation

The format of the management plan document follows the standard sections which have been adopted in many planning systems throughout the UK and other countries.

The document is organized into 4 sections:

Section 1 is a descriptive account of the habitats and species of the established and proposed areas of the site.

Section 2 is a consideration of the value of the ecological features on the established and newly-developed areas of the site.

Section 3 is a consideration of the constraints to management of the important ecological features.

Section 4 is a statement of the objectives of the management as regards the important ecological features and an action plan for management of the important ecological features. The action plan addresses the constraints listed in section 3 and lists the management required to conserve the important ecological features.

An explanatory sheet precedes each section of the plan, with information about the rationale for that section of the plan.

5 Description

The rationale behind this part of the plan

This part of the management plan is a collation of existing relevant information about the site. The description helps to put the site into context; without this type of general background information, it would be very difficult to make management decisions. The description also provides a definitive statement against which future management, and its effectiveness, can be measured.

6 Location

The site is a former industrial site which has undergone demolition leaving building rubble and access roads with a grassed swale and vegetated boundary on the west side. The site runs parallel to the River Taff on the east boundary and the river sits over 10m below the height of the site and has a mixture of native and non native species along the bankside. The semi natural parts of the site are isolated within the landscape for all but mobile species of animal. The site covers a total area of 8.116 hectares (20.055 acres).

Tenure

The land is owned by Davies Homes Group but part was previously subject to separate commercial tenancies.

General information

A map showing the location of the site is included is shown in Map1 and aerial 1 above.

7 Biological information

Habitats of the existing site

The following habitats were recorded during the Phase 1 habitat survey in 2019/2020.

Habitat descriptions

The following habitats were recorded across the site see map 2:

- Buildings
- Hard standing
- Scrub
-
- Woodland
- Semi-improved grassland
- Neutral grassland
- Marshy grassland
- Marginal vegetation
- Pond
- Rubble
- Walls/fences

The site according to the original survey also contained one species of alien invasive plant as listed on schedule 9 of the Wildlife and Countryside Act 1981, Japanese knotweed in the south of the site on the banks of the River Taff. Another species *Cotoneaster bullatus* was subsequently recorded on site on the boundary with the River Taff..

Habitats of the Developed site

The following habitats will be found on the developed site

- Buildings
- Walls/fences/boundary features
- Hard standing (roads and pathways)
- Amenity grassland
- Scattered trees
- Woodland
- Hedgerow
- Marshy grassland
- Neutral grassland



- Standing open water
- Dry ditch/swale
- Riparian corridor
- Orchard tree
- Garden hedges

8 Conservation status of the site

The site does lie within to a recognised wildlife corridor river and woodland, which links the site to habitats in the wider landscape. The red line site is not covered by any designations affecting the ecological or conservation status.

It is anticipated that the new site will add to a greater mosaic of similar habitats in a local context and therefore will be a valuable biodiversity resource within the local area. The site will have greater linkage north/south and east/west than was previously the case.

Statutory Sites

No statutory protected sites lie within or directly adjacent to the proposed development site. A single statutory protected site is within the search area returned by the data search. The Cwm Glo A Glyndyrys Site of Special Scientific Interest (SSSI) is located approximately 1km from the proposed development site.

Non-Statutory Protected Sites

The proposed development site lies adjacent to the River Taff Site of Importance for Nature Conservation (SINC). The data search has returned a number of other SINC sites within 2km of the proposed development site. The next closest site is the Rhyddcar West SINC which is approximately 500m to the west. The remaining SINC sites are:

- Abercanaid Fields
- Glynmil
- Pentrebach Fields

There are no other non-statutory designated sites within 2km of the proposed development site.

Two habitats which qualify as section 7 habitat under the Environment (Wales) Act 2016 and a UK Biodiversity Action Plan habitat were found within the site boundary. An area of marshy grassland to the north of the site and a small pond along the western edge of the site. The location of both habitats are shown on the habitat map

Protected and Notable Species Records

A data search was undertaken via SEWBRcC for the proposed development site and surrounding area. A 2km buffer zone was searched and records returned within 500m of site are noted below:

- Records for the presence of Goshawk- approximately 150m away,
- Records for commuting/foraging common and soprano pipistrelle - 160m away,
- Records for the presence of otter- approximately 380m away,
- Records for the presence of grass snake- approximately 400m away,
- Records for commuting/foraging noctule bat - approximately 430m away,
- Bird assemblage including - dunnock, house sparrow, bullfinch, song thrush

Records of note returned for the rest of the buffer zone are detailed below:

- Common pipistrelle bat roost in residential property,
- Commuting / foraging calls of brown long eared, common and soprano pipistrelle bat calls,
- Hedgehog,
- Polecat,
- Curlew,
- Great Crested Newt,
- Barn Owl,

9 Evaluation and identification of important ecological features

This part of the management plan provides a list of the most important aspects of the site (referred to in the plan as 'ecological features'). The most important ecological features identified at this stage will form the focus of the rest of the plan. In simple terms, if something is identified as important in this part of the plan, efforts will be made to ensure its conservation. All the important ecological features appear in the next section of the plan, where they will have an objective and a list of actions which are needed to ensure their conservation.

When carrying out an ecological evaluation, specific criteria are used to help in the decision-making process. If a feature fulfils or contributes to one or more criteria, then it qualifies as an important feature.

Important ecological features are prioritised in section 4 of the plan, in order to ensure that the most important features receive the most efforts to ensure their conservation. Prioritisation is essential, as there are often insufficient resources for all conservation works; if this is the case, prioritisation will enable at least some actions to be taken for some of the important features.

Table 1 Identification/ confirmation of important features

Site features	Importance		
	National	Regional	Local
Habitats			
Mixed native species Hedgerows	High	Moderate	High
Deciduous Woodland	High	Moderate	High
Ephemeral/intermittent waterbody & Pond	High	Moderate	Moderate
Wildflower meadow grassland	Moderate	Moderate	Moderate
Marshy/neutral grassland	High	High	High
Species			
Bats	High	High	High
Bird assemblage	Average	Average	High
Reptiles	High	High	High
Amphibians	High	Moderate	Moderate
Otters	High	High	High
Hedgehog	High	Moderate	Moderate

10 The site in a wider perspective and the implications of this management

The wider perspective

Although the site will change significantly from agricultural use to residential housing the conservation value of the site will be broadly similar and if the management of the site is successful and the current baseline could see and increase in local opportunities for wildlife through better through site connectivity. The developed site has the potential to continue to hold species identified as being locally significant.

The implications for management

The significance and value of the site supporting semi-natural habitats must be clearly understood by all those involved in biodiversity conservation. On a local scale, the site forms an integral part of the biodiversity resource of the area and its management should contribute positively to future biodiversity conservation.

The site although it will be primarily managed as a residential housing site, will continue to support representative habitats of woodland, ephemeral/intermittent and permanent waterbodies, grassland, trees and hedges. The site will also act as a useful comparison to other sites that are subject to a wider range of natural and human influences.

The site management must keep abreast of biodiversity conservation issues, and seek opportunities to contribute to both a local and regional perspective about wildlife management urban fringe sites such as this. With this modern approach to conservation management planning, the management will provide a model for nature conservation on other similar sites.

Evaluation criteria

It is important to establish the value of the various ecological elements of the site, so that decisions can be made about what to conserve. This stage of management planning usually relies on a rather subjective approach to attaching value to a site, habitat or species. Rather than trying to clarify the value of the site using criteria such as size, diversity, naturalness and so on, which appear in many management plans, this section follows a different approach. In this plan, the criteria used to make value judgements are based on legislative requirements and commitments through the planning system i.e. those factors which compel land managers to comply.

Habitats of Principal Importance Environment (Wales) Act 2016 section 7 that occur on the site are as follows:

- Boundary and linear features – Hedgerows
- Standing open water –Ponds
- Calcareous grassland
- Neutral grassland
- River (outside site boundary)

Species of Principal Importance Environment (Wales) Act 2016 section 7 that have potential to occur on the site or use the site are as follows:

- Noctule bat
- Soprano pipistrelle
- Common pipistrelle
- Lesser horseshoe bat
- Brown long eared bat
- Common toad
- Reed bunting
- House sparrow
- Tree sparrow
- Starling
- Bullfinch
- Hedgehog
- Otter
- Slow worm

11 The site in a wider perspective and the implications of this management

The rationale behind this part of the plan

The function of this section is to identify all the significant factors, trends and constraints that influence, or may influence, the site and the important ecological features. Generally, these influences that act on the site are referred to as factors. The identification of factors is particularly important, as these will be the focus for much of the management at the site and therefore they have a direct relationship to the resources required. Much of the information in the action plan in section 4 is concerned with management of the factors.

Both negative and positive factors are considered in this part of the management plan, as both will have implications for management.

In section 4 of the plan, these factors will be used to develop an action plan to manage those factors that give cause for concern.

Management of the site for conservation

The primary use of the site will be residential housing. The objectives of the site managers are to:

- 1 Promote biodiversity
- 2 Provide suitable habitats for biodiversity

To be successful in maintaining wildlife interest within the site, it is vital that site managers are aware of the importance of the site for nature conservation. It is also essential that the selected management approach (as outlined in this management scheme) is communicated to all those working at the site.

Use and management of the site is expected to have a number of influences on local wildlife:

Bird species – As the site is managed the bird species will have the potential to develop and expand in number and diversity.

Bats – as the site is managed the bat species will have the potential to develop and use the site more frequently for foraging. In the long term the overall biomass of insects and foraging opportunities will be increased as the diversity of plants increases.

Otter - as otter use the local area currently they have the potential to use the site in the future with management taking account of their presence.

Amphibians – as the site becomes more established species will have the opportunity to use the site for foraging and permanent occupation.

Slow worm- reptile species were surveyed and found to be absent from the site but as the site matures more species especially slow have the opportunity to persist and thrive on site and are often closely associated with residential gardens and connecting habitat.

Hedgehog – hedgehog are recorded locally within 2km of the site and as the site habitat matures will have the opportunity to more frequently use the site for foraging and breeding.

Implications for site managers

Management of semi-natural habitats must be undertaken if the special character of these habitats is to be restored, maintained and enhanced.

The arrangement of semi natural vegetation, the maintenance of hedgerows needs careful management on the established and newly-developed areas of the site.

The management plan is to support and enable the effective management of the important ecological features.

Areas of semi-natural habitats need to be kept free from disturbance, especially during the bird nesting season and those times when they are most likely to be active.

Management responsibilities

The day to day management of the site will be the responsibility the site managers and local authority who will adopt part of the site as Public Open Space. It will be the responsibility of the LPA to implement the prescriptions within the habitat management plan and landscape management plan.

Monitoring and assessment responsibilities

The monitoring and assessment of success or failure of the habitat management scheme will be the responsibility of the site managers and LPA through compliance checking.

Implementation of planting

The planting within a phase will be delivered no later than in the first planting season following the completion of the relevant phase. Planting seasons are broadly October to March inclusive within any one year. This will be dependent on favourable weather conditions such as frost free days, drought and flood free days. All planting will be followed by monitoring and aftercare as described within the plan.

The planting to the boundaries will go in early and a commitment to deliver the planting in the relevant season, if work starts post March planting will then commence in Autumn/winter the next available planting season.

Street trees will go in at the same time as general planting within a phase, with the exception of the trees in phase 1 which will go in as soon as practical upon construction of the main

road.

Implications for management

It is essential to avoid actions which could kill or injure any wild bird or damage or destroy its nest, whilst the nest is in use or a nesting attempt is being made, or destroy its eggs. If possible, works should be timed so as to avoid the main nesting season (March to August) in areas particularly sensitive to bird species.

Habitat Management prescriptions are iterative based on the favourable or otherwise condition of the habitats. As detailed in table '**Summary of management timings and responsibilities**' below, timings are provided for general habitat management prescriptions but detailed works will ultimately depend on the condition of the habitat as explained throughout the plan.

Other man-made factors

Legislation

There is an obligation to comply with the following legislation when undertaking the conservation management:

- The Conservation of Wild Birds Directive 1979
- Wildlife and Countryside Act 1981 (& 1985 amendment)
- Protection of Badgers act 1992
- The Conservation (Natural Habitats, &c.) Directive 1992
- The Hedgerow Regulations 1997
- Countryside and Rights of Way Act 2000
- Natural Environmental and Rural Communities Act 2006
- Environmental Liability Directive (Environmental Damage Regulations 2008)
- The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019
- Environment (Wales) Act 2016

Table 2 Summary of factors affecting important ecological features

Positive factors	Negative factors
Ecologist - expertise and interest in habitat management	Little recent ecological guidance - over the past years as site was vacant
Areas of semi natural vegetation - areas of diverse habitats are present on site	Lack of conservation management – some habitats have been left to degrade in terms of diversity of plants and animals over recent years.
Presence of species – diverse range of species, including a range of protected species are potentially using the site	Alien plants – two species of alien plant have been recorded on site Japanese knotweed and cotoneaster bullatus (Hollyberry)
Isolated site – lack of disturbance due to isolation of site and security	Disturbance to nesting birds – has potential to occur on the newly-managed area
Retention of features -species are being retained on site alongside operations	Degradation of features - particularly during the construction period of the scheme.
Succession of vegetation – growth of desirable vegetation in new areas.	Succession of vegetation – spread of invasive species and woody vegetation in grassland areas.
Connectivity – scheme designed to provide through site connectivity, better in the longer term.	Unauthorised lighting - may cause fragmented habitats
Commitment to environmental issues - Allocated and designated wildlife areas.	Disturbance – uncontrolled disturbance of habitats

12 Objectives, condition and action plans

The rationale behind this part of the plan

During the works programme Davies Homes is responsible for protection and maintenance of habitats on site. Then Davies Homes and the LPA will then take joint responsibility and a commitment to providing habitats of similar if not equal quality on site upon completion of the works. However, this is a long-term undertaking, which will realistically only be achieved by careful, sensitive management over an extended period (25 years). To enable this management to be efficient and effective, it is essential to set some realistic goals; these are referred to in management plans as objectives.

Modern management plans have one objective for each important conservation feature, for example:

To maintain the grassland in favourable condition

For simplicity and ease of expression, if this habitat were not in favourable condition, the objective would still read:

To maintain the grassland in favourable condition

This is because the word **maintain**, when used in modern objectives, implies **restoration** if the feature is not currently in favourable condition.

Each objective is made up of a number of targets to be achieved, for grassland this could read:

There is no decrease in the overall extent of this habitat.

There is continued presence of the habitat at all sites shown on the habitat map.

The habitat is composed mainly of grassland communities typical of this site.

The timescale for achievement of each objective will depend upon the condition of the habitat, staff commitments and funding availability. It is, however, essential that a commitment is made so that work programmes can be progressed and effective results achieved.

Each conservation objective outlines what are considered to be the essential minimum attributes of the habitat. For example, in grasslands, it is felt that a range of characteristic plants are an indication of the health of the habitat, as well as having value themselves. Therefore, in grasslands where there are a range of characteristic plants, the plan should strive to maintain them. Similarly, without the removal of woody species, grassland will eventually cease to support characteristic desirable species; therefore control of tree and shrub species in grassland areas is crucial.

Using the objectives, an annual progress check can be carried out, and future work can be planned accordingly. By giving measurable targets, the success of work carried out and the effectiveness of any expenditure can be clearly measured - this is clearly very advantageous for resource management.

13 Grassland translocation methodology

It is recommended that turfs approximately 1 m² by approx. 30cm deep from the existing site are carefully translocated onto the receptor site in early spring i.e. late February / early March so as to give them the best chance of successful translocation. Each turf will need to be placed as close as possible to the adjoining turfs so that there are no gaps that would allow the soils beneath the roots to dry out.

Monitoring will need to be carried out and in the event that the spring is particularly dry watering will be required at appropriate intervals until it is obvious that the translocated turfs have successfully established in their new location.

In the event that areas of the translocated turf do not thrive it will be necessary to re-sow using the seed that had been previously collected from the roadside verges and continue to water at appropriate intervals if sown in a particularly dry period.

Preparation

Some thought is required for temporary storage of stockpiles in the process. An ecological clerk of works may be required to oversee the translocation process.

Timing

The timing is critical for the success of the translocation. Defining a month to undertake the work is problematic due to changes in the weather. However the critical point is that it needs to be undertaken in warm conditions and just prior to wet weather. If rain is not forecast then artificial watering of the receptor site will be required.

Grassland is best translocated in the early autumn when the soils are warm and moist and new root growth is possible prior to winter. An autumn translocation will offer the greatest chance of success. Translocation in early spring is also possible, however there is a greater risk of failure as the roots may not develop sufficiently before the dry summer season.

It is essential that the receptor site is prepared in advance of translocation. Ideally 30/40cm of top soil needs to be scraped off of the receptor site, although where the topsoil is of less depth than this the translocation of the full depth of topsoil is recommended. This is the best way to ensure reduced phosphorous levels in the receptor site.

Ideally, the remaining soil within the receptor site should be lightly cultivated prior to translocation. Cultivation should be followed by rolling to create a fine ridged surface. The soil of the receptor site will then be loose and scarified.

Preparation of donor site

Transplantation of turves must occur immediately after harvesting as the turves cannot be stored once cut. At the receptor site turves should be placed tight up against each other and then pressed down with the excavator bucket, trodden or rolled to remove air pockets between and under turves which if left can result in the root systems drying out. Any cracks and gaps between turves must be filled immediately with soil from the donor site.

For small areas of grassland in the donor area movement can be completed by hand using a shovel, or by using an excavator. Using machinery with low ground pressure tyres or tracked machinery is also recommended as this will help avoid soil compaction

Considerations for site work

- As part of the normal site induction process the ecological protection measures will be outlined to site operatives and any restrictions to operations will be fully conveyed.
- All grassland to be retained on site prior to works and pre works will be subject to a detailed site inspection by a suitably qualified ecologist to check for occupation by animal species and then the area marked out with red and white 'candy' tape and canes.
- Fences (Herras) will be erected supported by fence posts with a minimum standoff distance of 2m from the grassland areas. The positions designated for the fencing will be indicated by an ecologist and checked by an ecologist on completion of installation.
- Robust fencing (e.g. Herras) with warning signs on it with suitable wording to prevent access by unauthorized site operatives will be used to demarcate both the donor and receptor areas.
- Any deterioration of the fence line or removal will be immediately repaired or replaced to ensure the area remains fully protected.
- No site personnel will be permitted inside the erected fence line without prior consultation with the ecologist and/or site manager.
- No materials to be stored either permanently or temporarily inside the fence line unless associated with wildlife enhancement or monitoring purposes.
- Any works undertaken within the erected fence line by site personal will only be permitted after consultation with the ecologist.
- Any work to the grassland areas such as trimming will take place between October and March. This therefore minimises the risk of occupation by wildlife and seeks to miss the active part of the growing season.
- Translocation of ground flora on site will be undertaken during October to March as described above.

- Translocation operations on site of any ground flora will only be undertaken under the supervision of a qualified ecologist experienced in such actions. The receptor site will be first made ready to receive the translocated materials from the donor site. This will involve cutting the ground to a minimum depth of 30cm and maximum depth of 40cm.
- The translocation should ideally be completed using 360 degree tracked excavator with a large bucket where possible as this maximises the length, width and thickness of turves so that disruption to the vegetation is minimised and the materials will be immediately moved via the excavator to the new location taking care to place the material in the same orientation and aspect as it was cut. The ecologist will hand finish the translocation and will firm the material in on site.
- No translocation operations will be undertaken in period of hard frost and no previously excavated ground will be exposed to frost overnight. Once completed the translocated area will be allowed to rest for a minimum period of one week before any planting of locally native vegetation takes place if required.
- The receptor site will have fenced areas and will have clear signage clearly stating the reason for exclusion and contact details of the person(s) responsible to contact in the event of emergency or for permitted access or advice.
- The ecologist will make regular site checks throughout the duration of the project to ensure the protection plan is been adhered to in full. This will in the first instance be monthly but may need to be more or less frequent depending on the scope of the operations.
- Upon completion of the works the fencing and associated materials will be removed under ecological supervision.
- Any grassland cuttings (arising) will be removed from the donor and receptor areas on an ongoing basis to prevent the accumulation of nutrients and shading of vegetation.
- For ongoing maintenance regime for the translocated grassland see table below
- No additional use of topsoil will be permitted, and the use of herbicides and fertilizers will not be required on site.
- A monitoring programme of visits to assess the quality of the grassland will be undertaken after 1, 3 and 5 years and then reviewed.

14 Reptile mitigation strategy

No reptiles have been recorded on site during site surveys in 2022 but in order to avoid reptile species constraints it was considered that with the use of method for site clearance and a 'safe zone' for reptiles while also undertaking a thorough hand search of the area and removal of refugia it would be possible to satisfactorily survey the area for reptiles and remove any captured animals away from the active site prior to site works. Using the following approach:

1. In order to further facilitate this process the 'safe zone' will contain artificial refugia (for reptiles) that will remain in situ once the site is active so any animals captured during this first part of the process will have a stable area away from further disturbance and long term security.
2. A buffer zone will be created in the grassland in the west of the site of a width of approximately 5m and will be delineated from the active site by heras/netlon or similar fencing to prevent the entering of the area by site operatives and prevent the storage of materials and machinery in this area.
3. The buffer zone will contain heat traps for reptiles (felts and tins) to encourage any reptiles on site away from the active zone. Any reptiles found under the heat traps will be removed by an ecologist and placed inside the 'safe zone' this procedure will be undertaken regularly (fortnightly) throughout the duration of the project during the active season spring summer and early autumn.

Method Statement – Reptile mitigation

No reptiles have so far been recorded on site. However, reptiles (slow worms, common lizard, adder and grass snake) have been recorded within 2km in close proximity to the site referred to in this document and therefore they may be present. This site is within 500m of the closet site with recorded reptiles and the site conditions are similar. Work in areas assessed as suitable for reptiles will be under the supervision of an ecologist or first checked and cleared for work by an ecologist.

It is recommended the follow methods are employed on site:

- Prior to site stripping/demolition, a finger-tip search for reptiles (and other vulnerable fauna) will be made of the site. Specific attention will be paid to potential refugia, which will be turned over and checked prior to removal from site such as logs, rubble and/or fly tipped material.
- Coarse grass cutting/mowing should be ideally be undertaken either between January

and March on cold overcast days when reptiles

if present will be below ground and less likely to be harmed.

- If work is undertaken at other times of year vegetation should be cleared progressively using hand tools to provide reptiles with an opportunity to move out of the impact area. Areas of tall grassland should be strimmed, and scrub cut down to ground level and removed. All material should be cut by hand in the first instance.
- If reptiles are found during the clearance operations they should be moved to adjacent areas of suitable habitat that are not affected by development eg The 'safe zone' as indicated.
- If work is undertaken during the winter months, be aware that reptiles may be present below ground in mammal burrows or man-made structures and beneath other refuges and these will be checked by an ecologist before removal.
- The use of insecticides/herbicides in areas where reptiles may be present is not permitted and only targeted spot treatment should take place if required and after consultation with the retained ecologist.
- Particular care will be taken with the removal of larger root systems, tree boles and wall bases, which could support sheltering reptiles (and other fauna). These features will be carefully raised by a mini-digger operated under close control and the exposed area checked by the ecologist before these features are removed.
- Once the area has been inspected, potential reptile habitats will be scraped into a pile (for removal off site) by a mini digger with bucket (500mm). The on- site ecologist will directly supervise the removal of this material and check for reptiles (or other vulnerable fauna) during the process.
- A buffer zone of 5m will be maintained at the west and south boundary as a means of escape for onsite reptiles. The area will contain reptile heat traps and any reptiles recorded in this area will be removed to the 'safe zone' by the ecologist.
- To prevent reptiles and other vertebrate fauna returning to the cleared areas they will then be maintained as bare earth with the exception of the buffer zone. Dependent on the time period between clearance and construction commencing on site, additional scraping of soil/vegetation may be required to maintain this 'scorched earth' policy of the active site.
- All reptiles caught during site clearance will be relocated to a reptile fenced holding facility ('safe zone') within the western part of the site. They will then be able to occupy the reinstated green space. This will accordingly reduce the potential for accidental killing and/or injury of reptiles.
- Should reptiles be recorded local residents will be made aware of the local presence and species and be given information as the ways in which they can help preserve reptiles and the benefits

they bring to residential gardens.

- To mitigate for last minute discoveries, the site manager and construction staff will hold the contact details for Alder Ecology UK Ltd. Advice can then be given over the phone or site visits made, if required.
- Should any reptiles be found once construction has started on the site contact will be made immediately with the on-call ecologists. The reptiles will then be collected by hand and relocated to the west of the site. Any caught reptiles will be transported to the receptor site in a plastic bucket. They will be in the bucket for a maximum of two hours (if required) before being released.

15 Hedgerows

Objective 1 - to maintain the hedgerows in favourable condition

Favourable condition is achieved when the following criteria have been met:

1. There is no decrease in extent or connectivity of hedges as shown on the landscape plan as approved.
2. Vegetation cover (herbaceous) is allowed to grow unhindered along the base of the hedges.
3. Dead wood is allowed to accumulate where it does not provide a fire risk or any other safety hazard.
4. All planting material is of locally native stock and of local provenance where possible.
5. Newly established hedges are planted using mixed species locally occurring and at a ratio of 2:2:1 (5 plants per metre) (hawthorn/hazel/dogwood/holly/honeysuckle, dog rose and guelder rose)
6. Newly planted hedges would be pit planted between March/April and September/October excluding periods of frost in double rows caned and guarded and 5 plants per metre using the ratio above
7. Aftercare arrangements for newly planted or gapped hedges would include mulching weed removal and trimming. Removal of non-established plants by 'beating up'.
8. Undesirable species (e.g. non-native plants) are rare to absent.
9. Maintenance of ditch adjacent to the boundary hedgerow

Action plan

Area to be addressed	Action required	Timing - month	Years active	by whom
Recording				
Monitoring habitat condition	Monitor against the objective = condition assessment	Annually May – Oct	All	eco
Management				
To be identified by habitat condition assessment	Use results of monitoring to identify management required	May – Oct	Year 2	eco



Administration				
Comply with requirements of planning permission:	Habitat survey if/when required Protected species surveys: Bats Birds Reptiles Amphibians	Prior to removal of materials from site of the hedgerow habitat	All	sm &eco

Area to be addressed	Action required	Timing - month	Years active	by whom
Administration				
Address health and safety concerns	All persons working on the site to be trained to an acceptable level of competence and workers comply with all relevant procedures.	Any month	All	sm
Presence of protected species in hedgerows e.g. bats, reptiles, amphibians, nesting birds and plants	If species are found or suspected, assess likely management impact and apply for licences if required.	Any month	All	eco
Need for reasonable precautions in all activities that may affect protected species	Production of ecological method statement Full ecological briefing for all staff and contractors	Any month	All	eco
Need to maintain good relationships with all neighbours, local organisations and interest groups	Seek opportunities to interact with neighbours, local organisations and interest groups.	Any month	All	sm

Comply with requirements of planning permission:	Annual review meeting and annual update	December	All	sm/eco
Comply with requirements of planning permission:	Review management annually Plan management annually	December	All	sm & eco

sm = site manager/owner

eco= ecologist

16 Woodland

Objective 2 – to maintain woodland in favourable condition

Favourable condition is achieved when the following criteria have been met:

1. There is continued presence of lowland broadleaved woodland and scrub cover on site shown on the landscape maps.
2. An understorey is present over at least 20% of the woodland unit to include *Ilex aquifolium* and *Corylus avellana*.
3. Ground flora is present over at least 20% of the woodland unit to include recognised woodland ground flora wood avens, lords and ladies, dogs' mercury, enchanters' nightshade, ramsons.
4. There is a canopy cover over 50-70% of the woodland unit.
5. Dead wood is allowed to accumulate where it does not present a fire risk or any other safety hazard.
6. All supplementary planting material is of locally native stock and of local provenance where possible.
7. At least 90% of cover in every layer of vegetation is of locally-native or acceptable naturalised species for newly planted species.
8. No alien species of plant (as listed in schedule 9 of the Wildlife and Countryside Act 1981 based on 2010 list) within the habitat area.

Action plan

Area to be addressed	Action required	Timing - month	Years active	By whom
Recording				
Monitoring habitat condition	Monitor against the objective = condition assessment	Annually May – July	All	eco
Lack of detailed information about the habitat	Undertake detailed habitat survey of the woodland prior to works	May – July	Year 1	eco
Comply with	Survey and removal plan prior	Any month	All	sm/eco

requirements of planning permission: Planning condition 15	to any felling	prior to felling		
Management				
To be identified by habitat condition assessment	Use results of monitoring to identify management required	May – July	Year 1	eco/sm
Litter pick of the site	bi-annual litter collection	October & April	All	sm

Area to be addressed	Action required	Timing - month	Years active	By whom
Administration				
Comply with requirements of planning permission:	Carry out habitat surveys if/when required	Prior to removal of materials from site of habitat	All	sm/eco
Address health and safety concerns	All persons working on the site to be trained to an acceptable level of competence and workers comply with all relevant procedures.	Any month	All	sm
Presence of protected species in woodland copse	If species are found or suspected, assess likely management impact and apply for licences if required.	Bats/birds: Apr-Sept Badger any month	Year 1	eco/sm
Need for reasonable precautions in all activities that may affect protected species	Production of ecological method statement Full ecological briefing for all staff and contractors	Any month	Year 1 All	sm
Need to maintain good relationships with all	Seek opportunities to interact with neighbours, local	Any month	All	sm



neighbours, local organisations and interest groups	organisations and interest groups.			
Comply with requirements of planning permission:	Annual review meeting and annual update	December	All	sm/eco
Comply with requirements of planning permission:	Review management annually Plan management annually	December	All	sm/eco

17 Ephemeral/intermittent/permanent waterbodies

Objective 3 – to maintain ephemeral/intermittent waterbodies in favourable condition

Favourable condition is achieved when the following criteria have been met:

1. There is continued presence of ephemeral/intermittent/permanent waterbodies on site shown on the landscape maps.
2. No encroachment of scrub is recorded within the pond basin or SUDs pond basin
3. Channels to and from the pond basin are free from natural and artificial obstruction and scrub
4. There is successional vegetation (emergent and/or bankside aquatic plants) within the pond basin. Marginal aquatic plants and trees would include: *Iris pseudacorus*, *Lythnum salicaria*, *mentha aquatic*, *Alnus glutinosa*, *Salix caprea*
5. The integrity of the pond basin is not compromised by recreational activity
6. 90% of the fill capacity will be available in the pond basin and SUDS pond basin
7. The permanent pond basins as shown on the landscape plan will retain water throughout the year
8. There is a continued presence of open water habitat within the waterbody no more than 30% shading
9. Remove encroaching vegetation on minimum of 4 year cycle
10. No fish to be introduced to open water habitats on site

Action plan

Area to be addressed	Action required	Timing month	-	Years active	By whom
Recording					
Monitoring habitat condition	Monitor against the objective = condition assessment	Annually March June	-	All	eco
Lack of detailed information about the habitat	Undertake detailed habitat survey of the waterbody prior to works	March June	-	Year 1	eco



Comply with requirements of planning permission:	Survey and plan prior to any works	Any month prior works	All	sm/eco
Management				
To be identified by habitat condition assessment	Use results of monitoring to identify management required	March – June	Year 1	eco/sm
Litter pick of the site	bi-annual litter collection	October & April	All	sm

Area to be addressed	Action required	Timing - month	Years active	By whom
Administration				
Comply with requirements of planning permission:	Carry out habitat surveys if/when required	Prior to removal of materials from site of habitat	All	sm/eco
Address health and safety concerns	All persons working on the site to be trained to an acceptable level of competence and workers comply with all relevant procedures.	Any month	All	sm
Presence of protected species in habitat	If species are found or suspected, assess likely management impact and apply for licences if required.	Amphibians any month	Year 1	eco/sm
Need for reasonable precautions in all activities that may affect protected species	Production of ecological method statement Full ecological briefing for all staff and contractors	Any month	Year 1 All	sm
Need to maintain good	Seek opportunities to interact	Any month	All	sm

relationships with all neighbours, local organisations and interest groups	with neighbours, local organisations and interest groups.			
Comply with requirements of planning permission:	Annual review meeting and annual update	December	All	sm/eco
Comply with requirements of planning permission:	Review management annually Plan management annually	December	All	sm/eco

18 Wildflower Meadow Grassland

Objective 4 - to maintain the grassland areas in favourable condition

Favourable condition is achieved when the following criteria have been met:

1. There is continued presence of wildflower grassland at all areas shown on the landscape plans.
2. Management based on an annual (late July/early August) hay cut, hay cut material to be composted in a pre-constructed compost area in the woodland area.
3. Within the wildflower grassland area regular (four times per year) mowing of path routes within the grassland area.
4. Riparian corridor to maintain grassland edge along the length of the boundary
5. At least 3 species frequent and 5 species occasional throughout the sward from the list below:

Typical frequent species include yarrow (*Achillea millefolium*), common mouse ear (*Cerastium fontanum*), creeping buttercup (*Ranunculus repens*), red clover (*Trifolium pratense*), ribwort plantain (*Plantago lanceolata*) and dandelion (*Taraxacum officinale* agg.)

Typical occasional species include. bird's-foot trefoil (*Lotus corniculatus*), Catsear (*Hypochaeris radicata*), Rough hawkbit (*Leontodon hispidus*), autumn hawkbit (*Leontodon autumnalis*), violets (*Viola* sp), and self heal (*Prunella vulgaris*)
Knapweeds (*Centaurea* sp), Oxeye daisy (*Chrysanthemum leucanthemum*)

6. No species more than occasional throughout the sward or singly or together more than 5%, from *Cirsium arvense*, *Cirsium vulgare*, *Rumex crispus*, *Rumex obtusifolius*, *Urtica dioica*, *Senecio jacobaea*
7. No more than 30% cover of all tree and scrub species
8. Average height of sward between 5 and 50 cm
9. Total extent of plant litter no more than 25% of the sward (either in patches or a single uniform area)
10. No more than 10% bare ground visible without moving the vegetation
11. Rabbit grazing and disturbance no more than 0.05 hectares (20x20 metres)
12. No alien species of plant (as listed in schedule 9 of the Wildlife and Countryside Act 1981 based on 2010 list) within the habitat area.



Action plan

Area to be addressed	Action required	Timing - month	Years active	By whom
Recording				
Monitoring habitat condition	Monitor against the objective = condition assessment	Annually May – July	All	eco
Lack of detailed information about the habitat	Undertake detailed habitat survey of new areas	May – July	Year 1	eco

Area to be addressed	Action required	Timing - month	Years active	By whom
Management				
To be identified by habitat condition assessment	Use results of monitoring to identify management required	May – July	Year 1	eco
Litter pick of the site	bi-annual litter collection	October & April	All	sm
Administration				
Comply with requirements of planning permission: Planning condition 6	Develop habitat management plan	Any month	Year 1	eco
Address health and safety concerns	All persons working on the site to be trained to an acceptable level of competence and workers comply with all relevant procedures.	Any month	All	sm
Presence of protected species in grassland e.g. badgers, great crested newts, nesting birds, plants etc	If species are found or suspected, assess likely management impact and apply for licences if required.	Any month	Year 1	sm/eco



Need for reasonable precautions in all activities that may affect protected species	Production of ecological method statement Full ecological briefing for all staff and contractors	Any month	Year 1 All	sm/eco
Need to maintain good relationships with all neighbours, local organisations and interest groups	Seek opportunities to interact with neighbours, local organisations and interest groups.	Any month	All	sm
Comply with requirements of planning permission:	Annual review meeting and annual update	December	All	sm/eco
Comply with requirements of planning permission:	Review management annually Plan management annually	December	All	sm/eco

19 Marshy/neutral grassland

Objective 5 - to maintain and provide marshy grassland of similar or equal quality and diversity areas of marshy grassland will be translocated. Two communities of marshy grassland are present M22b *Briza media*-*Trifolium* spp. subcommunity of *Juncus subnodulosus*-*Cirsium palustre* fen-meadow and M23b *Juncus effusus* sub-community. Retain the marshy grassland areas in favourable condition.

Favourable condition is achieved when the following criteria have been met:

1. There is continued presence of marshy grassland as shown on the habitat map or landscape plan.
2. At least 5 species constant and 10 species occasional throughout the sward from the list below for NVC code M22b and least 3 species frequent.

M22b; *Briza media*-*Trifolium* spp. subcommunity of *Juncus subnodulosus*-*Cirsium palustre* fen-meadow

Sub-community constants	Associated Species
<i>Filipendula ulmaria</i>	<i>Carex nigra</i>
<i>Holcus lanatus</i>	<i>Festuca rubra</i>
<i>Juncus subnodulosus</i>	<i>Vicia cracca</i>
<i>Anthoxanthum odoratum</i>	<i>Lotus uliginosus</i>
<i>Agrostis stolonifera</i>	<i>Galium uliginosum</i>
<i>Carex panicea</i>	<i>Rumex acetosa</i>
<i>Plantago lanceolata</i>	<i>Poa trivialis</i>
	<i>Ranunculus acris</i>
	<i>Trifolium pratense</i>
	<i>Festuca arundinacea</i>
	<i>Ranunculus repens</i>
	<i>Cardamine pratensis</i>
	<i>Lychnis flos-cuculi</i>
	<i>Calliergon cuspidatum</i>
	<i>Mentha aquatica</i>
	<i>Cerastium fontanum</i>
	<i>Lythrum salicaria</i>
	<i>Carex disticha</i>
	<i>Carex riparia</i>

	<i>Lathyrus pratensis</i>
	<i>Festuca pratensis</i>
	<i>Dactylorhiza praetermissa</i>
	<i>Polygonum amphibium</i>
	<i>Cynosurus cristatus</i>
	<i>Hydrocotyle vulgaris</i>
	<i>Parnassia palustris</i>
	<i>Rhinanthus minor</i>

3. At least 2 species constant and 3 species occasional throughout the sward from the list below for NVC code M23b and least 1 species frequent reflecting the lower density recorded. The M23b *Juncus effusus* sub-community was recorded in the survey area but was species poor throughout. Though in most instances the density of *Juncus effusus* was high that it dominated most other species. Other species recorded within this community included *Viola palustris*, *Succisa pratensis*, *Galium palustre*, *Cirsium palustre*, *Ranunculus acris* and *Ranunculus repens*. Species such as *Cirsium palustre*, *Rumex acetosa* and *Anthoxanthum odoratum*.

4. No more than 10% cover of all tree and scrub species

5. Average height of sward between 5cm and 60 cm

6. Total extent of plant litter no more than 20% of the sward (either in patches or a single uniform area)

7. No more than 10% bare ground visible without moving the vegetation

8. Rabbit grazing and disturbance no more than 0.05 hectares (20x20 metres)

9. No alien species of plant (as listed in schedule 9 of the Wildlife and Countryside Act 1981 based on 2010 list) within the habitat area.

Action plan

Area to be addressed	Action required	Timing - month	Years active	By whom
Recording				
Monitoring habitat condition	Monitor against the objective = condition assessment	Annually May – July	All	eco
Lack of detailed	Undertake detailed habitat	May – July	Year 1	eco



information about the habitat	survey of new areas			
-------------------------------	---------------------	--	--	--

Area to be addressed	Action required	Timing - month	Years active	By whom
Management				
To be identified by habitat condition assessment	Use results of monitoring to identify management required	May – July	Year 1	eco
Litter pick of the site	bi-annual litter collection	October & April	All	sm
Administration				
Comply with requirements of planning permission: Planning condition 6	Develop habitat management plan	Any month	Year 1	eco
Address health and safety concerns	All persons working on the site to be trained to an acceptable level of competence and workers comply with all relevant procedures.	Any month	All	sm
Presence of protected species in grassland e.g. badgers, great crested newts, nesting birds, plants etc	If species are found or suspected, assess likely management impact and apply for licences if required.	Any month	Year 1	sm/eco

sm = site manager/owner

eco= ecologist

20 Ornamental and amenity planting

Objective 6 - to maintain the ornamental and amenity planting in a manner that provides site enhancement

Favourable condition is achieved when the following criteria have been met:

1. The areas are maintained on a regular basis as specified by the maintenance schedule
2. The areas are not inundated with more than 10% weed species
3. Planting areas should have a covering of mulch with bare areas accounting for no more than 20% of the total area.
4. Areas are kept free from litter and obstructions

Action plan

Area to be addressed	Action required	Timing month	- Years active	By whom
Recording				
Monitoring habitat condition	Monitor against the objective = condition assessment	Annually March – September	All	eco
Lack of detailed information about the habitat	Undertake detailed survey against planting schedule	May – July	Year 1	Eco/landscape team (LT)

Area to be addressed	Action required	Timing month	- Years active	By whom
Management				
To be identified by habitat condition assessment	Use results of monitoring to identify management required	March – September	Year 1	Eco/landscape team (LT)
Litter pick of the site	bi-annual litter collection	October & April	All	sm
Site mulching	Annual assessment of areas	Oct-March	All	sm
Administration				



Comply with requirements of planning permission: Planning condition 4&6	Work within existing landscape plan requirements	Any month	Year 1	eco
Address health and safety concerns	All persons working on the site to be trained to an acceptable level of competence and workers comply with all relevant procedures.	Any month	All	sm
Presence of protected species in ornamental and amenity planting areas e.g. badgers, great crested newts, nesting birds, plants etc	If species are found or suspected, assess likely management impact and apply for licences if required.	Any month	Year 1	sm/eco

sm = site manager/owner

eco= ecologist

LT= landscape team

21 Site trees and orchard trees

Objective 7 - to maintain site trees and orchard trees so that they remain healthy and add value to the site

Favourable condition is achieved when the following criteria have been met:

1. The areas are maintained on a regular basis as specifies by the maintenance schedule
2. The trees area checked for damage on the bole and limbs with over total of 20% damage requiring action to remediate the situation
3. Any dead or dying trees will be assessed and replaced if required on a 2 for 1 basis and will include stakes and guards as required.
4. Areas containing trees will not be subject to storage of materials on a long term basis of parking of vehicles on a regular basis.
5. All trees will be approved specimens and will add value for wildlife through nectar sources or fruit bearing.

Action plan

Area to be addressed	Action required	Timing month	Years active	By whom
Recording				
Monitoring habitat condition	Monitor against the objective = condition assessment	Annually March – September	All	eco
Lack of detailed information about the habitat	Undertake detailed survey against planting schedule	May – July	Year 1	Eco/landscape team (LT)

Area to be addressed	Action required	Timing month	Years active	By whom
Management				
To be identified by habitat condition assessment	Use results of monitoring to identify management required	March – September	Year 1	Eco/landscape team (LT)
Material of vehicle	Annual assessment of	Oct-March	All	sm



storage	areas			
Administration				
Comply with requirements of planning permission: Planning condition 4&6	Work within existing landscape plan requirements	Any month	Year 1	eco
Address health and safety concerns	All persons working on the site to be trained to an acceptable level of competence and workers comply with all relevant procedures.	Any month	All	sm
Presence of protected species in ornamental and amenity planting areas e.g. badgers, great crested newts, nesting birds, plants etc	If species are found or suspected, assess likely management impact and apply for licences if required.	Any month	Year 1	sm/eco

sm = site manager/owner

eco= ecologist

LT= landscape team

22 Bats

Objective 8 - to maintain the habitats and habitat features necessary to support bats in favourable condition

Favourable condition is achieved when the following criteria have been met:

1. Key areas of habitat suitable for bats are maintained including boundary habitats of woodland to the west and riparian corridor to the east.
2. The habitats of bats are maintained in a condition suitable for the maintenance of the species, with special regard to:
 - (i) light spill onto habitat is minimised from approved site
 - (ii) habitat links are maintain north south and east west
3. The area of grassland and hedgerows are maintained and enhanced
4. The presence of networks of feeding sites linked by suitable habitat and not fragmented by management or accident
5. The presence of suitable insect food over terrestrial environments and riparian corridor is maintained with appropriate management of habitats
6. Management of bats will be carried out through manipulation of habitats on the site. Achievement of the objective will not involve direct manipulation of bats.
7. Artificial bat boxes for both summer and winter use will be provided on buildings and trees on site. A total of 13 bat boxes will be provided suitable for pipistrelle, long eared and myotis bat species.
8. Location of bat boxes will be shown on plan included in appendix 1 of this document. Locations are indicative and may require micro siting. All bat boxes must remain in place for a minimum of 5 years even if unoccupied and permanently if occupied.

Action plan

Area to be addressed	Action required	Timing - month	Years active	by whom
Recording				
Monitoring condition	Monitor against the objective = condition assessment	Annually May – July	All	eco
Check bat boxes if installed as enhancement	Survey of bat boxes for bat occupation and condition if	April and September	All	eco



	suitable conditions for installation			

Area to be addressed	Action required	Timing - month	Years active	by whom
Management				
Install bat boxes as enhancement	Erect bat boxes as required	Any month	All	sm
To be identified by condition assessment	Use results of monitoring to identify management required	May – July	Year 2-5	eco
Administration				
Comply with requirements of planning permission:	Bat surveys if/when required Hedgerows, grassland woodland and riparian corridor	Prior to removal of materials from site of suitable habitats	All	eco & sm
Address health and safety concerns	All persons working on the site to be trained to an acceptable level of competence and workers comply with all relevant procedures.	Any month	All	sm
Presence of bat roosts in hedgerows, trees and woodland	If species are found or suspected, assess likely management impact and apply for licences if required.	Any month	All	eco
Comply with requirements of planning permission:	Production of ecological method statement Full ecological briefing for all staff and contractors	Any month	All	sm & eco



Need to maintain good relationships with all neighbours, local organisations and interest groups	Seek opportunities to interact with neighbours, local organisations and interest groups.	Any month	All	sm
--	--	-----------	-----	----

23 Bird assemblage

Objective 9 - to maintain the habitats and habitat features necessary to support the bird assemblage in favourable condition

1. At this stage it is not possible or indeed desirable to consider the conservation of bird species as a matter of conservation of individual habitats; it is the combination and context of habitats at the site that is the overriding factor in the survival of the bird assemblage at this site. The needs of the various bird species will therefore be best met by maintaining the widest possible range of habitats in favourable condition.
2. Management of birds will be carried out through manipulation of habitats on the site. Achievement of the objective will not involve direct manipulation of birds.
3. The main issues for management of this faunal group are:
 - (i) linkage of habitat types
 - (ii) sufficient mature nesting resources
 - (iii) minimising disturbance when nesting
4. The continued presence of hedgerows and grassland to link habitats on site
5. Disturbance of habitats during the nesting season (March to August) should be discouraged by raising awareness to residents. Nesting birds are protected by law during the nesting season.
6. Artificial bird boxes to be provided on site using a mixture of buildings and trees. A total of 10 nest boxes to be provided for sparrow, starlings and song thrush locally occurring species.
7. Location of the birds boxes will be shown on the plan in appendix 1

Action plan

Area to be addressed	Action required	Timing - month	Years active	by whom
Recording				
Monitoring condition	Monitor against the objective = condition assessment	Annually May – July	All	eco
Check bird boxes if installed as enhancement	Survey of bird boxes for bat occupation and condition if suitable conditions for	April and September	All	eco



	installation			

Area to be addressed	Action required	Timing - month	Years active	by whom
Management				
Install bird boxes as enhancement	Erect bird boxes as required	Any month	All	sm
To be identified by condition assessment	Use results of monitoring to identify management required	May – July	Year 2-5	eco
Administration				
Comply with requirements of planning permission:	Bird surveys if/when required Hedgerows, grassland woodland and riparian corridor	Prior to removal of materials from site of suitable habitats	All	eco & sm
Address health and safety concerns	All persons working on the site to be trained to an acceptable level of competence and workers comply with all relevant procedures.	Any month	All	sm
Presence of bat roosts in hedgerows, trees and woodland	If species are found or suspected, assess likely management impact and apply for licences if required.	Any month	All	eco
Comply with requirements of planning permission:	Production of ecological method statement Full ecological briefing for all staff and contractors	Any month	All	sm & eco
Need to maintain good	Seek opportunities to interact	Any month	All	sm



relationships with all neighbours, local organisations and interest groups	with neighbours, local organisations and interest groups.			
--	---	--	--	--

24 Reptiles

Objective 10 - to maintain the habitats and habitat features necessary to support reptiles in favourable condition

Favourable condition is achieved when the following criteria have been met:

1. Key areas of habitat suitable for reptiles are maintained.
2. The habitats of reptiles are maintained in a condition suitable for the maintenance of the species, with special regard to:
 - The area and contiguity of grassland and hedgerows
 - The presence of networks of feeding sites linked by suitable habitat
 - The presence of suitable food in terrestrial environments
3. Management of reptiles will be carried out through manipulation of habitats on the site. Achievement of the objective is not expected to involve direct manipulation of reptiles.
4. The main issue for management of this species group is the continued, linked presence of hedges, riparian corridor and grassland.

Action plan

Area to be addressed	Action required	Timing - month	Years active	by whom
Recording				
Monitoring condition	Monitor against the objective = condition assessment	Annually March - June	All	eco
Check heat traps if installed as enhancement	Survey of heat traps and condition	March - June	All	eco

Area to be addressed	Action required	Timing - month	Years active	by whom
Management				
Install heat traps	Check as required	Any month	All	sm
To be identified by condition assessment	Use results of monitoring to identify management required	March - June	Year 2-5	eco
Administration				



Comply with requirements of planning permission:	Reptile surveys if/when required Hedgerows, grassland and riparian corridor	Prior to removal of materials from site of suitable habitats	All	eco & sm
Address health and safety concerns	All persons working on the site to be trained to an acceptable level of competence and workers comply with all relevant procedures.	Any month	All	sm
Presence of bat roosts in hedgerows, trees and woodland	If species are found or suspected, assess likely management impact and apply for licences if required.	Any month	All	eco
Comply with requirements of planning permission:	Production of ecological method statement Full ecological briefing for all staff and contractors	Any month	All	sm & eco
Need to maintain good relationships with all neighbours, local organisations and interest groups	Seek opportunities to interact with neighbours, local organisations and interest groups.	Any month	All	sm

25 Amphibians

Objective 11 - to maintain the habitats and habitat features necessary to support amphibians in favourable condition

Favourable condition is achieved when the following criteria have been met:

- 1 Key areas of habitat suitable for amphibians are maintained.
- 2 The habitats of amphibians are maintained in a condition suitable for the maintenance of the species, with special regard to: The open water habitat is maintained and available particularly during the breeding season
- 3 Open water habitat is free from the presence of fish
- 4 The presence of networks of feeding sites linked by suitable habitat
- 5 The presence of suitable food in terrestrial environments
- 6 Management of amphibians will be carried out through manipulation of habitats on the site. Achievement of the objective is not expected to involve direct manipulation of amphibians.
- 7 The main issue for management of this species group is the continued, linked presence of hedges, ephemeral/intermittent waterbodies and grassland.

Action plan

Area to be addressed	Action required	Timing - month	Years active	by whom
Recording				
Monitoring condition	Monitor against the objective = condition assessment	Annually March - June	All	eco
Check waterbodies	Survey of waterbodies for amphibian occupation and condition if suitable conditions for installation	March - June	All	eco

Area to be addressed	Action required	Timing - month	Years active	by whom
Management				



Install refugia as enhancement	Refugia mats/logs/stones as required	Any month	All	sm
To be identified by condition assessment	Use results of monitoring to identify management required	March - June	Year 2-5	eco
Administration				
Comply with requirements of planning permission:	Amphibian surveys if/when required Open water, woodland and grassland	Prior to removal of materials from site of suitable habitats	All	eco & sm
Address health and safety concerns	All persons working on the site to be trained to an acceptable level of competence and workers comply with all relevant procedures.	Any month	All	sm
Presence of amphibians	If species are found or suspected, assess likely management impact and apply for licences if required.	Any month	All	eco
Comply with requirements of planning permission:	Production of ecological method statement Full ecological briefing for all staff and contractors	Any month	All	sm & eco
Need to maintain good relationships with all neighbours, local organisations and interest groups	Seek opportunities to interact with neighbours, local organisations and interest groups.	Any month	All	sm

26 Otters

Objective 12 - to maintain the habitats and habitat features necessary to support otters in favourable condition

Favourable condition is achieved when the following criteria have been met:

1. Key areas of habitat suitable for otters are maintained.
2. The habitats of otters are maintained in a condition suitable for the maintenance of the species, with special regard to: The riparian corridor and areas of grassland and hedgerows and access to the river and waterbodies
3. The presence of networks of feeding sites linked by suitable habitat
4. The presence of suitable food in riparian environments
5. Management of otters will be carried out through manipulation of habitats on the site. Achievement of the objective is not expected to involve direct manipulation of otters with the exception of provision and maintenance of constructed breeding sites on riparian boundary.
6. The main issue for management of this species is the continued, linked presence of hedges, and grassland, availability of the riparian corridor and low light levels.
7. .Maintain river systems and run off to prevent pollution from entering the river
8. Maintain the river corridor on the site boundary as to avoid light spill and light trespass from the site.

Action plan

Area to be addressed	Action required	Timing - month	Years active	by whom
Recording				
Monitoring condition	Monitor against the objective = condition assessment	Annually	All	eco
Check for presence of otters	Survey of site for otter occupation and condition if suitable conditions for installation	Yearly	All	eco



Area to be addressed	Action required	Timing - month	Years active	by whom
Management				
Management of alien species plants close to artificial holt	Clearance and eradication of alien plants	Any month	All	sm
To be identified by condition assessment	Use results of monitoring to identify management required	Yearly	Year 2-5	eco
Administration				
Comply with requirements of planning permission:	Other surveys if/when required All habitats	Prior to removal of materials from site of suitable habitats	All	eco & sm
Address health and safety concerns	All persons working on the site to be trained to an acceptable level of competence and workers comply with all relevant procedures.	Any month	All	sm
Presence of bat roosts in hedgerows, trees and woodland	If species are found or suspected, assess likely management impact and apply for licences if required.	Any month	All	eco
Comply with requirements of planning permission:	Production of ecological method statement Full ecological briefing for all staff and contractors	Any month	All	sm & eco
Need to maintain good relationships with all neighbours, local organisations and interest groups	Seek opportunities to interact with neighbours, local organisations and interest groups.	Any month	All	sm

27 Hedgehog

Objective 13 - to maintain the habitats and habitat features necessary to support hedgehog in favourable condition

Favourable condition is achieved when the following criteria have been met:

1. Key areas of habitat suitable for hedgehog are maintained.
2. The habitats of hedgehog are maintained in a condition suitable for the maintenance of the species, with special regard to:
 - The area and contiguity of grassland, woodland, deadwood habitat and hedgerows
 - The presence of networks of feeding sites linked by suitable habitat
 - The presence of suitable food in terrestrial environments and access to grassland
3. Management of hedgehog will be carried out through manipulation of habitats on the site. Achievement of the objective is not expected to involve direct manipulation of hedgehog.
4. The main issue for management of this species is the continued, linked presence of hedges, woodland, deadwood habitat, and grassland.
5. A network of movement through the site is available for hedgehogs such as bases of fences with gaps of a minimum of 10cmx10cm
6. Provision of x5 hedgehog nest boxes on site

Action plan

Area to be addressed	Action required	Timing month	- Years active	by whom
Recording				
Monitoring condition	Monitor against the objective = condition assessment	Annually March – October	All	eco
Check bat boxes if installed as enhancement	Survey of bat boxes for bat occupation and condition if suitable conditions for installation	March – October	All	eco



Area to be addressed	Action required	Timing - month	Years active	by whom
Management				
Install hedgehog boxes as enhancement	hedgehog boxes as required	Any month	All	sm
To be identified by condition assessment	Use results of monitoring to identify management required	March – October	Year 2	eco
Administration				
Comply with requirements of planning permission:	hedgehog surveys if/when required grassland, woodland, deadwood habitat and hedgerows	Prior to removal of materials from site of suitable habitats	All	eco & sm
Address health and safety concerns	All persons working on the site to be trained to an acceptable level of competence and workers comply with all relevant procedures.	Any month	All	sm
Presence of bat roosts in hedgerows, trees and woodland	If species are found or suspected, assess likely management impact and apply for licences if required.	Any month	All	eco
Comply with requirements of planning permission:	Production of ecological method statement Full ecological briefing for all staff and contractors	Any month	All	sm & eco
Need to maintain good relationships with all neighbours, local organisations and interest groups	Seek opportunities to interact with neighbours, local organisations and interest groups.	Any month	All	sm

28 Summary of management timings and responsibilities

Habitat	Management type	When undertaken and duration yearly	Responsibility
Grassland	Grassland translocation	October to March 2024/5	site manager
Grassland	two cuts per year removing arisings	March and late August early September	site manager
Grassland	removal of unwanted species (woody)	October to March	site manager
Grassland	removal of unwanted species (herbaceous)	March to July	site manager
Hedgerows	flailing	between January-March on a three yearly cycle	site manager
Hedgerows	laying	7 to 10 year cycle in local traditional style	site manager
Woodland	Coppice/felling	5-10 year cycle based on condition	site manager
Open water habitat general	Vegetation removal	On 4 year cycle remove encroaching vegetation to maintain open water	site manager
Waterbodies	encroaching aquatic vegetation removal	October and March	site manager
Waterbodies	over shading vegetation removal to main 70% open water	October and March	site manager
Woodland	plant understory to provide structure	October and March	site manager
Woodland	plant woodland plants	October and March	site manager
Woodland	cut understory plants after 10 years	October and March	site manager
Woodland	monitor condition of standard trees	October and March	site manager
Ornamental and amenity	Grass cutting and replacement	March to September/October	Site manager

planting			
Site trees and orchard trees	Selective pruning and maintenance	As required informed by monitoring period	Site manager arborist
All habitats	monitoring against objective	June yearly	ecologist

29 Annual review and annual report

Upon completion of habitat management prescriptions an annual review will take place to assess the success or otherwise of the management practices on site and whether the prescriptions have been achieved and each of the set objectives have been met.

The annual report will be delivered by the LPA in the form of a short written report covering the objectives set out in the management plan and reporting on success and failure. It will provide an opportunity to set specific action points for the coming year.



30 Appendix 1 Bird, bat & hedgehog boxes



31 Appendix 2 Bat bird and hedgehog boxes

Bats

X10 to be installed on properties



'Ibstock Enclosed bat box' to be similar to picture above. Placed under eaves south and west elevations at above 3m

Bats

x5 to be installed on trees on site



Inspection hatch

Woodcrete bat boxes- *Schwegler 3FF box*

Bats

X3 to be installed on site



Bat rocket box suitable for pipistrelle bats as an enhancement placed in sunny location on woodland edge

Birds

X10 to be installed on properties



'Schwegler GmbH type 25' similar to picture above . placed under eaves above 3m east and north facing



Integrated swift box - *IBSTOCK SWIFT ECO HABITAT*

Birds

X5 to be installed in the trees on site



Nest box type for spotted flycatcher/song thrush priority species



House sparrow nest terrace

Hedgehog

X5 to be installed on site



Woodstone Hedgehog house nest box placed within accessible deadwood or scrub habitat on the ground not exposed.