Ecological Enhancement and Management Plan

Land Adjacent To 52 St Peters Road, Buxton, SK17 7DX

Alex Green

Status	Issue	Name	Date
Final	1	Fay Brotherhood BSc (Hons) MSc, Consultant Ecologist	12/10/2023

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Industry Guidelines and Standards

This report has been written with due consideration to:

- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.

Proportionality

> The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.
>
> The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.
>
> (BS 42020, 2013)

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1.0 Introduction

Arbtech Consulting Limited was instructed by Mr Alex Green to produce an Ecological Enhancement and Management Plan for **Land Adjacent To 52 St Peters Road, Buxton, SK17 7DX** (hereafter referred to as "the site") to fulfil condition 9 of granted planning application HPK/2021/0318 from High Peak Borough Council, determined in February 2022. This is outlined below.

9. Prior to any works to external walls, an Ecological Enhancement Plan shall be submitted to and approved in writing by the Local Planning Authority. The approved plan shall be implemented in accordance with a timetable as set out in the Plan.
Reason:- In order to secure a net gain in overall biodiversity on site in accordance with Local Plan Policy EQ5 and relevant paragraphs under Chapter 15 of the NPPF.

In addition, condition 10, outlined below stipulated the requirement to follow precautionary measures outlined in the Ecology Report (Arbtech, 2019/2021) which informs this report. As such precautionary measures are not considered further within the report.

10. During site clearance works, the developer shall follow the precautionary methods of working as per the recommendations set out in the updated Ecology Report prepared by Arbtech. Should any clearance works be carried out during the main nesting bird season (March to August inclusive), such works shall only be carried out after a check for nesting birds has been carried out by a suitably qualified professional.
Reason:- In the interests of ensuring that protected species are preserved in accordance with Local Plan Policy EQ5 and relevant paragraphs under Chapter 15 of the NPPF.

2.0 Site Context and Survey Information

2.1 Site Location and Landscape Context

The site consists of an area of approximately 0.1Ha in which the boundary of the site is enclosed by a failed dry-stone wall less that 1m in height. The neighbouring boundary to the south has an intact dry-stone wall. The site is predominantly an area of tall ruderal vegetation with a myriad of species including bridewort, rosebay willowherb and common nettle. To the south is a small area of other neutral (MG1) grassland which included false oat grass Arrhenatherum elatius. The proposed development is for the erection of a single residential dwelling.

3.0 Ecological Enhancement Measures

3.1 Informative

The following tables detail the proposed mitigation, habitat creation and biodiversity enhancement measures for the development as well as management requirements to ensure the longevity of these measures. The PEA includes further details of the habitats on site and the impacts of the development upon them and should be read in conjunction with this document.

3.2 Persons Responsible and Lines of Communication

It is recommended that a Development Biodiversity Champion is selected for the construction phase of the development. The Biodiversity Champion should be someone with significant influence during construction, such as the contract or project manager. The Development Biodiversity Champion is responsible for ensuring all actions outlined in this EEP and PEA are implemented including the provision of a toolbox talk prior to works commencing. Any queries with regards to the mitigation prescriptions should be addressed to the project ecologist and communication should be retained between the Development Biodiversity Champion and project ecologist throughout the construction phase of the development where necessary to ensure the mitigation and enhancements are applied and impacts to adjacent ecological receptors are effectively minimised. The project ecologist's contact details are located on the title page of this report. It is recommended that the Biodiversity Champion informs the project ecologist or ECoW of the commencement of construction works and provides updates where necessary.

3.3 Habitat Creation and Biodiversity Enhancement Measures

Table 1 details the habitat creation and biodiversity enhancement measures for the site. These are also illustrated in Appendix 3.

Table 3: Habitat Creation and Biodiversity Enhancement Measures

Works	Specification
Bat Boxes	One bat box will be installed on the south western gable end.

	Bat boxes specification: • The recommended bat box will be constructed of woodcrete/woodstone. Boxes of this construction are designed to require no maintenance and have a lifespan of 25 years plus. • 1x Beaumaris Bat Box (or similar alternative brand) is recommended on the building, as shown in **Figure 1.** An integrated design could also be used. • Bat boxes should be positioned 3-5m above ground level, with the entrance facing downwards and the box facing in a south, southeast, or southwest aspect with a clear flight path to and from the entrance, away from artificial light.  **Figure 1:** Beaumaris Bat Box (image credit https://www.nhbs.com/beaumaris-woodstone-bat-box)
Bird Boxes	One swift box is recommended to be installed on site on the eaves of the new building. ***Bird box specification:*** • The recommended bird box will be constructed of woodcrete/ woodstone. Boxes of this construction are designed to require no maintenance and a lifespan of 25 years plus. • 1x Vivara Pro WoodStone Swift Nest Box (or a similar alternative brand) is proposed on the building, as shown in **Figure 2**. • This will be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight.

	 **Figure 2**: Vivara Pro WoodStone Swift Nest Box (image credit https://www.nhbs.com/woodstone-swift-nest-box)
Insect Box	A bee brick will be installed on a south facing wall (**Figure 8**). An insect box suitable for the site (or a similar alternative brand) can be found here: https://www.greenandblue.co.uk/blogs/news/why-bee-brick  **Figure 3: bee brick** (image credit https://www.greenandblue.co.uk/blogs/news/why-bee-brick)
Species rich flowering lawn	All amenity grass areas will comprise a "species rich flowering lawn". This meets the dual needs of amenity and biodiversity, comprising a low growing carpet of wildflowers of benefit to pollinators and other invertebrates which is well adapted to both trampling and mowing. It is naturally low input requiring no use of fertilisers and will retain its colour for longer and recover faster in times of drought.

Suggested mixes

A seed mix suited to Freely draining slightly acid but base-rich soils e.g. British Native Meadow Wildflower Seeds For Meadow Lawns https://meadowmania.co.uk/products/wildflower-meadow-for-lawns or a similar alternative brand.

Seeding

The bare soil will be prepared and seeded.

Installation

The process of installation is as follows;

- Avoid amending the soil with high quality topsoil or compost as wildflowers grow best in poor soils with low nutrient levels.. High nutrient, rich soils will promote proliferation of nutrient hungry weeds such as thistle and dock, which will outcompete wildflowers. Planting decisions dependent upon soil will need to be finalised once the soil is exposed and can be examined/tested as there is likely to be a mosaic of soils present with differing qualities.
- All weeds and debris must be removed, with a systematic weed killer used if necessary to clear the prepared ground of undesirable ruderal weeds. This step will not be required if seeding takes place as soon as possible after the preparation of the ground. As weed seeds can form a substantial seed bank, it is advised to reduce the time of which prepared ground is left bare to reduce opportunities for colonisation. If delays are anticipated the bare ground will be covered with black plastic matting to prevent weed colonisation and germination.
- Prepare the soil to a fine tilth.
- Avoid bringing any weed seeds to the surface by preventing further disturbance of the ground.
- Sowing can take place from Spring (late March to late October) but is best undertaken in Autumn to account for seeds in requirement of a cold cycle to germinate or seedlings which thrive best when overwintered in an immature form. Sowing in the height of summer is likely to result in failure.
- Wildflower with grass mixtures will be sown at 5 g/m2. Accompanying additional seeding with raking may aid in germination rates for some species, whilst for others light alone will facilitate germination.
- A carrier (e.g. sand) will be mixed with the seed to facilitate even distribution of the seeds.

	▪ Grasses will appear within 7 - 10 days and wildflowers range from a few weeks to several months to appear. Some species may take up to two years to appear. ▪ Perennial and biennial wildflower species will establish during the first year of sowing and flower during the second year. **Species rich lawn meadow mat** At the clients discretion a meadow mat can be used either wholly or partially. This comes at greater cost but is easier to install and establish as it involves the laying of turf containing an already established assemblage of plants and associated mycorrhizal networks and therefore has a greater success rate and faster establishment, whilst bypassing any "ruderal weed" stage. Installation Meadow mats can be installed in the same way as normal turf on prepared soil. - All vegetation and debris must be removed, with no leaves, roots or large stones left behind. - The soil must then be rotovated to at least 15cm, removing roots and stones as they appear. Reducing nutrient status is likely to not be required as the present lawn areas do not appear to have received recent inputs and local soils are relatively shallow. - Once well cultivated the soil will be raked to a fine consistency. This must take place on a dry day as soil structure will be adversely impacted by feed and machinery on wet ground. - When it comes to laying the meadow mat, this must be done following a final rake of the soil to ensure it is level and loose. - The mat will be laid from the far side of the lawns to ensure it is not trampled, with laying boards used elsewhere to ensure prepared soil is not compacted. - Once in position it will be pressed down firmly to ensure all roots are in contact with the soil (without compacting it). - Lay the strips with the edges joining but not overlapping. - An edging iron can be used to shape the lawn. Once installed, the meadow mat will need to be watered thoroughly. - Lift a corner to ensure water has soaked through the turf to reach the soil. This is essential to reduce the risk of transplant shock caused by the drying of roots. Once established the mat should exhibit superior drought tolerance as compared to standard amenity turf.

	Provenance Species should be of as close as possible to local provenance. Ideally donor sites will be from the local area, although regional provenance would be acceptable as the site is not immediately adjacent to any semi natural habitats which means the risk of adversely impacting local genotypes is low. Close local provenance is easier to achieve using seed mixes as supplier sources are not restricted by the location of meadow mat providers. Companies providing bespoke seed mixes which can be sourced from local donor sites include; Wildflower Lawns and Meadows - https://www.wildflowerlawnsandmeadows.com/product/wild-flower-lawn-seed-mix/ Naturescape.co.uk - https://www.naturescape.co.uk Chiltern Seeds - https://www.chilternseeds.co.uk/ British Flora - https://grassandflower.co.uk/ BFS 2 – ACID GRASSLAND WILDFLOWER SEED MIX FOR SANDY OR PEATY SOILS Companies providing Species Rich Lawn meadow mats include; Turf Online - https://www.turfonline.co.uk This is the most established company. A wide range of companies now offer wildflower turf however the species mixtures vary in suitability, often using non-native and annual arable mixes, thus advice should be sought from the author before any purchase is made. Numbers Seeds Seeds will need to be sown at a coverage rate of 4g per m2. Mixes will be composed of 80% grasses and 20% wildflowers. Avoid cornfield annual mixes. Meadow mat Species composition will include 80% slow growing fine grasses and 20% wildflowers. The exact amount needed will need to be calculated via the measuring of area.

Hedgerows	Native hedgerows will be planted around eastern and northern site boundaries. These will comprise the following, locally characteristic species; holly, hawthorn, hazel and blackthorn. Hedgerows will be double staggered planted at 5 plants per metre. These will be rabbit guarded and mulched as necessary.

3.5 Management Requirements

Table 4 details the ecological management requirements for the site.

Table 4: Management Requirements

Activity	Year 1	Every Year
Hedgerow planting	☐ Replace any tree failures with planting of the same species to prevent gaps from developing. ☐ Top off the mulch where necessary and water monthly or when dry.	☐ Any plants that die in the first 5 years will need to be replaced to prevent gaps developing. ☐ Replace as appropriate. ☐ Consider cycling trims or only cutting in winter to permit fruiting and flowering.
Lawn	☐ Do a first cut of the lawn once established in mid to late summer, remove the arisings and compost. Grassland can then be mown to a short sward.	☐ Use of fertiliser and pesticide is not required and should be avoided. ☐ For amenity grass, in the growing season cuts every 3-4 weeks are optimal to encourage repeat flowering and provide the maximum benefit to pollinators whilst maintaining the lawns amenity value. However, shorter periods between mowing can be tolerated and can in itself be beneficial as it may promote the appearance of specialist grassland fungi. Clippings should be removed to prevent the build-up of nutrients and the smothering of the grass. Clippings are less of an issue with more regular mowing. ☐ Consider permitting areas of relaxed mowing.

Bat, bird and insect boxes and hedgehog houses	☐ Install the site's provision of habitat boxes for bats, birds and invertebrates.	☐ Check annually and replace any boxes that are broken or fall down e.g. during storms.

Appendix 1: Proposed Development Plan




PROPOSED 03
0M 1M 2M 3M
FRONT AND SIDE ELEVATION 1:50
REAR AND SIDE ELEVATION 1:50
ST PETERS ROAD - NEW DWELLING
ST PETERS ROAD
PROPOSED 03
B REGS COMPLIANT
Legend
swift boxes
bat boxes
Drawn by: F Brotherhood on 12-10-2023
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Appendix 3: Habitat Creation and Enhancement Plan