Written Stone Farm, Longridge
HABITAT MANAGEMENT AND MONITORING PLAN
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E: info@knightskyecology.co.uk

W: www.knightskyecology.co.uk

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# **CONTENTS**

1	INTRODUCTION	2
1.1	Instruction and Background	2
1.2	Existing Documents	
2	ECOLOGICAL FEATURES	3
2.1	Habitats	3
2.2	Hedgerows	
2.3	Aims of BMP	4
3	MANAGEMENT	5
3.1	Ecological Trends and Constraints	5
3.2	Management Prescriptions	5
3.2.1	1 General	5
3.2.2	2 Other Neutral Grassland – Creation	5
3.2.3	3 Individual Trees	6
3.2.4	4 Hedgerows – Creation	7
3.2.5	5 Habitat Condition Requirements & Targets	7
3.2.6	6 Hedgerow Condition Targets and Requirements	8
3.3	Work Programme	10
4	ROLES & RESPONSIBILITIES	11
4.1	Funding Mechanism & Responsibilities	11
4.2	Ecological Clerk of Works	11
4.3	Remedial Actions	11
5	MONITORING & REPORTING	12
5.1	Biodiversity Monitoring	12
ΔΡΡ	PENDIX A. FIGURES	13



# 1 INTRODUCTION

# 1.1 Instruction and Background

Knight Sky Ecology Ltd was commissioned to provide a Habitat Management & Monitoring Plan (HMMP) for the permitted development at Written Stone Farm, Written Stone Lane, Longridge, PR3 2ZN.

The development is to include:

 Conversion of barn 1 to two-storey, five-bedroom dwelling; demolition of outbuilding 1 and construction of new double garage; construction of new roof and conversion of outbuilding 2 to form single-storey incidental domestic hobby space; creation of domestic curtilage and landscaping; new sewage treatment plant and diversion of public footpath.

The production of a HMMP is required to discharge planning condition 20 of the planning permission notice (Ribble Valley Borough Council - planning ref. 3/2024/0622).

### 1.2 Existing Documents

This HMMP aims to address the requirements of condition 20 and has been informed by the following documents which were submitted to the application to set out the Biodiversity Net Gain commitments made for the site post-development:

- Knight Sky Ecology (2024). Technical Note: Biodiversity Net Gain (December 2024 revision 3)
- (Small Sites) Statutory Biodiversity Metric Calculation Tool (revision 3).
- UK Habitat Classification baseline (Figure 1) and post-development figure (Figure 2).

A biodiversity gain plan is to be submitted separately to discharge condition 19 of the planning permission notice.



# 2 ECOLOGICAL FEATURES

#### 2.1 Habitats

Table 2.1 provides a list of all the habitats that are to be lost or retained along with the selected habitats which are to be created. There are no habitats subject to enhancement. The created habitats that are of primary consideration for maintenance / management are highlighted in green. Habitats such as gardens do not require long term monitoring or management provided that they are established during the landscaping works.

Figure 1 provides an overview of the baseline habitats and Figure 2 provides an overview of the locations of each habitat parcel post-development.

Table 2.1. Habitats within the site to be retained, created and managed

Broad Habitat	Habitat Type	Area (m2)	Area retained (m2)	Condition	<b>Biodiversity Commitments</b>		
BASELINE	BASELINE						
Grassland	Modified grassland	2245.80	513.60	NA	No management commitments required provided that the habitat is retained in perpetuity as stated.		
Urban	Developed land; sealed surface	1935.50	NA	NA	N/A - No management commitments required.		
Individual trees	Urban/rural tree	81	0	NA	N/A - No management commitments required.		
CREATED H	HABITATS						
Urban	Developed land; sealed surface	1727.2	NA	NA	N/A - No management commitments required.		
Urban	Unvegetated garden	527.3	NA	NA	N/A - No management commitments required.		
Urban	Vegetated garden	656.1	NA	NA	No management commitments required provided that the habitat is created and remained in perpetuity as stated.		
Grassland	Other neutral grassland	757.1	NA	Moderate	Species rich grassland mix to be used.		
Individual trees	Urban/rural tree	326	NA	Moderate	8 native trees to be planted.		



# 2.2 Hedgerows

Table 2.2 provides a list of the existing and created hedgerows within the site. There are no hedgerows subject to enhancement. A species rich native hedgerow is to be planted along the site boundary as detailed in Table 2.2 and shown on Figure 2.

Table 2.2. Hedgerows within the site to be retained, created and managed

Hedge number	Hedgerow type	Length (m)	Length retained (m)	Condition	Biodiversity commitments	
BASELINE						
N/A	Species-rich native hedgerow	89.3	87.3	Moderate	No management commitments required provided that the habitat is retained in perpetuity as stated and remains in the same condition as stated in the baseline.	
CREATION						
N/A	Species-rich native hedgerow	17.1	NA	Moderate	Planted hedgerow on the south-west boundary.	

### 2.3 Aims of BMP

The primary aim of this HMMP is to provide a framework for the delivery of landscaping establishment and management measures within the site in order to meet the biodiversity net gain (BNG) requirements stated within the statutory biodiversity metric tool and the BNG report (Knight Sky Ecology, 2024). The development is to retain and deliver **0.9384 habitat units (10.53%) and 0.985 hedgerow units (13.78%).** 

This HMMP shall cover the established, management and monitoring of neutral grassland, trees and hedgerows.

There are no other habitat enhancement, creation or management actions required for any other feature on the site provided that the landscaping is undertaken to the specifications as approved.



### 3 MANAGEMENT

# 3.1 Ecological Trends and Constraints

There are no ecological trends or constraints within the site that may influence management. The trees would not be actively managed and there are no expected ecological constraints to the management of the trees.

# 3.2 Management Prescriptions

#### 3.2.1 General

The appointed landscaping contractor or site owner is to adhere to general good practice guidelines for any landscaping operations including:

- BS 4428:1989 code of practice for general landscape operations
- BS 8545:2014 Trees: from nursery to independence in the landscape. Recommendations

Any imported topsoil and site soils shall also comply with BS 3882:2015 British Standard Topsoil.

#### 3.2.2 Other Neutral Grassland - Creation

#### **Creation and Establishment**

Wildflower grassland (other neutral grassland) is to be created within the locations shown on Figure 2. It is not envisaged that there are to be any issues within the soil type, shade cover, nutrient levels, texture, organic matter content or pH within these locations.

The seed mix chosen is to comprise:

• EM3 Special General-Purpose Meadow Mixture - 20% native wild flowers and 80% slow growing grasses (Available from Emorsgate Seeds <a href="https://wildseed.co.uk/">https://wildseed.co.uk/</a>) including an appropriate quantity of yellow rattle (*Rhinanthus minor*) which will aid the suppressing of competitive grasses (Available from Emorsgate Seeds <a href="https://wildseed.co.uk/">https://wildseed.co.uk/</a>).

OR,

 Traditional Meadow Wildflower Seeds LW1P 100%. This seed mix contains 22 different native wildflower species. Contains yellow rattle. (Available from https://www.wildflower.co.uk/).

#### **Ground Preparation**

Any existing grassland is to be completely stripped using the appropriate machinery. The subsoil should be repeatedly cultivated using a disc harrow or rotovator, to 30mm depth then further cultivated and rolled to produce a firm seed bed.

### Sowing

The suggested sowing rates for the wildflower grassland seed mixes is 40kg/ha (4g/m²). Seed is best sown in the autumn or spring. The seed must be surface sown and can be applied by a machine. Thereafter, the seed should be firmed in with a roll to give good soil / seed contact.

Yellow rattle can be sown at a rate of between 0.1g and 1g per  $m^2$ . Yellow rattle is best sown in autumn.



# First Year Management

Most of the meadow species are perennial and are slow to establish. They will not usually flower in their first growing season. Soon after sowing there will be a flush of annual weeds, arising from the soil seed bank. These weeds can look unsightly, but they will offer shelter to the sown seedlings, are great for bugs, and they will die before the year is out. So, resist cutting the annual weeds until mid to late summer, especially if the mixture contains yellow rattle. The sward should be cut in August-September and all arisings removed. This will reveal the young meadow, which can then be kept short by mowing through to the end of March of the following year. Residual perennial weeds such as docks, thistles and nettles should be carefully dug out (herbicide is not to be used).

#### Management Once Established (Years 2-5)

In the second and subsequent years, the grassland should be managed around a main summer cut. After flowering in late July or August, the grassland should be mown once to 50mm with the arisings left in situ for 1-7 days to allow seeds to shed, then removed from site. Any regrowth can be cut in late autumn / winter to 50mm and again in spring if needed. Perennial weeds such as nettles, thistles and docks should be removed by digging out only (herbicide is not to be used).

The species mix used (including yellow rattle) is expected result in at least 20% of the sward being less than 7cm and at least 20% more than 7cm.

#### 3.2.3 Individual Trees

Trees to be planted will include <u>3no. silver birch</u> (<u>Betula pendula</u>) and <u>3no. rowan</u> (<u>Sorbus aucuparia</u>). Ornamental variants must be avoided, as these would be a lower value resource to native faunal species and may not meet the required 'moderate' condition (see below).

Imported topsoil and site soils shall be to British Standards BS 3882 - Multipurpose Grade. Spread to 300mm depth over areas to be planted with trees. Remaining minimum rooting depth to be provide by a good quality subsoil to BS 8601:2013, free of building material debris to achieve a rooting depth of 900mm.

It is recommended to plant at least one more tree to account for failure.

The trees will be sourced from a reputable stockist using British seed stock.

Whips or feathered trees will be purchased.

Tree planting ideally to be undertaken November to March (dormant season).

Trees to be used shall be root balled or container grown and planted into pits of an appropriate size to accommodate the root system without restriction, backfilled with a 3:1 topsoil: compost mix and shall be secured to a machine rounded stake using 1 no. tree tie with rubber spacer. Finished height of stake shall not exceed 1/3 height of staked tree above ground. A thick mulch is to be used to retain moisture and suppress weeds.

Trees to be spaced a minimum of 2m apart.

The trees must be protected from grazing animals (via tree guards or fencing) if required.



#### 3.2.4 Hedgerows - Creation

The species-rich native hedgerow will contain <u>hawthorn</u> (*Crataegus monogyna*), <u>blackthorn</u> (*Prunus spinosa*), dog rose (*Rosa canina*) and holly (*Ilex aquifolium*).

Hedge to be planted in a previously prepared trench, 500mm wide and 450mm deep backfilled with a 3:1 mix of multipurpose topsoil to BS3882:2007 and planting compost. Bareroot transplants to be dipped in a suitable mychorrizal dip before planting. Plants to be planted in a double staggered row, 300-350mm wide, at 5nr. plants per linear metre with species planted randomly throughout in groups of 7 to 30 of a single species. The hedge lines shall be mulched after planting with forest mulch to a uniform depth of 50mm.

### 3.2.5 Habitat Condition Requirements & Targets

#### **Other Neutral Grassland**

Table 3.1 provides a list of the habitat condition criteria for each habitat parcel. In order to meet the stated moderate target condition, the grassland would need to **pass 3-5 of the 6 specified criteria including essential criterion A.** 

#### **Individual Trees**

As per Table 3.1, in order to meet the stated moderate target condition, the trees would need to **pass** 3-4 of the 5 specified criteria.

**Table 3.1. Criteria for target conditions (habitats)** 

Condition Required	Condition Assessment Criteria						
Other Neutr	Other Neutral Grassland						
	А	The grassland is a good representation of the habitat type it has been identified as, based on its UKHab description - the appearance and composition of the vegetation closely matches the characteristics of the specific grassland habitat type. Indicator species listed by UKHab for the specific grassland habitat type are consistently present.					
	В	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20 per cent is more than 7 cm) creating microclimates which provide opportunities vertebrates and invertebrates to live and breed.					
	С	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.					
Moderate	D	Cover of bracken Pteridium aquilinum is less than 20% and cover of scrub (including bramble <i>Rubus fruticosus</i> agg.) is less than 5%.					
	E	Combined cover of species indicative of sub-optimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.					
	F	There are 10 or more vascular plant species per m <sup>2</sup> present, including forbs that are characteristic of the habitat type (excluding certain species referenced in the habitat condition spreadsheet).					
Individual Trees							
	Α	The tree is a native species (or at least 70% within the block are native species).					
Moderate	В	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).					
	С	The tree is mature (or more than 50% within the block are mature)					



Condition Required		Condition Assessment Criteria		
	D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.		
	Е	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.		
	F	More than 20% of the tree canopy area is oversailing vegetation beneath.		

# 3.2.6 Hedgerow Condition Targets and Requirements

# **Species-rich Native Hedgerow**

As per Table 3.2, in order to meet the stated moderate target condition, the hedgerow would need to have no more than 4 failures in total; and should not fail both attributes in more than one functional group.

**Table 3.2. Criteria for target conditions (hedgerows)** 

Attributes and Functional Group		Criteria description	Condition Assessment Criteria	
A1.	Height	>1.5 m average along length	The average height of woody growth estimated from base of stem to the top of the shoots, excluding any bank beneath the hedgerow, any gaps or isolated trees.  Newly laid or coppiced hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).  A newly planted hedgerow does not pass this criterion (unless it is >1.5 m height).	
A2.	Width	>1.5 m average along length	The average width of woody growth estimated at the widest point of the canopy, excluding gaps and isolated trees.  Outgrowths (such as blackthorn <i>Prunus spinosa</i> suckers) are only included in the width estimate when they are >0.5 m in height.  Laid, coppiced, cut and newly planted hedgerows are indicative of good management and pass this criterion for up to a maximum of four years (if undertaken according to good practice).	
B1.	B1. Gap - hedge base of canopy <0.5 m for >90% of length		This is the vertical 'gappiness' of the woody component of the hedgerow, and its distance from the ground to the lowest leafy growth.  Certain exceptions to this criterion are acceptable (see page 65 of the Hedgerow Survey Handbook).	
B2.	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5 m	This is the horizontal 'gappiness' of the woody component of the hedgerow. Gaps are complete breaks in the woody canopy (no matter how small).  Access points and gates contribute to the overall 'gappiness' but are not subject to the >5 m criterion (as this is the typical size of a gate).	



Attributes and Functional Group		Criteria description	Condition Assessment Criteria	
C1.	Undisturbed ground and perennial vegetation	>1 m width of undisturbed ground with perennial herbaceous vegetation for >90% of length:  • Measured from outer edge of hedgerow; and • Is present on one side of the hedgerow (at least).	This is the level of disturbance (excluding wildlife disturbance) at the base of the hedgerow.  Undisturbed ground is present for at least 90% of the hedgerow length, greater than 1 m in width and must be present along at least one side of the hedgerow.  This criterion recognises the value of the hedgerow base as a boundary habitat with the capacity to support a wide range of species. Cultivation, heavily trodden footpaths, poached ground etc. can limit available habitat niches.	
C2.	Nutrient- enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	The indicator species used are nettles <i>Urtica</i> spp., cleavers <i>Galium aparine</i> and docks <i>Rumex</i> spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	
D1.	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA3) and recently introduced species.	Recently introduced species refer to plants that have naturalised in the UK since AD 1500 (neophytes).  Archaeophytes count as natives. For information on archaeophytes and neophytes see the JNCC website4, as well as the BSBI website5 where the 'Online Atlas of the British and Irish Flora'6 contains an up-to-date list of the status of species. For information on invasive non-native species see the GB Non-Native Secretariat website7.	
D2.	D2. Current undisturbed ground is free of damage caused by human activities.		This criterion addresses damaging activities that may have led to or lead to deterioration in other attributes.  This could include evidence of pollution, piles of manure or rubble, or inappropriate management practices (for example, excessive hedgerow cutting).	



# 3.3 Work Programme

Table 3.3 provides a timetable for the habitat enhancement, creation and management actions for the site during Years 1 to 5.

Table 3.3. Timetable for annual management requirements

Habitat	Management Action	Year	Timings	Management Requirements	Time to Target Condition
	Sowing	1	Spring or autumn ideal	See Section 3.2.2.	
Other Neutral	Mowing	1	Mid to late August and as required in winter until March.	See Section 3.2.2.	5 yrs – Created
Grassland	Mowing	2 -5	Mid to late August after establishment	See Section 3.2.2.	grassland
	Weed control (if required)	2-5	June-July	See Section 3.2.2.	
Individual	Tree planting	1	October – February	See Section 3.2.3 & 3.2.4	27 yrs (trees)
trees & hedgerow	Replacement planting (if required)	2-5	October – February as required	See Section 3.2.3 & 3.2.4	5 years (hedgerow)



# 4 ROLES & RESPONSIBILITIES

# 4.1 Funding Mechanism & Responsibilities

Mr and Mrs Norris (the site owners) are responsible for the delivery of all BNG requirements detailed within this document and for complying with the biodiversity related planning conditions detailed within the consent notice. All habitats included within this HMMP will be secured and maintained for at least 30 years in line with legislation.

The site owners will follow the stated habitat establishment and management measures within this document. This will include the implementation of remedial actions should the habitats not meet the required conditions.

Due to the habitat types, it is not envisaged that significant habitat management actions are required for the habitats after the 5-year establishment period. For example, the grassland will only be needed to be cut once a year and the trees / scrub should not require any works (unless dead or diseased).

# 4.2 Ecological Clerk of Works

An Ecological Clerk of Works (ECoW) from Knight Sky Ecology Ltd or other ecological consultancy is to be appointed prior to the commencement of any construction works and will oversee all biodiversity related aspects of the scheme throughout the duration of the landscaping and habitat establishment schedule (Years 1-5).

#### 4.3 Remedial Actions

Any trees which, within a period of 5 years from the completion of the development, die or are removed or become seriously damaged or diseased shall be replaced in the next planting season with others of a similar size or species as approved.



# 5 MONITORING & REPORTING

# 5.1 Biodiversity Monitoring

As per condition 20, first use of the dwelling hereby approved shall not take place until:

- I. the habitat creation and enhancement works set out in the approved HMMP have been completed; and
- II. a completion report, evidencing the completed habitat enhancements, has been submitted to, and approved in writing by the Local Planning Authority.

With respect to the very limited habitat creation measures, it is not considered proportionate for the development to contract an Ecological Clerk of Works for the required monitoring commitments. The most important commitment is the implementation and establishment of the grassland, trees and hedgerows. The recommended approach is for the site owners (and person responsible for the delivery and management of the habitats) to submit a very concise report using the example table template below. The table should include photos of the planting and any evidence to show implementation of the correct specifications (e.g., tree labels, seed mix, technical data sheet or a purchase receipt).

The monitoring reports are suggested to be sent in **Year 1** (prior to first occupation) and **Year 5** (full **establishment**). The land including the created habitats are to be secured for at least 30 years in line with the legislation. There should be no risk to the biodiversity measures in the long term.

Table XX. Written Stone Farm - HMMP - YEAR 1

Habitat Type	Monitoring Interval and Timing	Example Description
Trees	Year 1 June 2026	8 trees planted in line with the specification of the HMMP. Undertaken December 2025. Tree species comprised:  • 3no. Betula pendula (silver birch)  • 5no. Sorbus aucuparia (Rowan)
Grassland	Year 1 June 2026	Ground prepared and grassland seeded with EM3 Special General- Purpose Meadow Mixture in March 2025.
Hedgerow	Year 1 June 2026	Hedgerow planted in accordance with the specification of the HMMP. Undertaken December 2025

### Photos - Year 1

Insert photos of tree labels here

Insert photos of trees in-situ here

Insert photos of grassland seed mix data sheet

#### **Notes of Target Condition**

- Grassland Habitat condition on course to pass 3-5 of the 6 specified criteria including essential criterion A.
- Trees Habitat condition on course to pass 3-4 of the 5 specified criteria by Year 27.
- Hedgerow On course to meet specified conditions.

# **Remedial Actions**

One dead tree identified. To be replaced on a like for like basis within the next planting season.



# **APPENDIX A. FIGURES**

Figure 1. UK Habitat Classification Map (Baseline)

Figure 2. UK Habitat Classification Map (Post-development)



