South Pavenhill Farm, Purton, Swindon SN5 4FH

Habitat Management and Monitoring Plan

Lovell

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5	**Baseline** Condition Assessment Sheets

Executive Summary

This Habitat Management and Monitoring Plan (HMMP) has been prepared by Ascerta on behalf of Lovell for the proposed development at South Pavenhill Farm, Purton, Swindon SN5 4FH. The plan has been prepared to set out the long-term management, maintenance and monitoring requirements for habitats created and enhanced as part of the development and to support delivery of the Biodiversity Net Gain commitments identified within the Biodiversity Impact Assessment.

The HMMP outlines the management, monitoring and maintenance of habitats for a period of 30 years. Its primary objective is to ensure that habitats achieve and maintain their target habitat types and conditions, thereby delivering the biodiversity units committed to within the Biodiversity Metric 4.0. The HMMP provides the long-term management prescriptions, monitoring requirements and adaptive management measures necessary to secure the ecological value of the proposed habitats.

- Site Overview: The site comprises predominantly modified grassland, with a small area of mixed scrub and a species-rich native hedgerow with trees. The baseline comprises 5.01 ha of modified grassland in Moderate condition, 0.013 ha of mixed scrub in Moderate condition and 0.85 km of species-rich native hedgerow with trees in Good condition.
- Habitat Outcomes Post Development: The proposals include the enhancement of 1.5439 ha of modified grassland to other neutral grassland in Moderate condition. Habitat creation includes other neutral grassland, mixed woodland, mixed scrub, traditional orchard, modified grassland, urban trees, vegetated gardens and wetland/SuDS habitats. The proposals also include retention of 0.74 km of the existing species-rich native hedgerow with trees and creation of 0.311 km of native hedgerow and 0.081 km of non-native and ornamental hedgerow. The SuDS feature will incorporate wetland vegetation, with the pond component managed to establish and maintain the pond habitat committed to within the Biodiversity Metric.
- Biodiversity Net Gain: The proposals deliver a net gain of +3.51 habitat area units (+17.42%), exceeding the 10% requirement for habitat area units. A deficit of 2.39 hedgerow units remains and will require additional provision outside the habitat management commitments secured by this HMMP.
- Monitoring and Maintenance: Habitat establishment and condition will be monitored over the 30-year management period, with management adapted where monitoring identifies that habitats are not progressing towards or maintaining their specified target condition.
- Long-term Management: Management will include appropriate grassland cutting, woodland and scrub establishment and management, orchard management, tree and hedgerow management, management of the SuDS/pond feature, control of invasive non-native species, replacement of failed planting and remedial measures where target habitat conditions are not being achieved.
- Responsibility: Implementation, maintenance and monitoring responsibilities will be assigned to the appropriate management body responsible for the long-term management of the development's ecological habitats.

1. Introduction

This HMMP has been commissioned by Lovell for the proposed residential development at South Pavenhill Farm, Purton, Swindon SN5 4FH. The proposed development comprises the erection of 60 residential dwellings with associated access, landscaping and greenspace.

This HMMP has been prepared to set out the long-term management, maintenance and monitoring requirements for habitats created and enhanced as part of the proposed development and to support delivery of the Biodiversity Net Gain commitments identified within the Biodiversity Impact Assessment.

The site is centred on Ordnance Survey Grid Reference (OSGR) SU 07761 87326 and the What3Words reference is sour.cherubs.bookshop, see Figure 1.1 below.



Figure 1.1: Extent of the site

The site comprises predominantly modified grassland with a small area of mixed scrub and a species-rich native hedgerow with trees along the site boundary. The development proposals include habitat creation and enhancement within areas of public open space, including other neutral grassland, mixed woodland, mixed scrub, traditional orchard, tree and hedgerow planting and wetland/SuDS habitats.

This HMMP provides the prescriptions required for the establishment and long-term management of these habitats over a 30-year period, together with monitoring and remedial measures to ensure that the habitat types and target conditions committed to within the Biodiversity Metric 4.0 are achieved and maintained.

1.1 Aims and Objectives

This HMMP provides an overview of how habitats will be managed. It also sets out monitoring proposals for habitats and certain species present on site. It should also be noted that the landscape architect/contractor will also advise on specific management of landscaped areas, whilst adhering to the ecological management activities contained herein.

It may be appropriate for this document to be updated over the period; however, the overall extents and types of created habitats, and their ecological value, are unlikely to change. Proposals for monitoring may also identify issues requiring remedial measures and alteration to the management prescriptions detailed in this document.

1.2 Site Safeguarding

The appointed management body responsible for the long-term management of the development will be responsible for the implementation of this HMMP. The stated management and monitoring will be undertaken for a period of 30 years. Implementation of the HMMP will be secured through the relevant planning mechanism and will therefore be binding upon any future operator, owner or occupier of the land subject to this HMMP throughout the 30-year management period.

The responsible management body will also undertake appropriate safeguarding measures, including the reinstatement or replacement of habitats or vegetation following accidental damage or failure, control of invasive non-native species, prevention and remediation of pollution or other significant damage, and removal of dumped materials where these may affect the habitats covered by this HMMP.

1.3 Project Background

The proposed development comprises the erection of 60 residential dwellings with associated access, landscaping and greenspace at South Pavenhill Farm, Purton, Swindon SN5 4FH.

Table 1.1 below summarises key project and organisational details for this HMMP.

Table 1.1: Key project and organisational details for this HMMP

Site overview	Description
Project type	Residential development
Development Name and Address	South Pavenhill Farm, Purton, Swindon SN5 4FH
BNG Project Name and Address	P.21464.21 South Pavenhill Farm, Purton, Swindon SN5 4FH
Author Organisation	Ascerta
Landowner	**Lovell**
Land Manager	**Lovell**
Responsible person/organisation for creating or enhancing the habitat	**Lovell**
Period covered by this management plan	From commencement of habitat implementation to 30 years following the completion of initial capital works. The plan covers a preliminary period of between 2026 (Year 0) to 2057 (Year 30).
Planning authority	**Wiltshire Council**
Planning reference	**To be Confirmed**
BNG register reference (if applicable)	Not Applicable
Central OS Grid Reference	SU 07761 87326
Metric revision/title	P.1464.21C – The Statutory Biodiversity Metric Calculation Tool
Are any Irreplaceable Habitats present onsite	Yes: ☐ No: ☒

2. Habitat Baseline Conditions, Creation and Management

2.1 Current Land Use Summary

The proposed development site at South Pavenhill Farm, Purton, Swindon SN5 4FH has been subject to ecological and arboricultural assessment. The surveys and assessments relevant to this HMMP are detailed in Table 2.1 below.

Table 2.1: Previous Ecological and Arboricultural Surveys at South Pavenhill Farm

Survey	Author	Date
Preliminary Ecological Appraisal, Ref. P.1464.26A	Ascerta	May 2026
Arboricultural Impact Assessment, Ref. P.1464.26	Ascerta	May 2026
Biodiversity Impact Assessment, Ref. P.1464.21C	Ascerta	September 2026
The Statutory Biodiversity Metric Calculation Tool, Ref. P.1464.21C	Ascerta	September 2026
Landscape Ecology Management Plan, Ref. P.1464.21	Ascerta	July 2026

2.2 Baseline Habitats On-site

The baseline area habitats, Drawing P.1464.21.E22 Baseline Habitats, Appendix 1, include two habitat types within the development area. Following the methods set out in Biodiversity Metric 4.0, biodiversity scores have been calculated and assessed and are displayed in Table 2.2 below.

Table 2.2: Baseline: Habitat areas biodiversity calculation

Existing area habitats				Distinctiveness		Condition		BBU
Broad habitat	Habitat type	Irreplaceable habitat	Area (hectares)	Distinctiveness	Score	Condition	Score	
Grassland	Modified grassland	No	5.01	Low	2	Moderate	1	20.04
Heathland and shrub	Mixed scrub	No	0.013	Medium	4	Moderate	1	0.10
Total habitat Areas ha *(exc. trees)*			**5.02**	**Biodiversity baseline units**				**20.14**

The baseline comprises 5.01 ha of modified grassland in Moderate condition and 0.013 ha of mixed scrub in Moderate condition. The modified grassland provides 20.04 BBU, whilst the mixed scrub provides 0.10 BBU. Collectively, the baseline area habitats provide 20.14 BBU. Please refer to Drawing P.1464.21.E22 Baseline Habitats, Appendix 1, and Table 2.2 above.

The baseline hedgerows and linear features, Drawing P.1464.21.E22 Baseline Habitats, Appendix 1, include one hedgerow type within the development area. Following the methods set out in Biodiversity Metric 4.0, biodiversity scores have been calculated and assessed and are displayed in Table 2.3

Table 2.3: Baseline: Hedgerow Lengths biodiversity calculation

Existing area habitats			Distinctiveness		Condition		BBU
Hedge number	Habitat type	Length (km)	Distinctiveness	Score	Condition	Score	
H1	Species-rich native hedgerow with trees	0.85	High	6	Good	3	15.30
Total hedgerow lengths		**0.85**	**Biodiversity Baseline Units**				**15.30**

The site comprises 0.85 km of species-rich native hedgerow with trees in Good condition, providing a total of 15.30 baseline hedgerow biodiversity units. Please refer to Drawing P.1464.21.E22 Baseline Habitats, Appendix 1, and Table 2.3 above.

Drawing P.1464.21 L01–L04B Landscape Layout and P.1464.21 L05–L09B Planting Plan, Appendix 2, show the proposed habitat enhancement and creation within the development. Habitat area and linear feature distinctiveness and condition scores have been calculated and assessed and are displayed in Tables 2.4, 2.5. 2.6, 2.7 below.

Table 2.4: Post-development: Habitat areas enhanced biodiversity calculation

Broad habitat	Proposed habitat	Area (hectares)	Distinctiveness		Condition		EBU
			Distinctiveness	Score	Condition	Score	
Grassland	Modified grassland> Other neutral grassland	1.54	Low>Medium	4	Moderate	2	10.50
Total habitat areas enhanced		**1.54**	**Enhanced biodiversity units**				**10.50**

The habitat area to be enhanced on-site comprises 1.5439 ha of modified grassland which will be enhanced to other neutral grassland in Moderate condition, providing 10.50 enhanced biodiversity units. Please refer to the Landscape Layout and Planting Plan, Appendix 2, and Table 2.4 above.

Table 2.5: Post-development: Habitat areas created biodiversity calculation

Broad habitat	Proposed habitat	Area (hectares)	Distinctiveness		Condition		CBU
			Distinctiveness	Score	Condition	Score	
Urban	Vegetated garden	0.4312	Low	2	Condition Assessment N/A	1	0.83
Urban	Vegetated garden	0.136	Low	2	Condition Assessment N/A	1	0.26
Woodland and forest	Other woodland; mixed	0.117	Medium	4	Moderate	2	0.32
Heathland and shrub	Mixed scrub	0.3553	Medium	4	Moderate	2	2.38
Urban	Introduced shrub	0.0027	Low	2	Condition Assessment N/A	1	0.01
Grassland	Other neutral grassland	0.297	Medium	4	Moderate	2	1.99
Urban	Sustainable drainage system	0.0536	Low	2	Poor	1	0.07
Grassland	Other neutral grassland	0.041	Medium	4	Moderate	2	0.27
Grassland	Other neutral grassland	0.1764	Medium	4	Moderate	2	1.18
Grassland	Modified grassland	0.4064	Low	2	Poor	1	0.78
Individual trees	Urban tree	0.5822	Medium	4	Poor	1	1.63
Urban	Developed land; sealed surface	1.1361	V. low	0	N/A - Other	0	0.00
Grassland	Modified grassland	0.0909	Low	2	Poor	1	0.18
Lakes	Ponds (non-priority habitat)	0.016	Medium	4	Poor	1	0.06
Individual trees	Urban tree	0.6514	Medium	4	Poor	1	1.82
Grassland	Other neutral grassland	0.1115	Medium	4	Moderate	2	0.75
Grassland	Traditional orchards	0.1046	High	6	Moderate	2	0.62
Total habitat areas created		**3.48**	**Created biodiversity units**				**13.15**

The habitat areas to be created on-site comprise vegetated gardens, mixed woodland, mixed scrub, introduced shrub, other neutral grassland, sustainable drainage system, modified grassland, urban trees, developed land; sealed surface, ponds (non-priority habitat) and traditional orchard. The proposed traditional orchard comprises an area of 0.1046 ha and will be established through the planting of fruit trees, including apple and pear varieties,

within the area identified for orchard planting on the proposed landscape plans. The planting specification includes 'Egremont Russet' and 'Charles Ross' apple and 'Conference' pear, supporting its classification as traditional orchard. Collectively, 3.48 ha of habitat creation will provide 13.15 biodiversity units. Please refer to the Landscape Layout and Planting Plan, Appendix 2, and Table 2.5 above.

Table 2.6: Post-development: Hedgerow lengths / linear features retained / Retained biodiversity calculation

Existing area habitats			Distinctiveness		Condition		RBU
Hedge number	Habitat type	Length (km)	Distinctiveness	Score	Condition	Score	
H1	Species-rich native hedgerow with trees	0.74	High	6	Good	3	13.32
Total linear features retained		**0.74**	Retained biodiversity units				**13.32**

The linear feature to be retained on-site comprises 0.74 km of species-rich native hedgerow with trees in Good condition, retaining 13.32 biodiversity units. Please refer to the Landscape Layout and Planting Plan, Appendix 2, and Table 2.6 above.

Table 2.7: Post-development: Hedgerow lengths / linear features created biodiversity calculation

Existing area habitats			Distinctiveness		Condition		CBU
Hedge number	Habitat type	Length (km)	Distinctiveness	Score	Condition	Score	
NA	Native Hedgerow	0.311	Low	2	Moderate	2	1.04
	Non-native and ornamental hedgerow	0.081	V. low	1	Poor	1	0.08
Total linear features retained		**0.39**	Retained biodiversity units				**1.12**

The linear features to be created on-site comprise 0.311 km of native hedgerow in Moderate condition and 0.081 km of non-native and ornamental hedgerow in Poor condition. Collectively, 0.392 km of hedgerow creation will provide 1.12 biodiversity units. Please refer to the Landscape Layout and Planting Plan, Appendix 2, and Table 2.7 above.

2.4 Impacts to Biodiversity: Statement

Based on the current development proposals and proposed habitat creation and enhancement measures, the development will result in a net gain of +3.51 (+17.42%) habitat area units within the site. This exceeds the mandatory 10% Biodiversity Net Gain requirement for habitat area units.

The proposals result in a net loss of -0.86 (-5.63%) hedgerow units. Therefore, the required 10% net gain has not been achieved for hedgerow units, with a deficit of 2.39 hedgerow units remaining. The habitat creation, enhancement and long-term management measures relevant to the on-site biodiversity units are detailed within this HMMP.

3. Site Baseline, Environmental Information and Associated Impacts Checklist

Consideration has been given to the sites Baseline and Environmental Information listed below within **Table 3.1**. Including appropriate contextual information for the management prescriptions provided later in this document, informing the proposals and project design.

Table 3.1: Site Baseline and Environmental Information

Baseline and Environmental Information	Relevant information	Check box	Document Reference or Reason if not included
Statutory / Non-statutory Designated Sites	The Preliminary Ecological Appraisal identified statutory and non-statutory designated sites within the ecological study area. Given the nature of the proposed development, these do not influence the delivery of the landscape proposals or HMMP.		P.1464.21 Preliminary Ecological Appraisal, South Pavenhill Farm, Purton, Swindon SN5 4FH
Protected and Notable Species	The Preliminary Ecological Appraisal identified protected and notable species considerations relevant to the site. Measures relating to protected and notable species are addressed within the Construction Ecological Management Plan and have informed the proposed habitat creation and management.	X	P.1464.21 Preliminary Ecological Appraisal, South Pavenhill Farm, Purton, Swindon SN5 4FH; P.1464.21 Construction Ecological Management Plan, South Pavenhill Farm, Purton, Swindon SN5 4FH
Invasive Non-Native Species (INNS)	Wall cotoneaster was recorded along the eastern boundary of the site. Appropriate control measures are detailed within the Invasive Species Method Statement.	X	P.1464.21 Invasive Species Method Statement, South Pavenhill Farm, Purton, Swindon SN5 4FH
Biological Records Plan – Sites and Species	Biological records obtained as part of the Preliminary Ecological Appraisal informed the ecological assessment of the site and proposed habitat measures.		P.1464.21 Preliminary Ecological Appraisal, South Pavenhill Farm, Purton, Swindon SN5 4FH
Baseline Habitats Survey	The baseline habitat survey has informed the habitat creation and enhancement associated with the proposals.	X	P.1464.21 Biodiversity Impact Assessment, South Pavenhill Farm, Purton, Swindon SN5 4FH
Public Access	Public access associated with the proposed residential development has been considered in the design and management of the proposed landscape and habitats.	X	P.1464.21 Landscape and Visual Impact Appraisal, South Pavenhill Farm, Purton, Swindon
Climate	The proposed landscape typologies, habitat creation and long-term management measures have been considered in relation to the successful establishment and maintenance of habitats over the management period.		P.1464.21 Landscape Ecology Management Plan, South Pavenhill Farm, Purton, Swindon SN5 4FH
Geology and Topography	The geology and topography of the site have not significantly influenced the delivery of the landscape proposals or HMMP. The proposed habitat creation and enhancement measures are considered appropriate to the site.		Geology and topography have not significantly influenced the proposals.

Agricultural Land Status	The site comprises predominantly agricultural grassland. Agricultural land classification has not influenced the habitat creation, enhancement or long-term management measures within this HMMP.		Agricultural land status has not influenced the implementation of the HMMP.
Soil and Substrates	Existing soils and substrates will influence the establishment of proposed grassland, woodland, scrub, orchard and wetland habitats. Appropriate ground preparation and establishment measures will be undertaken in accordance with the landscape proposals and this HMMP.	X	P.1464.21 Landscape Ecology Management Plan, South Pavenhill Farm, Purton, Swindon SN5 4FH
Contaminated Land	No information has been identified which indicates that contaminated land would influence the delivery of the habitat creation and enhancement measures within this HMMP.		Contaminated land has not been identified as influencing the implementation of this HMMP.
Hydrology and Drainage	The proposed development incorporates SuDS and wetland habitat creation. Hydrology and drainage therefore directly influence the establishment and long-term management of these habitats.	X	P.1464.21 Landscape Ecology Management Plan, South Pavenhill Farm, Purton, Swindon SN5 4FH
Landscape Character and Designations	The landscape context of the site has informed the proposed landscape design, including native woodland, scrub, hedgerow, orchard, grassland and wetland habitat creation.	X	P.1464.21 Landscape and Visual Impact Appraisal, South Pavenhill Farm, Purton, Swindon
Historic Land Use	The site has historically been managed as agricultural land. This does not significantly constrain the proposed habitat creation, enhancement or management measures.		Historic land use has not significantly influenced the delivery of the HMMP.
Historic Environment and Earth Heritage	No historic environment or earth heritage features have been identified which would affect implementation of the habitat creation, enhancement or management measures within this HMMP.		None known that would influence the proposals.

4. Management Operation Necessary to Achieving Aims and Objectives

4.1 Habitat Management and Monitoring

All habitats shall be managed and monitored to ensure successful establishment and achievement of target condition (see Target Condition Assessment Sheets, at Appendix 4). Monitoring shall be undertaken at agreed intervals and any necessary remedial management implemented where targets are not being met.

4.2 Overview

This section describes the management and monitoring measures required to ensure that all newly created habitats successfully establish, deliver the intended ecological functions, and achieve their target BNG outcomes in line with the Environment Act 2021 and the DEFRA (2023) Biodiversity Metric 4.0. Management and monitoring activities will ensure that habitat condition targets are met, maintained, and reported to the Local Planning Authority over the 30-year monitoring period or as otherwise specified within the approved BNG framework.

4.3 Purpose

The purpose of this section is to outline the approach for monitoring and maintaining created and enhanced habitats so that they meet the target condition and biodiversity unit values defined within the BNG metric calculations (Ascerta Report P.1464.21 Biodiversity Impact Assessment, September 2026) and the approved management plan.

4.4 Monitoring Frequency and Timing

Annual monitoring (refer to section 7) shall be undertaken for all created, retained and enhanced habitats on-site including individual trees, neutral grasslands, willow scrub and retained native hedgerows for the first 30 years post-development, unless otherwise agreed. Monitoring visits shall occur between May and August, when plant identification and habitat assessment are most reliable.

All monitoring shall be carried out by a suitably qualified ecologist or botanist, with demonstrable competence in habitat classification and species identification in accordance with UKHab (2023) and CIEEM (2021) Guidelines for Ecological Report Writing.

Monitoring will follow the principles set out in BS 8683:2021 - Process for Biodiversity Net Gain aligned with the Environment Act 2021 and BS 42020:2022 - Biodiversity Code of Practice for Planning and Development.

4.5 Assessment Criteria and Remedial Action

The established habitats shall be measured against the approved habitat creation and enhancement proposals, including P.1464.21 L01-L04B Landscape Layout and P.1464.21 L05-L09B Planting Plan. These set out the proposed habitat locations and planting, while the target condition criteria are provided within the Target Condition Sheets, Appendix 4, and are consistent with those used within the Statutory Biodiversity Metric.

Where failed planting or poor establishment is identified within the site, replacement planting shall be undertaken using equivalent native species of local origin, where appropriate, in consultation with the appointed ecologist and landscape architect.

If vegetation becomes dominated by one or a limited number of species, adaptive management measures, such as selective thinning, overseeding, cutting or targeted replanting shall be implemented to restore the intended species diversity and habitat condition, as appropriate to the habitat concerned, so that target condition can be achieved within the allocated timeframe (see Section 5).

All remedial works will be documented and reviewed during subsequent monitoring cycles to confirm successful establishment and ongoing progress towards the BNG targets.

4.6 Control of Invasive and Undesirable Species

Each monitoring visit shall include an inspection for colonising flora, with particular attention to non-native invasive species (INNS). The assessment shall include, but not be limited to, species listed under: Schedule 9 of the Wildlife and Countryside Act 1981 (as amended); The Invasive Alien Species (Enforcement and Permitting) Order 2019; and Relevant provisions of the Environment Act 2021**.**

Where such species are identified, control or removal shall be implemented in accordance with recognised best-practice guidance, including the Environment Agency (2010) - Managing Invasive Non-native Plants; and CIRIA C773 (2018) - Invasive Species Management for Infrastructure Managers.

All works shall be supervised by a competent ecologist (ECoW) to ensure legal compliance and prevent the further spread or ecological degradation of retained and created habitats on-site and the respective target condition.

4.7 Reporting and Review

Annual monitoring reports on remedial action and habitat condition shall be prepared at and submitted to the LPA and/or Natural England, where required and agreed, to demonstrate progress, any short fall towards trajectory habitat target conditions and the statutory biodiversity unit delivery.

Reports will detail:

- The results of the habitat condition assessments using Statutory BNG Metric 4.0 criteria (see Condition sheet targets, appendix 4)
- Details of any remedial, management, or enhancement actions undertaken
- Any changes to habitat extent or quality
- Suitable sources, such as dated photographic evidence and habitat survey data (DAFOR augmented Species lists and QGIS mapping for example)

Where results indicate a shortfall in condition and/or trajectory to target condition, the management regime shall be reviewed and updated in consultation between the responsible and governing bodies.

4.8 Long-Term Management and Adaptive Approach

The management prescriptions outlined within **Section 5** are designed to be adaptive, allowing modification in response to monitoring outcomes, such as change in climatic conditions, not considered or change in abiotic conditions, on-site and local ecological trends observed.

Any significant amendments to the management approach shall be documented within subsequent monitoring reports and agreed with the relevant body before implementation.

The overarching objective is to ensure that all habitats achieve and maintain their ascribed target condition (see Target Condition Sheets, appendix 4) and contribute long-term net gains in biodiversity value.

Table 4.1: Management summary

Consideration	Description
Habitats to be Retained, Created on-site.	The proposals comprise habitat enhancement and creation contributing to the overall biodiversity units within the proposed development, as shown on Drawing P.1464.21 L01-L04B Landscape Layout and Drawing P.1464.21 L05-L09B Planting Plan. The principal enhancement comprises 1.5439 ha of modified grassland to other neutral grassland in Moderate condition. Habitat creation includes other neutral grassland, mixed scrub, other mixed woodland, traditional orchard, modified grassland, vegetated gardens, introduced shrub, urban trees, pond/wetland habitat and associated SuDS planting. Existing hedgerow habitat will also be retained, with additional native and ornamental hedgerow creation. These habitats will be managed to achieve and maintain the target conditions specified within the Biodiversity Impact Assessment and Target Condition Sheets.
Timescale and Applicable Actions	Habitat creation and enhancement works will be undertaken in association with the development and landscape implementation works. Habitats subject to BNG commitments will be managed for a period of 30 years following completion of the relevant habitat creation or enhancement works. Management prescriptions and monitoring requirements are detailed within this HMMP.
Monitoring	Habitat monitoring will be undertaken by a suitably qualified ecologist to assess establishment and progress towards the target conditions defined within the Biodiversity Impact Assessment and Target Condition Sheets. Monitoring will identify any remedial or adaptive management required to ensure habitats remain on trajectory to achieve the committed BNG outcomes.
Funding	Landowner - **Lovell**
Legal Agreement	Management will be secured via the relevant condition.

5. Details of the Monitoring Needed to Measure the Effectiveness of Management

5.1 Proposed Individual Tree Planting

Table 5.1: Habitat Management Prescription - Proposed and Retained On-site Trees

Proposed habitat type	Urban trees
Proposed species	Proposed tree planting will comprise native and ornamental tree species as specified on Drawing P.1464.21 L05-L09B Planting Plan. Species selection and planting locations will provide structural diversity and contribute to the biodiversity value of the development.
Points Proposed / Retained	Please refer to Drawing P.1464.21 L01-L04B Landscape Layout and Drawing P.1464.21 L05-L09B Planting Plan, Appendix 2.
Target condition	**Poor**
Considered Habitat Failure Risk (HFR)	Low likelihood

Management objective

To ensure proposed tree planting is successfully established and managed to achieve and maintain Poor condition over the long term, in accordance with the target condition committed to within the Biodiversity Impact Assessment. Management will ensure appropriate establishment, replacement of failed specimens, protection from damage and appropriate formative pruning during establishment. Trees will subsequently be managed to maintain healthy growth and contribute to the structural and ecological diversity of the site.

Tree Descriptions

Table 5.2: Recorded trees, typical canopy form, growth rate, native status and management conditions

Tree / cultivar	Canopy form	Typical spread (m)	Litter	Growth rate	Native status	Condition targets / expected	Condition achieved
Field maple *(Acer campestre)*	Rounded	8–12	Moderate leaf litter	Moderate	UK native	A, B	Poor
Silver birch *(Betula pendula)*	Open / pyramidal	4–8	Light leaf litter	Fast	UK native	A, B	Poor
Downy birch *(Betula pubescens)*	Open / pyramidal	4–8	Light leaf litter	Moderate	UK native	A, B	Poor
Scots pine *(Pinus sylvestris)*	Conical when young, becoming irregular	6–10	Needle litter	Moderate	UK native	A, B	Poor
Wild cherry *(Prunus avium)*	Broad / rounded	8–12	Moderate leaf litter	Moderate	UK native	A, B	Poor
Bird cherry (*Prunus padus)*	Rounded / spreading	4–8	Moderate leaf litter	Moderate	UK native	A, B	Poor
Rowan *(Sorbus aucuparia)*	Open / rounded	4–8	Light leaf litter	Moderate	UK native	A, B	Poor
Small-leaved lime *(Tilia cordata)*	Broad / rounded	8–12	Moderate leaf litter	Moderate	UK native	A, B	Poor
Apple 'Charles Ross' *(Malus domestica 'Charles Ross')* **(orchard)**	Rounded / spreading	3–5	Moderate leaf and fruit litter	Moderate	Non-native cultivar	C, D, E, F, G, H	Moderate
Egremont Russet apple *(Malus domestica*	Rounded / spreading	3–5	Moderate leaf and fruit litter	Moderate	Non-native cultivar	C, D, E, F, G, H	Moderate

'Egremont Russet') **(orchard)**							
Conference pear *(Pyrus communis 'Conference')* **(orchard)**	Upright / spreading	3–5	Moderate leaf and fruit litter	Moderate	Non-native cultivar	C, D, E, F, G, H	Moderate

When managed in accordance with the prescriptions below, the proposed urban trees have the potential to achieve Poor condition, while trees forming the traditional orchard will be managed as part of the orchard habitat to achieve Moderate condition. The proposed orchard tree species are displayed within Table 5.2; see Section 5.5 – Traditional Orchard Management for the associated management prescriptions.

Tree Planting: Establishment Phase Prior to the End of Construction

Tree planting shall be undertaken in accordance with Drawing P.1464.21 L05-L09B Planting Plan and the establishment and maintenance requirements detailed within the P.1464.21 Landscape Ecology Management Plan (LEMP). The Planting Plan identifies the proposed native, ornamental and orchard tree planting and associated planting specifications.

- Tree pits shall be prepared to accommodate the root system of each specimen and provide suitable conditions for establishment.
- Proposed native and ornamental trees shall be planted, supported and staked in accordance with the Planting Plan.
- Trees shall be positioned to the locations shown on the approved Planting Plan.
- Trees shall be adequately watered following planting and during establishment as required.
- Planting areas shall be maintained to prevent excessive competition from weeds and other vegetation.
- Stakes, ties and other supports shall be inspected and adjusted or replaced where required.
- Dead, dying or failed trees shall be replaced with the same species, or an appropriate equivalent where agreed, to maintain the approved planting composition.
- Any works required to accommodate services, hard surfacing or foundations shall have regard to the requirements identified on the Planting Plan.

Establishment Phase (Years 1–2)

In accordance with the LEMP, the first two years will comprise the initial maintenance period, during which management will focus on successful establishment and healthy growth of the proposed planting.

- Trees shall be inspected regularly for establishment, health and condition.
- Watering shall be undertaken as necessary, particularly during prolonged dry periods.
- Weed growth around the base of newly planted trees shall be controlled to reduce competition.
- Stakes, ties and supports shall be checked and adjusted, repaired or replaced as necessary.
- Dead, dying or failed trees shall be replaced during the next appropriate planting season.
- Formative pruning shall be undertaken where required to remove dead, damaged, diseased or crossing growth and encourage appropriate tree form.
- Management shall ensure that the urban tree planting continues to meet the required species composition, including the target for at least 70% of trees within the assessed habitat to comprise native species.

Established Management (Years 3-5)

Years 3–5 will comprise the establishment period identified within the LEMP. Management during this period will ensure that proposed planting continues to establish and display healthy growth.

- Continue replacement of failed trees where necessary to maintain the intended planting composition.
- Continue watering during periods of prolonged dry weather where required.
- Stakes and ties shall be adjusted or removed when trees become sufficiently established and self-supporting.
- Undertake appropriate formative and health pruning where necessary.

- Monitor trees for evidence of damage, disease, pests or poor establishment and undertake appropriate remedial management.
- Maintain the required native species composition and overall distribution of tree planting.

Long-term Management (Years 6-30)
In accordance with the LEMP, Years 6–30 will comprise the maturing phase, during which less intensive management will be required. Ongoing monitoring and replacement planting will nevertheless be undertaken where necessary to maintain the character, diversity and ecological value of the proposed planting.

- Trees shall be inspected as part of routine landscape and HMMP monitoring.
- Pruning shall be limited to that required for tree health, safety and appropriate canopy development.
- Dead, dying or failed trees shall be replaced where necessary to maintain the intended tree planting and species composition.
- Trees shall be monitored for pests, disease, physical damage and deterioration.
- Management shall maintain the required native species composition and ensure that the urban tree habitat continues to achieve at least Poor condition.
- Management requirements shall be reviewed and adapted where monitoring identifies that the target habitat condition is not being maintained.

Monitoring and Adaptive Management
The LEMP requires the management plan to be reviewed at a minimum of five-year intervals, with ongoing monitoring used to assess the establishment and condition of proposed planting. Monitoring undertaken for this HMMP shall additionally assess the urban tree habitat against the applicable

Target Condition Sheet, Appendix 4. Where monitoring identifies failed planting, deterioration in tree health or failure to maintain the required native species composition, appropriate remedial management or replacement planting shall be undertaken.

The orchard trees identified within Table 5.2 form part of the traditional orchard habitat and will be managed in accordance with Section X – Traditional Orchard Management.

Protective Measures
Any pruning or removal of vegetation associated with tree management will be undertaken outside the main bird breeding season (1 March to 31 August inclusive), where practicable. Where works are required during this period, a suitably qualified ecologist shall undertake a nesting bird check prior to works commencing. If an active nest is identified, an appropriate species-specific buffer shall be established and works within the affected area delayed until the young have fledged.

Tree maintenance shall include the removal of branches or epicormic growth where necessary to maintain safe access, prevent obstruction of footpaths or lighting, and address health and safety concerns. Trees shall also be inspected for evidence of pests, disease, damage or structural defects, with appropriate remedial action undertaken where required.

Table 5.3: Condition classification per woodland group

Pest / diseases present	0 to 11% mortality	>11% and <25% mortality	≥25% mortality
No crown dieback or pest/disease present	Favourable	Intermediate	Unfavourable
Crown dieback and/or low risk pest/disease present	Intermediate	Intermediate	Unfavourable
Any presence of high-risk pest/disease	Unfavourable	Unfavourable	Unfavourable

Table 5.4: UK Tree pest and diseases including tree health risk

Disease / Pest	Risk Level	General Host / Infected
Acute/Chronic Oak Decline	High	• Sessile and pedunculate oak
Ash Dieback	High	• Ash
Asian Longhorn beetle	High	• Maple (Acer) • Horse chestnut • Birch • Willow • Poplar • Elm
Bronze Birch borer	High	• Birch
Canker	Low	• Any
Cryphonectria parasitica	High	• Castanea sativa
Horse Chestnut Bleeding Canker	High	• Aesculus hippocastanum
Horse Chestnut leaf miner	Low	• Aesculus hippocastanum
Ips amitinus	High	• Norway spruce
Ips duplicatus	High	• Norway spruce
Ips typographus	High	• Norway spruce
Oak Processionary Moth	Low	• Sessile and pedunculate oak
Phytophthora lateralis	High	• Lawson cypress
Phytophthora kernoviae	High	• Beech • Rhododendron • Rose
Phytophthora ramorum	High	• Larch • Beech • Sweet chestnut • Oak (Quercus spp.) • Rhododendron (primary reservoir) • Rose
Phytophthora austrocedri	High	• Juniper
Phytophthora spp.	High	• Larch • Beech • Oak (Quercus spp.) • Sweet chestnut • Alder (Alnus spp.) • Juniper • Lawson cypress • Birch, • maple, • horse chestnut (some species) • Rhododendron (primary reservoir)
Pine Lappet Moth	High	• Pinus spp.
Red Band Needle Blight	High	• Pinus spp.
Sawyer Beetle	Low	• Pinus spp.
Tomicus piniperda	Low	• Pinus spp.
Weevils	High	• Pinus spp.

5.2 Proposed Mixed Woodlands

Table 5.5: Habitat Management Prescription – proposed and retained mixed woodlands

Proposed habitat type	Mixed Woodlands (UKHab ref: w1h5 other woodland – mixed – mainly broadleaved)
Proposed species	The proposed mixed woodland will comprise a native species mix of silver birch (Betula pendula) 20%, downy birch (Betula pubescens) 20%, hazel (Corylus avellana) 10%, hawthorn (Crataegus monogyna) 10%, sessile oak (Quercus petraea) 10%, pedunculate oak (Quercus robur) 10%, rowan (Sorbus aucuparia) 10% and field maple (Acer campestre) 10%, as specified on Drawing P.1464.21 L05-L09B Planting Plan.
Areas proposed	Please refer to Drawing P.1464.21 L01-L04B Landscape Layout and Drawing P.1464.21 L05-L09B Planting Plan, Appendix 2.
Target condition	**Moderate**
Considered HFR	Low likelihood

Management objective

To establish and maintain the proposed mixed woodland as a structurally diverse, predominantly native woodland habitat capable of achieving and maintaining Moderate condition. Management will promote successful establishment, maintain native tree and shrub diversity, encourage development of structural variation and allow natural processes to progressively increase the ecological value of the woodland. Long-term management will seek to maintain healthy woodland cover while developing a varied vegetation structure and associated habitat features.

Woodland Tree Planting: Establishment Phase Prior to the End of Construction

All landscape works shall be carried out in full accordance with BS 4428: Code of Practice for General Landscape Operations and BS 3936:1992: Recommendations for Cultivations and Planting (Advanced Nursery Stock category). All works shall be undertaken during the appropriate planting season and only under suitable weather and ground conditions. The appointed contractor shall verify the location of all existing services and utilities and shall obtain any necessary instructions or approvals before proceeding.

Woodland planting shall be undertaken in accordance with Drawing P.1464.21 L05-L09B Planting Plan and the establishment and maintenance requirements detailed within the P.1464.21 Landscape Ecology Management Plan (LEMP). The woodland planting comprises silver birch 20%, downy birch 20%, hazel 10%, hawthorn 10%, sessile oak 10%, pedunculate oak 10%, rowan 10% and field maple 10%.

- Woodland planting shall comprise the native broadleaved species mix specified on the Planting Plan, with planting undertaken at the specified densities and locations.
- Planting shall be undertaken during the appropriate planting season and under suitable weather and ground conditions.
- Planting pits shall be appropriately prepared to accommodate the root system and provide suitable conditions for establishment.
- Trees and shrubs shall be planted upright, with roots appropriately spread and the root collar positioned at the correct finished ground level.
- Stakes, guards and other supports shall be installed where specified or required to protect young planting and support successful establishment.
- Planting shall be adequately watered following installation and subsequently as required during establishment.
- Weed growth shall be controlled around newly planted trees and shrubs to reduce competition for water, light and nutrients.
- Dead, dying or failed planting shall be replaced with the same species, or an appropriate equivalent where agreed, to maintain the specified woodland species composition and planting density.
- Management shall seek to maintain the predominantly native composition of the woodland and prevent any individual species from becoming disproportionately dominant.
  The initial maintenance, establishment and long-term management of the woodland shall follow the management periods established within the LEMP: Years 1–2 initial maintenance, Years 3–5 establishment and Years 6–30 long-term management.

Establishment Phase (Years 1–2)

- Water woodland planting as required to ensure successful establishment, particularly during prolonged dry periods.
- Maintain weed control around establishing trees and shrubs and top up mulch where required.
- Inspect stakes, ties and guards and adjust, repair or replace where necessary.
- Replace dead, dying or failed planting with like-for-like species during the next appropriate planting season.
- Undertake formative pruning where required to remove dead, damaged, diseased or crossing growth.
- Remove litter and debris where this may adversely affect woodland establishment.
- Monitor establishment, species composition and general plant health, with remedial management undertaken where required.

Established Management (Years 3+)

- During Years 3–5, continue replacement of failed planting where necessary to maintain the specified woodland extent, density and species composition.
- Remove stakes, ties and guards once planting is sufficiently established and self-supporting.
- Undertake selective thinning or pruning where required to promote healthy growth, structural diversity and prevent excessive dominance by individual species.
- Allow natural regeneration, understorey vegetation and ground flora to develop and be retained where appropriate.
- Retain standing and fallen deadwood where safe and appropriate to increase habitat complexity.
- Monitor browsing pressure and provide additional protection or replacement planting where browsing is affecting woodland establishment.
- Control invasive non-native species where identified.
- Monitor tree and shrub health, including evidence of pests, disease, damage or poor establishment, and undertake appropriate remedial management.
- From Year 6 onwards, allow the woodland to mature with less intensive intervention, while undertaking replacement planting or other remedial management where significant losses could compromise woodland extent, composition or condition.
- Maintain the woodland to achieve and subsequently retain Moderate condition throughout the 30-year management period.

Table 5.6: Condition classification per woodland group

Pest / diseases present	0 to 11% mortality	>11% and <25% mortality	≥25% mortality
No crown dieback or pest/disease present	Favourable	Intermediate	Unfavourable
Crown dieback and/or low risk pest/disease present	Intermediate	Intermediate	Unfavourable
Any presence of high-risk pest/disease	Unfavourable	Unfavourable	Unfavourable

Table 5.7: UK Tree pest and diseases including tree health risk

Disease / Pest	Risk Level	General Host / Infected
Acute/Chronic Oak Decline	High	• Sessile and pedunculate oak
Ash Dieback	High	• Ash
Asian Longhorn beetle	High	• Maple (Acer) • Horse chestnut • Birch • Willow • Poplar • Elm
Bronze Birch borer	High	• Birch
Canker	Low	• Any
Cryphonectria parasitica	High	• Castanea sativa
Horse Chestnut Bleeding Canker	High	• Aesculus hippocastanum
Horse Chestnut leaf miner	Low	• Aesculus hippocastanum
Ips amitinus	High	• Norway spruce
Ips duplicatus	High	• Norway spruce
Ips typographus	High	• Norway spruce
Oak Processionary Moth	**Low**	• **Sessile and pedunculate oak**
Phytophthora lateralis	**High**	• **Lawson cypress**
Phytophthora kernoviae	High	• Beech • Rhododendron • Rose
Phytophthora ramorum	High	• Larch • Beech • Sweet chestnut

		• Oak (Quercus spp.) • Rhododendron (primary reservoir) • Rose
Phytophthora austrocedri	High	• Juniper
***Phytophthora* spp.**	High	• Larch • Beech • Oak (Quercus spp.) • Sweet chestnut • Alder (Alnus spp.) • Juniper • Lawson cypress • Birch, • maple, • horse chestnut (some species) • Rhododendron (primary reservoir)
Pine Lappet Moth	High	• Pinus spp.
Red Band Needle Blight	High	• Pinus spp.
Sawyer Beetle	Low	• Pinus spp.
Tomicus piniperda	Low	• Pinus spp.
Weevils	High	• Pinus spp.

- The NF Green Stock Calculation of basal woodland area [Basal Area (m^2) = ($\pi \times$ DBH (diameter at breast height)^2) $\div$ 4] will be adopted at Year 5 and every 5 years thereafter to monitor woodland development and inform management requirements within the proposed mixed woodland.
- Selective tree thinning and coppicing to create structural diversity is recommended at year 10.

Coppicing Management

- No more than 10% of the total area of each woodland compartment shall be coppiced within any 10-year cycle.
- Coppicing shall be undertaken in small patches and on a rotational basis to promote structural and age diversity across the woodland.

Coppicing Prescriptions

- Coppicing works shall be undertaken during the winter period only (November-February inclusive).
- Shrubs identified for coppicing shall be clearly marked on site prior to works.
- All coppicing cuts shall be made as close to ground level as practicable, leaving a clean, sloping cut to shed water.
- Single-stemmed shrubs shall be cut at one point near ground level.
- Multi-stemmed shrubs shall be cut stem by stem, with each cut made as close as possible to the stool; stems shall not be removed by a single cut below the stool.
- Tools shall be selected according to stem size and condition and may include billhooks, bowsaws, or chainsaws.
- Where trees with large stems are coppiced, each stem shall be treated as an individual tree and appropriate felling techniques employed.
- Works shall be carried out to minimise damage and disturbance to adjacent trees, shrubs, ground flora, and soils.

Regeneration

- Natural regeneration shall be retained, and saplings and pole-stage trees shall not be removed unless otherwise agreed with the Land Manager.
- Any failed specimens will be replaced to the planting specification or similar to maintain native tree and shrub species diversity.

Protective Measures

Any clearance of vegetation to accommodate the proposals will be undertaken with appropriate consideration for potential use of the site by birds and bats. Cutting of vegetation, particularly those features that provide important roosting, nesting and commuting habitats (including woodland edges and open space) will be undertaken outside of the bird breeding season (1 March to 31 August, inclusive). Should the above timing constraints conflict with

any phased/timetabled works, it is recommended that works commence only after a suitably qualified ecologist has undertaken nesting bird checks 48 hours prior to works commencing to ensure no nesting birds are present. If nesting birds are found to be present during checks, then a suitable species–specific buffer zone will be allocated, and clearance of that area would be delayed until young have fledged.

Maintenance should also involve the removal of branches or epicormic growth around the trunk of the tree where it is restricting access, growing over footpaths or obstructing lighting to be cut back, and the inspection and reporting of any incidence of pests and diseases which could cause trees or limbs to fail.

5.3 Proposed Mixed Scrub

Table 5.8: Habitat Management Prescription – Proposed Mixed Scrub

Proposed Habitat Type	Mixed scrub
Proposed Species	Areas of native scrub planting will be established within the development as shown on Drawing P.1464.21 L05-L09B Planting Plan. Native tree/shrub planting is specified as predominantly 60–80 cm whip planting at 1 m centres to provide additional wildlife habitat.
Areas Proposed and Retained	Please refer to Drawing P.1464.21 L01-L04B Landscape Layout and Drawing P.1464.21 L05-L09B Planting Plan, Appendix 2.
Retained / Target Condition	**Moderate**
Considered HFR	Low Likelihood

Management objective
To establish and maintain the proposed mixed scrub as a structurally diverse habitat in Moderate condition. Management will promote successful establishment and development of native woody vegetation, while preventing excessive dominance by individual species and maintaining a varied age and structural composition. Management will also seek to provide suitable shelter, foraging and nesting opportunities for a range of wildlife.

Establishment Phase (Years 1–2)

- At least 80% of the scrub shall comprise native woody species and management will seek to maintain a diverse species composition.
- Newly planted scrub shall be watered as required during establishment, particularly during prolonged dry periods.
- Maintain weed control around establishing plants to reduce competition.
- Guards, ties and stakes shall be inspected and repaired, adjusted or replaced where necessary.
- Dead, dying or failed plants shall be replaced with suitable native species during the next appropriate planting season.
- Management shall encourage development of varied scrub structure and age classes, including areas of denser scrub and more open margins.
- Where appropriate, retain cut material, stumps and deadwood within or adjacent to scrub areas to provide additional habitat features.
- Invasive non-native species shall be controlled where identified.
- Establishment shall be monitored and remedial management undertaken where required to ensure progression towards Moderate condition.

Establishment Management (Years 3-30)

- Manage scrub on a rotational basis to maintain a varied age and structural composition and prevent the habitat developing into continuous mature woody vegetation.
- Undertake selective pruning or thinning where necessary, avoiding uniform cutting of the entire scrub area in any one year.

- Maintain a diversity of native woody species and prevent any individual species from becoming excessively dominant.
- Retain areas of dense scrub alongside more open margins and transitional vegetation.
- Allow natural regeneration where this contributes to the desired species composition and structural diversity.
- Replace significant planting failures where necessary to maintain scrub extent and condition.
- Retain suitable deadwood and cut material where safe and appropriate to provide additional habitat features.
- Control invasive non-native species where identified.
- Monitor plant health, browsing, pests, disease and physical damage and undertake remedial management where required.
- Maintain the scrub to achieve and subsequently retain Moderate condition throughout the 30-year management period.

Monitoring and Adaptive Management

The mixed scrub shall be monitored against the Target Condition Sheet provided in Appendix 4. Monitoring shall assess native woody species composition, structural and age diversity, vegetation condition, invasive non-native species and evidence of damage or inappropriate succession.
Where monitoring identifies that the scrub is not progressing towards or maintaining Moderate condition, management shall be adapted through selective thinning, rotational cutting, replacement planting, control of undesirable species or other appropriate remedial measures.

Protective Measures

Any clearance of vegetation to accommodate the proposals will be undertaken with appropriate consideration for potential use of the site by birds and bats. Cutting of vegetation, particularly those features that provide important roosting and commuting habitats will be undertaken outside of the bird breeding season (1 March to 31 August, inclusive). Should the above timing constraints conflict with any phased/timetabled works, it is recommended that works commence only after a suitably qualified ecologist has undertaken nesting bird checks 48 hours prior to works commencing to ensure no nesting birds are present. If nesting birds are found to be present during checks, then a suitable species–specific buffer zone will be allocated, and clearance of that area would be delayed until young have fledged.

Maintenance should also involve the removal of branches or epicormic growth around the trunk of the tree where it is restricting access, growing over footpaths or obstructing lighting to be cut back, and the inspection and reporting of any incidence of pests and diseases which could cause trees or limbs to fail.

5.4 Proposed and Enhanced Grasslands

Table 5.9: Habitat Management Prescription – Proposed and Enhanced Grasslands

Proposed habitat types	Other neutral grassland and modified grassland
Proposed seed mix	Other neutral grassland will comprise both enhancement of existing modified grassland and newly created grassland areas. Enhancement areas will be managed and overseeded as required to increase floristic diversity, while newly created areas will be established using the seed mixes specified on Drawing P.1464.21 L05-L09B Planting Plan. Proposed modified grassland will be established using the grassland/turf specifications shown on the Planting Plan and managed as a regularly maintained grassland sward.
Areas proposed	1.5439 ha of existing modified grassland will be enhanced to other neutral grassland. Additional areas of other neutral grassland and modified grassland will be created within the development. Please refer to Drawing P.1464.21 L01-L04B Landscape Layout and Drawing P.1464.21 L05-L09B Planting Plan, Appendix 2.
Target condition	**Other neutral grassland – Moderate; Modified grassland – Poor**
Considered HF Risk	Low likelihood

Management Objective

To establish, enhance and maintain the proposed grassland habitats in accordance with their respective target conditions. Management of other neutral grassland will seek to increase floristic diversity, establish a species-rich sward and maintain appropriate structural variation to achieve Moderate condition. Modified grassland will be managed as a regularly maintained grassland sward to achieve and maintain Poor condition.

Grassland Establishment

Newly created other neutral grassland will be established in accordance with the approved Planting Plan and associated landscape specifications.

Existing modified grassland identified for enhancement will be retained and managed to increase species diversity and develop towards other neutral grassland. Enhancement will include appropriate overseeding and management of the existing sward, with management adapted according to establishment success.

Proposed modified grassland will be established in accordance with the approved Planting Plan and managed through regular cutting to establish and maintain a continuous grass-dominated sward.

The other neutral grassland areas will subsequently be managed to achieve Moderate condition, while areas remaining as or created as modified grassland will be managed to achieve Poor condition, in accordance with the Biodiversity Impact Assessment and applicable Target Condition Sheets, Appendix 4.

Neutral Grassland Seed Mix

Other neutral grassland will be established and enhanced using the grassland and wildflower seed mixes specified on Drawing P.1464.21 L05-L09B Planting Plan, selected according to the location and intended character of the grassland. Existing pasture grassland identified for enhancement will be retained and overseeded as appropriate, while newly created areas will be established using the specified seed mixes and associated ground preparation requirements.

Areas of proposed modified grassland will be established using the grassland seed mix specified on Drawing P.1464.21 L05-L09B Planting Plan and subsequently managed as a regularly maintained grassland sward.

All works shall be undertaken during the appropriate planting season (November -March) and only under suitable weather and ground conditions. The appointed contractor shall verify the location of all existing services and utilities and shall obtain any necessary instructions or approvals before proceeding.

Neutral Grassland Creation: Construction Phase

Soil Preparation and Establishment

- Existing grassland identified for enhancement to other neutral grassland shall be retained and protected from unnecessary disturbance during construction.
- Enhancement areas shall be appropriately prepared and overseeded to increase floristic diversity while retaining the existing grassland sward.
- Newly created other neutral grassland and modified grassland shall be prepared and seeded in accordance with Drawing P.1464.21 L05-L09B Planting Plan.
- Compacted soils shall be lightly cultivated or harrowed where necessary to provide suitable conditions for seed establishment.
- Seed shall be evenly distributed at the rates specified on the Planting Plan and during suitable weather and ground conditions.
- Soil disturbance and nutrient enrichment within other neutral grassland areas shall be minimised to favour development of a species-rich grassland community.
- Machinery used during establishment shall avoid unnecessary soil compaction and disturbance.
- Following establishment, other neutral grassland will be managed to develop a varied species-rich sward capable of achieving Moderate condition, while modified grassland will be managed as a regularly maintained grass-dominated sward capable of achieving Poor condition.

Establishment Phase (Years 1–2)

- Undertake establishment cuts within other neutral grassland as required during the first growing season to control vigorous growth and encourage development of a diverse sward.
- Remove arisings following cutting of other neutral grassland to prevent nutrient accumulation and reduce competition from vigorous species.

- Monitor created and enhanced other neutral grassland for successful establishment and development of the intended grassland community.
- Undertake supplementary overseeding where monitoring identifies poor establishment, low species diversity or areas of bare ground within other neutral grassland.
- Control undesirable and invasive species where necessary using appropriate targeted methods.
- Avoid fertiliser application or other nutrient enrichment within other neutral grassland unless specifically required as part of agreed remedial management.
- Adapt the cutting regime where necessary to ensure created and enhanced other neutral grassland progresses towards the Moderate condition target.
- Proposed modified grassland shall be regularly cut during the growing season to establish and maintain a short, grass-dominated sward, with damaged or failed areas reseeded where required.

Established Management (Years 3+)

- Undertake one main annual hay cut of other neutral grassland between July and September, following flowering and seed set. Leave arisings in situ briefly to allow seed drop before removing them from the grassland.
- Where vigorous regrowth occurs, undertake an additional autumn cut between October and November to maintain an appropriate varied sward structure.
- Maintain areas of varied sward height where appropriate to provide structural diversity and habitat for invertebrates and other wildlife.
- Remove cuttings from other neutral grassland following the seed-drop period to prevent nutrient enrichment and development of a coarse, species-poor sward.
- Avoid fertiliser application or other nutrient enrichment within other neutral grassland.
- Monitor floristic diversity and undertake supplementary overseeding where necessary to maintain the desired species-rich grassland community.
- Control scrub encroachment and invasive non-native or undesirable species where necessary.
- Avoid mowing when soils are excessively wet or where machinery would result in rutting, compaction or other damage.
- Repair damaged or poorly established areas through appropriate ground preparation and supplementary seeding.
- Modified grassland shall be subject to regular mowing during the growing season to maintain a short grass-dominated sward, with arisings removed where necessary to prevent excessive thatch accumulation.
- Maintain created and enhanced other neutral grassland at Moderate condition and modified grassland at Poor condition throughout the 30-year management period.

Monitoring and Adaptive Management

- Undertake annual floristic monitoring between May and August against the applicable UKHab grassland condition criteria and Target Condition Sheets, Appendix 4.
- Monitor created and enhanced other neutral grassland for species richness, sward structure, undesirable species, scrub encroachment and areas of poor establishment.
- Monitor modified grassland to confirm that the required Poor condition is being achieved and maintained.
- Where species richness or sward structure within other neutral grassland declines, implement appropriate adaptive management, including supplementary seeding, selective cutting or scarification where required.
- Control invasive non-native and undesirable species using appropriate targeted methods.
- Adapt mowing regimes where monitoring indicates this is necessary to achieve or maintain the respective target conditions.
- Record remedial measures undertaken and review their effectiveness during subsequent monitoring.

Protective Measures

Any clearance of vegetation to accommodate the proposals will be undertaken with appropriate consideration for potential use of the site by birds and bats. Cutting of vegetation will be undertaken outside of the bird breeding season (1 March to 31 August, inclusive). Should the above timing constraints conflict with any phased/timetabled

works, it is recommended that works commence only after a suitably qualified ecologist has undertaken nesting bird checks 48 hours prior to works commencing to ensure no nesting birds are present. If nesting birds are found to be present during checks, then a suitable species-specific buffer zone will be allocated, and clearance of that area would be delayed until young have fledged.

5.5 Proposed Traditional Orchard

Table 5.10: Habitat Management Prescription – Proposed Traditional Orchard

Proposed habitat type	Traditional orchard
Proposed Feature/s	A traditional orchard will be established within the development using the fruit tree species identified within Table 5.2 and Drawing P.1464.21 L05-L09B Planting Plan. The orchard will comprise fruit trees established over a managed grassland understory, with management directed towards the long-term development of characteristic orchard habitat features.
Areas proposed	0.1046 ha of traditional orchard will be created. Please refer to Drawing P.1464.21 L01-L04B Landscape Layout and Drawing P.1464.21 L05-L09B Planting Plan, Appendix 2.
Target condition	**Moderate**
Considered HFR	Low likelihood

To establish and maintain a traditional orchard habitat in Moderate condition, comprising healthy fruit trees over a managed grassland understory. Management will support successful establishment and long-term survival of the orchard trees, maintain appropriate spacing and canopy structure, and progressively develop habitat features associated with established orchard trees.

The proposed orchard tree species are detailed within Table 5.2 and will not be repeated within this section.

Orchard Establishment: Construction Phase

- Orchard trees shall be planted at the locations and specifications shown on Drawing P.1464.21 L05-L09B Planting Plan.
- Planting shall be undertaken during the appropriate planting season and under suitable weather and ground conditions.
- Tree pits shall be appropriately prepared to accommodate the root system and provide suitable conditions for establishment.
- Trees shall be securely supported and protected using appropriate stakes, ties and guards where required.
- Trees shall be watered immediately following planting and subsequently as required during establishment.
- A grassland understory shall be established and maintained beneath and between the orchard trees.
- Fertiliser application and nutrient enrichment of the grassland understory shall be avoided, except where specifically required for individual tree establishment.
- Dead, dying or failed orchard trees shall be replaced with an appropriate orchard tree species during the next suitable planting season.
- Herbicide use shall be restricted to targeted treatment where necessary for tree establishment or control of undesirable species.

Establishment Phase (Years 1–2)

- Water newly planted orchard trees as required, particularly during prolonged dry periods.
- Inspect stakes, ties and guards and adjust, repair or replace where necessary.
- Maintain a weed-free area immediately around the base of establishing trees where required to reduce competition.
- Replace dead, dying or failed trees during the next appropriate planting season.
- Undertake formative pruning appropriate to the fruit tree species to establish a healthy and stable crown structure.
- Maintain the grassland understory through appropriate cutting, with arisings removed where necessary to prevent excessive nutrient accumulation.
- Monitor tree health, survival and establishment and undertake remedial management where required.

- Avoid intensive management of the orchard floor that would prevent development of a diverse grassland understorey.

Established Management (Years 3+)

- Manage orchard trees using appropriate fruit-tree pruning techniques to maintain healthy crown structure and long-term tree survival.
- Avoid excessive or uniform pruning and retain suitable older branches, cavities, deadwood and other developing veteran-tree features where these do not present an unacceptable safety risk.
- Replace failed trees where necessary to maintain the extent and continuity of the orchard, while allowing development of a varied age structure over the long term.
- Maintain the grassland understory through an appropriate cutting regime, avoiding excessive nutrient enrichment and allowing flowering vegetation to develop where practicable.
- Remove grassland arisings where necessary to prevent nutrient accumulation.
- Avoid cultivation or regular disturbance of the orchard floor.
- Control invasive non-native and undesirable woody species where required.
- Retain fallen and standing deadwood associated with orchard trees where safe and appropriate.
- Monitor trees for pests, disease and physical damage and undertake proportionate remedial management where required.
- Maintain the traditional orchard to achieve and subsequently retain Moderate condition throughout the 30-year management period.

Monitoring and Adaptive Management

- Monitor the orchard against the applicable Traditional Orchard Target Condition Sheet provided in Appendix 4.
- Monitoring shall consider tree survival and health, age and structural diversity, canopy condition, developing veteran-tree features, deadwood, grassland understory condition and evidence of inappropriate disturbance or management.
- Failed trees shall be replaced where losses would compromise orchard extent or condition.
- Where the grassland understory becomes excessively species-poor, rank or nutrient-enriched, the cutting regime shall be reviewed and appropriate remedial management implemented.
- Where monitoring identifies that the orchard is not progressing towards or maintaining Moderate condition, management shall be adapted through appropriate pruning, replacement planting, changes to grassland management or other necessary remedial measures.

Protective Measures

Any clearance of vegetation to accommodate the proposals will be undertaken with appropriate consideration for potential use of the site by birds and bats. Cutting of vegetation will be undertaken outside of the bird breeding season (1 March to 31 August, inclusive). Should the above timing constraints conflict with any phased/timetabled works, it is recommended that works commence only after a suitably qualified ecologist has undertaken nesting bird checks 48 hours prior to works commencing to ensure no nesting birds are present. If nesting birds are found to be present during checks, then a suitable species-specific buffer zone will be allocated, and clearance of that area would be delayed until young have fledged.

5.6 Proposed and Retained Hedgerows

Table 5.11: Habitat Management Prescription – Proposed and Retained Hedgerows

Proposed habitat type	Species-rich native hedgerow with trees; native hedgerow; non-native and ornamental hedgerow
Proposed Feature/s	Existing species-rich native hedgerow with trees will be retained where shown on the approved landscape drawings. New native hedgerow planting will be established in accordance with Drawing P.1464.21 L05-L09B Planting Plan, which specifies mixed native hedgerow planting in double staggered rows at 0.33 m centres and 0.3 m offset, at approximately six plants per linear metre. Ornamental hedgerow planting will also be established in accordance with the Planting Plan.
Areas proposed	0.74 km of existing species-rich native hedgerow with trees will be retained. A further 0.311 km of native hedgerow and 0.081 km of non-native and ornamental hedgerow will be created. Please refer to Drawing P.1464.21 L01-L04B Landscape Layout and Drawing P.1464.21 L05-L09B Planting Plan, Appendix 2.
Target condition	**Retained species-rich native hedgerow with trees – Good; proposed native hedgerow – Moderate; proposed non-native and ornamental hedgerow – Poor.**
Considered HFR	Low likelihood

To protect and maintain the retained species-rich native hedgerow with trees and successfully establish the proposed native and ornamental hedgerows in accordance with their respective target conditions. Management will maintain continuous, healthy hedgerow features, promote appropriate structural development and species composition, and provide habitat and connectivity for wildlife throughout the site.

Hedgerow Protection and Establishment: Construction Phase

- Existing hedgerows identified for retention shall be protected from construction-related damage, compaction, storage of materials and accidental encroachment.
- Protective measures shall remain in place for the duration of works where required.
- Newly created hedgerows shall be planted at the locations and to the specifications shown on Drawing P.1464.21 L05-L09B Planting Plan.
- Mixed native hedgerows shall be planted in double staggered rows at the specified spacing and density.
- Newly planted hedgerows shall be appropriately protected using shelters, stakes and ties in accordance with the Planting Plan.
- Planting shall be watered following installation and subsequently as required during establishment.
- Weed growth around establishing hedgerows shall be controlled to reduce competition.
- Dead, dying or failed plants shall be replaced with like-for-like species, or an appropriate equivalent where agreed, during the next suitable planting season.
- Gaps developing within newly planted native hedgerows shall be infilled to maintain continuity.

Establishment Phase (Years 1–2)

- Water newly planted hedgerows as required, particularly during prolonged dry periods.
- Maintain weed control around establishing plants.
- Inspect shelters, stakes and ties and adjust, repair or replace where necessary.
- Replace dead, dying or failed plants during the next appropriate planting season.
- Infill gaps where required to maintain a continuous hedgerow.
- Undertake formative pruning where necessary to encourage dense, bushy growth.
- Retained hedgerows shall be inspected for evidence of damage or deterioration, with appropriate remedial management undertaken where required.
- Avoid unnecessary cutting of newly established native hedgerows during the initial establishment period, except where required to promote appropriate structure or address health and safety concerns.

Established Management (Years 3+)

- Native hedgerows shall be managed through an appropriate rotational cutting regime to maintain structural diversity and avoid intensive annual cutting of the entire hedgerow network.
- Where practicable, native hedgerows shall be cut outside the main bird breeding season and following berry production to retain seasonal food resources for wildlife.
- Avoid progressively reducing hedgerow height and width through repeated cutting; established hedgerows shall be maintained at an appropriate substantial structure.

- Maintain continuity of native hedgerows by infilling significant gaps where required.
- Retain mature hedgerow trees and allow appropriate replacement trees to develop where necessary to maintain the character of the species-rich hedgerow with trees.
- Deadwood and other valuable habitat features associated with retained hedgerow trees shall be retained where safe and appropriate.
- Control invasive non-native species where these threaten hedgerow condition or native species composition.
- Ornamental hedgerows may be subject to more regular cutting where necessary to maintain their intended landscape function, while maintaining continuous healthy vegetation.
- Replace significant failures where necessary to maintain the extent and condition of the hedgerow habitats.
- Maintain the retained species-rich native hedgerow with trees at Good condition, proposed native hedgerow at Moderate condition and proposed ornamental hedgerow at Poor condition throughout the 30-year management period.

Monitoring and Adaptive Management

- Monitor hedgerows against the applicable condition criteria and Target Condition Sheets, Appendix 4.
- Monitoring shall consider hedgerow height and width, continuity, species composition, vegetation health, gaps, evidence of damage, invasive non-native species and the condition of associated hedgerow trees.
- Newly created hedgerows shall be monitored for establishment success and planting failures, with replacement or infill planting undertaken where required.
- Where inappropriate cutting, excessive gaps, declining native species composition or other deterioration threatens the relevant target condition, the management regime shall be adjusted accordingly.
- Record remedial measures and review their effectiveness during subsequent monitoring.

Protective Measures

Any clearance of vegetation to accommodate the proposals will be undertaken with appropriate consideration for potential use of the site by birds and bats. Cutting of vegetation will be undertaken outside of the bird breeding season (1 March to 31 August, inclusive). Should the above timing constraints conflict with any phased/timetabled works, it is recommended that works commence only after a suitably qualified ecologist has undertaken nesting bird checks 48 hours prior to works commencing to ensure no nesting birds are present. If nesting birds are found to be present during checks, then a suitable species-specific buffer zone will be allocated, and clearance of that area would be delayed until young have fledged.

5.7 Proposed SuDS and Pond Habitat

Table 5.12: Habitat Management Prescription – Proposed SuDS and Pond Habitat

Proposed habitat type	Sustainable drainage system and ponds (non-priority habitat)
Proposed Feature/s	The proposed SuDS feature will incorporate wetland vegetation, with the wetter/permanently wet component managed to establish and maintain the pond habitat committed to within the Statutory Biodiversity Metric. The Planting Plan specifies EM8 Meadow Mixture for Wetlands to the 1:3 gradient pond banks at 4 g/m² and identifies the pond basin as being lined with puddle clay to aid water retention.
Areas proposed	0.0536 ha of SuDS habitat and 0.016 ha of ponds (non-priority habitat) are included within the Statutory Biodiversity Metric. Please refer to Drawing P.1464.21 L01-L04B Landscape Layout and Drawing P.1464.21 L05-L09B Planting Plan, Appendix 2.
Target condition	**SuDS – Poor; Ponds (non-priority habitat) – Poor**
Considered HFR	Low likelihood

To establish and maintain the proposed SuDS as a functional wetland feature incorporating a pond component, while providing ecological value alongside its drainage function. Management will promote establishment of wetland vegetation, maintain areas of open water where applicable, prevent excessive dominance by individual plant species and maintain the physical and ecological integrity of the feature.

SuDS and Pond Establishment: Construction Phase

- The SuDS and associated pond component shall be constructed in accordance with the approved landscape and drainage design.
- The pond basin shall be lined with puddle clay as specified on the Planting Plan to aid water retention.
- Pond banks with a 1:3 gradient shall be established using EM8 Meadow Mixture for Wetlands at the rate specified on Drawing P.1464.21 L05-L09B Planting Plan.
- Soils shall be appropriately prepared prior to seeding, with unnecessary compaction and nutrient enrichment avoided.
- Wetland seed shall be evenly distributed under suitable weather and ground conditions.
- The completed feature shall be protected from unnecessary construction-related disturbance, pollution, sediment deposition and damage.
- Any areas of failed vegetation establishment shall be appropriately prepared and reseeded.

Establishment Phase (Years 1–2)

- Monitor establishment of wetland vegetation and undertake supplementary seeding where significant areas fail to establish.
- Control undesirable and invasive non-native plant species using appropriate targeted methods.
- Manage vigorous vegetation where necessary to prevent dominance by a limited number of species.
- Remove litter, dumped material and excessive accumulated debris.
- Inspect the pond/SuDS feature for erosion, bank damage, excessive sedimentation or other physical deterioration and undertake remedial works where required.
- Avoid fertiliser application and other unnecessary nutrient enrichment.
- Maintain the pond component so that its intended wetland and aquatic characteristics can develop.

Established Management (Years 3+)

- Manage wetland vegetation selectively to maintain a varied structure and prevent complete dominance by vigorous species.
- Undertake vegetation cutting on a rotational basis where required, avoiding clearance of the entire feature in a single operation.
- Retain areas of marginal and emergent vegetation while maintaining appropriate areas of open water within the pond component.
- Remove excessive accumulated sediment only where this is compromising the ecological or drainage function of the feature, with works undertaken sensitively and in sections where practicable.
- Control invasive non-native species where identified.
- Avoid routine application of fertilisers, herbicides or other chemicals within or immediately adjacent to the feature.
- Remove litter and other anthropogenic debris where required.
- Repair erosion, damaged banks or failed vegetation where these threaten habitat condition.
- Maintain the drainage function of the SuDS while avoiding unnecessary disturbance to established wetland habitat.
- Maintain the SuDS and pond component to achieve and subsequently retain their respective Poor condition targets throughout the 30-year management period.

Monitoring and Adaptive Management

- Monitor the SuDS and pond against the applicable condition criteria and Target Condition Sheets, Appendix 4.
- Monitoring shall consider wetland vegetation establishment and diversity, extent of open water, invasive non-native species, sediment accumulation, erosion, pollution, physical damage and evidence of inappropriate disturbance.
- Where excessive vegetation growth or sedimentation is reducing habitat quality, undertake selective vegetation removal or desilting as appropriate.
- Where vegetation establishment is poor, undertake supplementary seeding or other appropriate remedial establishment measures.
- Record remedial works and assess their effectiveness during subsequent monitoring.

- Where monitoring identifies that the relevant target condition is not being achieved or maintained, adapt the management regime accordingly.

Protective Measures

Any clearance of vegetation to accommodate the proposals will be undertaken with appropriate consideration for potential use of the site by birds and bats. Cutting of vegetation will be undertaken outside of the bird breeding season (1 March to 31 August, inclusive). Should the above timing constraints conflict with any phased/timetabled works, it is recommended that works commence only after a suitably qualified ecologist has undertaken nesting bird checks 48 hours prior to works commencing to ensure no nesting birds are present. If nesting birds are found to be present during checks, then a suitable species-specific buffer zone will be allocated, and clearance of that area would be delayed until young have fledged.

6. Annual Maintenance Schedule

The annual schedule summarises the maintenance operations required for the first five years and should be reviewed on an annual basis to allow for any changes that may be required as the site develops and matures.

6.1 Proposed Individual Tree and Woodland

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Inspect health & structure											X	
Watering				X	X	X	X	X	X	X		
Formative pruning	X											
Check stakes & ties	X									X		
Weed control				X		X		X				
Replace failed stock											X	
Top-up mulch (Years 2 & 4)										X		

6.2 Proposed Mixed Woodland

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Tree health inspection											X	
Selective thinning / coppicing											X	
Invasive species control				X		X		X				
Replace failed trees											X	
NFI Growing Stock calculation of basal woodland area (Basal Area (m^2) = ($\pi \times DBH^2$) ÷ 4) (Brewer, unpublished; Jenkins et al, 2011) will be adopted at year 5 and each 5 years						X (year 5)	x					
Selective coppicing											X	

6.3 Proposed Mixed scrub

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Prune / thin scrub	X									X	X	X
Weed control by hand				X		X		X				
Check guards & stakes	X									X		
Remove guards (Years 3–5)										X		
Replacement planting											X	

6.4 Other Neutral Grassland/Modified grassland

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Main hay cut							X	X	X			
Secondary cuts (if required)								(X)	X	X		
Remove arisings							X	X	X	X		
DAFOR monitoring						X	X	X				

6.5 Traditional Orchard

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Visual inspection / monitoring					X			X				
Orchard tree pruning	X	X									X	X
Grassland cut / management							X	X	X			
Replacement tree planting	X	X									X	X
Remove invasive / undesirable species			X	X	X	X	X	X	X	X		

6.6 Hedgerows

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Visual inspection / monitoring					X			X				
Native hedgerow cutting / pruning	X	X									X	X
Ornamental hedgerow cutting	X	X			X				X		X	X
Replacement / infill planting	X	X									X	X
Remove invasive / undesirable species			X	X	X	X	X	X	X	X		

6.7 SuDS and Pond Habitat

Activity	J	F	M	A	M	J	J	A	S	O	N	D
Visual inspection / habitat monitoring					X			X				
Wetland vegetation management									X	X		
Remove invasive / undesirable species			X	X	X	X	X	X	X	X		
Supplementary seeding / vegetation repair			X	X					X	X		
Bank / erosion inspection and repair			X						X			

7. Long-Term Management Schedule (Years 6–30)

The ongoing management plan is a guideline for the maturing phase of the site and should be reviewed every 5 years as a minimum, to take account of site-based ecological changes.

7.1 Individual Tree

Year of Operation	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Monitor tree health and structural condition	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Replace dead or dying trees / gap-up	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

7.2 Mixed Woodland

Year of Operation	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Monitor woodland condition and tree health	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Selective thinning / coppicing as required					x											x								X
NFI Growing Stock calculation of basal woodland area (Basal Area (m^2) = ($\pi \times DBH^2$) ÷ 4) (Brewer, unpublished; Jenkins et al, 2011)					x					x						x					x			x

7.3 Mixed scrub

Year of Operation	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
Annual pruning / thinning (Oct–Jan)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Weed control and replacement planting	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

7.4 Other Neutral Grasslands

Year of Operation	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Annual hay cut following seed set (July–Sept)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Control pernicious weeds	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Monitor grassland succession	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

7.5 Traditional Orchard

Year Operation	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Orchard tree inspection and management	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Grassland understory management	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Replacement planting where required	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Control invasive /	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

undesirable species																								
Inspect habitat condition	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

7.6 Hedgerows

Year Operation	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
Hedgerow cutting / pruning	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Replacement / infill planting where required	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Control invasive / undesirable species	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Inspect hedgerow and tree condition	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

7.7 SuDS and Pond Habitat

Year Operation	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
Wetland vegetation management	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Control invasive / undesirable species	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Inspect pond / SuDS condition	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Repair erosion / failed vegetation where required	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Selective desilting where required					X					X					X					X					X

8. Details of Persons Responsible for the Implementation and Monitoring

This HMMP has been prepared by Ascerta on behalf of Lovell. It sets out the key management measures required for habitats to be created, enhanced and retained as part of the proposed development at South Pavenhill Farm, Purton, Swindon SN5 4FH.

This HMMP provides details of the measures required to ensure that the site is appropriately managed in the long term for the benefit of biodiversity and wildlife. Subject to the implementation of the measures set out within this document, the proposed habitat creation, enhancement and management will contribute towards achieving and maintaining the biodiversity units identified within the Biodiversity Impact Assessment and Statutory Biodiversity Metric over the 30-year management period.

Implementation and long-term management of the habitats will be undertaken by Lovell and/or the appointed management body responsible for the long-term management of the development, in consultation with a suitably qualified ecologist where required. Monitoring of habitat condition and progress towards the specified Biodiversity Net Gain targets will be undertaken by a suitably qualified ecologist at the intervals specified within this HMMP.

9. Mechanisms of Adaptive Management to Account for Necessary Changes in Work Schedule to Achieve the Required Targets

Following completion of the proposed works, a programme of habitat monitoring will be undertaken. This will focus on the establishment and ongoing management of habitats created, enhanced and retained within the site. Habitat creation and enhancement will be undertaken during the first appropriate planting or seeding season following completion of the relevant construction works.

Management and monitoring of the habitats will continue for a period of 30 years in accordance with the measures set out within this Habitat Management and Monitoring Plan. The management programme will be subject to periodic review to ensure that it remains effective and, where monitoring identifies that a habitat is not progressing towards or maintaining its specified target condition, appropriate adaptive management measures will be implemented.

Adaptive management may include changes to cutting or pruning regimes, supplementary seeding, replacement planting, control of undesirable or invasive species, selective thinning, changes to wetland vegetation management or other appropriate remedial measures identified through monitoring.
These measures will be undertaken by Lovell and/or the appointed management body responsible for the long-term management of the development, with advice from a suitably qualified ecologist where required.

10. Expected Unit Progress Shown at Years 1 >30 for each Habitat

In accordance with this HMMP, the proposed and enhanced habitats are expected to achieve their respective target conditions within the time-to-target periods applied within the Statutory Biodiversity Metric. Following achievement of the target condition, management will continue for the remainder of the 30-year period to ensure that the required habitat condition and associated biodiversity units are maintained.

Table 10.1: Standard time to target condition/years

Year Habitat	1	2	3	4	5	27	30
Urban trees						X	
Other woodland; mixed							X
Mixed scrub					X		
Other neutral grassland – created					X		
Other neutral grassland – enhanced					X		
Modified grassland			X				
Traditional orchard							X
Native hedgerow					X		
Non-native / ornamental hedgerow			X				
SuDS					X		
Pond (non-priority habitat)					X		

11. Reporting on Year 1, 2, 5, 10, 20 and 30 with Biodiversity Reconciliation Calculations at each stage

An official audit of the habitats shall be undertaken in accordance with Section 7 and against the Target Condition Sheets detailed within Appendix 4 at Years 1, 2, 5, 10, 20 and 30. Ecological monitoring, maintenance and management of the habitats will continue throughout the 30-year management period in accordance with the prescriptions set out within this HMMP.

At each formal reporting stage, habitat condition and progress towards the relevant target condition will be assessed and compared against the biodiversity commitments identified within the Biodiversity Impact

Assessment and Statutory Biodiversity Metric. Where monitoring identifies that a habitat is not progressing towards or maintaining its required target condition, appropriate remedial and adaptive management measures will be identified and implemented.

Formal monitoring and reporting will be undertaken by a suitably qualified ecologist, with the results provided to Lovell and/or the appointed management body responsible for the long-term management of the site.

12. Conclusion

This Habitat Management and Monitoring Plan (HMMP) sets out the measures required to ensure that habitats retained, created and enhanced within the development site are successfully established and maintained in accordance with the recommendations of the Biodiversity Impact Assessment and the Biodiversity Net Gain commitments for the site.

Ecological monitoring, maintenance and reporting will be undertaken throughout the 30-year management period to ensure habitats establish and progress towards their respective target conditions. Monitoring will review habitat establishment, vegetation structure, species composition and overall ecological performance. Where habitats are not progressing towards or maintaining their target condition, appropriate adaptive management measures will be implemented.

Formal ecological audits will be undertaken at Years 1, 2, 5, 10, 20 and 30. These audits will review habitat condition and management effectiveness and will include biodiversity reconciliation calculations to confirm progress towards the biodiversity commitments identified within the Biodiversity Impact Assessment. Monitoring and reporting will be undertaken by a suitably qualified ecologist on behalf of Lovell and/or the appointed management body responsible for the long-term management of the development.

- Habitat Outcomes: The development will deliver the retention, creation and enhancement of a range of habitats, including other neutral grassland, modified grassland, mixed woodland, mixed scrub, traditional orchard, urban trees, native and ornamental hedgerows and SuDS/pond habitat. These habitats will be managed to achieve and maintain the respective target conditions identified within the Biodiversity Impact Assessment and Statutory Biodiversity Metric.
- Monitoring and Maintenance: Ecological monitoring will be undertaken in accordance with the monitoring programme set out within this HMMP. Monitoring will review habitat condition, establishment success, vegetation composition and management effectiveness, with adaptive management measures implemented where required.
- Long-Term Management: Long-term management will include appropriate grassland cutting, tree, woodland, scrub, orchard and hedgerow management, management of the SuDS and pond habitat, control of invasive or undesirable species, replacement of failed planting and remedial measures where habitat establishment or condition targets are not being achieved.
- Responsibility: Implementation of this HMMP and ongoing management and monitoring of the habitats will be undertaken by Lovell and/or the appointed management body, with monitoring undertaken by a suitably qualified ecologist and consultation with Wiltshire Council where required.

13. References

Ascerta (2026). P.1464.21 Preliminary Ecological Appraisal, South Pavenhill Farm, Purton, Swindon SN5 4FH.

Ascerta (2026). P.1464.21 Biodiversity Impact Assessment, South Pavenhill Farm, Purton, Swindon SN5 4FH.

Ascerta (2026). P.1464.21 Landscape Ecology Management Plan, South Pavenhill Farm, Purton, Swindon SN5 4FH.

Ascerta (2026). P.1464.21 Construction Ecological Management Plan, South Pavenhill Farm, Purton, Swindon SN5 4FH.

Ascerta (2026). P.1464.21 Invasive Species Method Statement, South Pavenhill Farm, Purton, Swindon SN5 4FH.

British Standards Institution (2021). BS 8683:2021 – Process for Biodiversity Net Gain: Specification. London: BSI.

British Standards Institution (2013). BS 42020:2013 – Biodiversity – Code of Practice for Planning and Development. London: BSI.

CIEEM (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM (2017). Guidelines for Ecological Report Writing. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM, IEMA & CIRIA (2016). Biodiversity Net Gain: Good Practice Principles for Development – A Practical Guide. CIRIA, London.

CIRIA (2018). Guidance on Biodiversity Net Gain.

Department for Environment, Food and Rural Affairs (DEFRA). The Statutory Biodiversity Metric and associated guidance.

Environment Agency (2010). Managing Invasive Non-Native Plants. Bristol: Environment Agency.

Ministry of Housing, Communities and Local Government. National Planning Policy Framework (NPPF).

QGIS Development Team (2026). QGIS Geographic Information System. Open Source Geospatial Foundation.

UK Habitat Classification Working Group. UK Habitat Classification documentation.

Wildlife and Countryside Act 1981 (as amended). London: The Stationery Office.

Appendix 1

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LANDSCAPE| TREES | ECOLOGY



Key

- Site Boundary
- Species rich native hedgerow with trees
- Mixed scrub
- Other neutral grassland

DO NOT SCALE.
ALL COORDINATES RELATED TO LOCAL GRID.
LOCATED TO NG BY BEST FIT TO DETAI.
EXTRACTED FROM OS DIGITAL DATA.

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CLIENT:
Lovell

PROJECT:
South Pavenhill Farm

DRAWING TITLE:
Baseline Habitat Plan

SCALE:	DRAWN BY:	DRAWING No:
NTS@A3	LK	P.1464.21.E22
DATE:	CHKD BY:	REV:
26/05/2026	JK	-

Appendix 2

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ALL COORDINATES RELATED TO LOCAL GRID
LOCATED TO OS NG BY BEST FIT TO DETAIL
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Planting Plan Key:

- Site Boundary
- Compound Boundary
- Existing trees and hedgerows to be retained and protected during the works.
- Existing trees and hedgerow to be removed.
- Proposed ornamental planting on 400mm depth of topsoil with 50mm bark mulch.
- Proposed native tree planting, tree pit and double staking as detailed in the specification.
- Proposed ornamental tree planting, tree pit and double staking as detailed in the specification.
- Proposed mixed native hedgerow planted in a double staggered row at 0.33m centres and 0.3 offset (6 no. plants per linear metre). Bare root transplants (common holly in containers), each with a 60cm high Tubex shrub shelter, two cable ties and a timber stake.
- Proposed single species formal hedge planted in a double staggered row at 0.4m centres and 0.3 offset (5 no. plants per linear metre) or in single rows at 3no. plants per linear metre. Container transplants.
- Front & rear gardens to be turfed with Lindum LT7 Festival Landscape Turf (or similar approved) on 150mm minimum topsoil.
- Public open space and verges to be sown with Germinal ASustain mix, or similar approved, to be sown at a rate of 40g/m2 on 200mm depth of topsoil.
- Public open space to be sown with Germinal Eco Species Rich Lawn mix, or similar approved, to be sown at a rate of 10g/m2 on 150mm mixture of topsoil and approved subsoil (50:50).
- Existing pasture grassland to be protected during works and overseeded using appropriate grass mix and harrowing.
- Wildflower seeding, Germinal RE3 River Floodplain / Water Meadow (MG8 Grassland), to be sown at 5g/ m2 planted into 150mmmixture of topsoil and approved subsoil (50:50).
- Wildflower seeding, EM8 Meadow Mixture for Wetlands to 1 in 3 gradient banks of pond. To be sown at 4g/m2 planted into 200mm of a mix of topsoil and subsoil (50:50).
- Pond basin lined with puddle clay to aid water retention
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- Native woodland planting.
- 27m wide easement from the overhead electric with transmission tower.
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N

0 1 2 4 6 8 10 12 14 16 18

SCALE BAR 1:250

REV	DESCRIPTION	BY	DATE
B	Minor Amendments	TSC	02/07/26
A	Minor Amendments	MLS	09/06/26

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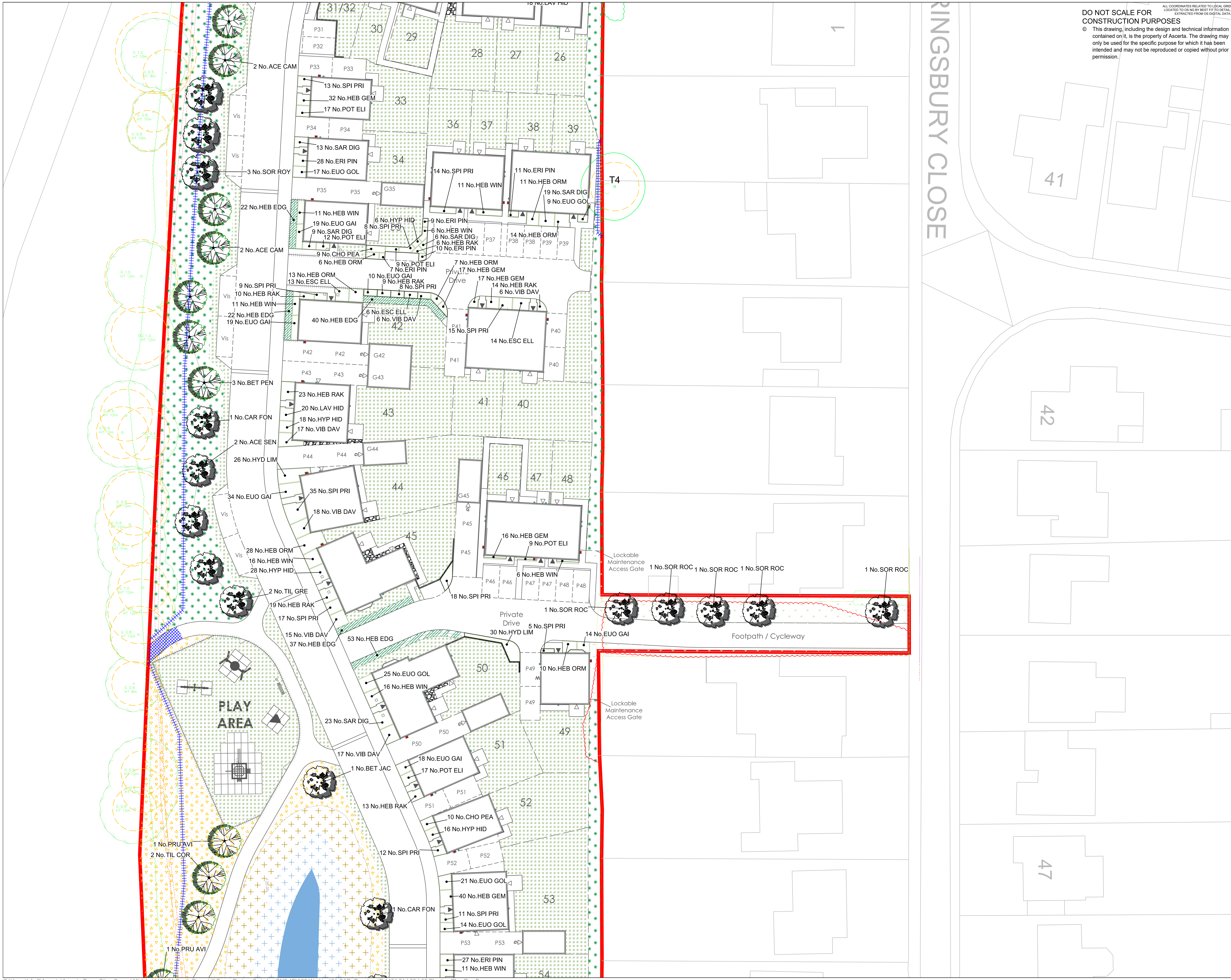
CLIENT:
Lovell

PROJECT:
South Pavenhill Farm

DRAWING TITLE:
Planting Plan (Sheet 1 of 5)

SCALE:	DRAWN BY:	DRAWING No:	REV:
1:250 @A1	AS	P.1464.21 L05	B
DATE: 22/05/2026	CHKD BY: MS		

C:\Users\LA_2\Ascerta\Ascerta Team Site - Server\All Jobs\1464.21 South Pavenhill Farm, Purton, Swindon SN5 4FH\03 Working\01 CAD_Drawings\P.1464.21 L05-L09 Planting Plan Rev B



ALL COORDINATES RELATED TO LOCAL GRID LOCATED TO OS NG BY BEST FIT TO DETAIL, EXTRACTED FROM OS DIGITAL DATA.

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N 0 1 2 4 6 8 10 12 14 16 18
SCALE BAR 1:250

REV	DESCRIPTION	BY	DATE
B	Minor Amendments	TSC	02/07/26
A	Minor Amendments	MLS	09/06/26

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CLIENT: Lovell

PROJECT: South Pavenhill Farm

DRAWING TITLE: Planting Plan (Sheet 2 of 5)

SCALE:	DRAWN BY:	DRAWING No:	REV:
1:250 @A1	AS	P.1464.21 L06	B
DATE: 22/05/2026	CHKD BY: MS		

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POND

1 No.PRU AVI

1 No.ACE ELS

1 No.CRA SCA

1 No.CAR FON

1 No.AME LAM

3 No.ACE CAM

1 No.CAR FON

17 No.HEB EDG

2 No.BET PEN

15 No.EUO GAI

8 No.VIB DAV

29 No.HYP HID

11 No.HEB ORM

18 No.LAV HID

10 No.HEB WIN

19 No.POT ELI

19 No.LAV HID

12 No.SPI PRI

27 No.ERI PIN

11 No.HEB WIN

10 No.CHO PEA

21 No.HYP HID

12 No.HEB WIN

14 No.PIT NAN

17 No.CHO PEA

25 No.EUO GAI

17 No.VIB DAV

25 No.EUO GOL

16 No.ESC ELL

33 No.ERI PIN

17 No.HEB ORM

16 No.EUO GAI

9 No.HEB WIN

26 No.HEB GEM

12 No.PIT NAN

16 No.EUO GOL

26 No.ERI PIN

15 No.POT ELI

19 No.EUO GAI

20 No.ERI PIN

45 No.HEB EDG

54 55 56 57 58 59 60

P54 P55 P56 G56 P57 G57 P58 G58 G60 G59 P60 P59

G 1.0 HT 12m

G 1.2 HT 12m

G 0.8 HT 10m

Vis

T3

12

Suitable Maintenance Access

10 No.SAR DIG

3 No.ACE CAM

3 No.PRU PAD

2 No.BET PEN

3 No.SOR AUC

3 No.PIN SYL

3 No.ACE CAM

3 No.BET PEN

6 No.PRU AVI

3 No.PIN SYL

2 No.BET PEN

3 No.BET PUB

3 No.TIL COR

2 No.ACE CAM

2 No.ACE CAM

3 No.BET PUB

1 No.CED LIB

PUMP STATION

39 No.ACECAM20%
96 No.CRAMON50%
39 No.Ia10%
10 No.L vu5%
20 No.Rca5%
10 No.SORAU5%
20 No.V op5%

Proposed mixed woodland
59 No.BET PEN20%
59 No.BET PUB20%
30 No.COR AVE10%
30 No.CRA MON10%
30 No.QUE PET10%
30 No.QUE ROB10%
30 No.SOR AUC10%
30 No.ACECAM10%

Plant Schedule

Trees

Number of Plants	Abbreviation	Species	Specification	Height	Girth	Density
22 -	ACE CAM	Acer campestre	Heavy Standard: 5 brks: 3x RB: Clear Stem min. 200cm	350-425cm	12-14cm	Counted
3 -	ACE ELS	Acer campestre 'Elsrijk'	Selected Standard: 4 brks: 2x RB: Clear Stem min. 200cm	300-350cm	10-12cm	Counted
2 -	ACE SEN	Acer platanoides 'Crimson Sentry'	Selected Standard: 4 brks: 2x RB: Clear Stem 175-200cm	300-350cm	10-12cm	Counted
2 -	AME BAL	Amelanchier 'Ballerina'	Selected Standard: 4 brks: 2x RB: Clear Stem 175-200cm	300-350cm	10-12cm	Counted
4 -	AME LAM	Amelanchier lamarckii	Selected Standard: 5 brks: 2x RB: Clear Stem 175-200cm	250-300cm	10-12cm	Counted
27 -	BET PEN	Betula pendula	Heavy Standard: 5 brks: 3x RB: Clear Stem 175-200cm	350-425cm	12-14cm	Counted
10 -	BET PUB	Betula pubescens	Heavy Standard: 5 brks: 3x RB: Clear Stem 175-200cm	350-425cm	12-14cm	Counted
1 -	BET JAC	Betula utilis jacquemontii	Multi-Stemmed: Bushy: 2 Stems: 3x RB	300-350cm		Counted
4 -	CAR FON	'Carpinus betulus 'Frans Fontaine'	Selected Standard: 4 brks: 2x RB: Clear Stem 175-200cm	300-350cm	10-12cm	Counted
4 -	CED LIB	Cedrus libani	Ex. leader with laterals. RB	40-60cm		Counted
1 -	CRA SCA	Crataegus laevigata 'Paul's Scarlet'	Selected Standard: 4 brks: 2x RB: Clear Stem 175-200cm	300-350cm	10-12cm	Counted
6 -	MAL ROS	Malus domestica 'Charles Ross'	Half Standard: MM106 rootstock. 3 brks: B: Clear Stem 100-125cm	175-200cm		Counted
7 -	MAL RUS	Malus domestica 'Egremont Russet'	Half Standard: MM106 Rootstock: 3 brks: B: Clear Stem 100-125cm	175-200cm		Counted
6 -	PIN SYL	Pinus sylvestris	Leader with Laterals. Feathered to base. 5x: RB	350-400cm		Counted
18 -	PRU AVI	Prunus avium	Heavy Standard: 5 brks: 3x: RB: Clear Stem 175-200cm	350-425cm	12-14cm	Counted
9 -	PRU PAD	Prunus padus	Heavy Standard: 5 brks: 3x: RB: Clear Stem 175-200cm	350-425cm	12-14cm	Counted
5 -	PEA CON	Pyrus communis 'Conference'	Half Standard: Pyrus communis Rootstock: 3 brks: B: Clear Stem 100-125cm	175-200cm		Counted
8 -	SOR ROC	Sorbus 'Joseph Rock'	Selected Standard: 4 brks: 2x: RB: Clear Stem 175-200cm	300-350cm	10-12cm	Counted
8 -	SOR AUC	Sorbus aucuparia	Heavy Standard: 5 brks: 3x: RB: Clear Stem 175-200cm	350-425cm	12-14cm	Counted
3 -	SOR ROY	Sorbus aucuparia 'Cardinal Royal'	Selected Standard: 4 brks: 2x: RB: Clear Stem 175-200cm	300-350cm	10-12cm	Counted
13 -	TIL COR	Tilia cordata	Heavy Standard: 5 brks: 3x: RB: Clear Stem 175-200cm	350-425cm	12-14cm	Counted
2 -	TIL GRE	Tilia cordata 'Greenspire'	Selected Standard: 4 brks: 2x: RB: Clear Stem 175-200cm	300-350cm	10-12cm	Counted
Total :162 -						

Shrubs

Number of Plants	Abbreviation	Species	Specification	Height	Pot Size	Density	Area
68 -	CHO PEA	Choisya 'Aztec Pearl'	Bushy: 5 brks: C	30-40cm	3L	3/m²	22m²
251 -	ERI PIN	Erica carnea 'Springwood Pink'	Bushy: C		3L	9/m²	30.61m²
79 -	ESC ELL	Escallonia laevis 'Pink Ellie'	Bushy: 4 brks: C	30-40cm	3L	3/m²	24.86m²
222 -	EUO GOL	Euonymus fortunei 'Emerald 'n' Gold'	Bushy: 7 brks: C	20-25cm	3L	6/m²	43.22m²
312 -	EUO GAI	Euonymus fortunei 'Emerald Gaiety'	Bushy: 7 brks: C	20-30cm	3L	6/m²	60.23m²
221 -	HEB ORM	Hebe 'Great Orme'	Bushy: 3 brks: C	30-40cm	3L	3/m²	71.25m²
249 -	HEB GEM	Hebe 'Green Globe'	Bushy: 7 brks: C	15-20cm	3L	9/m²	26.71m²
131 -	HEB WIN	Hebe 'Mrs Winder'	Bushy: 5 brks: C	30-40cm	3L	3/m²	41.81m²
167 -	HEB RAK	Hebe rakaiensis	Bushy: 5 brks: C		3L	4/m²	39.67m²
74 -	HYD LIM	Hydrangea paniculata 'Little Lime	Branched: 3 brks: C	30-40cm	3L	3/m²	24.12m²
7 -	HYD BLU	Hydrangea serrata 'Bluebird'	Branched: 5 brks: C	40-60cm	5L	2/m²	4.31m²
212 -	HYP HID	Hypericum 'Hidcote'	Bushy: 5 brks: C	30-40cm	3L	5/m²	41.5m²
166 -	LAV HID	Lavandula angustifolia 'Hidcote'	Bushy: 5 brks: C	20-30cm	3L	6/m²	27.7m²
63 -	MAH APO	Mahonia aquifolium 'Apollo'	Branched: 2 brks: C	20-30cm	3L	5/m²	12.34m²
76 -	PIT NAN	Pittosporum tobira 'Nanum'	Bushy: 4 brks: C		3L	4/m²	19m²
171 -	POT ELI	Potentilla fruticosa 'Elizabeth'	Bushy: 3 brks: C		2L	6/m²	32.96m²
37 -	POT TAN	Potentilla fruticosa 'Tangerine'	Bushy: 4 brks: C		3L	5/m²	6.92m²
120 -	SAR DIG	Sarcococca hookeriana digyna	Bushy: 5 brks: C	20-30cm	3L	4/m²	28.9m²
329 -	SPI PRI	Spiraea japonica 'Little Princess'	Bushy: 5 brks: C	20-30cm	2L	4/m²	78.94m²
167 -	VIB DAV	Viburnum davidii	Bushy: 3 brks: C	20-30cm	3L	3/m²	54.08m²
Total :3124 -							Total :695.2m²

Formal Hedge

Number	Abbreviation	Species	Specification	Height	Pot Size	Density	Length
566 -	HEB EDG	Hebe 'Red Edge'	Bushy: 5 brks: C		3L	3/m	116.43m
664 -	PHOFRLRR	Photinia x fraseri 'Little Red Robin'	Bushy: 5 brks: C	30-40cm	2L	5/m	111.8m
							Total :228.23m

Native Hedge Mix

Number	Abbreviation	Species	Specification	Density	Percentage Contribution	Length
199 -	ACECAM	Acer campestre	1+1 BR	0.5Ctr Double Staggered at 0.3m offset	20%	49.2m
494 -	CRAMON	Crataegus monogyna	1+1 BR	0.5Ctr Double Staggered at 0.3m offset	50%	123.02m
199 -	Ia	Ilex aquifolium	C	0.25Ctr Double Staggered at 0.3m offset	10%	24.61m
51 -	L vu	Ligustrum vulgare	1+1 BR	0.5Ctr Double Staggered at 0.3m offset	5%	12.3m
101 -	Rca	Rosa canina	1+1 BR	0.25Ctr Double Staggered at 0.3m offset	5%	12.3m
51 -	SORAU	Sorbus aucuparia	1+1 BR	0.5Ctr Double Staggered at 0.3m offset	5%	12.3m
101 -	V op	Viburnum opulus	1+1 BR	0.25Ctr Double Staggered at 0.3m offset	5%	12.3m
Total :1196 -						Total :246.03m

Proposed mixed woodland

Number	Abbreviation	Species	Specification	Density	Percentage Contribution	Area
30 -	ACECAM	Acer campestre	1+1: Transplant - B	2Ctr	10%	117.05m²
59 -	BET PEN	Betula pendula	1+1: Transplant - seed raised: B	2Ctr	20%	234.09m²
59 -	BET PUB	Betula pubescens	1+1: Transplant - seed raised: B	2Ctr	20%	234.09m²
30 -	COR AVE	Corylus avellana	1+2: Transplant - seed raised: Branched: 3 brks: B	2Ctr	10%	117.05m²
30 -	CRA MON	Crataegus monogyna	1+1: Transplant - seed raised: B	2Ctr	10%	117.05m²
30 -	QUE PET	Quercus petraea	1+1: Transplant - seed raised: B	2Ctr	10%	117.05m²
30 -	QUE ROB	Quercus robur	1u1: Seedling - undercut: B	2Ctr	10%	117.05m²
30 -	SOR AUC	Sorbus aucuparia	1+1: Transplant - seed raised: B	2Ctr	10%	117.05m²
Total :298 -						Total :1170.48m²

Native Scrub Mix

Number	Abbreviation	Species	Specification	Density	Percentage Contribution	Area
712 -	CRA MON	Crataegus monogyna	1+1: Transplant - seed raised: B	1Ctr	20%	710.65m²
712 -	ILE AQU	Ilex aquifolium	Bushy: 3 brks: C	1Ctr	20%	710.65m²
356 -	MAL SYL	Malus sylvestris	1+1: Transplant - seed raised: B	1Ctr	10%	355.32m²
712 -	PRU SPI	Prunus spinosa	1+1: Transplant - seed raised: Branched: 2 brks: B	1Ctr	20%	710.65m²
356 -	ROS CAN	Rosa canina	1+1: Transplant - seed raised: Branched: 3 brks: B	1Ctr	10%	355.32m²
356 -	SAM NIG	Sambucus nigra	1+1: Transplant - seed raised: Branched: 3 brks: B	1Ctr	10%	355.32m²
356 -	VIB OPU	Viburnum opulus	1+2: Transplant - seed raised: Branched: 3 brks: B	1Ctr	10%	355.32m²
Total :3560 -						Total :3553.23m²

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N

0 1 2 4 6 8 10 12 14 16 18

SCALE BAR 1:250

REV	DESCRIPTION	BY	DATE
B	Minor Amendments	TSC	02/07/26
A	Minor Amendments	MLS	09/06/26

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CLIENT:
Lovell

PROJECT:
South Pavenhill Farm

DRAWING TITLE:
Planting Plan (Sheet 3 of 5)

SCALE:	DRAWN BY:	DRAWING No:	REV:
1:250 @A1	AS	P.1464.21 L07	B
DATE: 22/05/2026	CHKD BY: MS		

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5 No.MAL ROS
5 No.PEA CON
7 No.MAL RUS
1 No.CED LIB
97 No.ACECAM20%
242 No.CRAMON50%
97 No.Ia10%
25 No.L vu5%
49 No.Rca5%
25 No.SORAU5%
49 No.V op5%
1 No.CED LIB
2 No.BET PEN
2 No.PRU PAD
3 No.BET PUB
2 No.PRU AVI
2 No.TIL COR
2 No.BET PEN
1 No.PRU PAD
1 No.ACE CAM
1 No.BET PUB
2 No.TIL COR
Native Scrub Mix
464 No.CRA MON20%
464 No.ILE AQU20%
232 No.MAL SYL10%
464 No.PRU SPI20%
232 No.ROS CAN10%
232 No.SAM NIG10%
232 No.VIB OPU10%
2 No.PRU AVI
3 No.PRU PAD
2 No.BET PEN
2 No.SOR AUC
G 0.8 HT 12m
1 No.PRU AVI
3 No.BET PEN
3 No.BET PEN
1 No.PRU AVI
1 No.CED LIB
1 No.TIL COR
Native Scrub Mix
248 No.CRA MON20%
248 No.ILE AQU20%
124 No.MAL SYL10%
248 No.PRU SPI20%
124 No.ROS CAN10%
124 No.SAM NIG10%
124 No.VIB OPU10%
OG 1.2 HT 12m
G 4.3 HT 15m
G 1.0 HT 12m
OG 1.0 HT 12m

Planting Plan Key:

- Site Boundary
- Compound Boundary
- Existing trees and hedgerows to be retained and protected during the works.
- Existing trees and hedgerow to be removed.
- Proposed ornamental planting on 400mm depth of topsoil with 50mm bark mulch.
- Proposed native tree planting, tree pit and double staking as detailed in the specification.
- Proposed ornamental tree planting, tree pit and double staking as detailed in the specification.
- Proposed mixed native hedgerow planted in a double staggered row at 0.33m centres and 0.3 offset (6 no. plants per linear metre). Bare root transplants (common holly in containers), each with a 60cm high Tubex shrub shelter, two cable ties and a timber stake.
- Proposed single species formal hedge planted in a double staggered row at 0.4m centres and 0.3 offset (5 no. plants per linear metre) or in single rows at 3no. plants per linear metre. Container transplants.
- Front & rear gardens to be turfed with Lindum LT7 Festival Landscape Turf (or similar approved) on 150mm minimum topsoil.
- Public open space and verges to be sown with Germinal ASustain mix, or similar approved, to be sown at a rate of 40g/m2 on 200mm depth of topsoil.
- Public open space to be sown with Germinal Eco Species Rich Lawn mix, or similar approved, to be sown at a rate of 10g/m2 on 150mm mixture of topsoil and approved subsoil (50:50).
- Existing pasture grassland to be protected during works and overseeded using appropriate grass mix and harrowing.
- Wildflower seeding, Germinal RE3 River Floodplain / Water Meadow (MG8 Grassland), to be sown at 5g/ m2 planted into 150mmmixture of topsoil and approved subsoil (50:50).
- Wildflower seeding, EM8 Meadow Mixture for Wetlands to 1 in 3 gradient banks of pond. To be sown at 4g/m2 planted into 200mm of a mix of topsoil and subsoil (50:50).
- Pond basin lined with puddle clay to aid water retention
- Wildflower seeding, AP1 Premium Wildflower & Grass Seed Mix by Hurrells, to the public open space to be sown at 5g/m2 planted into 150mm mixture of topsoil and approved subsoil (50:50).
- Wildflower seeding, EM3 Special General Purpose Meadow Mix, to the public open space to be sown at 4g/m2
- Existing Grassland to be translocated and reused following completion of works.
- Native tree / shrub planting to be planted as 60-80cm whip planting at 1m centres, for additional wildlife habitat.
- Native woodland planting.
- 27m wide easement from the overhead electric with transmission tower.
- Graveled areas, 20mm limestone chippings to be spread between properties where indicated.

Note. Location, and depths of root barriers to protect services, hard surfacing, or foundations from roots of proposed trees, hedges or ornamental planting are to be decided and detailed by the project engineer.

N 0 1 2 4 6 8 10 12 14 16 18
SCALE BAR 1:250

REV	DESCRIPTION	BY	DATE
B	Minor Amendments	TSC	02/07/26
A	Minor Amendments	MLS	09/06/26

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CLIENT: Lovell

PROJECT: South Pavenhill Farm

DRAWING TITLE: Planting Plan (Sheet 4 of 5)

SCALE:	DRAWN BY:	DRAWING No:	REV:
1:250 @A1	AS	P.1464.21 L08	B
DATE: 22/05/2026	CHKD BY: MS		

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LANDSCAPE AND MAINTENANCE SPECIFICATION

All operations to comply with appropriate British Standards unless otherwise stated on drawings or in the specification.

GENERAL TREATMENT OF PLANTING AREAS

Ensure that planting areas are protected from consolidation by heavy construction plant.

For work near a retained tree: Refer to BS 5837 *Trees in relation to design, demolition & construction - Recommendations*- Section 9 (Appendix C).

Damage to Plants to be Retained: If a plant is to be retained is damaged, the plant is to be repaired or replaced by the contractor at their own expense. "Damaged" means:

- The destruction of a plant the breaking of branches or roots
- The debarking of trunks or limbs
- The contamination of root zone soil or plants from drift sprays, dust or contaminated storm water
- The damage by the placement of fill or building materials within the canopy perimeter or otherwise.

1) GROUND PREPARATION AND SOIL SPECIFICATION

Subsoil:
Before receiving topsoil, subsoil shall be loosened using appropriate equipment to a depth of 300mm. This shall be done when the subsoil is dry so as to encourage soil shattering. All stones and other objects larger than 50mm shall be removed from the prepared surface. The loosened subsoil shall be roughly levelled so that an even depth of topsoil can be achieved.

Topsoil (To Comply with British Standard 3882:2015 - Specification for Topsoil):
Imported topsoil shall be Multipurpose Grade as described in BS 3882:2015 and suitable for sustaining plant life. Stockpiling of soil shall be avoided whenever possible to minimise loss of physical quality, diffusion of oxygen and biological activity.
Any stockpiling shall not exceed 1.5 metres high and shall be sited so as to avoid risk of muddy water run-off into a watercourse, not exceeding 1.5 metres high.
The site of the stockpile will be prepared in advance by grading, removing rubbish and ensuring no fuel or chemicals were previously stored in area.
Topsoil shall be lightly consolidated in layers not exceeding 150mm using track laying machinery.
Soil shall not be handled in inappropriate conditions of weather and soil moisture i.e.
During or shortly after heavy precipitation
When soil is in a waterlogged condition
When the ground is frozen or covered by snow
When there are pools of water on the grounds surface.
Topsoil shall be laid to the following minimum depths:
- 150mm below new grass areas
- 300mm to rear gardens
- 400mm beneath new shrub areas
- For wildflower areas a mixture of topsoil and selected subsoil (about 50:50) for a depth of about 150 mm. Selected subsoil alone can be used but if the structure is poor and the fertility very low there will be a very slow establishment of wildflowers and frequently domination by plants such as clovers which do not depend on nitrogen in the soil for their growth.

Finished levels, after settlement, shall be as follows:
25mm above adjacent paving from new grassed areas and non-mulched shrub beds
75mm below adjacent paving and grass for mulched planting beds.
150mm below damp proof courses.

2) GROUND CONDITIONING
40 litres of compost to be incorporated into the top 200mm of each square metre of topsoil for all ornamental shrub beds.

3) PLANT AND PLANTING SPECIFICATION
All plant stock, plant handling and planting to be undertaken in accordance with the following British Standard Specifications and Code of Practice:
BS 8545:2014 'Trees: from nursery to independence in the landscape
BS 3936: Part 1 1992 Nursery stock (Specification for trees and shrubs)
BS 3936: Part 4 1984 Nursery stock (Specification for forest trees)
BS 3936: Part 9 1987 Nursery stock (Specification for bulbs, corms and tubers)
BS 3936: Part 10 1990 Nursery stock (Specification for ground cover plants)
BS 4428: 1989 Recommendations for general landscaping operations.
BS 4043: 1989 Recommendations for transplanting root-balled trees. (withdrawn)
The Code of Practice for Plant Handling 1985. (Horticultural Trades Association).

Plant Stock:
Plant stock to be supplied in accordance with the size and description specified ion the plant schedule and position indicated on the most current revision of the planting plan.

Plant stock shall be healthy, vigorous, free from pests and diseases and suitably hardened off for the proposed situation of planting and lifted at a time in accordance with good nursery practice. Stock shall have a well-formed fibrous root system and be free from perennial weeds. The form of trees shall be in accordance with BS 3936: Part 1:1992, Section 7, *Form of Trees*.

Plant Handling:
All plant materials shall be lifted, bundled, labelled, packaged, transported, temporarily stored and planted in accordance with the procedures and methods illustrated in the publication, "*Plant Handling*" (Horticultural; Trades Association) and relevant sections of BS 4043: 1989 *Transplanting Root-Balled Trees*.

Tree Planting:
Trees to be pit planted following supplier recommendations. Minimum pit size: Selected standard tree 750 x 750 x 700, Heavy standard tree 1000 x 1000 x 1000mm
Pits to be prepared to base and sides of pit to be further scarified.
Trees to be double staked using two stakes (75mm dia.), driven into ground 400mm below bottom of pit. Trees to be centrally located and stem placed in an upright position. Pit to be backfilled with 300-600mm (dependant on depth of pit due to size of tree) of a mix of subsoil with a 70 to 80% mix of sharp sand. Irrigation pipe to put around bottom of rootball with 25mm of pipe sticking out from the bark mulch level. Backfill remaining area of pit with 400mm of a 3:1 mix of an approved topsoil with compost. Backfill firmly to 50mm above previous ground level and creating a slightly domed shape with the highest point being at the centre of the tree to assist drainage and settlement. Tree pits in grass to contain a 600mm diameter circle of medium grade bark mulch to a settled depth of 75mm.
Water each tree sufficiently in same day of planting, amount of water dependant on size and soil conditions.
All works shall be carried out to the minimum standard according to BS 3936: 1992 Part 1 Nursery Stock. Specification for Trees and Shrubs. BS 4043: 1989 Recommendations for transplanting root-balled trees.

Staking:
Double stake all trees with two stakes, a crossbar, a spacer and webbing. Stakes to be round timber with chamfered tops. Position stake close to tree on windward side and drive vertically at least 400mm into bottom of pit before planting. Backfilling: consolidate material around stake. Height of stakes: cut to approximately 600mm above ground level, taking care not to damage the bark. Ties: Webbing with a spacer. Tying: secure tree firmly to crossbar with spacer and webbing.

Mulch:
All shrub beds and hedging or native hedgerows shall be spread with a medium grade bark mulch to a settled depth of 50mm. Tree specimen locations in grass should have a minimum of a 600mm diameter circle of medium grade bark mulch to a settled depth of 50mm. Mulch to be free from fines, weeds, disease and contaminants.

Ornamental shrub planting:
To be set out carefully and evenly over indicated areas. Remove plants from pots and plastic containers, plant and water in thoroughly. Shrubs shall be individually pit planted in prepared pits sized to accommodate full spread of roots. Plants shall be evenly spaced over the planting area. Backfill each plant with a 3:1 mix of an approved topsoil with compost. Middle/ centre area of plant beds to be 50mm above previous ground level creating a slightly domed shape to assist drainage and settlement. Planting bed to be covered with a medium grade bark mulch to a settled depth of 50mm. Firm backfill by treading, ensuring the ground is not overly compacted and that each plant is positioned upright.

Native scrub planting
Bare root stock shall be T-notch planted between November and March. Plants to be planted in groups of 5, 7, or 9 of the same species. Plants shall be evenly spaced over the planting area. Ensure plants are planted to the correct depth to correspond to the soil mark on main stems. Planting area to be covered with a medium grade bark mulch to a settled depth of 50mm. Undertake formative pruning if necessary. Each plant to be protected with a 60cm high tubex shrub shelter, with two cable ties and a timber stake.

New formal hedges
Consistent in species, cultivar, and clone to ensure a uniform hedge. To be planted in a previous prepared planting bed 1 metre wide. Plant stock to be planted in double staggered rows at 330mm spacings and 300mm offet (5 no. per linear metre) or centrally in a single row at 330mm spacings (3 no. per linear metre). The outer line or centre line of plant stems must be at least 350mm away from the pavement edge or kerb. Trench backfilled with 300mm of a 3:1 mix of an approved topsoil with compost. Backfill firmly to 50mm above previous ground level and creating a slightly domed shape with the highest point being along the hedge line/ centre line of the trench to assist drainage and settlement. Planting bed to be covered with a medium grade bark mulch to a settled depth of 50mm. Ensure plants are planted to the correct depth to correspond to the soil mark on main stems.
Prune back to a height of 1 metres.

New mixed native hedgerows - Double staggered
Bare root stock (container stock for Common Holly) shall be planted between November and March. Consistent in species, cultivar and clone to ensure a uniform hedge. Plants to be planted in groups of 3, 5 or 7 of the same species. To be planted in a previously prepared planting trench 300mm deep and up to 1metre wide. Backfill trench with 300mm of a 3:1 mix of an approved topsoil with compost. Backfill firmly to 50mm above previous ground level and creating a slightly domed shape with the highest point being at the centre line of the trench to assist drainage and settlement. Planting bed to be covered with a medium grade bark mulch to a settled depth of 50mm.
Plant stock to be planted in a double row in the centre of the plant bed, 330mm between plants and 300mm between rows (6 no. plants per linear metre). Ensure plants are planted to the correct depth to correspond to the soil mark on main stems. Each plant to be protected with a 60cm high tubex shrub shelter, with two cable ties and a timber stake.
Prune back to a height of 1.6 metres.

Mycorrhizae:
For specimen trees as root ball stock, ornamental shrubs in containers, and holly in containers for native hedgerow mix - Apply MycoForce Endo & Ecto Mycorrhizal Transplanter as per manufacturers specification before backfilling. Apply 1gm of Transplanter per litre of rootball. Either, dust the powder lightly over the root ball, mix MycoForce Transplanter with water and drench the root ball, or place Mycorrhizal Transplanter in the bottom of the planting pit or mix with the backfill that will come into contact with the feeder roots.
For bare root whips for native hedgerow mix and native scrub mix planting - Apply MycoForce Endo Ecto Mycorrhizal Whip Dip as per manufacturers specification. Apply as a root dip just before planting. 100g is sufficient to make Dip for 220 whips. Add 100 grams of Whip Dip and 1-2 hydro gel sachet to 3-6 litres of water while stirring (the actual hydro gel and water requirement will depend upon water hardness and plant root mass.) Dip the bare roots of the whips into the paste just before planting (if dipped offsite, cover the roots in plastic during transport).
Products to be supplied by Green-tech or similar approved.

Turfed Areas:
To be specified and laid in accordance with BS. 3936:1998 Recommendations for turf for general purposes. Turf to be Lindum LT7 Festival Landscape Turf (or similar approved). Hardwearing with a dense sward containing a mixture of 25% perennial ryegrass, 55% fescues and 20% smooth stalked meadow grass. This mix is easy to maintain and will recover well from general wear.
Turf to be laid in suitable weather conditions on a prepared bed with no weeds and a suitable slow release fertiliser applied to bed prior to laying. Turf to be watered regularly until it is well established.

Rear gardens:
Subsoil to be prepared to a depth of 300mm as per ground preparation and soil specification.
Topsoil to be supplied as per ground preparation and soil specification to a depth of 300mm, after gentle compaction and to be left bare in rear gardens.

Grass Seeding:
Public open spaces shall be Germinal AberSustain mix, or similar approved. Sowing to be taken between March and October.
Topsoil shall be cultivated to a fine tilth, be free from weeds, stones and other debris. Levels to be graded to form finished levels as indicated in section, 'Topsoil'.
Roll, fertilise at 50gms/sq m, 10-14 days prior to seeding, sow at rate of 40g/m2 and lightly rake. First cut to be undertaken when grass reaches 50mm..

Wildflower Seeding:
Germina/ RE3 River Floodplain / Water Meadow (MG8 Grassland), or similar approved within the proposed pond. Sowing to be taken between March and October.
The topsoil mixed with subsoil (50:50) shall be cultivated to a fine tilth, be free from weeds, stones and other debris. Sow at rate of 5 g/m2 and lightly rake. First cut to be undertaken 6 weeks after sowing or when reaches 70-100mm.

Germinal WFG20 Eco Species Rich Lawn, or similar approved. Sowing to be taken between March and October.
The topsoil mixed with subsoil (50:50) shall be cultivated to a fine tilth, be free from weeds, stones and other debris. Sow at rate of 10 g/m2 and lightly rake. First cut to be undertaken 6 weeks after sowing or when reaches 70-100mm.

AP1 Premium Wildflower by Hurrells, or similar approved. Sowing to be taken in March or October.
The topsoil mixed with subsoil (50:50) shall be cultivated to a fine tilth, be free from weeds, stones and other debris. Sow at rate of 5 g/m2 and lightly rake. First cut to be undertaken 6 weeks after sowing or when reaches 70-100mm.

EM3 Specialy General Purpose Meadow Mixture by Emorsgate or similar approved. Sowing to be taken between March and October.
The topsoil mixed with subsoil (50:50) shall be cultivated to a fine tilth, be free from weeds, stones and other debris. Sow at rate of 4 g/m2 and lightly rake. First cut to be undertaken 6 weeks after sowing or when reaches 70-100mm.

4) MAINTENANCE AND MANAGEMENT

Plant stock and soft landscaped areas shall be maintained for a period of five years via the developers' agent or appointed Management Company during which time the following operations shall be carried out:

Regular visits:
Monthly maintenance visits to include the following operations:

- Hand weed planting beds
- Remove litter
- Sweep mulch spillage
- Re-firming plant stock to ensure the new planting is all planting to upright positions.
- Adjust stakes and ties as necessary
- Prune plant stock as required to encourage good form
- Check all plant stock and report signs of pests, disease, death and damage

Mulch:
Top up mulch levels (using matching material) surrounding trees and within beds to 50mm at the end of the maintenance period.

Watering:
Plant stock to receive the following quantities of water:
Trees: Regularly water each tree per month dependant on size, soil conditions and weather conditions between April and September.
Shrubs and transplants: 5 litres/plant on three occasions throughout growing season.
Watering to be undertaken during the first 24 months as needed to maintain plant health.

Grass Maintenance:
Grass shall be cut throughout the growing season to maintain a sward of approximately 38mm. Shall be edged, watered as necessary and clippings removed.

Wildflower Maintenance:
RE3 River Floodplain / Water Meadow (MG8 Grassland)
Autumn Sown: during the first year: first cut shall be early July, then monthly during August, September and October to maintain a sward of approximately 70mm.
Thereafter: shall be cut 2 times a year mid-July to early September to maintain a sward of approximately 70mm.
Spring Sown: during the first year: first cut shall be mid-September, then again during October to maintain a sward of approximately 70mm.
Thereafter: shall be cut 1 time a year mid-July to early September or as required leaving at least fortnight between cuts to maintain a sward of approximately 70mm.
The arisings are to be collected and removed just after the cut to prevent nutrient build up.

WFG20 Eco Species Rich Lawn Maintenance
First Cut: Mid September - 1st October. Cutting height approximately 70mm.
Thereafter: shall be cut 1 time a year mid-August to early October to maintain a sward of approximately 70mm.
The arisings are to be collected and removed just after the cut to prevent nutrient build up.

Hurrells AP1 Premium Wildflower Mix
First Cut: Mid September - 1st October for Spring sown and Mid March-1st April for Autumn sown. Cutting height approximately 70mm.
Thereafter: shall be cut 2 times a year, once in Spring and once in late - Autumn to maintain a sward of approximately 70mm.
The arisings are to be collected and removed just after the cut to prevent nutrient build up.

EM3 Specialy General Purpose Meadow Mixture
First Cut: July to early August. Cutting height approximately 70mm.
Thereafter: shall be cut 1 time a year from late July/ August to maintain a sward of approximately 70mm.
The arisings are to be collected and removed just after the cut to prevent nutrient build up.

Native Scrub Maintenance
Beating up; After year 2 any dead trees to be removed and replaced. An assessment to be undertaken at this time to ensure replacement species are ones which have proven so far successful in the rest of the planted area.
Thinning; After 10 years scrub to be thinned out by selective removal of 15-20% of establishing scrub. An assessment will be made to identify suitable trees for removal based on health,form and success of adaption to site conditions.
Coppicing; Hazel (Corylus Avellana) in scrub to be coppiced after 10 years and thereafter every 7 years on selective cycles

New Tree/Shrub Planting:
Weed control by hand to ensure planting area is weed free. Check stakes and guards are in place and replace where necessary. Prune, thin and remove suckers, seedlings, dead, damaged, or diseased branches annually between October and January to avoid the bird nesting season. Replace dead / dying stock in winter.

Plant replacements:
All dead, dying and vandalised plant stock shall be replaced, at the end of each growing season during the maintenance period.

Fertilising:
Apply Pro Flora Tablets to all plants, as per manufacturers specification. Apply once during years 2 and 4 after planting.

Application rate as follows:
Application rate for trees
- Transplant - 30-120cm Tree Height - 2 per plant - 30g
- Selected Standard - 300-360cm Tree Height - 7 per plant - 105g
- Heavy Standard - 360-425cm Tree Height - 8 per plant - 120g

Application rate for shrubs
- 10-20 height - 1 per plant - 15g
- 20-40 height - 2 per plant - 30g
- 40-60 height - 3 per plant - 45g
- 60-80 height - 4 per plant - 60g
- 80-100 height - 5 per plant - 75g
- 100+ height - 5 per plant - 75g

Fertilising products to be supplied by Green-tech or similar approved.

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REV	DESCRIPTION	BY	DATE
B	Minor Amendments	TSC	02/07/26
A	Minor Amendments	MLS	09/06/26

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CLIENT: Lovell

PROJECT: South Pavenhill Farm

DRAWING TITLE: Planting Plan (Sheet 5 of 5)

SCALE:	DRAWN BY:	DRAWING No:	REV:
1:250 @A1	AS		
DATE:	CHKD BY:		
22/05/2026	MS	P.1464.21 L09	B



Landscape Layout Key:

- Site Boundary
- Compound Boundary
- Existing trees and hedgerows to be retained and protected during the works.
- Existing trees and hedgerow to be removed.
- Proposed ornamental planting with 50mm bark mulch.
- Proposed native tree planting, tree pit and stake.
- Proposed ornamental tree planting, tree pit and stake.
- Proposed orchard tree planting, tree pit and stake.
- Proposed mixed native hedgerow planted in a double staggered rows. Bare root transplants, each with a 60cm high Tubex shrub shelter, two cable ties and a timber stake.
- Proposed single species formal hedge planted in a double staggered row or in single row. Container transplants.
- Front & rear gardens to be turfed.
- Public open space to be sown with Germinal AberSustain mix, or similar approved.
- Existing pasture/ grassland. Area to be overseeded using appropriate grass mix and harrowing.
- Existing pasture/ grassland within the compound to be translocated, stored and reused on completion. Methodology of translocation of existing grassland tbc.
- Public open space to be sown with Germinal Eco Species Rich Lawn mix, or similar approved.
- Native scrub planting to be planted as mainly 60-80cm whip planting for additional wildlife habitat.
- Native woodland planting
- Wildflower seeding, Germinal RE3 River Floodplain / Water Meadow (MG8 Grassland), to the existing water course within public open space.
- Wildflower seeding, EM8 Meadow Mixture for Wetlands to 1 in 3 gradient banks of pond. To be sown at 4g/m2 planted into 200mm of a mix of topsoil and subsoil (50:50).
- Pond basin lined with puddle clay to aid water retention
- Wildflower seeding, EM3 Special General Purpose Meadow Mix, to the public open space to be sown at 4g/m2
- Wildflower seeding, AP1 Premium Wildflower & Grass Seed Mix by Hurrells, to the public open space to be sown at 5g/m2 planted into 150mm mixture of topsoil and approved subsoil (50:50).

Paving Key:

- Main roads, private drives and public footpaths including raised/ feature junctions and ramps/ transition strips to be black asphalt. Thickness and substrates to detailed by engineer.
- Plot driveways and parking spaces in concrete block paving in 'Brindle', with contrasting blocks in 'Charcoal' to demark parking spaces or similar approved. Thickness and substrates to detailed by engineer.
- Private pathways and patios to be Slab concrete paving slabs in 'Buff' or similar approved. Thickness and substrates to detailed by engineer.
- Graveled areas, 20mm limestone chippings
- 25mm to dust gravel footpath. Crushed footpath colour tbc.
- 27m wide easement from the overhead electric cables & transmission tower.

Boundary key:

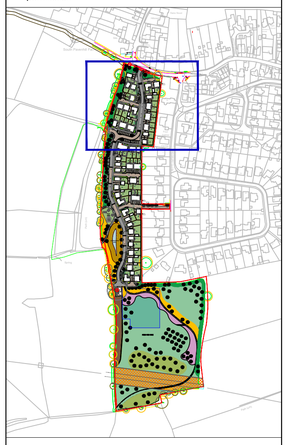
- 1.1m high metal railing
- 1.8m bound high screenwall
- 1.8m high closeboard fence

Note. Location, and depths of root barriers to protect services, hard surfacing, or foundations from roots of proposed trees, hedges or ornamental planting are to be decided and detailed by the project engineer.

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SCALE BAR 1:250

REV	DESCRIPTION	BY	DATE
B	Minor Amendments	TSC	03/07/26
A	Minor Amendments	MLS	09/06/26

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CLIENT: Lovell

PROJECT: South Pavenhill Farm

DRAWING TITLE: Landscape Layout

SCALE:	DRAWN BY:	DRAWING No:	REV:
1:250 @A1	TSC		
DATE:	CHKD BY:		
22/05/2026	MS	P.1464.21 L01	B

C:\Users\LA_2\Ascerta\Ascerta Team Site - Server\All Jobs\1464.21 South Pavenhill Farm, Purton, Swindon SN5 4FH\03 Working\01 CAD_Drawings\P.1464.21 L01-L04 Landscape Layout Rev B



Landscape Layout Key:

- Site Boundary
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- Existing trees and hedgerows to be retained and protected during the works.
- Existing trees and hedgerow to be removed.
- Proposed ornamental planting with 50mm bark mulch.
- Proposed native tree planting, tree pit and stake.
- Proposed ornamental tree planting, tree pit and stake.
- Proposed orchard tree planting, tree pit and stake.
- Proposed mixed native hedgerow planted in a double staggered rows. Bare root transplants, each with a 60cm high Tubex shrub shelter, two cable ties and a timber stake.
- Proposed single species formal hedge planted in a double staggered row or in single row. Container transplants.
- Front & rear gardens to be turfed.
- Public open space to be sown with Germinal AberSustain mix, or similar approved.
- Existing pasture/ grassland. Area to be overseeded using appropriate grass mix and harrowing.
- Existing pasture/ grassland within the compound to be translocated, stored and reused on completion. Methodology of translocation of existing grassland tbc.
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- Native woodland planting
- Wildflower seeding, Germinal RE3 River Floodplain / Water Meadow (MG8 Grassland), to the existing water course within public open space.
- Wildflower seeding, EM8 Meadow Mixture for Wetlands to 1 in 3 gradient banks of pond. To be sown at 4g/m2 planted into 200mm of a mix of topsoil and subsoil (50:50).
- Pond basin lined with puddle clay to aid water retention
- Wildflower seeding, EM3 Special General Purpose Meadow Mix, to the public open space to be sown at 4g/m2
- Wildflower seeding, AP1 Premium Wildflower & Grass Seed Mix by Hurrells, to the public open space to be sown at 5g/m2 planted into 150mm mixture of topsoil and approved subsoil (50:50).

Paving Key:

- Main roads, private drives and public footpaths including raised/ feature junctions and ramps/ transition strips to be black asphalt. Thickness and substrates to detailed by engineer.
- Plot driveways and parking spaces in concrete block paving in 'Brindle', with contrasting blocks in 'Charcoal' to demark parking spaces or similar approved. Thickness and substrates to detailed by engineer.
- Private pathways and patios to be Slab concrete paving slabs in 'Buff' or similar approved. Thickness and substrates to detailed by engineer.
- Graveled areas, 20mm limestone chippings
- 25mm to dust gravel footpath. Crushed footpath colour tbc.
- 27m wide easement from the overhead electric cables & transmission tower.

Boundary key:

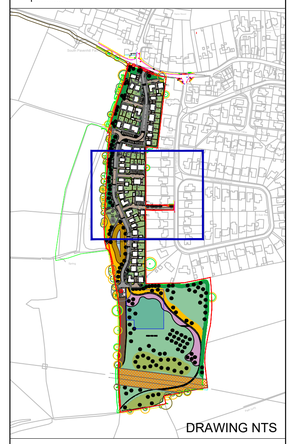
- 1.1m high metal railing
- 1.8m bound high screenwall
- 1.8m high closeboard fence

Note. Location, and depths of root barriers to protect services, hard surfacing, or foundations from roots of proposed trees, hedges or ornamental planting are to be decided and detailed by the project engineer.

ALL COORDINATES RELATED TO LOCAL GRID
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DRAWING NTS

N

0 1 2 4 6 8 10 12 14 16 18

SCALE BAR 1:250

REV	DESCRIPTION	BY	DATE
B	Minor Amendments	TSC	03/07/26
A	Minor Amendments	MLS	09/06/26

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CLIENT:
Lovell

PROJECT:
South Pavenhill Farm

DRAWING TITLE:
Landscape Layout

SCALE:	DRAWN BY:	DRAWING No:	REV:
1:250 @A1	TSC		
DATE:	CHKD BY:		
22/05/2026	MS	P.1464.21 L02	B

ATTENUATION AREA

PUMP STATION

Lockable Maintenance Access Gate

54 55 56 57 58 59 60

P54 P55 P56 G56 P57 G57 P58 G58 G60 G59 P60 P59

T3

12

Vis Vis

G 1.0 HT 12m
G 1.0 HT 12m
G 1.0 HT 12m
G 1.2 HT 12m
G 1.2 HT 12m
G 0.8 HT 10m
G 0.8 HT 10m
G 0.8 HT 10m

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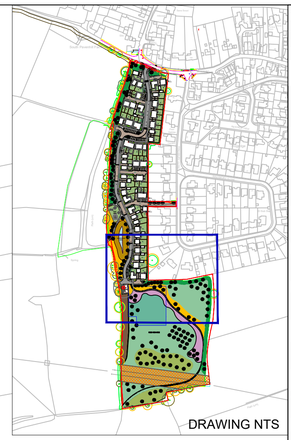
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N

0 1 2 4 6 8 10 12 14 16 18

SCALE BAR 1:250



DRAWING NTS

Note. Location, and depths of root barriers to protect services, hard surfacing, or foundations from roots of proposed trees, hedges or ornamental planting are to be decided and detailed by the project engineer.

Landscape Layout Key:

- Site Boundary
- Compound Boundary
- Existing trees and hedgerows to be retained and protected during the works.
- Existing trees and hedgerow to be removed.
- Proposed ornamental planting with 50mm bark mulch.
- Proposed native tree planting, tree pit and stake.
- Proposed ornamental tree planting, tree pit and stake.
- Proposed orchard tree planting, tree pit and stake.
- Proposed mixed native hedgerow planted in a double staggered rows. Bare root transplants, each with a 60cm high Tubex shrub shelter, two cable ties and a timber stake.
- Proposed single species formal hedge planted in a double staggered row or in single row. Container transplants.
- Front & rear gardens to be turfed.
- Public open space to be sown with Germinal AberSustain mix, or similar approved.
- Existing pasture/ grassland. Area to be overseeded using appropriate grass mix and harrowing.
- Existing pasture/ grassland within the compound to be translocated, stored and reused on completion. Methodology of translocation of existing grassland tbc.
- Public open space to be sown with Germinal Eco Species Rich Lawn mix, or similar approved.
- Native scrub planting to be planted as mainly 60-80cm whip planting for additional wildlife habitat.
- Native woodland planting
- Wildflower seeding, Germinal RE3 River Floodplain / Water Meadow (MG8 Grassland), to the existing water course within public open space.
- Wildflower seeding, EM8 Meadow Mixture for Wetlands to 1 in 3 gradient banks of pond. To be sown at 4g/m2 planted into 200mm of a mix of topsoil and subsoil (50:50).
- Pond basin lined with puddle clay to aid water retention
- Wildflower seeding, EM3 Special General Purpose Meadow Mix, to the public open space to be sown at 4g/m2
- Wildflower seeding, AP1 Premium Wildflower & Grass Seed Mix by Hurrells, to the public open space to be sown at 5g/m2 planted into 150mm mixture of topsoil and approved subsoil (50:50).

Paving Key:

- Main roads, private drives and public footpaths including raised/ feature junctions and ramps/ transition strips to be black asphalt. Thickness and substrates to detailed by engineer.
- Plot driveways and parking spaces in concrete block paving in 'Brindle', with contrasting blocks in 'Charcoal' to demark parking spaces or similar approved. Thickness and substrates to detailed by engineer.
- Private pathways and patios to be Slab concrete paving slabs in 'Buff' or similar approved. Thickness and substrates to detailed by engineer.
- Graveled areas, 20mm limestone chippings
- 25mm to dust gravel footpath. Crushed footpath colour tbc.
- 27m wide easement from the overhead electric cables & transmission tower.

Boundary key:

- 1.1m high metal railing
- 1.8m bound high screenwall
- 1.8m high closeboard fence

REV	DESCRIPTION	BY	DATE
B	Minor Amendments	TSC	03/07/26
A	Minor Amendments	MLS	09/06/26

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CLIENT: Lovell

PROJECT: South Pavenhill Farm

DRAWING TITLE: Landscape Layout

SCALE:	DRAWN BY:	DRAWING No:	REV:
1:250 @A1	TSC	P.1464.21 L03	B
DATE: 22/05/2026	CHKD BY: MS		

PUBLIC OPEN SPACE

G 0.8
HT 12m

G 0.8
HT 12m

G 1.2
HT 12m

G 1.2
HT 12m

G 1.2
HT 12m

G 1.0
HT 12m

G 4.5
HT 15m

G 1.0
HT 12m

G 1.0
HT 12m

G 1.0
HT 12m

Landscape Layout Key:

- Site Boundary
- Compound Boundary
- Existing trees and hedgerows to be retained and protected during the works.
- Existing trees and hedgerow to be removed.
- Proposed ornamental planting with 50mm bark mulch.
- Proposed native tree planting, tree pit and stake.
- Proposed ornamental tree planting, tree pit and stake.
- Proposed orchard tree planting, tree pit and stake.
- Proposed mixed native hedgerow planted in a double staggered rows. Bare root transplants, each with a 60cm high Tubex shrub shelter, two cable ties and a timber stake.
- Proposed single species formal hedge planted in a double staggered row or in single row. Container transplants.
- Front & rear gardens to be turfed.
- Public open space to be sown with Germinal AberSustain mix, or similar approved.
- Existing pasture/ grassland. Area to be overseeded using appropriate grass mix and harrowing.
- Existing pasture/ grassland within the compound to be translocated, stored and reused on completion. Methodology of translocation of existing grassland tbc.
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- Native woodland planting
- Wildflower seeding, Germinal RE3 River Floodplain / Water Meadow (MG8 Grassland), to the existing water course within public open space.
- Wildflower seeding, EM8 Meadow Mixture for Wetlands to 1 in 3 gradient banks of pond. To be sown at 4g/m2 planted into 200mm of a mix of topsoil and subsoil (50:50).
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Paving Key:

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- Plot driveways and parking spaces in concrete block paving in 'Brindle', with contrasting blocks in 'Charcoal' to demark parking spaces or similar approved. Thickness and substrates to detailed by engineer.
- Private pathways and patios to be Slab concrete paving slabs in 'Buff' or similar approved. Thickness and substrates to detailed by engineer.
- Graveled areas, 20mm limestone chippings
- 25mm to dust gravel footpath. Crushed footpath colour tbc.
- 27m wide easement from the overhead electric cables & transmission tower.

Boundary key:

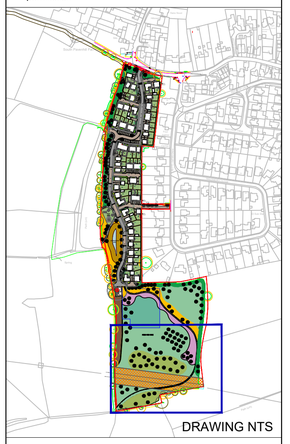
- 1.1m high metal railing
- 1.8m bound high screenwall
- 1.8m high closeboard fence

Note. Location, and depths of root barriers to protect services, hard surfacing, or foundations from roots of proposed trees, hedges or ornamental planting are to be decided and detailed by the project engineer.

ALL COORDINATES RELATED TO LOCAL GRID
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DRAWING NTS

REV	DESCRIPTION	BY	DATE
B	Minor Amendments	TSC	03/07/26
A	Minor Amendments	MLS	09/06/26

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CLIENT:
Lovell

PROJECT:
South Pavenhill Farm

DRAWING TITLE:
Landscape Layout

SCALE:	DRAWN BY:	DRAWING No:	REV:
1:250 @A1	TSC		
DATE:	CHKD BY:		
22/05/2026	MS	P.1464.21 L04	B

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Appendix 3

ASCERTA
LANDSCAPE| TREES | ECOLOGY

Northern section

South Pavenhill Farm

PAVENHILL COURTYARD

PAVENHILL

RINGSBURY CLOSE

RINGSBURY

Four Gables

Canlea

Bunce Court

Path (um)

Spring

139.4m

T3

T4

G1 G2 G3 G4 G5 G6 G7 H1 H2 W1

Southern section

RINGSBUR

Path (um)

Spring

T3

G5 G6 G7 W1

Overgrown Garden Shrubs

Estimated positions of stems

Estimated position of

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KEY

- Existing tree to be retained
- Existing tree to be removed
- Existing hedgerow to be retained
- Hedgerow section to be removed

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PROJECT: South Pavenhill Farm, Purton, Swindon, SN5 4FH

DRAWING TITLE: Tree survey

SCALE:	DRAWING No:	REV:
1:500 @ A0		

DRAWN BY:	CHKD BY:	DATE:		
KP	CP	18/05/2026	P.1464.21.01	A

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Appendix 4

ASCERTA
LANDSCAPE| TREES | ECOLOGY

Condition Sheet: GRASSLAND Habitat Type (medium, high and very high distinctiveness)

UK Habitat Classification (UKHab) Habitat Types

Grassland - Lowland calcareous grassland
Grassland - Lowland dry acid grassland
Grassland - Lowland meadows
Grassland - Other lowland acid grassland
Grassland - Other neutral grassland
Grassland - Tall herb communities (H6430) [Not to be confused with the Tall forbs secondary code – see UKHab guidance for details.]
Grassland - Upland acid grassland
Grassland - Upland calcareous grassland
Grassland - Upland hay meadows
Sparsely vegetated land - Calaminarian grassland

On-site or off-site, site name and location		**Survey date and Surveyor name**	
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference		**Habitat parcel reference**	

Habitat Description

ukhab – UK Habitat Classification			

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type (and relative to Footnote 3 suboptimal species which may be listed in the UKHab description).[1] **Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.**	Y	Grassland will be established and managed to provide a representative other neutral grassland sward with a consistently high proportion of characteristic species.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Y	Management will maintain a varied sward structure, with at least 20% below 7 cm and at least 20% above 7 cm.
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens[2].	N	Bare ground cover of between 1% and 5% is not specifically required by the proposed management and cannot be guaranteed.
D	Cover of bracken *Pteridium aquilinum* is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.	Y	Management will maintain bracken below 20% cover and scrub, including bramble, below 5% cover.

E	Combined cover of species indicative of suboptimal condition[3] 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[4] (as listed on Schedule 9 of WCA[5]) are present, this criterion is automatically failed.	Y	Management will control undesirable species and physical damage so that their combined cover remains below 5%. Invasive non-native species will not be permitted.
Additional Criterion - must be assessed for all non-acid grassland types			
F	There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). **Note - this criterion is essential for achieving Good condition for non-acid grassland types only.**	N	A minimum of 10 vascular plant species per m^2 is not required to achieve the proposed Moderate condition and is not committed to within the proposals.
	Essential criterion for Good condition achieved (for non-acid grassland) (Yes or No)		
	Number of criteria passed		

Condition Assessment Result	Condition Assessment Score	Score Achieved ×/✓
Acid grassland types (Result out of 5 criteria)		
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	
Non-acid grassland types (Result out of 6 criteria)		
Passes 5 or 6 criteria, including essential criterion A and additional criterion F.	Good (3)	
Passes 3 - 5 criteria, including essential criterion A.	Moderate (2)	X
Passes 2 or fewer criteria; OR Passes 3 or 4 criteria excluding criterion A and F.	Poor (1)	

Suggested enhancement interventions to improve condition score

Notes

Footnote 1 - Professional judgement should be used alongside the UKHab description.

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing for plant colonisation, or localised patches not exceeding 5% cover.

Footnote 3 - Species indicative of suboptimal condition for this habitat type include: creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* . There may be additional relevant species local to the region and or site.

Footnote 4 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, by applying professional judgement.

Footnote 5 – Wildlife and Countryside Act 1981 (as amended).

Condition Sheet: ORCHARD Habitat Type			
UK Habitat Classification (UKHab) Habitat Type			
Grassland - Traditional orchard			
Habitat Description			
ukhab – UK Habitat Classification			
On-site or off-site, site name and location		**Survey date and Surveyor name**	
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference		**Habitat parcel reference**	

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	Presence of ancient[1] and or veteran[1] trees. **Note - this criterion is essential for achieving Good condition.**	N	The proposed orchard is newly created and will therefore not contain ancient or veteran trees.
B	Presence of deadwood in or on trees, or on the ground: at least 20% of mature trees have deadwood associated with them. Some examples of deadwood are: standing, attached and fallen trees or limbs; dead stems; branches and branch stubs greater than 10 cm diameter; and internal cavities. The types and distribution of deadwood provide a range of habitats suitable to support a wide assemblage of saproxylic invertebrates. **Note - this criterion is essential for achieving Good condition.**	N	As a newly created orchard, mature trees with associated deadwood will not initially be present.
C	Less than 5% of fruit trees are smothered by scrub. Small patches of dense scrub and or scattered scrub growing between trees can be beneficial to biodiversity, however these occupy less than 10% of ground cover.	Y	Orchard management will ensure that fewer than 5% of fruit trees are smothered by scrub, with scrub maintained below 10% ground cover.
D	There is evidence of formative and or restorative pruning to maintain longevity of trees.	Y	Formative and restorative pruning will be undertaken as required to establish and maintain healthy fruit trees and promote their longevity.
E	At least 95% of the trees are free from damage caused by humans or animals, for example browsing, bark stripping or rubbing on non-adjusted ties.	Y	Trees will be protected and managed to ensure at least 95% remain free from significant damage caused by humans or animals.
F	Grassland is not overgrazed, poaching is not evident around the trees, with no more than 10% of trees poached under the canopy.	Y	The orchard grassland will be managed to prevent overgrazing and poaching, with no more than 10% of trees subject to poaching beneath their canopies.
G	Species richness of the grassland is equivalent to a medium, high, or very high distinctiveness grassland.	Y	The orchard ground flora will be established and managed as species-rich grassland equivalent to at least medium distinctiveness grassland.

H	There is an absence of invasive non-native plant species[2] (as listed on Schedule 9 of WCA[3]) and species indicative of suboptimal condition[4] make up less than 10% of ground cover.	Y	Invasive non-native plant species will be controlled and species indicative of suboptimal condition will be maintained below 10% ground cover.
Essential criteria achieved (required for good condition - Yes or No)		N	
Number of criteria passed		6	

Condition Assessment Result (out of 8 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**
Passes 6- 8 criteria, including essential criteria A and B.	Good (3)	
Passes 4 or 5 criteria; OR Passes 6 or 7 criteria but fails an essential criterion.	Moderate (2)	X
Passes 3 or fewer criteria.	Poor (1)	

Suggested enhancement interventions to improve condition score

Footnotes

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)			
UK Habitat Classification (UKHab) Habitat Type			
Grassland - Modified grassland			
On-site or off-site, site name and location		**Survey date and Surveyor name**	
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference		**Habitat parcel reference**	
Habitat Description			
ukhab – UK Habitat Classification			

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.** Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m^2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	N	The proposed modified grassland is not intended to achieve the species diversity required for Moderate or Good condition.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	Y	Grassland management will allow some variation in sward height, providing structural diversity.
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y	Scrub will be managed to remain below 20% of the grassland area.
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Y	Management will prevent significant physical damage, with damaged ground maintained below 5% of the grassland area.
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	N	Bare ground cover of between 1% and 10% is not specifically targeted and cannot be guaranteed.
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Y	Bracken will be controlled and maintained below 20% cover.
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Y	Invasive non-native plant species listed on Schedule 9 will not be permitted to establish within the grassland.
		Essential criterion achieved (Yes or No)	Notes (such as justification)
		Number of criteria passed	5

Condition Assessment Result (out of 7 criteria)	Condition Assessment Score	Score Achieved ×/✓	

Passes 6 or 7 criteria including passing essential criterion A	Good (3)		
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)		
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)	X	

Suggested enhancement interventions to improve condition score

Footnotes

Footnote 1 – Creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* .

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover.

Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

Footnote 4 – Wildlife and Countryside Act 1981 (as amended).

Condition Sheet: SCRUB Habitat Type			
Habitat Types			
Heathland and shrub - Blackthorn scrub **Heathland and shrub - Gorse scrub** **Heathland and shrub - Hawthorn scrub** **Heathland and shrub - Hazel scrub** **Heathland and shrub - Mixed scrub** **Heathland and shrub - Dunes with sea buckthorn (H2160)** **Heathland and shrub - Willow scrub**			
Habitat Description			
For Dunes with sea buckthorn see:	Dunes with sea-buckthorn (Dunes with Hippophae rhamnoides) - Special Areas of Conservation (jncc.gov.uk)		
For other scrub types see:	ukhab – UK Habitat Classification		
On-site or off-site, site name and location		**Survey date and Surveyor name**	
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference		**Habitat parcel reference**	

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range).[1] - At least 80% of scrub is native, - There are at least three native woody species[2], - No single species comprises more than 75% of the cover (except hazel *Corylus avellana* , common juniper *Juniperus communis* , sea buckthorn *Hippophae rhamnoides* (only in its restricted native range), or box *Buxus sempervirens* , which can be up to 100% cover).	Y	Scrub will be established using a diverse native species mix, with at least three native woody species and no single species comprising more than 75% of cover.
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran[3]) shrubs are all present.	N	As newly created scrub, the full range of age classes from seedlings and saplings through to mature shrubs will not initially be present.
C	There is an absence of invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) and species indicative of suboptimal condition[6] make up less than 5% of ground cover.	Y	Invasive non-native species will be controlled, with species indicative of suboptimal condition maintained below 5% ground cover.
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	Y	Scrub will be established and managed to develop a graduated edge with scattered scrub, tall grassland and forbs between the scrub and adjacent habitats.

E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	N	Clearings, glades or rides are not specifically proposed within the scrub planting.
		Number of criteria passed	3

Condition Assessment Result (out of 5 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	X
Passes 2 or fewer criteria	Poor (1)	

Suggested enhancement interventions to improve condition score

Condition Sheet: POND Habitat Type

Habitat Type

Lakes - Ponds (priority habitat)
Lakes - Ponds (non-priority habitat)
Lakes - Temporary lakes ponds and pools (H3170) [Use this condition sheet for Temporary ponds and pools, use Lake condition sheet for Temporary lakes]
Lakes - Ornamental lake or pond [Use this condition sheet for Ornamental ponds, use Lake condition sheet for Ornamental lakes]

Habitat Description

ukhab – UK Habitat Classification			
On-site or off-site, site name and location		**Survey date and Surveyor name**	
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference		**Habitat parcel reference**	

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
Core Criteria - applicable to all ponds (woodland[1] and non-woodland):			
A	The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	Y	The pond will be managed to maintain good water quality, with no livestock grazing proposed.
B	There is semi-natural habitat (moderate distinctiveness or above) completely surrounding the pond, for at least 10 m from the pond edge for its entire perimeter.	N	The pond will not be completely surrounded by semi-natural habitat of Moderate distinctiveness or above for at least 10 m around its entire perimeter.
C	Less than 10% of the water surface is covered with duckweed *Lemna* spp. or filamentous algae.	Y	Management will prevent excessive growth of duckweed and filamentous algae, maintaining cover below 10% of the water surface.
D	The pond is not artificially connected to other waterbodies, such as agricultural ditches or artificial pipework.	N	The pond forms part of the proposed drainage/SuDS arrangement and therefore cannot be considered isolated from artificial drainage connections.
E	Pond water levels can fluctuate naturally throughout the year. No obvious artificial dams[2], pumps or pipework.	N	As part of the proposed drainage arrangement, entirely natural fluctuation in water levels cannot be assured.
F	There is an absence of listed non-native plant and animal species[3].	Y	Non-native plant and animal species will not be introduced and will be controlled if identified.

G	The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	Y	The pond will not be artificially stocked with fish.
Additional Criteria - must be assessed for all non-woodland ponds:			
H	Emergent, submerged or floating plants (excluding duckweed)[4] cover at least 50% of the pond area which is less than 3 m deep.	N	At least 50% cover of emergent, submerged or floating vegetation is not committed to and cannot be guaranteed.
I	The pond surface is no more than 50% shaded by adjacent trees and scrub.	Y	Proposed management and planting will ensure that no more than 50% of the pond surface is shaded by adjacent trees and scrub.
	Number of criteria passed	5	

Condition Assessment Result	**Condition Assessment Score**	**Score Achieved ×/✓**
Results for woodland ponds which require assessment of 7 core criteria		
Passes 7 criteria	Good (3)	
Passes 5 or 6 criteria	Moderate (2)	
Passes 4 or fewer criteria	Poor (1)	
Results for non-woodland ponds which require assessment of 9 criteria		
Passes 9 criteria	Good (3)	
Passes 6 to 8 criteria	Moderate (2)	
Passes 5 or fewer criteria	Poor (1)	x

Suggested enhancement interventions to improve condition score

Footnote 1 - A woodland pond will be surrounded on all sides by woodland habitat.

Footnote 2 – This excludes natural dams such as those created by Eurasian beaver *Castor fiber* .

Footnote 3 - Any species included on the Water Framework Directive (WFD) UKTAG GB High Impact Species List should be absent: WFD UKTAG (2021) *Classification of aquatic alien species according to their level of impact* [online]. Available from:

Condition Sheet: WOODLAND Habitat Type

UK Habitat Classification (UKHab) Habitat Types

Woodland and forest - Lowland beech and yew woodland
Woodland and forest - Lowland mixed deciduous woodland
Woodland and forest - Native pine woodlands
Woodland and forest - Other coniferous woodland
Woodland and forest - Other Scot's pine woodland
Woodland and forest - Other woodland; broadleaved
Woodland and forest - Other woodland; mixed
Woodland and forest - Upland birchwoods
Woodland and forest - Upland mixed ashwoods
Woodland and forest - Upland oakwood
Woodland and forest - Wet woodland

Habitat Description

ukhab – UK Habitat Classification

This condition sheet is based on the England Woodland Biodiversity Group (EWBG) Woodland Condition Survey Method, available here:

Woodland Wildlife Toolkit (sylva.org.uk)

IMPORTANT: This biodiversity metric woodland condition assessment must be used to assess woodland being input into the biodiversity metric. The outputs of this condition assessment are not equivalent to, nor are they comparable with the scores from the EWBG condition assessment, because the EWBG assessment has been adapted for the biodiversity metric, including the removal of EWBG Indicator 7 (Proportion of favourable land cover around woodland) and Indicator 14 (Size of woodland), and minor changes to other indicators.

On-site or off-site, site name and location		**Survey date and Surveyor name**	
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference		**Habitat parcel reference**	

Condition Assessment Criteria

	Indicator	Good (3 points)	Moderate (2 points)	Poor (1 point)	Score per indicator	Notes (such as justification)
A	**Age distribution of trees**	Three age-classes[1] present.	Two age-classes[1] present.	One age-class[1] present.	1	Newly created woodland will initially comprise a single age class.
B	**Wild, domestic and feral herbivore damage**	No significant browsing damage evident in woodland[2].	Evidence of significant browsing pressure is present in less than 40% of whole woodland[2].	Evidence of significant browsing pressure is present in 40% or more of whole woodland[2].	3	Trees and shrubs will be protected during establishment and managed to prevent significant browsing damage.
C	**Invasive plant species**	No invasive species[3] present in woodland.	Rhododendron *Rhododendron ponticum* or cherry laurel *Prunus laurocerasus* not present, and other invasive species[3] <10% cover.	Rhododendron or cherry laurel present, or other invasive species[3] ≥10% cover.	3	Invasive plant species will not be planted and will be controlled if identified.
D	**Number of native tree species**	Five or more native tree or shrub species[4] found across woodland parcel.	Three to four native tree or shrub species[4] found across woodland parcel.	Two or less native tree or shrub species[4] across woodland parcel.	3	Woodland planting will comprise at least five native tree and shrub species.
E	**Cover of native tree and shrub species**	>80% of canopy trees and >80% of understory shrubs are native[5].	50 - 80% of canopy trees and 50 - 80% of understory shrubs are native[5].	<50% of canopy trees and <50% of understory shrubs are native[5].	3	More than 80% of canopy trees and understory shrubs will comprise native species.

F	**Open space within woodland**	10 - 20% of woodland has areas of temporary open space[6]. Unless woodland is <10ha, in which case 0 - 20% temporary open space is permitted[7].	21 - 40% of woodland has areas of temporary open space[6].	<10% or >40% of woodland has areas of temporary open space[6]. But if woodland <10ha has <10% temporary open space, please see Good category[7].	3	The woodland parcel is less than 10 ha; temporary open space will be maintained within the permitted 0–20% range.
G	**Woodland regeneration**	All three classes present in woodland[8]; trees 4 - 7 cm Diameter at Breast Height (DBH), saplings and seedlings or advanced coppice regrowth.	One or two classes only present in woodland[8].	No classes or coppice regrowth present in woodland[8].	1	As newly created woodland, natural regeneration classes will not initially be established.
H	**Tree health**	Tree mortality 10% or less, no pests or diseases and no crown dieback[9].	11% to 25% tree mortality and or crown dieback or low-risk pest or disease present[9].	Greater than 25% tree mortality and or any high-risk pest or disease present[9].	3	Planting will be maintained in healthy condition, with replacement of failed specimens and management of pests and diseases.
I	**Vegetation and ground flora**	Recognisable NVC plant community[10] at ground layer present, strongly characterised by ancient woodland flora specialists.	Recognisable woodland NVC plant community[10] at ground layer present.	No recognisable woodland NVC plant community[10] at ground layer present.	2	Woodland ground flora will be established and managed to develop a recognisable woodland plant community.
J	**Woodland vertical structure**	Three or more storeys across all survey plots, or a complex woodland[11].	Two storeys across all survey plots[11].	One or less storey across all survey plots[11].	2	Planting will provide two vegetation storeys through tree and shrub planting.
K	**Veteran trees**	Two or more veteran trees[12] per hectare.	One veteran tree[12] per hectare.	No veteran trees[12] present in woodland.	1	No veteran trees will be present within the newly created woodland.
L	**Amount of deadwood**	50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, branch stubs and stumps, or an abundance of small cavities[13].	Between 25% and 50% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities[13].	Less than 25% of all survey plots within the woodland parcel have deadwood, such as standing and fallen deadwood, large dead branches and or stems, stubs and stumps, or an abundance of small cavities[13].	1	Newly created woodland will initially contain limited deadwood habitat.
M	**Woodland disturbance**	No nutrient enrichment or damaged ground evident[14].	Less than 1 hectare in total of nutrient enrichment across woodland area, and or less than 20% of woodland area has damaged ground[14].	1 hectare or more of nutrient enrichment, and or 20% or more of woodland area has damaged ground[14].	3	Woodland will be managed to avoid nutrient enrichment and significant ground damage.
				Total Score (out of a possible 39)	29	

Condition Assessment Result	Condition Assessment Score	Result Achieved
Total score >32 (33 to 39)	Good (3)	2
Total score 26 to 32	Moderate (2)	
Total score <26 (13 to 25)	Poor (1)	

Suggested enhancement interventions to improve condition score

Condition Sheet: INDIVIDUAL TREES Habitat Type

Habitat Types

Individual trees – Urban trees
Individual trees – Rural trees
Complete a condition sheet for each tree or block of trees.

Please see the separate Line of trees condition sheet for a line of rural trees. You should only use the Line of trees condition assessment and record that habitat type in rural locations.

Habitat Description

Individual trees (description applied to the urban or rural environment):
Young trees over 7.5 cm in diameter at breast height whose canopies are not touching.

Urban Perimeter / Linear Blocks and Groups (description applied to the urban environment only):
Groups or stands of trees (size requirement as defined above) within and around the perimeter of urban land. This includes those along urban streets, highways, railways and canals, and also former field boundary trees incorporated into developments. Canopies should predominantly overlap continuously. Groups of urban trees that don't match the descriptions for woodland may be assessed within this category.

On-site or off-site, site name and location		**Survey date and Surveyor name**	
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference		**Habitat parcel reference**	

	Condition Assessment Criteria	**Criterion passed (Yes or No)**	**Notes (such as justification)**
A	The tree is a native species (or at least 70% within the block are native species).	Y	The proposed tree planting is predominantly native, with at least 70% of trees within the assessed block comprising native species.
B	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).	Y	Individual trees automatically pass this criterion in accordance with the condition assessment criteria.
C	The tree is mature (or more than 50% within the block are mature)[1].	N	Trees will be newly planted and therefore will not be mature at establishment.
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.	N	The criterion relating to absence of adverse impacts and retention of more than 75% of expected canopy cannot be assured at establishment.
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	N	Newly planted trees will initially have limited natural ecological niches such as deadwood, cavities, ivy or loose bark.
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	N	More than 20% of the tree canopy area oversailing vegetation beneath cannot be guaranteed across the proposed planting.
	Number of criteria passed	2	

Condition Assessment Result (out of 6 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**
Passes 5 or 6 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	
Passes 2 or fewer criteria	Poor (1)	X
Note that 'Fairly Good and Fairly Poor' condition categories are not available for this broad habitat type.		

Suggested enhancement interventions to improve condition score[2]

Appendix 5

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LANDSCAPE| TREES | ECOLOGY

Survey Cover Sheet			
Survey date/s	12-May-26	**Site name or location**	South Pavenhill Farm, Purton, Swindon SN5 4FH
Weather conditions	See PEA	**Project or development name**	South Pavenhill Farm
Surveyor name	Jack Kay MRes and Rebecca Donnan Mres	**On-site or off-site**	
Survey reference		**Reason for assessment (if not baseline condition survey)**	
Notes			

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)			
UK Habitat Classification (UKHab) Habitat Type			
Grassland - Modified grassland			
On-site or off-site, site name and location		**Survey date and Surveyor name**	
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference		**Habitat parcel reference**	
Habitat Description			
ukhab – UK Habitat Classification			

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (these may include those listed in Footnote 1). **Note - this criterion is essential for achieving Moderate or Good condition.** Where the vascular plant species present are characteristic of medium, high or very high distinctiveness grassland, or there are 9 or more of these characteristic species per m^2 (excluding those listed in Footnote 1), please review the full UKHab description to assess whether the grassland should instead be classified as a higher distinctiveness grassland. Where a grassland is classed as medium, high, or very high distinctiveness, please use the relevant condition sheet.	N	The recorded species assemblage does not demonstrate 6–8 vascular plant species per m², including at least two forbs.
B	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	Y	Sward height was recorded as approximately 10–60 cm, demonstrating variation in vegetation height.
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble *Rubus fruticosus* agg. may be present). Note - patches of scrub with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y	Scrub cover within the modified grassland was less than 20%; scrub was recorded separately as a distinct habitat parcel.
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	Y	No significant physical damage affecting ≥5% of the grassland was recorded during the survey.
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)[2].	N	
F	Cover of bracken *Pteridium aquilinum* is less than 20%.	Y	Bracken was not recorded as a significant component of the grassland and was below 20% cover.
G	There is an absence of invasive non-native plant species[3] (as listed on Schedule 9 of WCA[4]).	Y	No invasive non-native plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 were recorded within the modified grassland.
		Essential criterion achieved (Yes or No)	
		Number of criteria passed	5

Condition Assessment Result (out of 7 criteria)	Condition Assessment Score	Score Achieved ×/✓	

Passes 6 or 7 criteria including passing essential criterion A	Good (3)		
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)	X	
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)		

Suggested enhancement interventions to improve condition score

Footnotes

Footnote 1 – Creeping thistle *Cirsium arvense* , spear thistle *Cirsium vulgare* , curled dock *Rumex crispus* , broad-leaved dock *Rumex obtusifolius* , common nettle *Urtica dioica* , creeping buttercup *Ranunculus repens* , greater plantain *Plantago major* , white clover *Trifolium repens* and cow parsley *Anthriscus sylvestris* .

Footnote 2 – For example, this could include small, scattered areas of bare ground allowing establishment of new species, or localised patches where not exceeding 10% cover.

Footnote 3 – Assess this for each distinct habitat parcel. If the distribution of invasive non-native species varies across the habitat, split into parcels accordingly, applying a buffer zone around the invasive non-native species with a size relative to its risk of spread into adjacent habitat, using professional judgement.

Footnote 4 – Wildlife and Countryside Act 1981 (as amended).

Condition Sheet: SCRUB Habitat Type			
Habitat Types			
Heathland and shrub - Blackthorn scrub **Heathland and shrub - Gorse scrub** **Heathland and shrub - Hawthorn scrub** **Heathland and shrub - Hazel scrub** **Heathland and shrub - Mixed scrub** **Heathland and shrub - Dunes with sea buckthorn (H2160)** **Heathland and shrub - Willow scrub**			
Habitat Description			
For Dunes with sea buckthorn see:	Dunes with sea-buckthorn (Dunes with Hippophae rhamnoides) - Special Areas of Conservation (jncc.gov.uk)		
For other scrub types see:	ukhab – UK Habitat Classification		
On-site or off-site, site name and location		**Survey date and Surveyor name**	
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference		**Habitat parcel reference**	

	Condition Assessment Criteria	Criterion passed (Yes or No)	Notes (such as justification)
A	The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range).[1] - At least 80% of scrub is native, - There are at least three native woody species[2], - No single species comprises more than 75% of the cover (except hazel *Corylus avellana* , common juniper *Juniperus communis* , sea buckthorn *Hippophae rhamnoides* (only in its restricted native range), or box *Buxus sempervirens* , which can be up to 100% cover).	Y	Scrub comprised predominantly native woody species and was representative of the habitat type.
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran[3]) shrubs are all present.	N	The survey information does not demonstrate the presence of all age classes from seedlings and saplings through to mature shrubs.
C	There is an absence of invasive non-native plant species[4] (as listed on Schedule 9 of WCA[5]) and species indicative of suboptimal condition[6] make up less than 5% of ground cover.	Y	No Schedule 9 invasive non-native species or significant cover of species indicative of suboptimal condition were recorded within the scrub parcel.
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	Y	The scrub formed an edge with adjacent grassland habitat, providing a transition between scrub and grassland vegetation.

E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	N	No clearings, glades or rides providing sheltered internal edges were recorded within the small scrub parcel.
		Number of criteria passed	3

Condition Assessment Result (out of 5 criteria)	**Condition Assessment Score**	**Score Achieved ×/✓**
Passes 5 criteria	Good (3)	
Passes 3 or 4 criteria	Moderate (2)	X
Passes 2 or fewer criteria	Poor (1)	

Suggested enhancement interventions to improve condition score

Condition sheet: HEDGEROW Habitat Types

Habitat Type

Native hedgerow
Native hedgerow - associated with bank or ditch
Native hedgerow with trees
Native hedgerow with trees - associated with bank or ditch
Species-rich native hedgerow
Species-rich native hedgerow - associated with bank or ditch
Species-rich native hedgerow with trees
Species-rich native hedgerow with trees - associated with bank or ditch

Habitat Description

ukhab – UK Habitat Classification

On-site or off-site, site name and location		**Survey date and Surveyor name**	
Limitations (if applicable)		**Survey reference (if relating to a wider survey)**	
Grid reference		**Habitat parcel reference**	

Condition Assessment Details

A series of ten attributes, representing key physical characteristics are used for this assessment. Each attribute is assigned to one of five functional groups (A – E) and the condition of a hedgerow is assessed according to the number of attributes from these functional groups which pass or fail the 'favourable condition' criteria.

This assessment is based on the Hedgerow Survey Handbook[1] and Favourable Conservation Status document[2]. For further clarification please refer to the Hedgerow Survey Handbook.

Best practice would be to record the species, age, spacing and other key information about all trees present along a hedgerow within the 'Habitat Description' box, as well as other key features of the hedgerow.

Hedgerow favourable condition attributes

Attributes and functional groupings (A, B, C, D and E)		**Criteria - the minimum requirements for 'favourable condition'**	**Criteria description**	**Criterion passed (Yes or No)**	**Notes (such as justification)**
Core groups - applicable to all hedgerow types					
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).	Y	Hedgerow exceeds 1.5 m average 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 *Prunus spinosa* 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).	Y	Hedgerow exceeds 1.5 m average width.
B1.	Gap - hedge base	Gap between ground and 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).	Y	No significant basal gaps were recorded; woody growth extends close to ground level along the majority of the hedge.
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).	Y	Hedgerow is predominantly continuous, with no significant canopy gaps recorded.

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.	Y	A vegetated margin is present alongside the hedgerow, with no significant disturbance recorded.
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 *Urtica* spp., cleavers *Galium aparine* and docks *Rumex* spp. Their presence, either singly or together, does not exceed the 20% cover threshold.	N	Insufficient survey information is available to demonstrate that nutrient-enrichment indicators remain below the 20%
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 WCA[3]) 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 website[4], as well as the BSBI website[5] 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 website[7].	Y	No invasive non-native or recently introduced species were recorded within the hedgerow.
D2.	Current damage	>90% of the hedgerow or 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).	Y	No significant damage to the hedgerow was recorded during the survey.
Additional group - applicable to hedgerows with trees only					
E1.	Tree class	There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient[8]), and there is on average at least one mature, ancient or veteran tree present per 20 - 50m of hedgerow.	This criterion addresses if there are a range of age-classes or morphologies which allow for replacement of trees and provide opportunities for different species.	Y	Hedgerow trees provide variation in age class/morphology.
E2.	Tree health	At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	This criterion identifies if the trees are subject to damage which compromises the survival and health of the individual specimens.	N	Insufficient information was recorded to demonstrate that at least 95% of hedgerow trees meet the criterion.

The hedgerow condition assessment generates a weighting (score) ranging from 1 - 3, which is used within the Statutory Biodiversity Metric. The scores for each are set out in the tables below.

Condition categories for hedgerows without trees		
Category	**Category Requirements**	**Metric Score**
Good	No more than 2 failures in total; **AND** No more than 1 failure in any functional group.	3
Moderate	No more than 4 failures in total; **AND** Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and C2 = Moderate condition).	2
Poor	Fails a total of more than 4 attributes; **OR** Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1
	Score achieved:	

Condition categories for hedgerows with trees		
Category	**Category Requirements**	**Metric score**
Good	No more than 2 failures in total; **AND** No more than 1 failure in any functional group.	3
Moderate	No more than 5 failures in total; **AND** Does not fail both attributes in more than one functional group (for example, fails attributes A1, A2, B1, C2 and E1 = Moderate condition).	2
Poor	Fails a total of more than 5 attributes; **OR** Fails both attributes in more than one functional group (for example, fails attributes A1, A2, B1 and B2 = Poor condition).	1
	Score achieved:	3

Suggested enhancement interventions to improve condition score

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