



STEPHENSON
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Planning, Landscape & Environment
an **RSK** company

CELLARHEAD BATTERY STORAGE

Landscape and Ecological Management Plan,
Landscape Maintenance and Management Plan,
and Soft Landscape Mitigation Plan.

0898-SH-XX-XX-RP-L-1200

Ameresco
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Appendix A Annual Landscape Maintenance

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Drawings

CELDC-SH-ELS-DR-LS-001 Illustrative Landscape Planting Plan Sheet 1 of 2 Option 1

CELDC-SH-ELS-DR-LS-002 Illustrative Landscape Planting Plan Sheet 2 of 2 Option 1

CELDC-SH-ELS-DR-LS-006 Hard Landscape Plan

Document history

Revision		Name	Date
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1 INTRODUCTION

- 1.1.1 This Landscape and Ecological Management Plan, Landscape Maintenance and Management Plan, and Soft Landscape Mitigation Plan (LEMP, LMMP and SLMP) has been prepared on behalf of Ameresco by Stephenson Halliday in support of Planning Application SMD/2022/0444 for the erection of a flexible energy facility. The site is situated to the west of Rownall Road, Cheddleton, Staffordshire centred at NGR SJ9102 49501.
- 1.1.2 This document has been produced to discharge the following Planning Conditions within SMD/2022/0444:
- 1.1.3 *12. Notwithstanding the submitted details, no development including site clearance and stripping shall commence until such time that a detailed hard and soft landscape mitigation scheme has been submitted to and approved in writing by the Local Planning Authority. The scheme shall be based on Landscape Mitigation Plan (Figure 6, Dec 2022 Revision 1) and be at an appropriate scale. The soft landscape proposals approved shall subsequently be implemented in the first growing season after construction has commenced and replacement of dead, diseased or dying stock should be undertaken in accordance with the Landscape Maintenance and Management to be approved under Condition 14. Hard landscaping shall be carried out as approved and before the development is brought into use.*
- 1.1.4 *14. No development shall take place until such time that a Landscape Maintenance and Management Plan (LMMP) has been submitted to and approved in writing by the Local Planning Authority including measures for its operation for the life of the development.*
- Reason: – To reflect the importance of the soft landscape mitigation proposals for the local landscape character.*
- 1.1.5 *19. No development including site clearance and stripping shall commence until such time that a Landscape and Ecology Management Plan (LEMP) has been submitted to and approved in writing by the Local Planning Authority. It should include the following although this list is not exhaustive.*
- (1) Details of habitat creation and species enhancements.*
 - (2) Updated BNG calculation using latest Defra metric and UK Habs baseline and postintervention plans.*
 - (3) Soil preparation details.*
 - (4) Appropriate planting/ seeding specifications.*
 - (5) Long-term habitat management plan.*
- The development shall be carried out strictly in accordance with the approved LEMP.*
- Reason: - In the interests of biodiversity enhancement and to ensure a new gain in biodiversity.*
- 1.1.6 This document has been prepared to provide the information required by the three planning conditions copied above. It provides the information required by the Planning

Authority in order to discharge the planning conditions and provides the following information:

- Identification of different habitats being created within the development area (Condition 19(1) and Condition 12);
 - Details of soil cultivation to be carried out to assist with the creation of the habitats (Condition 19(2));
 - Planting and seeding specifications for the different habitat areas (Condition 19(4) and Condition 12);
 - Long-term habitat management plan (Condition 19(5), Condition 12 and Condition 14); and
 - An updated BNG calculation using the DEFRA 4.0 metric (Condition 19(2)).
- 1.1.7 The specification and maintenance schedule presented in this LEMP, LMMP, and SLMP is provided for planning purposes only to indicate the level of workmanship required. This document will be relied upon by Staffordshire Moorlands District Council for the oversight of delivery and establishment of the landscape works. Excepting this use, this document should not be relied upon as the basis for any other contractual agreements
- 1.1.8 The LEMP, LMMP, and SLMP refers to, and should be read in conjunction with, the extent of landscape works illustrated on the following drawings:
- CELDC-SH-ELS-DR-LS-001 Illustrative Landscape Planting Plan Sheet 1 of 2 Option 1
 - CELDC-SH-ELS-DR-LS-002 Illustrative Landscape Planting Plan Sheet 2 of 2 Option 1
 - CELDC-SH-ELS-DR-LS-006 Hard Landscape Plan
- 1.1.9 Two Illustrative Landscape Planting Plan options have been produced as per the Local Planning Authority request, allowing them to choose the best option. The plans show an illustrative attenuation pond in two locations. Total areas of planting and seeding are consistent between plans.
- 1.1.10 The LEMP, LMMP, and SLMP should be read in conjunction with the following documents:
- BS5837 Tree Survey, Land off Rownall Road, Cheddleton by C.B.E Consulting.
- 1.1.11 This LEMP, LMMP and SLMP provides the documented basis for successful establishment, after-care, and long-term management and maintenance of the proposed landscape scheme. The document's objectives are driven by the overall vision of the design intentions for the scheme and to ensure that the report is in accordance with BS 42020:2013 Section 11.1.1. Planned maintenance and management operations are described for the site's various landscape treatments/habitat types.

2 OVERALL LANDSCAPE STRATEGY

- 2.1.1 The landscape strategy is to provide effective screening of the proposed battery storage development from the west, as well as a habitat creation area to the east of the site, retaining as many existing site trees as possible throughout the development boundary and delivering a positive interface with the Rownall Road. This document will ensure that the landscape is maintained to achieve the design intentions as well as enhance biodiversity and habitat value.
- 2.1.2 Landscape maintenance and management operations are prescribed to ensure long term success of reinstatement planting and the achievement of the Biodiversity Net Gain (BNG) targets.
- 2.1.3 The landscape scheme aims to achieve the following:
- To maintain and enhance the existing infrastructure vegetation, strengthening this where required;
 - To ensure the scheme achieves its BNG requirements whilst delivering wider environmental benefits where practicable and possible; and
 - To provide visual amenity and structure to the Proposed Development in its landscape context.

3 SUMMARY OF BASELINE CONDITIONS

- 3.1.1 The site currently comprises agricultural land which is utilised for cereal, arable crop or grazing land use. It is not covered by any landscape or ecological designations.

4 LANDSCAPE PROPOSALS

- 4.1.1 The Proposed Development comprises of:
- Battery storage compound – Developed land sealed surface and artificial unvegetated unsealed surface;
 - Retained field boundary trees – retained individual trees (large / medium of good quality);
 - New specimen tree planting – individual small trees;
 - New native shrub planting – mixed scrub habitat;
 - New woodland planting – broadleaved woodland;
 - Reseeding with meadow grasses – neutral grass of moderate biodiversity value;
 - New native hedgerow with trees;
 - New native hedgerows;

- New landscaped pond for biodiversity enhancement (priority habitat) and provision of a Sustainable Drainage System (SuDS) ; and
- Gabion baskets which can support invertebrates and self-seeding planting

4.1.2 The landscape proposals will focus on the retention, enhancement and/or creation of the following habitat types and features:

Landscape Typology	Area/ Length/ No.	BNG Habitat (UKHab Code and Habitat Type)	Description, Objective and Target Condition
Retained Landscape			
Retained (Native hedgerow with trees) Vegetation	720m	Native hedgerow with trees (h2a)	Native hedgerows that demarcate field boundaries, these are regularly managed with trees throughout the linear feature. Objective: To provide a continuity of habitat for existing species within the site. Target Condition: Maintain existing condition of retained vegetation as per the BNG assessment.
Retained (Line of trees) Trees	No. 82	Line of trees (Secondary code 33)	A line of trees that is greater than 20 m long and less than 5 m wide at base. The canopy base is greater than 2 m in height and there is open habitat on each side. Objective: To provide a continuity of habitat for existing species within the site. Target Condition: Maintain existing condition of retained trees as per the BNG assessment.
Proposed Tree, Woodland, Scrub and Hedgerow Planting			
Individual Trees (within soft and hard landscape)	100	Individual trees - Urban Tree/ Rural Tree (N/A)	A mixture of broadleaved in same species groups of 3 – 5 as per drawing. Objective: To provide opportunity for wildlife foraging and cover, interest and height that will also provide softening and screening to the development. Target Condition: Grow to mature specimens to increase tree cover on site where previously none exists.
Broadleaved Woodland	1.4ha	Woodland and Forest - Other	A mixture of broadleaved and coniferous trees in which broadleaf species make up 50-80% of tree cover.

Landscape Typology	Area/ Length/ No.	BNG Habitat (UKHab Code and Habitat Type)	Description, Objective and Target Condition
		woodland; broadleaved (w1g Other broadleaved woodland)	Objective: To provide habitat for birds, bats, invertebrates, amphibians and mammals whilst helping to screen the proposed development once established. Note: Does not meet the criteria of UKHab Lowland Mixed Deciduous Woodland habitat type or other woodlands, as set out in UK Habitat Classification Version 2.0. Target Condition: Grow to mature specimens of varying height providing habitat for a broad range of plants, animals and fungi.
Mixed Native Scrub	0.88ha	Mixed native scrub	Dense scrub located alongside woodland areas as a transitional zone and in areas internally within the Site which are too small to establish woodland. Comprises of a mixture of species without a single species dominant. Objective: To provide habitat for birds, bats, invertebrates, amphibians and reptiles. Target Condition: Grow to mature specimens of varying height providing habitat for a broad range of plants, animals and fungi.
Species Rich Native Hedgerow	0.45ha	Hedgerows – Species-rich native hedgerow / Species-rich native hedgerow with trees (h2a5 Species-rich native hedgerow)	Native hedgerows with ≥ 5 UK native woody species. Note: Assumes hedgerow is not alongside a ditch or bank. Objective: To provide ecological corridors throughout the site, providing habitat and foraging opportunities for birds, bats, invertebrates, amphibians, reptiles and mammals. Target Condition: Grow hedges to required height and to increase hedgerow habitat on site in locations where previously none exists.
Proposed Grassland			
Flowering lawn	1,570m ²	Grassland – Modified grassland	An amenity grassland which includes wildflower species (usually 20%) and

Landscape Typology	Area/ Length/ No.	BNG Habitat (UKHab Code and Habitat Type)	Description, Objective and Target Condition
		<i>(g4 Modified grassland)</i>	slower-growing grass species which are tolerant of mowing. Objective: To maintain a neat, healthy, uniform sward with the addition of wildflowers to increase the species diversity (subject to management operations). Target Condition: To develop into a maintained grassland.
Species Rich Neutral Grassland	6.15ha	Grassland – Other Neutral Grassland <i>(g3c Other neutral grassland)</i>	Grassland <u>located</u> on neutral soils which does not meet the criteria of UKHab Lowland Meadows habitat type, but does meet the criteria of Other Neutral Grassland, as set out in UK Habitat Classification Version 2.0. Meets a minimum of 3 of the criteria: • >30% cover of broadleaved herbs and sedges. • >8 species per m² (including grasses, forbs, sedges and rushes). • ≥1 grass species that is not generally sown for intensive agricultural production. • Cover of Rye-grasses <i>Lolium</i> spp. and White Clover (<i>Trifolium repens</i>), where present is <30%. Objective: To provide habitat for birds, bats, invertebrates and reptiles and provide aesthetic interest. Target Condition: To develop into a low maintenance tussocky grassland and create ideal habitat for wildlife, providing nesting sites during spring, food during summer and autumn, and shelter during winter.
Proposed Waterbodies and Wetland			
Aquatic and Marginal Planting	m ²	TBC with Ecologist <i>(Other neutral grassland [if predominately a wet grassland seed mix], Wetland - Fens [if lots of sedges], Wetland - Reedbed</i>	Vegetation fringing open water that is often developed as a narrow (0.5m wide of 0.25 ha in extent) between standing water and upslope vegetation. Objective: To provide habitat for amphibians, invertebrates, birds and

Landscape Typology	Area/ Length/ No.	BNG Habitat (UKHab Code and Habitat Type)	Description, Objective and Target Condition
		<i>[if reeds]. Can also use Lakes - Ponds [priority habitat] or Lakes - Ponds [non-priority] if it does not fit any of the above)</i> <i>(f2d Aquatic marginal vegetation)</i>	mammals. To be located on the fringes of open water or ditches. Target Condition: (Good water quality with low turbidity within a semi-natural habitat. Less than 10% of the water surface is covered with duckweed (<i>Lemna sp.</i>) Pond water levels can fluctuate naturally throughout the year, absence of invasive species, not artificially stocked with fish. Emergent, submerged and floating plants cover at least 50% of the pond.)
Proposed Habitat Features			
Bat Boxes	no.	N/A	Artificial roosts designed to encourage bats into the area. Objective: To provide roosting opportunities for Common pipistrelle (<i>Pipistrellus pipistrellus</i>), Brown long-eared bat (<i>Plecotus auratus</i>) and other tree dwelling bat species.

5 LANDSCAPE IMPLEMENTATION AND MANAGEMENT

5.1 British Standards and Published Guidance

- 5.1.1 All tree planting operations to be in accordance with BS 8545: 2014 Trees: 'From Nursery to Independence in the Landscape - recommendations.
- 5.1.2 All planting material is to conform to BS 3936-1:1992 Specification for Nursery stock.
- 5.1.3 All landscape operations to be in accordance with BS 4428: 1989 Recommendations for general landscape operations.
- 5.1.4 All native species will be of local or regional provenance.
- 5.1.5 Existing trees and hedgerows (including root protection zones / areas) either within, or along the boundary of, the Site will be protected during construction in accordance with 'BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations'.

- 5.1.6 In line with recommendations from the UK Government's Tree Health and Plant Biosecurity Expert Taskforce all planting material is to be sourced from reputable nurseries (registered under the HTA Nursery Certification Scheme) in order to avoid the spread of any pest and plant disease which may threaten the health of any proposed or existing planting material. All necessary information with regards to the identity and source of the planting material, from original source, will be obtained from the nursery and made available for inspection on request. Reasonable care has been taken at time of preparation of the planting design to specify plants which are currently disease free. For further details on notifiable, and non-notifiable, pests and diseases refer to the Department for Environment, Food & Rural Affairs (DEFRA) UK Plant Health Risk Register.
- 5.1.7 Soil management and storage to follow best practice guidelines; refer to DEFRA; Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.
- 5.1.8 Any imported subsoil to be in accordance with BS 8601:2013 'Specification for subsoil and requirements for use'; With debris and contamination removed; stone to be a maximum ring size of 100mm in any dimension.
- 5.1.9 Topsoil from site will be stored and reused, if any imported topsoil is required it is to be in accordance with BS 3882:2015 'Specification for topsoil'; weed free, fertile medium loam with maximum 20% stone content. Stones to be a maximum ring size of 50mm in any dimension for general tree, shrub and hedge planting and 38mm maximum ring size for grass seed areas.
- 5.1.10 Planting shall not be undertaken when the ground is waterlogged or frost bound but otherwise shall be undertaken between November and March.

5.2 Landscape Management Overview

- 5.2.1 Management objectives are focused on achieving objectives described in the overall vision and facilitated by the maintenance operations.
- 5.2.2 Maintenance operations are defined as long term cyclical operations over several years to allow successful establishment of the soft landscape areas.
- 5.2.3 The management plan sets out operations for the life of the development following practical completion of the works to comply with Biodiversity Net Gain guidance.

Responsibility for Delivery of the LEMP, LMMP, and SLMP

- 5.2.4 It is intended that the soft landscape for the initial 1 year after Practical Completion will be maintained by the landscape contractor implementing the soft landscape works. The contract will include a defects liability clause to ensure that replacement planting is carried out and successful establishment achieved.
- 5.2.5 Following this, the ongoing maintenance and management of the landscape will be overseen by facilities management and their appointed landscape contractor. Once a landscape contractor has been appointed to undertake the works, the LEMP, LMMP, and SLMP shall be updated (within 4 weeks of appointment) with contact details for the Landscape Contractor/ Management Company, and suitably qualified contractors including an Arboriculturist and shared with Staffordshire Moorlands Council.

- 5.2.6 The work undertaken, and scheme progress will need to be assessed, at a minimum, biannually in the 5 year establishment period, with a major assessment after the fifth year to allow revision to the existing maintenance and management regime to reflect findings. The landscape contractor will visit monthly during this period.
- 5.2.7 This major assessment will be carried out in conjunction with the Ecological Consultant to ensure that the requirements for habitat creation and the successful establishment of the landscape are met; and to identify and mitigate any previously unforeseen impacts. Maintenance for the following years is to be reviewed at 5 year intervals using the same method to ensure appropriateness of regime. Appendix A (Annual Landscape Maintenance) and Appendix B (Long Term Landscape Maintenance Programme) appended to this report identify the anticipated work over an extended period beyond the 5 year establishment period.
- 5.2.8 This approach will ensure that the quality of the landscape infrastructure created in the early years can be maintained to provide long term successful screening of the Site. In addition, it will ensure that the landscape can develop to maximise the ecological potential of the proposals.

- 5.2.9 The following roles are identified as relevant to the measures in this document:

The Applicant

- 5.2.10 The Applicant would be responsible for the following:

- adherence to UK and other relevant legislation and guidelines;
- supplying data as appropriate to the appointed contractor and relevant stakeholders;
- provision of sufficient supervision of implementation and reinstatement;
- ensure monitoring of the ecological and landscape restoration works is undertaken and that the LEMP, LMMP, and SLMP is reviewed and updated as appropriate;
- ensure that monitoring of ecological and landscape restoration works is delivering the expected biodiversity gain as outlined in the Biodiversity Net Gain assessment or if not that remedial action is defined and undertaken;
- ensure the monitoring of expected biodiversity gain is made available to the local authority;
- liaise with the relevant stakeholders regarding the results of the monitoring and the success of the reinstatement effort; and
- ensure the habitat creation and enhancement outlined is delivered and managed for the life of the development.

Appointed Principal Contractor

- 5.2.11 The appointed Principal Contractor would be responsible for the following:

- adherence to the requirements of the LEMP, LMMP, and SLMP;

- adherence to UK and other relevant legislation and guidelines;
- appointing suitably qualified ecology and landscape professionals to deliver the LEMP, LMMP, and SLMP and produce an appropriately updated LEMP, LMMP, and SLMP if and when required;
- providing all relevant information to the Applicant and their representatives;
- providing a detailed programme for the Proposed Development;
- diligently executing the works in accordance with approved drawings and specifications; and
- ensuring the habitat creation and enhancement outlined is implemented, delivered and managed for the life of the development. and that a feedback loop is in place for any remedial actions that may be required.

Environmental and Ecological Clerk of Works

5.2.12 The appointed Environmental Clerk of Works, and Ecological Clerk of Works, with support from a landscape architect or Landscape Clerk of Works where required, would be responsible for the following:

- providing assistance to the appointed contractor, ensuring adherence to UK and other relevant legislation and guidelines;
- ensuring that monitoring is undertaken and fully documented and reported until the completion of the Proposed Development; and
- reviewing and making recommendations regarding appropriate changes to the maintenance, management and monitoring programme within the LEMP, LMMP, and SLMP and producing an updated LEMP, LMMP, and SLMP as appropriate.

General Landscape Management

5.2.13 Maintenance operations will be undertaken in accordance with the prescriptions outlined below and Appendix A (Annual Landscape Maintenance) and Appendix B (Long Term Landscape Maintenance Programme).

5.2.14 All pesticides and herbicides shall be applied according to manufacturer's recommendations and current legislation, including:

- The Food and Environment Protection Act (1985)
- The Control of Pesticides Regulations (1986)
- The Control of Substances Hazardous to Health Regulations (2002)
- The Environmental Protection Act (1990)

- 5.2.15 No pesticides or fertilisers will be used at any time in the neutral grassland areas. Usage on other parts of the site, where not already specified in this LEMP, LMMP, and SLMP, will not be permitted.
- 5.2.16 Herbicide use is only permitted as spot treatment within the neutral grassland areas where persistent undesirable weeds, such as Creeping Thistle, Spear Thistle, Curled Dock and Broadleaved Dock, are present. Approval is required prior to use.
- 5.2.17 It is the Contractor's responsibility to ensure that all works are carried out strictly in accordance with the requirements of the foregoing legislation and other relevant Codes of Practice, British Standards, rules, guidelines or directives that relate to the use of hazardous materials. The Contractor will make such notifications as are required under the terms of The Food and Environment Protection Act (1985) and will be responsible for replacing plants killed by inappropriate use of herbicides.
- 5.2.18 Arisings from management and maintenance operations should be removed from Site and deposited at a legal tip or green compost facility. The exception to this is that any large felled branches/logs may be retained on Site at field boundaries as habitat piles.
- 5.2.19 Whilst the aims and objectives of this management plan are set out in some detail with respect to habitat management, opportunities for the creation of additional microhabitats should be taken wherever possible. Deadwood, water-filled cavities, jagged stumps, splits, fungal growths and holes in tree trunks will be retained unless they are creating a safety hazard.
- 5.2.20 Where necessary, the Contractor is to water plants at appropriate times of the day to ensure minimum water evaporation.
- 5.2.21 Care will be taken to avoid interference with the established levels and contours of the ground, and to avoid damage to footpaths, roads, drains, manholes and existing structures and vegetation. Damage so occasioned will be made good at the earliest opportunity.
- 5.2.22 It will be the Contractor's responsibility to ensure that all works and operations are carried out in accordance with the Construction (Design and Management) or CDM Regulations 2015. All work shall be carried out by experienced operatives holding relevant horticultural qualifications and training certificates, or under the supervision on site of such a person. All works detailed in the following specifications shall be carried out in accordance with good horticultural practice, using materials, plant and machinery appropriate to the task, undertaken in such a manner that avoids damage and/or nuisance to the site and its surroundings.

Litter and Refuse Removal

- 5.2.23 Litter and refuse that may collect in tree and hedgerow guards/shelters should be removed at each visit.
- 5.2.24 Litter and refuse should also be removed from the new grassland areas.
- 5.2.25 All litter and refuse shall be removed off site to an authorised tip.

- 5.2.26 This shall be carried out in accordance with the Code of Practice on Litter and Refuse (2006) issued under Section 89 of the Environmental Protection Act (1990).

Invasive Non-Native Plants

- 5.2.27 Should invasive non-native plant species (those species registered on the Schedule 9 of the Wildlife and Countryside Act, 1981 or the Invasive Alien Species Order, 2019) be found on Site, works within the contaminated area (with a minimum 10m offset) must cease immediately, appropriate biosecurity measures implemented to restrict unauthorised access and specialist advice sought to allow for implementation of an invasive non-native plant species management plan. It is not an offence to have invasive non-native plant species on your land, however it is considered best practice to responsibly manage all areas affected by invasive non-native plant species so to avoid their spread into the wild and to avoid detrimental impacts on biodiversity and the environment as well as creating potential constraints to future development.

6 RETAINED LANDSCAPE

6.1 Retained line of trees

Management Objective

- 6.1.1 To provide a continuity of habitat for existing species within the site.

6.2 Retained native hedgerow with trees

Management Objective

- 6.2.1 To provide a continuity of habitat for existing species within the site.

Maintenance Operations

Retained Trees and Hedgerows	
Maintenance Operation	Method
Visual inspection of all retained trees and hedgerows and recommendations for any remedial works.	A visual inspection of retained trees shall be carried out in the first year and thereafter every 5 years unless advised otherwise by a suitably qualified Arborist. Remedial actions will be implemented as required to remove unacceptable hazards as determined through an on-site risk assessment.

Trees works as directed to BS.3998	All tree works and their management are to be agreed with the Local Authority. Any specified tree surgery works will be carried out in accordance with BS 3998: 2010 'Recommendations for tree work', Health & Safety legislation and relevant best practice. Prior to the commencement of works, the Contractor shall provide valid proof of the required Public Liability Insurance and a full working method statement and risk assessment. Prior to commencement of works all trees are to be inspected for nesting birds and potential for roosting bats by an approved Ecologist. Where works are to take place during the birds nesting season (March to September) all trees are to be inspected for nesting birds by the Ecologist. Tree Work is to be carried out by an approved member of the Arboricultural Association. Chainsaw work; operatives must hold a Certificate of Competence. Cutting: Make no cuts of more than 75mm diameter. Cut portions of branches back to lateral or sub lateral buds or branches without leaving stumps. Remove whole branches back to the stem or cut lower portions of branches back to lateral or sub lateral buds or branches. Do not leave stumps. Cut vertical branches similarly, with no more slope on the cut surface than is necessary to shed rainwater.
Crown Reduction and Shaping	Cut back selectively to lateral or sub lateral buds or branches to retain flowering branch lines without leaving stumps. Leave trees with a well-balanced natural appearance.
Crown Lifting	Remove branch systems to give clearances as follows – 2400mm above ground level.
Crown Thinning	Removing branches: Remove inward growing, crossing, rubbing, dead and damaged branches. Thinning: Selectively remove approximately 15% of secondary and small live branch growth evenly throughout the crown.
Management of dead/dying trees	Dead or dying trees and felled timber may be used to create habitat log piles to allow them to decay naturally within the woodland providing habitats for insects, newts, and other species.
Management of diseased trees	Diseased trees are to be taken from site and disposed of. Diseased trees will not be burnt, chipped, or used for ecological purposes on site.

Hedgerow works	Prior to the commencement of any works hedgerows are to be inspected by a suitably qualified person to ascertain the presence of any protected species. If any such species are found a suitable mitigation strategy must be agreed in advance of any works, with the local planning authority.
Existing hedgerow trimmed to desired height	Existing hedgerows will be cut on a 3 year rotation (different sections of hedgerow being cut each year). Existing hedgerows will be maintained at a minimum height of 3m until newly planted scrub and woodland has reached a height of 4m. Thereafter existing hedgerows will be maintained to a height of 2.5m. Existing hedgerows to be cut in the months between October and February only.

7 PROPOSED TREE PLANTING

7.1 Individual Tree Planting

- 7.1.1 The trees outlined in the table below will be planted in locations as defined on drawings listed in Section 1.1.8.

Species	Common name	Girth (cm)	Height
Acer campestre	Common Maple	8-10cm	250-300cm
Aesculus hippocastanum	Common Horse Chestnut	10-12cm	250-300cm
Betula pendula	Common Silver Birch	8-10cm	250-300cm
Fagus sylvatica	Common Beech	8-10cm 12-14cm	250-300cm 350-400cm
Quercus robur	Common Oak	8-10cm	250-300cm
Sorbus aucuparia	Rowan	8-10cm	250-300cm
Tilia cordata	Small-leaved Lime	8-10cm 12-14cm	250-300cm 350-400cm

BNG Metric: Design and Implementation - Considerations to improve habitat condition

Condition Assessment Criteria (Design and Implementation)	Achieved through design
Native tree species (at least 70% within block are native)	Yes
More than 20% of tree canopy is oversailing vegetation beneath	Yes

(Taken from Statutory Biodiversity Metric Condition Assessments)

Management Objective

- 7.1.2 Target Condition: Grow to mature specimens to increase tree cover on site where previously none exists.

BNG Metric Management - Interventions to improve habitat condition

Condition Assessment Criteria (Management)	Achievable through management
The tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5m wide (individual trees automatically pass this criterion)	Yes-see maintenance operations below
The tree is mature (or more than 50% within the block are mature)	Yes-see maintenance operations below
Unlikely to have health adversely affected by human impacts (vandalism, herbicide etc). Minimal pruning regime so trees retain >75% of expected canopy for their age range and height	Yes-see maintenance operations below
Natural ecological niches for vertebrates and invertebrates are present e.g. deadwood, cavities, ivy, loose bark	Yes-see maintenance operations below

(Taken from Statutory Biodiversity Metric Condition Assessments)

7.2 Implementation of Individual Tree Planting

Implementation	Method
Information on implementation sourced from the Arboricultural Association publication, "An Introductory Guide to Young Tree Establishment". The implementation is in relation to planting in soft landscapes. It does not cover additional infrastructure which might be used, such as underground guying (a support mechanism), root cells, tree guards, tree grilles, root barriers or watering pipes. If any of these systems are to be used, manufacturer's guidance will be followed. Note: Newly planted trees do not require fertilisers immediately because their root systems are not sufficiently well-developed to exploit them. Applying fertiliser too soon can have a negative impact on their growth.	
Site visit and Walkover	The Contractor is advised to undertake a site visit and walkover prior to commencing the work to appraise the site. This should assist with, among other things, determining the feasibility of gapping up, planting new trees in existing hedgerows and identifying damp areas.
New trees within existing hedgerows	New trees in existing hedgerows are to be planted at ground level close to or within gaps in the existing hedgerow.
Formative Pruning	Formative pruning may be required to remove damaged, broken or rubbing branches. This should be done before the tree is planted.
Tree pits	All trees are to be rootballed stock. Trees which have a girth of 14-16cm and below are to be planted in pits of a minimum size of 1000 x 1000 length and width. Depth of the pit is to suit the rootball. The bottom of pits will be loosened to allow root penetration.
Tree Planting	Tree planting season is generally November to March. The tree shall be placed in the centre of the tree pit (with any containers/wrapping etc removed) and backfilled with excavated material.

Implementation	Method
	On no account are any roots to be left exposed or bent. Care will be taken to ensure that the plant is upright, planted at the original nursery depth and left windfirm on completion.
Tree staking and support	Trees which have a girth of 12-14cm and below will be supported by 1 no. 900mm long 50mm diameter softwood stake, machine round pointed with a chamfered top, driven 600mm depth. Tree will be secured to the stake using Flat Back Unslotted Block and T260 Buckle Tree Tie by Rubberloc (or equivalent). Take care when driving the stakes into the ground: consider both underground utilities and operator safety when using a stake driver and be careful not to damage the tree. It is important that a staked tree has room to move in the wind whilst being adequately supported. The orientation of the supporting stakes may be influenced by aesthetics and the prevailing wind direction.
Tree Protection	Tubex Tree Shelters are to be provided to a height suitable for protection for hedgerow trees and individual trees
Apply mulch	A depth of 5–10cm of mulch should be applied after planting, ideally covering a circle around the tree of a minimum 1m diameter. Mulch should not be piled directly up against the stem.
Watering	All newly planted trees must be watered at the time of planting with enough water to saturate the ground.

7.3 Maintenance Operations for Individual Tree Planting

Individual Tree Planting

The management of the tree in the years immediately after planting is critical to successful establishment. At each maintenance visit the following operations are to be carried out:

Maintenance Operation	Detail
Inspection for Litter	Before work commences, all areas shall be inspected for litter, and all debris removed in accordance with the section detailed above.
Monitoring and pruning/ remedial surgery (Remove any branches that overhang footpaths, obscure visibility splays, or prevent access for grass cutting)	Any damaged shoots or branches shall be pruned off plants using secateurs, cutting back to above a live, outward-facing bud or shoot.
Monitor, adjust and replace stakes, ties, guards/fence	All staked trees shall be inspected on each maintenance visit and all stakes and ties shall be inspected. Any looseness, constriction or abrasion shall be corrected by adjustment or replacement as required.
Check plant material is firmly planted and firm in as required	All plants shall be checked and firmed up in the ground as necessary.

Water to maintain healthy growth and successful establishment	Tree watering is an inexact science and there are many variables involved. These include tree species, size, condition, root stock, soil type, location, weather and climatic conditions. A newly planted tree should ideally receive approximately 50 litres of water each week during dry periods throughout May, June, July and August in the first 3 years after planting. Ideally carried out in the morning or evening. If a watering pipe is present, then approximately half of the water should be poured down the pipe and half added to the ground surface around the tree. Ensure that the water is penetrating the ground and is not being intercepted by the layer of mulch on the surface. If the ground is evidently already saturated watering will not be required. In subsequent years watering may need to be carried out during periods of drought.
1m diameter weed free area to be maintained around each tree	A 0.5m radius weed free area (centred on the tree) shall be maintained around each tree during the first 3 years after planting. Around the new trees Creeping Thistle, Spear Thistle, Curled Dock and Broadleaved Dock will be spot treated with glyphosate during the growing season. Strimmers shall not be used around the base of trees. Mulch is to be replenished to ensure a consistent depth of 5–10cm for the first 3 years after planting.
Remove any weed growth from shelter guards	Tree guards/shelters shall be lifted as necessary to achieve weed control, and re-firmed in the ground after completion of the work.
Replacement tree planting	Any dead, dying or diseased trees shall be removed and replaced within the first 5 years. Replacement planting to be carried out annually during the next winter visit. Replacement planting with like for like to be carried out during the next winter visit and within the planting season.
Remove stakes/guys when ready	All stakes, guards and ties shall be removed after 5 years unless required for ongoing protection. On removal of stakes, hole to be backfilled with lightly compacted soil.
Tree works including crown reduction, crown lifting, crown thinning	A tree condition and safety survey will be undertaken every 3 years by a suitably qualified Arboricultural consultant. Any remedial works (e.g. pruning or felling) as recommended by the tree condition and safety survey shall be carried out within the timescales recommended by the consultant.

8 PROPOSED WOODLAND PLANTING

8.1 Broadleaved Woodland

8.1.1 The species outlined in the table below will be planted in locations as defined on drawings listed in Section 1.1.8.

Trees				
%	Species	Common name	Root Condition	Height
20	Aesculus hippocastanum	Common Horse Chestnut	RB	250-300cm
40	Betula pendula	Common Silver Birch	RB	250-300cm
40	Crataegus monogyna	Common Hawthorn	B	60-80cm
10	Fagus sylvatica	Common Beech	RB	250-300cm
10	Pinus sylvestris	Scots Pine	RB	125-150cm
10	Quercus robur	Common Oak	RB	250-300cm
25	Sorbus aucuparia	Rowan	B	60-80cm
10	Tilia cordata	Small-leaved Lime	RB	250-300cm
Shrubs				
%	Species	Common name	Root Condition	Height
20	Corylus avellana	Common Hazel	B	60-80cm
5	Ilex aquifolium	Common Holly	C	40-60cm
5	Rosa canina	Dog Rose	B	60-80cm
5	Viburnum opulus	Guelder Rose	B	60-80cm

BNG Metric: Design and Implementation - Considerations to improve habitat condition

Condition Assessment Criteria (Design and Implementation)	Achieved
Number of Native Tree Species – 5+ Native tree or shrub species	Yes

(Taken from Statutory Biodiversity Metric Condition Assessments)

Management Objective

8.1.2 Target Condition: Grow to mature specimens of varying height providing habitat for a broad range of plants, animals and fungi.

BNG Metric Management - Interventions to improve habitat condition

Condition Assessment Criteria (Management)	Achievable through management
Age distribution of trees (3 age classes present)	Yes-see maintenance operations below
No significant browsing damage evident in woodland	No
No invasive species present in woodland	Yes-see maintenance operations below
>80% of canopy trees and >80% of understorey shrubs are native	Yes-see maintenance operations below
10-20% of woodland has areas of temporary open space	Yes-see maintenance operations below
Tree mortality 10% or less, no pests or diseases and no crown dieback	Yes-see maintenance operations below
Recognisable woodland NVC plant community present at ground level	Yes-see maintenance operations below
Vertical structure: Three or more storeys across woodland	Yes-see maintenance operations below
High presence of deadwood within woodland	Yes-see maintenance operations below
No nutrient enrichment or damaged ground evident	Yes-see maintenance operations below

(Taken from Statutory Biodiversity Metric Condition Assessments)

8.2 Implementation of Woodland Planting

Implementation	Method
Vegetation Clearance	New areas of woodland planting will be cleared of any competing vegetation as necessary before planting.
Planting	All bareroot plants are to be root dipped in Broadleaf Root Dip (or equivalent approved) immediately after lifting at nursery, and retained in polythene bags, secured at the stems until they are ready for planting. Where woodland is planted next to a hard surface/kerb/fence, it should be positioned 1m from the edge. Woodland planting is to be notch planted with native shrubs planted on a 2m grid in single species groups of 5 to 9 with native tree species planted on a 5m grid in single species groups of 3 to 5 within this. Planting should be into a moist, friable and not waterlogged soil. Due to the majority of the stock being bare root, planting should be carried out between the months of November and March.

Implementation	Method
	On no account are any roots to be left exposed or bent. Care will be taken to ensure that the plant is upright, planted at the original nursery depth and left windfirm on completion.
Protection and staking	Woodland planting on the mounds, Bareroot transplants and small container grown stock will be protected with a 600mm high 'Tubex' tree shelter with a 75mm – 100mm diameter (colour: Green). For Ilex aquifolium and Pinus sylvestris tubex Treeguard mesh for shrubs shelters and stake to be used Supported with a previously treated softwood stake 900 x 32 x 32mm, treated with water-based preservative to BS 1282: 1999; driven a minimum of 300mm below ground level. For woodland planting in large blocks to be protected by stock proof fencing as shown on the hard landscape drawing.

8.3 Maintenance Operations for Woodland Planting

All Woodland Planting

At each maintenance visit the following operations are to be carried out:

Maintenance Operation	Detail
Inspection for Litter	Before work commences, all areas shall be inspected for litter, and all debris removed in accordance with the section detailed above.
Monitor and treat pests and diseases including removal of dead, dying and diseased material/pruning remedial surgery	Trees and shrubs will be pruned as necessary to remove dead, dying or diseased wood and suckers and to promote healthy growth and natural shape. Pruning will be carried out in accordance with BS 8545:2014 Trees from nursery to independence in the landscape: Recommendations, and good horticultural and arboricultural practice. <i>Pruning Generally</i> • Timing: Do not prune during the late winter / early spring sap flow period. • Do not prune whips or feathered trees. • Do not damage or tear the stem of branches to be removed. • Keep wounds as small as possible and cut cleanly back to sound wood. • Make cuts above and sloping away from an outward facing healthy bud, angled so that water will not collect on the cut area.

	• Prune larger branches using the branch bark ridge as a pruning guide. • Thin, trim and shape each specimen appropriately to species, location, season, and stage of growth, leaving a well-balanced natural appearance. • Use clean, sharp secateurs, hand saws or other appropriate tools. Ragged edges of bark or wood to be trimmed with a sharp knife. • Remove growth encroaching onto grassed areas, paths, roads, signs, sightlines, and road lighting luminaires. • Dead, diseased, or dangerous plants should be treated, lopped and/or felled as necessary. The resultant timber and debris should be made available to create log piles for vertebrates or habitat piles for other species. (Please note any diseased wood must not be used for this purpose and is to be removed from site). • General light pruning shall include removal of the oldest, longest, most branched shoots to the base of the plant with secateurs or loppers. Activity should be phased year by year to incrementally achieve the overall effect. Apply this approach to the more vigorous planting at most times of the year to reduce spring pruning load.
Monitor, adjust and replace stakes, ties, guards/fence	Stakes, tubes and ties will be straightened/refixed as necessary.
Check plant material is firmly planted and firm in as required	All plants shall be checked and firmed up in the ground as necessary.
Water to maintain healthy growth and successful establishment	Watering is an inexact science and there are many variables involved. These include tree species, size, condition, root stock, soil type, location, weather and climatic conditions. During the period May to September in the 3 years after planting, all new planting will be watered on a monthly basis (ideally carried out in the morning or evening) unless the ground is evidently already saturated. In subsequent years watering may need to be carried out during periods of drought.
1m diameter weed free area to be maintained around each tree	A 0.5m radius weed free area (centred on the tree) shall be maintained around each tree during the first 3 years after planting. Around the new trees Creeping Thistle, Spear Thistle, Curled Dock and Broadleaved Dock will be spot treated with glyphosate during the growing season. Strimmers shall not be used around the base of trees.

Spot treat undesirable weed species as necessary	Creeping Thistle, Spear Thistle, Curled Dock and Broadleaved Dock will be spot treated with glyphosate during the growing season.
Remove any weed growth from shelter guards	Tree guards/shelters shall be lifted as necessary to achieve weed control, and re-firmed in the ground after completion of the work.
Replacement whip/transplant/tree planting	Woodland planting shall achieve 90% successful establishment. Any dead, dying or diseased trees shall be removed and replaced within the first 5 years. Replacement planting to be carried out annually during the next winter visit. Replacement planting with like for like to be carried out during the next winter visit and within the planting season .
Remove stakes/guys when ready	All stakes, guards and ties shall be removed after 5 years unless required for ongoing protection. On removal of stakes, hole to be backfilled with lightly compacted soil.
Tree works including crown reduction, crown lifting, crown thinning	A tree condition and safety survey will be undertaken in year 3 by a suitably qualified arboricultural consultant. Any remedial works (e.g., pruning or felling) as recommended by the tree condition and safety survey shall be carried out within the timescales recommended by the consultant and before the end of the 5-year establishment period.
Woodland coppicing and thinning	Tree and shrub planting within woodland structure planting will be thinned out at year 5. This would involve the removal of trees and shrubs up to a maximum of 30%. This should be repeated at year 10 and 15 and then subsequently every 10 years. Existing areas of woodland should be thinned at year 5 and then at 10-year intervals with consideration given to the retention of the existing visual screen. An approved member of the Arboricultural Association or other approved specialist shall carry out thinning operations and surgery to larger trees. Monitoring of trees for disease should lead to infected trees being removed upon confirmation of the presence of disease, to protect other trees on site. Tree remains shall not be left on site, to reduce the risk of disease spreading. Discovery of any invasive species should lead to their immediate removal. The remains of these species should be removed from the site. Tree and shrub species such as <i>Corylus avellana</i> and <i>Crataegus monogyna</i> may be selectively coppiced to open the stand and encourage new growth from the base. A 5-year rotation is proposed commencing at the same time as the thinning operations from September to February (reducing to 10 years for existing woodland and for proposed woodland after 15 years). This will create open areas within the planting which will develop into a lower storey of vegetation.

9 PROPOSED SCRUB PLANTING

9.1 Mixed Native Scrub

- 9.1.1 The species outlined in the table below will be planted in locations as defined on drawings listed in Section 1.1.8.

Trees				
%	Species	Common name	Root Condition	Height
40	<i>Crataegus monogyna</i>	Common Hawthorn	B	60-80cm
10	<i>Quercus robur</i>	Common Oak	RB	60-80cm
7	<i>Sorbus aucuparia</i>	Rowan	B	60-80cm
Shrubs				
%	Species	Common name	Root Condition	Height
15	<i>Corylus avellana</i>	Common Hazel	B	60-80cm
10	<i>Ilex aquifolium</i>	Common Holly	C	60-80cm
3	<i>Lonicera periclymenum</i>	Honeysuckle	C	60-80cm
10	<i>Prunus spinosa</i>	Blackthorn	B	60-80cm
5	<i>Rosa canina</i>	Dog Rose	B	60-80cm

BNG Metric: Design and Implementation - Considerations to improve habitat condition

Condition Assessment Criteria (Design and Implementation)	Achieved
Composition of Scrub: • At least 80% of scrub is native • There are at least three native woody species • No single species comprises more than 75% of the cover (except hazel <i>Corylus avellana</i>, common juniper <i>Juniperus communis</i>, sea buckthorn <i>Hippophae rhamnoides</i> (only in its restricted native range), or box <i>Buxus sempervirens</i>, which can be up to 100% cover).	Yes

(Taken from Statutory Biodiversity Metric Condition Assessments)

Management Objective

- 9.1.2 Target Condition: Grow to mature specimens of varying height providing habitat for a broad range of plants, animals and fungi.

BNG Metric Management - Interventions to improve habitat condition

Condition Assessment Criteria (Management)	Achievable through management
Seedlings, saplings, young shrubs and mature shrubs are all present	Yes-see maintenance operations below
No invasive species present in the scrub	Yes-see maintenance operations below
Scrub has a well-developed edge with scattered scrub and tall grassland and/or forbs ¹ present between the scrub and adjacent habitat	Yes-see maintenance operations below
Clearings/glades/rides present within the scrub, providing sheltered edges	Yes-see maintenance operations below

(Taken from Statutory Biodiversity Metric Condition Assessments)

9.2 Implementation of Scrub Planting

Implementation	Method
Vegetation Clearance	New areas of scrub planting will be cleared of any competing vegetation as necessary before planting.
Planting	All bareroot plants are to be root dipped in Broadleaf Root Dip (or equivalent approved) immediately after lifting at nursery, and retained in polythene bags, secured at the stems until they are ready for planting. Where scrub is planted next to a hard surface/kerb/fence, it should be positioned 1m from the edge. Scrub planting is to be notch planted with native shrubs planted on a 2m grid in single species groups of 5 to 9 with native tree species planted on a 5m grid in single species groups of 5 to 7 within this. Planting should be into a moist, friable and not waterlogged soil. Due to the majority of the stock being bare root, planting should be carried out between the months of November and March. On no account are any roots to be left exposed or bent. Care will be taken to ensure that the plant is upright, planted at the original nursery depth and left windfirm on completion.
Protection and staking	Bareroot transplants and small container grown stock (excepting Ilex aquifolium) will be protected with a 600mm high 'Tubex' tree shelter with a 75mm – 100mm diameter (colour: Green). Ilex aquifolium is to be protected with tubex Treeguard mesh for shrubs shelters 600mm high.

¹ Forbs are non-graminoid (grasses, sedges and rushes) flowering herbaceous plants

Implementation	Method
	Supported with a previously treated softwood stake 900 x 32 x 32mm treated with water based preservative to BS 1282: 1999; driven a minimum of 300mm below ground level.

9.3 Maintenance Operations for Scrub Planting

Scrub Planting

At each visit the following operations are to be carried out:

Maintenance Operation	Detail
Inspection for Litter	Before work commences, all areas shall be inspected for litter, and all debris removed in accordance with the section detailed above.
Monitor and treat pests and diseases including removal of dead, dying and diseased material/pruning remedial surgery	Trees and shrubs will be pruned as necessary to remove dead, dying or diseased wood and suckers and to promote healthy growth and natural shape. Pruning will be carried out in accordance with BS 8545:2014 Trees from nursery to independence in the landscape: Recommendations, and good horticultural and arboricultural practice. <i>Pruning Generally</i> • Timing: Do not prune during the late winter / early spring sap flow period. • Do not prune whips or feathered trees. • Do not damage or tear the stem of branches to be removed. • Keep wounds as small as possible and cut cleanly back to sound wood. • Make cuts above and sloping away from an outward facing healthy bud, angled so that water will not collect on the cut area. • Prune larger branches using the branch bark ridge as a pruning guide. • Thin, trim and shape each specimen appropriately to species, location, season, and stage of growth, leaving a well-balanced natural appearance. • Use clean, sharp secateurs, hand saws or other appropriate tools. Ragged edges of bark or wood to be trimmed with a sharp knife.

	• Remove growth encroaching onto grassed areas, paths, roads, signs, sightlines, and road lighting luminaires. • Dead, diseased, or dangerous plants should be treated, lopped and/or felled as necessary. The resultant timber and debris should be made available to create log piles for vertebrates or habitat piles for other species. (Please note any diseased wood should be removed from site). • General light pruning shall include removal of the oldest, longest, most branched shoots to the base of the plant with secateurs or loppers. Activity should be phased year by year to incrementally achieve the overall effect. Apply this approach to the more vigorous planting at most times of the year to reduce spring pruning load.
Monitor, adjust and replace stakes, ties, guards/fence	Stakes, tubes and ties will be straightened/refixed as necessary.
Check plant material is firmly planted and firm in as required	All plants shall be checked and firmed up in the ground as necessary.
Water to maintain healthy growth and successful establishment	Watering is an inexact science and there are many variables involved. These include tree species, size, condition, root stock, soil type, location, weather and climatic conditions. During the period May to September in the 3 years after planting, all new planting will be watered on a monthly basis (ideally carried out in the morning or evening) unless the ground is evidently already saturated. In subsequent years watering may need to be carried out during periods of drought.
1m diameter weed free area to be maintained around each tree	A 0.5m radius weed free area (centred on the tree) shall be maintained around each tree during the first 3 years after planting. Around the new trees Creeping Thistle, Spear Thistle, Curled Dock and Broadleaved Dock will be spot treated with glyphosate during the growing season. Strimmers shall not be used around the base of trees.
Spot treat undesirable weed species as necessary	Creeping Thistle, Spear Thistle, Curled Dock and Broadleaved Dock will be spot treated with glyphosate during the growing season.
Remove any weed growth from shelter guards	Tree guards/shelters shall be lifted as necessary to achieve weed control, and re-firmed in the ground after completion of the work.
Replacement whip/transplant/tree planting	Scrub planting shall achieve 90% successful establishment. Any dead/dying/diseased trees shall be removed and replaced within the first 5 years. Replacement planting to be carried out annually during the next winter visit. Replacement planting with like for like to be carried out during the next winter visit and within the planting season .

Remove stakes/guys when ready	All stakes, guards and ties shall be removed after 5 years unless required for ongoing protection. On removal of stakes, hole to be backfilled with lightly compacted soil.
Tree works including crown reducing, crown lifting, crown thinning	A tree condition and safety survey will be undertaken in year 3 by a suitably qualified arboricultural consultant. Any remedial works (e.g., pruning or felling) as recommended by the tree condition and safety survey shall be carried out within the timescales recommended by the consultant and before the end of the 5-year establishment period.

10 PROPOSED NATIVE HEDGEROW PLANTING

10.1 Species Rich Native Hedgerow

- 10.1.1 The species mix outlined in the table below will be planted in locations as defined on drawings listed in Section 1.1.8. The mix is for new hedgerows and also the gapping up of existing hedgerows.

Trees				
%	Species	Common name	Root Condition	Height
50	Crataegus monogyna	Common Hawthorn	B	60-80cm
Shrubs				
%	Species	Common name	Root Condition	Height
10	Corylus avellana	Common Hazel	B	60-80cm
5	Ilex aquifolium	Common Holly	C	60-80cm
20	Prunus spinosa	Blackthorn	B	60-80cm
7.5	Rosa canina	Dog Rose	B	60-80cm
7.5	Viburnum opulus	Guelder Rose	B	60-80cm

Management Objective

- 10.1.2 Target Condition: Grow hedges to required height and to increase hedgerow habitat on site in locations where previously none exists.

BNG Metric Management - Interventions to improve habitat condition

Condition Assessment Criteria (Management)	Achievable through management
Hedge is maintained at >1.5m height average along length	Yes-see maintenance operations below
Hedge is maintained at >1.5m width average along length	Yes-see maintenance operations below

Gap between ground and base of canopy is <0.5m for >90% of hedgerow length	Yes-see maintenance operations below
Horizontal gaps within hedgerow are <10% of total length and no gaps >5m	Yes-see maintenance operations below
Minimum 1m width of undisturbed ground with perennial herbaceous vegetation (to one side at least) for >90% of hedge length	Yes-see maintenance operations below
>90% of hedgerow and adjacent undisturbed ground is free of invasive species (including those listed on Schedule 9)	Yes-see maintenance operations below
>90% of hedgerow and adjacent undisturbed ground is free of damage caused by human activities	Yes-see maintenance operations below

(Taken from Statutory Biodiversity Metric Condition Assessments)

10.2 Implementation of Native Hedgerow Planting

Implementation	Method
Vegetation Clearance	Before planting, ensure that the ground is free of vegetation and weeds; vegetation should be hand-cut if possible, this is generally the least damaging to wildlife, however, herbicides are usually more effective at reducing competition. Their use should be the minimum necessary for effective control.
Planting	All bareroot plants are to be root dipped in Broadleaf Root Dip (or equivalent approved) immediately after lifting at nursery, and retained in polythene bags, secured at the stems until they are ready for planting. Where scrub is planted next to a hard surface/kerb/fence, it should be positioned 1m from the edge. Hedgerow shrubs are to be notch planted in double staggered rows 0.5m apart with 5 plants per linear meter with 0.45m centres with the back row as Hawthorn and the front row in single species groups of 5 to 11. Planting should be into a moist, friable and not waterlogged soil. Due to the majority of the stock being bare root, planting should be carried out between the months of November and March. In open areas the new hedge line is to be broken up by a single pass of a tine or rotovator to break up the ground to 500mm depth. A trench should then be dug 500mm deep x 500mm wide or shallower and wider if ground water is encountered. On no account are any roots to be left exposed or bent within the trench. Care will be taken to ensure that the plant is upright, planted at the original nursery depth and left windfirm on completion.
Protection and staking	Bareroot transplants and small container grown stock will be protected with a 600mm high 'Tubex' tree shelter with a 75mm – 100mm diameter (colour: Green).

Implementation	Method
	Supported with a previously treated softwood stake 900 x 32 x 32mm treated with water based preservative to BS 1282: 1999; driven a minimum of 300mm below ground level.

10.3 Maintenance Operations for Native Hedgerow Planting

Native Hedgerow Planting

New hedgerow planting will be attended to three times during the growing season (April-September) and once during the dormant season (October-March inclusive). At each visit the following operations are to be carried out:

Maintenance Operation	Detail
Inspection for Litter	Before work commences, all areas shall be inspected for litter, and all debris removed in accordance with the section detailed above.
Monitor and treat pests and diseases including removal of dead, dying and diseased material/pruning remedial surgery	Any damaged shoots or branches shall be pruned off plants using secateurs, cutting back to above a live, outward-facing bud or shoot. Generally, the tips of the branches of young plants should be snipped back, by no more than 1cm, in June for the first 5 years to encourage bushy growth.
Monitor, adjust and replace stakes, ties, guards/fence	Stakes, tubes and ties will be straightened/refixed as necessary.
Check plant material is firmly planted and firm in as required	All plants shall be checked and firmed up in the ground as necessary.
Water to maintain healthy growth and successful establishment	During the period May to September in the first year after planting, all new planting will be watered on a monthly basis unless the ground is evidently already saturated. In subsequent years watering may need to be carried out during periods of drought.
Keep the hedgerow line in a weed free condition during establishment	A 0.5m offset weed free area (centred on the hedge) shall be maintained along the hedge during the first 5 years. Strimmers shall not be used around the base of plants.
Spot treat undesirable weed species as necessary	Creeping Thistle, Spear Thistle, Curled Dock and Broadleaved Dock will be spot treated with glyphosate during the growing season.
Remove any weed growth from shelter guards	Guards/shelters shall be lifted as necessary to achieve weed control, and re-firmed in the ground after completion of the work.

Apply fertiliser	Sufficient fertiliser on planting should be specified for the first three years, details to be provided within the landscape construction specification. After this time a general fertiliser may be applied. The frequency will depend on the type of fertiliser used but a well-balanced slow release with trace elements once in three years should be sufficient in these soils. Fertilising may cease after 7 years when young trees should have established a good root structure, unless foliage and general condition suggests otherwise.
Replacement whip/transplant/tree planting	Scrub planting shall achieve 90% successful establishment. Any dead, dying or diseased trees shall be removed and replaced within the first 5 years. Replacement planting to be annual, with like for like to be carried out during the next winter visit and within the planting season .
Remove stakes/guys when ready	All stakes, guards and ties shall be removed after 5 years unless required for ongoing protection. On removal of stakes, hole to be backfilled with lightly compacted soil.
Clipping of hedgerow	The hedgerow should be clipped to the required profile; a trapezium shape broader at the base than at the top. This will allow light to all parts of the plant and avoid a bare base developing, and should be done each September. This is to be reviewed on site at the annual site inspections. Following year 5 hedgerows are considered established. A cutting regime for established hedgerows is to consist of a cut to one side annually (e.g. front, back or top) on a 3-year cycle. This will maintain vigour and structure as well as provide diverse habitat for wildlife. Cuts shall typically be undertaken as late into the autumn / winter period as possible, in order to ensure that these features provide as much of a food resource as possible for birds. Once established the hedge is to be maintained at 2.5m high and a minimum of 1.5m width.

11 PROPOSED GRASSLAND

11.1 Neutral Grassland – Tussock Grass mixture

- 11.1.1 The grassland mixture outlined in the table below will be sown in locations as defined on drawings listed in Section 1.1.8.

Tussock Grass Mixture EG10 (Sown at 5g/m²)

Grasses (100 % of mix)		
%	Species	Common name
5.0	Agrostis capillaris	Common Bent
10.0	Alopecurus pratensis	Meadow Foxtail (w)
5.0	Carex divulsa ssp divulsa	Grey Sedge (w)
30.0	Cynosurus cristatus	Crested Dogstail

5.0	Dactylis glomerata	Cocksfoot (w)
5.0	Festuca ovina	Sheep's-fescue
20.0	Festuca rubra ssp rubra	Slender-creeping Red Fescue
10.0	Phleum bertolonii	Smaller Cat's-tail (w)
10.0	Schedonorus arundinaceus (Festuca arundinacea)	Tall Fescue (w)

BNG Metric: Design and Implementation - Considerations to improve habitat condition

Condition Assessment Criteria (Design and Implementation)	Achieved
There are ≥ 10 vascular plant species per m^2 including forbs (essential for achieving Good condition)	Yes

(Taken from Statutory Biodiversity Metric Condition Assessments)

Management Objective

BNG Metric Management - Interventions to improve habitat condition

Condition Assessment Criteria (Management)	Achievable through management
Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for vertebrates and invertebrates	Yes-see maintenance operations below
Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include damage from machinery use, erosion caused by high levels of access or any other damaging management activities	Yes-see maintenance operations below
No invasive species present in the grassland	Yes-see maintenance operations below

(Taken from Statutory Biodiversity Metric Condition Assessments)

11.2 Species Rich Meadow Grassland

- 11.2.1 The grassland mixture outlined in the table below will be sown in locations as defined on drawings listed in Section 1.1.

EM2 Standard General Purpose Meadow Mixture (Sown at $4g/m^2$)

Wildflowers (15 % of mix)		
%	Species	Common name
0.75	Achillea millefolium	Yarrow
0.75	Betonica officinalis	Betony
2.25	Centurea nigra	Common Knapweed
1.5	Daucus carota	Wild Carrot

0.4	Galium verum	Lady's Bedstraw
0.4	Geranium pratense	Meadow Crane's-bill
1.35	Leucanthemum vulgare	Oxeye Daisy
1.5	Plantago lanceolata	Ribwort Plantain
1.5	Poterium sanguisorba ssp sanguisorba	Salad Burnet
1.05	Primula veris	Cowslip
1.1	Prunella vulgaris	Selfheal
1.2	Ranunculus acris	Meadow Buttercup
0.15	Ranunculus bulbosus	Bulbous Buttercup
0.4	Rumex acetosa	Common Sorrel
0.75	Silene vulgaris	Bladder Campion
Grasses (85 % of mix)		
%	Species	Common name
8.5	Agrostis capillaris	Common Bent
29.75	Cynosurus cristatus	Crested Dogstail
25.5	Festuca rubra	Red Fescue
4.25	Phleum bertolonii	Smaller Cat's-tail
17	Poa pratensis	Smooth-stalked Meadow-grass

Management Objective

BNG Metric Management - Interventions to improve habitat condition

Condition Assessment Criteria (Management)	Achievable through management
Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include damage from machinery use, erosion caused by high levels of access or any other damaging management activities	(Yes-see maintenance operations below/No)
Cover of bare ground is between 1% and 10%	(Yes-see maintenance operations below/No)
No invasive species present in the grassland	(Yes-see maintenance operations below/No)

(Taken from Statutory Biodiversity Metric Condition Assessments)

11.3 Implementation of Neutral Grasslands and Species Rich Grasslands to cleared land

Implementation	Method
Good preparation for the seed mixes is essential to successful establishment.	
Vegetation Clearance	Before planting, ensure that the ground is free of vegetation and weeds; vegetation should be hand-cut if possible, this is generally the least damaging to wildlife, however, herbicides are usually more effective at reducing competition. Their use should be the minimum necessary for effective control.
Ground Preparation	Ground preparation will take place in September-October or March-April when ground temperature is above 14°C. Topsoil shall be cultivated to 300mm depth with a rotovator and then harrowed or raked to produce a medium tilth and rolled to leave a firm level surface.
Seeding	Seeding will take place in September-October or March-June when ground temperature is above 14°C. Sowing to be in accordance with supplier's recommendations. After sowing the surface will be lightly raked or harrowed to settle the seed in and rolled. People and livestock should be kept off the seeded areas until the seed has germinated.

11.4 Implementation of species rich grassland by sowing into existing grass

Implementation	Method
Good preparation for the seed mixes is essential to successful establishment.	
Implementation	Select grassland with a good wild grass content (but otherwise species poor) on poor to moderately fertile soil. Avoid ground infested with Docks, Thistles or Nettles. Prepare in late summer by cutting low and/or grazing very hard. Then scarify hard with harrows or by raking, aiming to create around 50% bare soil. This is best done when the ground is dry.
Seeding	Seeding will take place in September-October (ideally September) when ground temperature is above 14°C. Sowing to be in accordance with supplier's recommendations. Then roll hard to firm back the soil and give good seed/soil contact. Continue cutting or grazing after sowing the seed, and until the end of March in the following year. From then on manage as a meadow, leaving it uncut each year till mid summer.

11.5 Maintenance Operations for Neutral and Species Rich Neutral Grasslands

Species Rich Grassland

All operations shall be carried out using machinery appropriate to the task, cylinder, rotary or mulch mowers and when weather and ground conditions are suitable. Operations shall be suspended where conditions prevent the use of machinery without damage to the ground surface. Where operations are suspended due to unsuitable conditions additional maintenance visits may be required in order to maintain the sward within acceptable growth limits.

Inspection every three months is advised to check the growth of dominant species and ruderal species. Management of these areas may have to be adapted to allow for less dominant species to predominate.

No fertilisers will be used as this enriches the soil nutrients, allowing grasses to easily outcompete wildflowers. Similarly, the use of chemical pesticides will be avoided as wildflowers are more susceptible than grasses and weeds. Spot-treatment of noxious weeds will be allowed due to its localised nature.

Maintenance Operation	Detail
Inspection for Litter	Before work commences, all areas shall be inspected for litter, and all debris removed in accordance with the section detailed above.
Regular establishment cut (at least 3 times in the first year)	Cut regularly during the first year to minimise annual weed growth, removing cuttings. Most of the sown meadow species are perennial and will be slow to germinate and grow and will not usually flower in the first growing season. There will often be a flush of annual weeds from the soil in the first growing season which may grow up and obscure the meadow seedlings beneath, which can be controlled by topping or mowing. In the first year (post establishment) topping or mowing will help to control this weed growth. It is important to cut back any annuals before they die back, set seed and collapse. A minimum of 3 cuts are advised in this period.
Regular maintenance cuts (Frequency determined by visual importance of area)	Exact number of subsequent maintenance visits for grass cutting to be determined by visual importance of area. The grassland should not be cut from May to August to give the sown species an opportunity to flower. Within year 2, after flowering in August take a 'hay cut': cut back to approx. 40-70mm. Leave the 'hay' to dry and shed seed for 1-7 days then remove from site. Mow the re-growth through to late autumn/winter to approx. 50mm and again in spring if needed.

	Once established tussocky grassland requires minimal maintenance. Unwanted perennial weeds (docks, thistles) may need control by selective scything before seeding. To control scrub and bramble development, tussocky areas may need cutting every 2-3 years between October and February. For wildlife this cutting is best done on a rotational basis so that no more than half the area is cut in any one year leaving part as an undisturbed refuge
Spot treat undesirable weed species as necessary	Creeping Thistle, Spear Thistle, Curled Dock and Broadleaved Dock will be spot treated with glyphosate during the growing season.
Water to maintain healthy growth and successful establishment	Newly seeded areas will be watered as necessary during the first 2-3 months to ensure germination and establishment. Once established watering may need to be carried out during periods of drought.
Resow Failed Areas	Any patches of grassland which have not successfully germinated 6-8 weeks after sowing will be resown. This may by necessity be in the subsequent seeding season. Reinstate species rich grassland areas as required ensuring seed matches existing in species composition and quality. Establishment on sites prone to flooding may be patchy and take several years to become fully colonised, re-seed when and where appropriate.

11.6 Amenity Grassland with Floristic Diversity

11.6.1 The grassland mixture outlined in the table below will be sown in locations as defined on drawings listed in Section 1.1.

EL1 Flowering Lawn Mixture (Sown at 4g/m²)

Wildflower and Grass Species		
%	Species	Common name
	Wildflowers	
1	Achillea millefolium	Yarrow
1	Anthyllis vulneraria	Kidney Vetch
0.4	Betonica officinalis	Betony
1.5	Centurea nigra	Common Knapweed
0.4	Galium album	Hedge Bedstraw
1.5	Galium verum	Lady's Bedstraw

0.4	<i>Knautia arvensis</i>	Field Scabious
0.5	<i>Leontodon hispidus</i>	Rough Hawkbit
1	<i>Leucanthemum vulgare</i>	Oxeye Daisy
1	<i>Medicago lupulina</i>	Black Medick
0.4	<i>Plantago lanceolata</i>	Ribwort Plantain
2	<i>Plantago media</i>	Hoary Plantain
2	<i>Primula veris</i>	Cowslip
0.4	<i>Prunella vulgaris</i>	Selfheal
0.4	<i>Ranunculus acris</i>	Meadow Buttercup
1.6	<i>Ranunculus bulbosus</i>	Bulbous Buttercup
4	<i>Trifolium repens</i>	White Clover (ag)
	Grasses	
8	<i>Agrostis capillaris</i>	Common Bent
28	<i>Cynosurus cristatus</i>	Crested Dogtail
24	<i>Festuca rubra</i>	Red Fescue
4	<i>Phleum bertolonii</i>	Smaller Cat's tail
16	<i>Poa pratensis</i>	Smoothstalked Meadow grass

Management Objective

BNG Metric Management - Interventions to improve habitat condition

Condition Assessment Criteria (Management)	Achievable through management
Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for vertebrates and invertebrates	No -maintained shorter to allow for inspection of bunds
Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include damage from machinery use, erosion caused by high levels of access or any other damaging management activities	(Yes-see maintenance operations below
Cover of bare ground is between 1% and 10%	(Yes-see maintenance operations below
No invasive species present in the grassland	(Yes-see maintenance operations below

(Taken from Statutory Biodiversity Metric Condition Assessments)

11.7 Implementation of Amenity Grassland with Floristic Diversity

Implementation	Method
Good preparation for the seed mixes is essential to successful establishment.	
Vegetation Clearance	Before planting, ensure that the ground is free of vegetation and weeds; vegetation should be hand-cut if possible, this is generally the least damaging to wildlife, however, herbicides are usually more effective at reducing competition. Their use should be the minimum necessary for effective control.
Ground Preparation	Ground preparation will take place in September-October or March-April when ground temperature is above 14°C. Topsoil shall be cultivated to 150mm depth with a rotovator and then harrowed or raked to produce a medium tilth and rolled to leave a firm level surface.
Seeding	Seeding will take place in September-October or March-June when ground temperature is above 14°C. Sowing to be in accordance with suppliers recommendations. After sowing the surface will be lightly raked or harrowed to settle the seed in and rolled. People and livestock should be kept of the seeded areas until it has germinated.

11.8 Maintenance Operations for Field margin seeding / Amenity Grassland

Close Mown Grassland	
Maintenance Operation	Detail
Inspection for Litter	Before work commences, all areas shall be inspected for litter, and all debris removed in accordance with the section detailed above.
Regular establishment cut (at least 3 times in the first year)	Cut regularly during the first two years to minimise annual weed growth, removing cuttings.
Regular maintenance cuts (Frequency determined by visual importance of area)	Exact number of subsequent maintenance visits for grass cutting to be determined by visual importance of area.
Spot treat undesirable weed species as necessary	Creeping Thistle, Spear Thistle, Curled Dock, Broadleaved Dock and Common Ragwort will be spot treated with glyphosate during the growing season.
Apply spring fertilizer	Apply a spring fertilizer to close mown grassland in accordance with manufacturers recommendations
Apply autumn fertilizer	Apply an autumn fertilizer to close mown grassland in accordance with manufacturers recommendations
Edge grass to define edge	Edge grass areas to leave neat and well defined at each grass cut

Water to maintain healthy growth and successful establishment	Newly seeded areas will be watered as necessary during the first 2-3 months to ensure germination and establishment. Once established watering may need to be carried out during periods of drought.
Resow Failed Areas	Reinstate close mown grass areas as required ensuring seed matches existing in appearance and quality

12 PROPOSED HABITAT FEATURES

12.1 Bat Boxes

12.1.1 Providing bat boxes on site will increase roosting opportunities for bats in the local vicinity and on site. It is recommended that the following are installed:

- Schwegler 2FN - suitable for smaller crevice dwellers such as Common Pipistrelle (*Pipistrellus pipistrellus*) and Soprano Pipistrelle (*Pipistrellus pygmaeus*)
- Schwegler 1FF - suitable for crevice dwellers and larger species such as Common Noctule (*Nyctalus noctula*)

12.2 Implementation of Bat Boxes

12.2.1 Bat boxes will be installed on retained trees, suitable for supporting them, at a height of 3 – 6 m. The boxes will need to be installed using a strong aluminium nail of at least 85 mm in length. Boxes should be installed on the southern side of the trees, wherever possible, within an open, sunny position.

12.3 Maintenance Operations for Bat Boxes

Bat Boxes	
Maintenance Operation	Detail
Confirmation of Use	To monitor the efficacy of the bat box installations, it is proposed that bat boxes are monitored during late spring or summer by a bat licensed ecologist annually within the first five years of the Proposed Development to confirm use.
Relocation (if required)	If during the monitoring visits there is no evidence of use by roosting bats, then it is recommended that the location and position of the boxes be re-evaluated, with alternative locations considered.

12.4 Gabion Baskets

Management Objective

- 12.4.1 Gabion baskets are to be installed as part of a retaining wall structure. There are two, situated southwest and east of the battery storage site.
- 12.4.2 Although the gabion baskets are fundamentally retaining structures, there is an opportunity to create 'brownfield' habitat in this area utilising site won-spoil as fill. The fill will be determined as part of the engineering requirements but will be 'gapped up' with topsoil from site that is also used to cap the newly created bunds. Turf will be avoided to ensure grass does not take over the plant colonisation.
- 12.4.3 The gabion fill will provide habitat for a variety of invertebrates together with opportunities for self-colonising plant species to establish. It is anticipated that these features will require minimal maintenance other than occasional topping up where material has degraded or eroded over time, and this will be monitored accordingly.

13 MONITORING AND MANAGEMENT PLAN REVIEW

Monitoring

- 13.1.1 Monitoring will take place to ensure reasonable establishment of the newly planted areas and to validate the BNG, checking the anticipated biodiversity net gain is achieved. Walkover surveys of the Site will be undertaken between April and June annually in the first 5 years and then every 5 years thereafter post-construction for the life of the development. The surveys will involve an inspection of the grasslands, scrub, hedgerows, or individual trees to ensure that they are being managed accordingly and achieve their desired BNG outcomes.
- 13.1.2 Within the initial 5-year period any areas of newly seeded grasslands, scrub, hedgerows, or individual trees found to be damaged, diseased, or dying will be replaced with like for like planting/seeding within the next suitable planting period.
- 13.1.3 The replacement with like for like planting/seeding may be revised if the native species of concern are regarded as unsuccessful or commercially unavailable. If such an instance does occur, the species will be replaced with a more successful native species. Consultation with a suitably qualified ecologist may be required to determine a suitable replacement species, or readily available species.

Management Plan Review

- 13.1.4 It is proposed that the Landscape works will be reviewed at the end of the first 12 months, annually in the first 5 years, then every 5 years thereafter throughout the life of

the development, ensuring it is still fit for purpose and ensuring the BNG commitments are delivered for the life of the development.

- 13.1.5 It is anticipated that following the review, any problems or changes that are impacting on the landscape will be accommodated with the agreement of the Local Authority (Section 106) or Responsible Body (Conservation Covenant).

Appendix A: Annual Maintenance Schedule

Maintenance Operation	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
General Maintenance												
Litter Removal												
Tidy up areas removing rubbish, litter etc. from planted, grass and hard surface areas	•	•	•	•	•	•	•	•	•	•	•	•
Review of Management Plan												
Monitoring and reporting by Landscape Manager	•	•	•	•	•	•	•	•	•	•	•	•
Annual review of Management Plan												•
Retained Landscape												
Retained Individual Trees and Hedgerows												
Visual inspection of all retained trees and hedgerows and recommendations for any remedial works.	Regular inspection by qualified Arborist to advise on any essential works such as limb reduction, removal or crown reduction. Arborist to advise on timing of inspection and frequency of subsequent inspections.											
Trees works as directed to BS.53998, including crown reduction, shaping, lifting and thinning	•	•								•	•	•
Existing hedgerow trimmed to desired height	•	•								•	•	•
Individual Tree Planting												
Monitor and treat pests and diseases including removal of dead, dying and diseased material	•	•	•	•	•	•	•	•	•	•	•	•
Monitoring and pruning/remedial surgery (Remove any branches that overhang footpaths, obscure visibility splays, or prevent access for grass cutting)						•	•	•				
Monitor, adjust and replace stakes, ties, guards/fence		•		•		•		•		•		•
Check plant material is firmly planted and firm in as required	•	•	•	•	•	•	•	•	•	•	•	•
Water to maintain healthy growth and successful establishment				•	•	•	•	•	•			
1m diameter weed free area to be maintained around each tree				•		•			•			•
Remove any weed growth from shelter guards				•		•			•			•

Maintenance Operation	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Apply fertiliser				•								
Replacement tree planting	•	•									•	•
Remove stakes/guys when ready	•	•	•	•	•	•	•	•	•	•	•	•
Tree works including crown reduction, crown lifting, crown thinning	•	•									•	•
Woodland Planting												
Monitor and treat pests and diseases including removal of dead, dying and diseased material	•	•	•	•	•	•	•	•	•	•	•	•
Monitoring and pruning/remedial surgery						•	•	•				
Monitor, adjust and replace stakes, ties, guards/fence		•		•		•		•		•		•
Check plant material is firmly planted and firm in as required	•	•	•	•	•	•	•	•	•	•	•	•
Water to maintain healthy growth and successful establishment				•	•	•	•	•	•			
1m diameter weed free area to be maintained around each plant				•		•			•			•
Thistle, dock and ragweed to be spot treated with glyphosate. Spot treat invasive non-native species as necessary				•		•		•				
Remove any weed growth from shelter guards				•		•			•			•
Replacement whip/transplant planting	•	•									•	•
Apply fertiliser				•								
Remove stakes/guys when ready	•	•	•	•	•	•	•	•	•	•	•	•
Tree works including crown reduction, crown lifting, crown thinning	•	•								•	•	•
Woodland coppicing/thinning	•	•									•	•

Maintenance Operation	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Maintain grass sward within woodland areas in accordance with species rich/wildflower grassland maintenance requirements	Refer to Species Rich Grassland Maintenance Activity											
Scrub Planting												
Monitor and treat pests and diseases including removal of dead, dying and diseased material	•	•	•	•	•	•	•	•	•	•	•	•
Monitoring and pruning/remedial surgery						•	•	•				
Monitor, adjust and replace stakes, ties, guards/fence		•		•		•		•		•		•
Check plant material is firmly planted and firm in as required	•	•	•	•	•	•	•	•	•	•	•	•
Water to maintain healthy growth and successful establishment				•	•	•	•	•	•			
1m diameter weed free area to be maintained around each plant				•		•			•			•
Thistle, dock and ragweed to be spot treated with glyphosate. Spot treat invasive non-native species as necessary				•		•		•				
Remove any weed growth from shelter guards				•		•			•			•
Replacement whip/transplant planting	•	•									•	•
Apply fertiliser				•								
Remove stakes/guys when ready	•	•	•	•	•	•	•	•	•	•	•	•
Tree works including crown reduction, crown lifting, crown thinning	•	•								•	•	•
Maintain grass sward within woodland areas in accordance with species rich/wildflower grassland maintenance requirements	Refer to Species Rich Grassland Maintenance Activity											
Native Hedge Planting												
Monitor and treat pests and diseases including removal of dead, dying and diseased material	•	•	•	•	•	•	•	•	•	•	•	•

Maintenance Operation	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Monitoring and pruning/ remedial surgery						•	•	•				
Monitor, adjust and replace stakes, ties, guards/fence		•		•		•		•		•		•
Check plant material is firmly planted and firm in as required	•	•	•	•	•	•	•	•	•	•	•	•
Water to maintain healthy growth and successful establishment				•	•	•	•	•	•			
1m diameter weed free area to be maintained around each plant				•		•			•			•
Thistle, dock and ragweed to be spot treated with glyphosate. Spot treat invasive non-native species as necessary				•		•		•				
Remove any weed growth from shelter guards				•		•			•			•
Replacement whip/transplant planting	•	•									•	•
Remove stakes/guys when ready	•	•	•	•	•	•	•	•	•	•	•	•
Clipping of Hedgerow										•		
Species Rich Neutral Grassland												
Regular establishment cut (at least 3 times in the first year)				•	•	•	•	•	•			
Regular maintenance cuts							•	•				
Quarterly inspection of dominant/ruderal species			•			•			•			•
Spot treat invasive non-native species as necessary				•	•	•	•	•	•			
Water to maintain healthy growth and successful establishment				•	•	•	•	•	•			
Resow Failed Areas			•	•					•			
Field margin seeding / Amenity Grassland												
Regular establishment cut (at least 3 times in the first year)			•	•	•	•	•	•	•	•	•	
Regular maintenance cuts (Frequency determined by visual importance of area)			•	•	•	•	•	•	•			
Spot treat invasive non-native species as necessary			•	•	•	•	•	•	•			

Maintenance Operation	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Shape grass edge as necessary with half-moon spade					•				•			
Water to maintain healthy growth and successful establishment				•	•	•	•	•	•			
Resow Failed Areas			•	•					•			
Bat Boxes												
Inspection of bat box ensuring box is still habitable and undamaged – Note Bat boxes can only be opened, disturbed moved or taken down by a licenced and competent ecologist	•	•	•	•	•	•	•	•	•	•	•	•
Gabion Baskets												
Inspection for damage or abnormalities	•	•	•	•	•	•	•	•	•	•	•	•
Visual inspection of established flora ensuring no dominant weeds present and to remove vegetation where necessary				•	•	•	•	•	•			

Appendix B: Long-Term Landscape Maintenance Programme

Refer to Appendix A for timing/frequency of maintenance operations

Year 1 is Defects Rectification Period

Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11-20	Year 21-30
General Maintenance												
Litter Removal												
Tidy up areas removing rubbish, litter etc. from planted, grass and hard surface areas	•	•	•	•	•	•	•	•	•	•	•	•
Review of Management												
Monitoring and reporting by Landscape Manager	•	•	•	•	•	•	•	•	•	•	•	•
Annual review of management plan	•	•	•	•	•	•	•	•	•	•	•	•
Retained Landscape												
Retained Individual Trees and Hedgerows												
Visual inspection of all retained trees and hedgerows and recommendations for any remedial works.	•	Regular inspection by qualified Arborist to advise on any essential works such as limb reduction, removal or crown reduction. Arborist to advise on timing of inspection and frequency of subsequent inspections.										
Trees works as directed to BS.53998, including crown reduction, shaping, lifting and thinning	•											
Existing hedgerow trimmed to desired height	•			•			•			•	Every 3 rd year	Every 3 rd year
Individual Tree Planting												
Monitor and treat pests and diseases including removal of dead, dying and diseased material			•			•			•		Every 3 rd year	Every 3 rd year

Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11-20	Year 21-30
Monitoring and pruning/ remedial surgery (Remove any branches that overhang footpaths, obscure visibility splays, or prevent access for grass cutting)			•			•			•		Every 3 rd year	Every 3 rd year
Monitor, adjust and replace stakes, ties, guards/fence	•	•	•	•								
Check plant material is firmly planted and firm in as required	•	•	•	•	•							
Water to maintain healthy growth and successful establishment	•	•	•	•	•							
1m diameter weed free area to be maintained around each tree	•	•	•	•	•							
Remove any weed growth from shelter guards	•	•	•	•	•							
Apply fertiliser	•	•	•									
Replacement tree planting	•	•	•	•	•							
Remove stakes/guys/guards					•							
Tree works including crown reduction, crown lifting, crown thinning					•					•	Every 5 th year	Every 5 th year
Woodland Planting												
Monitor and treat pests and diseases including removal of dead, dying and diseased material			•			•			•		Every 3 rd year	Every 3 rd year
Monitoring and pruning/ remedial surgery (Remove any branches that overhang footpaths, obscure visibility splays, or prevent access for grass cutting)			•			•			•		Every 3 rd year	Every 3 rd year
Monitor, adjust and replace stakes, ties, guards/fence	•	•	•	•								
Check plant material is firmly planted and firm in as required	•	•	•	•	•							
Water to maintain healthy growth and successful establishment	•	•	•	•	•							
1m diameter weed free area to be maintained around each plant	•	•	•	•	•							

Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11-20	Year 21-30
Thistle, dock and ragweed to be spot treated with glyphosate. Spot treat invasive non-native species as necessary	•	•	•	•	•	•	•	•	•	•	•	•
Remove any weed growth from shelter guards	•	•	•	•	•							
Replacement whip/transplant planting	•	•	•	•	•							
Apply fertiliser	•	•	•									
Remove stakes/guards					•							
Woodland coppicing/thinning					•					•	Every 5 th year	Every 5 th year
Maintain grass sward within thicket/woodland areas in accordance with species rich/wildflower grassland maintenance requirements	•	•	•	•	•	•	•	•	•	•	•	•
Scrub Planting												
Monitor and treat pests and diseases including removal of dead, dying and diseased material			•			•			•		Every 3 rd year	Every 3 rd year
Monitoring and pruning/ remedial surgery (Remove any branches that overhang footpaths, obscure visibility splays, or prevent access for grass cutting)			•			•			•		Every 3 rd year	Every 3 rd year
Monitor, adjust and replace stakes, ties, guards/fence	•	•	•	•								
Check plant material is firmly planted and firm in as required	•	•	•	•	•							
Water to maintain healthy growth and successful establishment	•	•	•	•	•							

Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11-20	Year 21-30
1m diameter weed free area to be maintained around each plant	•	•	•	•	•							
Thistle, dock and ragweed to be spot treated with glyphosate. Spot treat invasive non-native species as necessary	•	•	•	•	•	•	•	•	•	•	•	•
Remove any weed growth from shelter guards	•	•	•	•	•							
Replacement whip/transplant planting	•	•	•	•	•							
Apply fertiliser	•	•	•									
Remove stakes/guards					•							
Maintain grass sward within thicket/woodland areas in accordance with species rich/wildflower grassland maintenance requirements	•	•	•	•	•	•	•	•	•	•	•	•
Native Hedge Planting												
Monitor and treat pests and diseases including removal of dead, dying and diseased material			•			•			•		Every 3 rd year	Every 3 rd year
Monitoring and pruning/ remedial surgery			•			•			•		Every 3 rd year	Every 3 rd year
Monitor, adjust and replace stakes, ties, guards/fence	•	•	•	•								
Check plant material is firmly planted and firm in as required	•	•	•	•	•							

Maintenance Operation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11-20	Year 21-30
Water to maintain healthy growth and successful establishment	•	•	•	•	•							
1m diameter weed free area to be maintained around each plant	•	•	•	•	•							
Thistle, dock and ragweed to be spot treated with glyphosate. Spot treat invasive non-native species as necessary	•	•	•	•	•	•	•	•	•	•	•	•
Remove any weed growth from shelter guards	•	•	•	•	•							
Replacement whip/transplant planting	•	•	•	•	•							
Remove stakes/guys when ready					•							
Cut hedgerow alternating between two sides and top to desired height and width					•	•	•	•	•	•	•	•
Neutral and Species Rich Neutral Meadow Grassland												
Regular establishment cut (at least 3 times in the first year)	•											
Regular maintenance cuts (Frequency determined by visual importance of area)		•	•	•	•	•	•	•	•	•	•	•
Quarterly inspection of dominant/ruderal species	•	•	•	•	•	•	•	•	•	•	•	•
Spot treat invasive non-native species as necessary	•	•	•	•	•	•	•	•	•	•	•	•
Water to maintain healthy growth and successful establishment	•											
Resow Failed Areas	•	•	•	•	•							
Bat Boxes												
Annual monitoring of bat box ensuring box is still habitable and undamaged	•	•	•	•	•	•	•	•	•	•	•	•
Gabion Baskets												
Annual inspection for damage or abnormalities	•	•	•	•	•	•	•	•	•	•	•	•
Visual inspection of established flora ensuring no dominant weeds present and to remove vegetation where necessary	•		•		•		•		•		Every 2nd year	Every 2nd year

