# Candwr Solar Farm

## Pre-Application Consultation

Outline Landscape and Ecological Management Plan

2 July 2026

| Revision | Date | Initials | Revision Note |
|---|---|---|---|
| - | 23/12/2025 | IBD | First Issue |
| A | 03/06/2026 | IBD | Landscape plan updated |
| B | 05/06/2026 | IBD | Amends to ecologist comments |
| C | 18/06/2026 | IBD | Amends following client team review |

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# 1 Introduction

## Background

1.1 This Outline Landscape and Ecological Management Plan (oLEMP) has been prepared by Pegasus Group and Avian Ecology to support a planning application for development at Candwr (Torfaen and Newport local planning authority boundaries).

1.2 The following documents have been used to inform,and should be read in conjunction with this oLEMP:

- Green Infrastructure Statement [ref XX, June 2026, Avian Ecology]
- Arboricultural Impact Assessment [ref XX, December 2025, Barton Hyett]
- Landscape Strategy [ref P24-2075_EN_033A, June 2026, Pegasus Group]

1.3 The objective of this oLEMP is to set out management and maintenance procedures for the operational phase of the development (commencing from handover from landscape contractor to management company) to ensure successful habitat protection and enhancement measures effectively develop and maintain wildlife habitats. In addition, the oLEMP aims to ensure the successful establishment of the landscape proposals as prescribed within the landscape plans and integrate the scheme within the existing landscape framework noting the site's key opportunities and constraints such as the public rights of way, existing vegetation and habitat. The proposals shall contribute to wider ecological connectivity, in line with the biodiversity net-gain targets of The Environment Act, 2021 (furthering those set out within National Planning Policy Framework, 2025), as well as local planning policy and best practice.

1.4 Biodiversity Guidance for Solar Developments, BRE, 2014, states:

> *"with appropriate land management, solar farms have the potential to support wildlife and contribute to national biodiversity targets. Indeed, solar farms may have several additional advantages in that they are secure sites with little disturbance from humans and machinery once construction is complete. Recent research suggests biodiversity gains on solar farms can be significant."*

1.5 The purpose of this oLEMP is to:

- Ensure that clear objectives for this new solar installation are agreed and laid down;
- Set clear standards for the performance of landscape maintenance work prior to the handover to the landscape maintenance contractor;
- Develop work programmes and schedules for landscape maintenance staff for the first year after completion and thereafter for a period of 40 years;
- Preserve and enhance biodiversity to ensure net benefits for biodiversity;
- Inform landscape maintenance financial resource allocation; and
- Help monitor success and progress against management targets.

## Management Aims

1.6 The main landscape management and maintenance aims are to:

- Assimilate the solar installation into the local landscape, thereby minimising any effects on local landscape character, landscape elements and visual receptors;
- Manage operational activities to protect existing retained trees, hedgerows and watercourse, to prevent short term damage and longer term adverse impacts;
- Maintain new and existing trees, hedgerows and grassland in order to maximise their landscape and ecological benefits, as well as strengthening wider habitat connectivity;
- Provide additional nesting opportunities/hibernacula, bird and bat boxes, insect hotels and hedgehog boxes; and
- Manage existing and proposed trees and vegetation to minimise risks for operational staff.

1.7 These works should be carried out by suitably experienced contractors, under the watch of experienced / licensed ecologists and arboriculturists where appropriate.

## Scope and Review

1.8 This document should be seen as an operational guide for maintaining the landscape and ecological proposals for the lifetime of the solar installation. We recommend this oLEMP is reviewed with the input of an ecologist and/ or landscape architect as required, to ensure management aims are as appropriate as landscape features mature and develop. Section 6.2 for monitoring and review sets out the strategy for the review of the oLEMP. As such, this oLEMP details the management prescriptions for the first five years with the requirements set out for the following period to 40 years.

## Ecological trends and constraints

1.9 This oLEMP is to be seen as an operational guide subject to review to incorporate landscape and ecological trends that may impact on the landscape management aims, objectives and maintenance regime. The review process would allow for changes in order to meet conservation targets and net benefits for biodiversity.

1.10 Changes to management practice for ecological trends for habitat and species which may be updated to local policy and biodiversity targets may need to be incorporated as necessary. This would help to ensure that the oLEMP remains fit for purpose in the evolving dynamic of landscape and help to ensure resilience to the effects of climate change and social pressures.

## Managing Risk and Competencies

1.11 It is assumed that a competent contractor shall have the necessary PPE, training and skills to undertake the management and maintenance tasks as set out within this oLEMP.

1.12 The landscape management company shall be responsible for undertaking written risk assessments in relation to the landscape, arboricultural and ecological management and maintenance prescriptions detailed within this oLEMP (in additional to any other site risks). This shall be provided to the clients prior to the start of works.

*Indicative image of wildflower grassland beneath panels*

## Legal and Funding Mechanisms

1.13 Funding of landscape maintenance will be covered by the site developer, whom will be responsible for appointing a suitable qualified contractor/ management organisation to implement the management and maintenance as set out within this oLEMP.

## Insolvency/Administration

1.14 Should the landscape maintenance body of one of their subcontractors be made insolvent/ or enter administration, the developer has the ability to re-tender the maintenance contract and engage a suitable alternative contractor to carry out the landscape maintenance works as set out within the oLEMP. This will ensure that the maintenance regime is delivered.

# 2 Site Description and Proposals

## Existing Site Conditions

2.1 The site consists of a number of fields currently under intensive agricultural management of low ecological value. Separated and enclosed by established hedgerows with hedgerow trees, treebelts, and woodland blocks, a number of these contain watercourses and ditches. There are also scattered isolated trees throughout the site. A number of TPO trees and Ancient Woodland also sit within or along site boundaries.

2.2 A number of well-connected public right of way (PRoW) footpaths run through the site and local landscape. A number of permissive bridleway routes are proposed through the site as part of the development to further improve public access and connectivity within the local landscape.

2.3 In combination, the existing vegetation bands and watercourses provide well-connected, high value habitats, likely to be well-utilised by local bird, bat and other species.

2.4 A number of fields within the west of the site sit within Torfaen Special Landscape Area.

## Key Design Principles

2.5 Key design principles guiding landscape proposals for the site are to:

- Identify important local biodiversity and landscape features within and around the site to inform suitable ecology and landscape elements for integration;
- Identify opportunities and risks to local biodiversity and select mitigation and enhancement measures resilient to change, sustainable and workable in local context;
- Ensure enhancements are in line with the step-wise approach, to avoid adverse effects on natural environments, and achieve net benefits for biodiversity; and
- Ensure longevity of enhancements through effective long-term management and monitoring programme.

2.6 In line with the step-wise approach - to avoid, protect, and enhance natural habitats and the species they support - a series of measures shall be in place to safe-guard biodiversity during site operation, in line with widely adopted good practice measures. These shall protect and minimise adverse impacts on high value habitats and species on site.

2.7 A series of landscape proposals shall also be delivered (and sustained over the lifetime of site operations via the objectives of this oLEMP) to enhance habitats and ecological connectivity across the site, and maintain the biodiversity benefits on site.

2.8 These measures, combined with an associated reduction in intensive agricultural management practices (such as chemical spray applications and ploughing) will provide dispersal, breeding, foraging and overwintering habitat for a variety of wildlife including invertebrates, birds, small mammals, amphibians and reptiles, if present. The continuous new grassland habitat under and around the solar panels, and species-rich field margins will provide improved connectivity and opportunities for a range of wildlife to forage, shelter and freely disperse across the site. In addition, the strengthened hedgerow network will also benefit habitat linkages in the local landscape.

## Landscape Proposals

2.9 The landscape proposals comprise the following elements, with each in turn discussed in the following section:

- Grassland enhancement and creation below and around the arrays;
- Hedgerow creation along with supplementary infill planting within existing hedgerows;
- Tree, woodland and orchard planting to bolster trees within the site;
- Enhancement of arable land to organic set-aside;
- Enhancement of existing coastal floodplain grazing marsh;
- Creation of species-rich and botanically diverse grassland;
- Integration of swales to manage surface water within the site; and
- Integration of existing PRoWs with new hedgerow planting along adjacent fence lines to screen views of development.

## Management Strategy

2.10 Design and long term landscape management seeks to maintain and improve functionality of existing landscape features and habitats through protection and enhancement of potentially valuable wildlife corridors by strengthening hedgerow networks within and around the site.

2.11 Habitat enhancements include: new lengths of hedgerow planting; enhancement of existing hedgerows where fragmented (through infilling with native species); and creation of species diverse meadow grassland to replace arable land.

2.12 The habitat enhancement measures and ongoing management practices are proposed in line with the guidance produced by BRE guidance Biodiversity Guidance for Solar Developments (BRE, 2014) that aim to enhance and safeguard key habitats for the benefit of wildlife, and ecological value of land currently under agricultural use.

## Net Benefit for Biodiversity

2.13 In Wales, a Green Infrastructure Statement (GIS) is required under Planning Policy Wales Edition 12 (PPW12) and Section 6 of the Environment (Wales) Act 2016, which mandates that developments demonstrate a net benefit to biodiversity and green infrastructure. The statement must be submitted as part of the planning application.

2.14 The measures proposed in this oLEMP for habitats, including habitat enhancement measures including creation of nesting, roosting and resting opportunities for wildlife, are of substantial scale. The creation of new habitats and replacement tree planting will be implemented. Proposed habitat enhancements will improve the condition of existing habitats. The Proposed Development will therefore achieve net benefit for biodiversity, increase the diversity and extent of species and habitats present within the Site and positively contribute to achieving ecosystem resilience.

## Hedgerows, Trees and Woodland Planting

2.15 Existing boundary and internal field hedgerows will be retained (with the exception of limited small clearances to allow construction of fence line and access tracks) and reinforced (as necessary) with native hedgerow planting and trees (of local provenance) to: strengthen field patterns and local landscape character; screen views of the development from nearby PRoW and dwellings; and increase valuable habitat provision and connectivity.

2.16 Proposed hedgerows with regular hedgerow trees shall run along proposed fence lines adjacent to PRoWs. This will both provide full enclosure and afford filtered views only across the site from the PRoW.

2.17 Strengthening the hedgerow network within and around the site (through enhanced and proposed hedgerows) seeks to protect and enhance potentially valuable wildlife corridors.

2.18 Areas of woodland planting are proposed to reinforce existing lines of vegetation within the site / create extensions of existing woodland/shrub areas, therefore strengthening existing ecological corridors, landscape character and site boundaries.

2.19 Tree and shrub species are consistent with the local landscape, with a variety of species to increase species diversity across the Site and contribute towards biodiversity benefits.

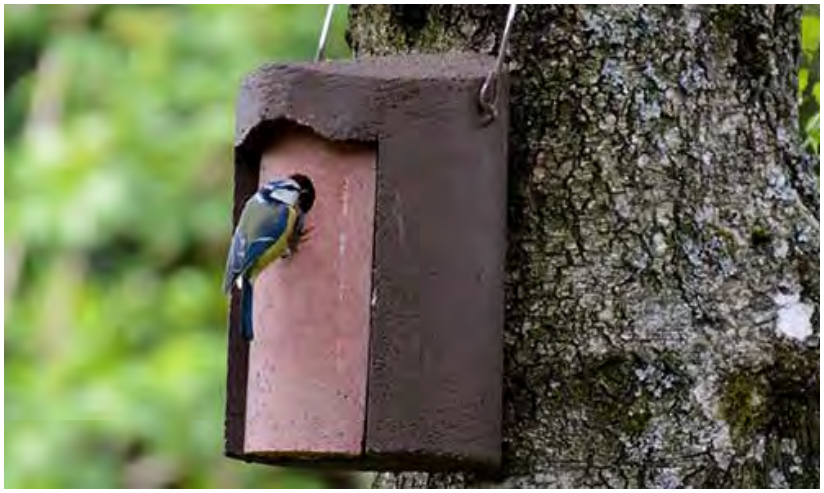
## Grassland Enhancement and Creation

2.20 BRE guidance state that as panels are raised above the ground on posts, over 95% of a site used for solar farm development is still accessible for plant growth and complementary agricultural activities, such as conservation grazing (BRE, 2014). The RSPB briefing note on Solar Energy also states that biodiversity gains are possible where intensively cultivated arable or grassland is converted to extensive grassland and/or wildflower meadows between and/or beneath solar panels and in field margins (RSPB, 2014). A significant benefit to wildlife will therefore be achieved through creation of botanically diverse grassland within the site, favourable to birds, mammals, amphibians, reptiles and invertebrates.

2.21 Inside security fenced solar panel enclosures will be sown with Emorsgate EM2 Standard General Purpose Meadow Mixture (or similar) which is suitable for sheep grazing, and may be managed through low intensity pulse growing using sheep or mechanically.

2.22 Field margins will be sown with EM10 Tussocky Meadow Mixture (or similar), and be subject to very low intensity, intermittent management to encourage a range of invertebrates and other wildlife to benefit from the species variety and structural diversity that will develop in the sward.

2.23 Areas within the floodplain shall be seeded with EM8 Meadow Mixture for Wetlands (or similar) to enhance costal and floodplain marsh habitat within the local landscape.



*Indicative image of bird boxes to be erected on site*

## Birds

2.24 Bird nesting provision will be increased with 40 general purpose bird boxes (mixture of hole and open fronted), 4 barn owl boxes and 2 raptor boxes erected on suitably-sized trees on site peripheries (precise locations subject to confirmation during installation depending on tree condition at that time). Following cessation of construction works, boxes should ideally be installed September-November, at 1-5m height, angled facing away from prevailing wind (or in a semi-sheltered environment), within or close to hedgerows where possible, by the appointed contractor under advice of a suitably competent ecologist.

## Bats

2.25 Bat roost provision will be increased with 30 bat roost boxes (including a minimum of 5 hibernation boxes and 5 colony boxes) erected on suitable trees, ideally above 4m high, with clear flight paths along site boundaries/ hedgerows (precise locations will be subject to confirmation during the installation depending on tree condition at that time), by the appointed contractor under advice of a suitably competent ecologist.

## Amphibians

2.26 The creation of diverse grassland sward and new hedgerow, tree and thicket planting will benefit amphibian species for foraging purposes.

2.27 10 habitat piles and hibernacula will also be constructed along boundary features such as hedgerows as well as in the vicinity of ponds, providing additional terrestrial refuge habitat for amphibians.

## Aquatic Habitats

2.28 To enhance the condition of the coastal floodplain grazing marsh and strengthen habitat connectivity within the site and the surrounding landscape, it is proposed that detailed site and hydrological investigations are undertaken to appraise opportunities for the creation of ditches, seasonally water-filled hollows, and ponds. Such habitats should be designed to minimise risks (e.g. drowning) and enhance opportunities (eg. small water ponds for hydration [de-hydration being a major cause of mortality for species hedgehog]) for small fauna.

## Other species

2.29 Hedgerow, tree and thicket planting as well as grassland/wildflower meadow creation will benefit a range of species including small mammals such as hedgehog, brown hare and invertebrate species.

2.30 Perimeter fences will incorporate suitably sized (approximately 20cm x 25cm) gaps or gates at its base at suitable locations around the site to allow free movement of wildlife, including badger, otter and small mammals, thereby maintaining and strengthening habitat connectivity and dispersal opportunities across and through the site.

2.31 Vegetation cuttings will be retained in the site and piled at selected locations along field margins to provide additional undisturbed refuge opportunities for wildlife including invertebrates, small mammals, reptiles and amphibians where present.

2.32 10 insect hotels are to incorporated along hedgerow bases / within areas of meadow grassland to further enhance insect habitat opportunities.

2.33 10 hedgehog boxes are to incorporated along hedgerow bases / within areas of meadow grassland to further enhance hedgehog habitat opportunities.

| TABLE 1: Ecological Enhancement Features | | | |
|---|---|---|---|
| No | Box Type | Photo | Description |
| 12 | Schwegler 1B Bird Box (32mm entrance) |  | To be placed at least 2m above the ground in a quiet and sheltered area of site on mature trees. Ensure the boxes are covered from the rain by facing the entrance down slightly in order to prevent rain seeping in and so encourage use and increase the longevity of the box. Ensure there is clear access to the box entrance at all times. Best placed on a north or easterly aspect.<br><br>NB where this box is not available, a suitable alternative will be installed (as approved by the ecologist). |
| 10 | Schwegler 1B Bird Box (26mm entrance) |  | To be placed at least 2m above the ground in a quiet and sheltered area of site on mature trees. Ensure the boxes are covered from the rain by facing the entrance down slightly in order to prevent rain seeping in and so encourage use and increase the longevity of the box. Ensure there is clear access to the box entrance at all times. Best placed on a north or easterly aspect.<br><br>NB where this box is not available, a suitable alternative will be installed (as approved by the ecologist). |
| 10 | Schwegler 3S Starling Nest Box |  | To be placed at least 2m above the ground in a quiet and sheltered area of site on mature trees. Ensure the boxes are covered from the rain by facing the entrance down slightly in order to prevent rain seeping in and so encourage use and increase the longevity of the box. Ensure there is clear access to the box entrance at all times. Best placed on a north or easterly aspect.<br><br>NB where this box is not available, a suitable alternative will be installed (as approved by the ecologist). |
| 12 | Eco Robin Nest Box |  | To be placed 1-2 metres high, out of direct sunlight and facing away from driving wind and rain. This will mean facing the box between the north and the east. Make sure that the birds have a clear flight path to the nest without any clutter directly in front of the entrance, however, ensure the box is surrounded by foliage.<br><br>NB where this box is not available, a suitable alternative will be installed (as approved by the ecologist). |
| 4 | Barn Owl Box |  | Barn Owl Trust nest boxes, to be installed on a mature tree on the edge of woodland. At least 3m off the ground, in an area with branches that fledging chicks can use for exercise and with the entrance easy to see, so no overhanging branches or climbers. Choose an isolated tree if possible, in hedgerow or woodland edge. Always ensure that the entrance of the box is facing away from the prevailing wind. |
| 2 | Raptor boxes (wooden kestrel box) |  | The box should be mounted at least 5m high, preferably with a clear flight path to the box. The box should ideally face East or NE/ SE. Situating within insect-rich rough grassland which supports field voles will greatly increase the likelihood of occupation. Other species which may make use of the nest box include tawny owls, stock doves, jackdaws, or possibly little owls or barn owls.. |

| TABLE 1: Ecological Enhancement Features | | | |
|---|---|---|---|
| No | Box Type | Photo | Description |
| 10 | Schwegler 2F with double front panel |  | Nail onto the main trunk of mature trees 4 to 5m high, on south, south west or south eastern aspects, ideally in a sunny location.<br>Suitable for smaller species of bats and the internal panels dissuade birds from nesting within this box.<br><br>NB where this box is not available, a suitable alternative will be installed (as approved by the ecologist). |
| 10 | Cavity bat box |  | Cavity boxes offer a more spacious roost space favoured in general by the larger bat species (greater and lesser horseshoe, barbastelle and brown Long-eared). The box has a single large cavity inside with a wide entrance, ideal for cavity dwelling bats and deters unwelcome birds. There is a 'Bat Ladder' at the base of the box which facilitates bats landing and climbing into the box. This continues inside of the box making it easy for the bats to move around and grip the surface.<br>Suuplied with a 1 keyhole mounthing hole and screws for secure fixing, to be hung as the 2F bat boxes.<br><br>NB where this nox is not available, a suitable alternative will be installed (as approved by the ecologist). |
| 5 | Schwegler 1FS large colony bat box |  | This box provides bats with a very large internal space allowing high numbers of bats to congregate together, suitable for both summer and winter quarters.<br>Supplied with a galvanised hanger, mounting block and aluminium nail, to be hung as the 2F bat boxes.<br><br>NB where this box is not available, a suitable alternative will be installed (as approved by the ecologist). |
| 5 | Schwegler 1FW hibernation bat box |  | This box is ideal both for hibernation in winter and for encouraging large colonies in summer.<br>Supplied with two mounting blocks and aluminum nails, to be hung as the 2F and 1FS bat boxes.<br><br>NB where this box is not available, a suitable alternative will be installed (as approved by the ecologist). |
| 10 | Wooden hedgehog nest box |  | Hedgehog box that is made out of FSC certified exterior grade plywood. It has chambers and a tunnel, to help prevent predator interference. It is designed with in built ventilation to provide ambient temperature and humidity without draughts. Sheltered and undisturbed locations, primarily along field boundaries. Boxes can be installed at any time of year following the cessation of construction works but ideally in spring or summer. Note that boxes should not be opened between the months of November to February (temperature dependent) to avoid hibernating hedgehogs. |
| 10 | Insect hotel |  | The Insect Tower provides valuable habitat for solitary bees and other insects. The different sections of the Insect Tower have been designed to provide a habitat for a variety of insect species.<br><br>The nesting tubes are ideal for solitary bees to build their nests in, the vertical slots are designed to encourage butterflies, other refuge holes are perfect for ladybirds and lacewings and the pinecones offer an excellent habitat for a range of other species. |

# 3 Environmental Considerations

3.1 This section details environmental factors requiring consideration to enable a thorough landscape management strategy for the site.

## Horticultural Peat

3.2 Horticultural peat is not to be used as mulch on any planting areas or as a soil conditioner. Wherever possible plants grown without peat will be preferred to those grown using peat.

## Recycled Materials

3.3 Where appropriate, components made of recycled or biodegradable materials should be used, e.g. wood chip mulch, biodegradable spiral shrub/tree guards.

## Pesticides/Herbicides

3.4 A minimal intervention and organic approach will be used in terms of weed control. In areas of transplant tree, ornamental shrub and herbaceous planting, this is to be achieved by using mulch mats and hand weeding. Use of herbicide shall be minimised, with mechanical removal of vegetation and grazing favoured whenever possible. Any herbicide use is scrutinized and must be justified.

## Water Management

3.5 Where necessary, maintenance staff are to water plants at appropriate times of the day to ensure minimum water evaporation.

## Contamination

3.6 Areas to be grazed should be determined using soil analysis results / risks assessment to avoid potentially contaminated areas.

## Habitat management

3.7 All arisings should be retained on site where suitable, e.g. for ecological benefit such as creating hibernacula and habitat piles. If unsuitable, remove from site and dispose of at a registered facility. Allow deadwood, jagged stumps, splits, fungal growths/fruiting bodies and holes in tree trunks to remain unless they are creating a safety hazard.

3.8 Where appropriate habitat creation could include working with the Wildlife Trust and local wildlife groups to create log piles and hibernacula.

3.9 Aquatic habitats shall be regularly checked for filling and sensitively remedied as required to ensure their continued function for small fauna hydration.

## Utilities

3.10 Suitable planting shall be selected above underground utilities to minimise risk of damage due to roots/soil shrinkage. Slow growing/low species shall be used beneath overhead utilities and maintained at an appropriate height to minimise risk of interference/damage.

## Areas of Archaeological Sensitivity

3.11 Within areas of archaeological sensitivity (as identified on the detailed planting plans), disturbance of soils is restricted in line with project archaeologist's recommendations (refer to Archaeological Mitigation and Management Plan for further details).

# 4 General Maintenance Requirements

## General Maintenance

4.1 It is recommended that all new planting on site is subject to on going management to maximise the value of these habitats to wildlife. Minimal and exceptional use of pesticides and ensuring vegetation pruning works take place outside of the bird nesting season will aid this approach.

4.2 Maintenance operations are to be carried out in accordance with BS 4428: Code of Practice for General Landscape Operations. Maintenance of soft landscaping to be in accordance with BS 7370-4: Grounds Maintenance. Recommendations for Maintenance of Soft Landscape.

4.3 Planting shall not be carried out when ground is water-logged, frost bound or during periods of cold drying winds. All bare-root plant stock shall be kept covered until planted in order to minimise water-loss and prevent roots drying out. Bare root stock shall be planted while dormant (November-April) or alternatively cell/container grown stock to be used.

## Litter and Arisings

4.4 Litter and debris shall be cleared by hand and removed from site (disposed of at a registered facility) on a monthly basis, and prior to mowing operations. All arisings should be retained on site where suitable, e.g. for ecological benefit such as creating hibernacula, herpetofauna or loggeries.

## Trees and Associated Works

4.5 No pruning works to trees or hedgerows are to be undertaken during the general bird nesting season of 1st March to 31st August inclusive. Works within this time period should be subject to checks by an ecologist to ensure there are no nesting birds present.

4.6 All tree surgery work is to be carried out to BS 3998:2010 Tree Work– Recommendations (or any subsequent updates) and should be undertaken by a suitably qualified operative. Where a tree poses a health and safety hazard, advice will be sought from an arboriculturist.

4.7 Retention (as far as possible) of existing vegetation is considered an important part of the development: such areas will be managed appropriately to maintain and develop their value. Trees should not be felled unless they are classified as dangerous. Where a tree poses as a health and safety hazard ie. along or near public rights of way, advice shall be sought immediately from an arboriculturist. Ivy should only be severed where it is growing into tree canopies and is likely to create a sail hazard.

## New Planting

4.8 All seeding shall be carried out in accordance with BS4428:1989 Code of Practice for general landscape operations or the most relevant and current British Standard and in accordance with the seed supplier's technical advice.

4.9 Planting of new trees should have regard to Section 10 of BS 8545:2014 Trees: from nursery to independence in the landscape. All planting stock supplied shall be healthy, viable, and conform to BS 3936, BS 4043 and be in accordance with the National Plant Specification published by the Horticultural Trade Association (HTA), as appropriate.

4.10 All new tree planting shall be checked at each maintenance visit for damage, security, firmness, fixing and support. Any trees that fail to thrive in the first year shall be replaced with the same species and variety at the size specified on the original landscape planting plans.

4.11 Trees should be checked between September and February i.e. outside the bird nesting season, and marked with tags, paint and/or noted on a plan, as necessary. Replacements will be planted during the following planting season. If a particular species fails to establish successfully then an alternative, comparable species should be considered as replacement, in agreement with the landscape consultant (and the LPA advised if necessary). Replacement planting of container plants to be undertaken as required, root-ball/bare root planting to be undertaken November to March.

4.12 Amenity bark mulch shall be topped up as required to a depth of 50mm to ensure maximum coverage as specified and areas of bare soil is prevented. To avoid accidentally damaging plants, herbicides will not be used to control weeds once foliage covers 75% of the ground surface. An 800mm diameter circle of bark mulch to a depth of 50mm will be retained around individual trees in grass in order to suppress grass and weed growth and minimise the risk of mower/strimmer damage.

4.13 Care should be taken not to over-water planting. Until well established all trees are to be watered during the growing season. Following any dry periods of 7-10 days, soil moisture content should be assessed and watering undertaken as necessary. Each tree is to receive 40 litres of water or as required to ensure all tree planted areas are brought up to field capacity at each visit. If trees are showing signs of drought stress the watering regime should be reviewed and increased as required. Care should be taken to ensure applied water is absorbed into the root-zone and does not run off the surface.

## Orchard Tree Planting Specifics

4.14 The community orchard will be planted and maintained following Natural England Guidance TIN014 standard guidance.

4.15 Any necessary remedial works will be carried out as soon as possible. All tree work should be carried out in accordance with Natural England Guidance (TIN017, TIN018, TIN019). All arisings will be either used to create compost heaps within the orchard.

# 5 Maintenance Specifications

## 5.1 Retained Trees & Hedgerows

### Management Aim

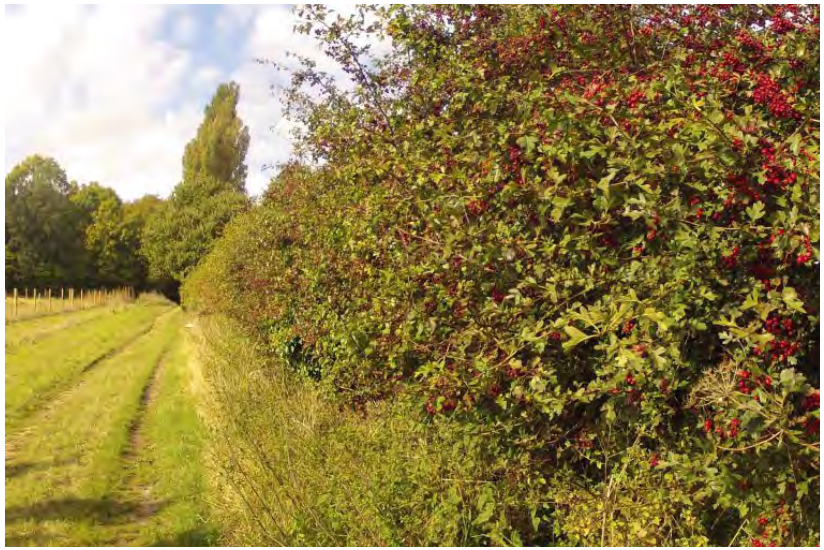
- To maintain the existing areas of tree and hedgerow planting to maximise biodiversity and habitat value;
- To ensure the on going health and longevity; and
- To maintain high quality visual appearance.

### Management Objectives

- To maintain existing trees to ensure a maximum healthy development;
- To maintain the visual amenity and good diversity of species of the retained tree and shrub hedgerow boundaries;
- To ensure a healthy, dense, bushy, tree and shrub understorey with good species mix and no gaps;
- To maintain appropriate forms of trees for future growth;
- To ensure trees do not present a hazard to site users.
- To ensure access links are kept clear from boundary vegetation growth;
- To take care in construction and maintenance operations near boundary planting;
- To enhance ecological value; and
- To manage boundaries at appropriate times to avoid impacts to nesting birds and to ensure the provision of winter foraging resources.

5.1.1 To avoid disturbing nesting birds, maintenance to the tree and shrub boundaries should take place between September and February i.e. outside the bird nesting season. Works outside of this time period should be subject to checks by an ecologist to ensure there are no nesting birds present.

5.1.2 Hedgerows shall be managed to allow to grow up to min. 3m height and min. 2m width, and be maintained to retain these dimensions (or as existing where already reached or exceeded).



*Typical image of native hedgerow and trees to be retained*

5.1.3 All trees are to be subject to an annual basic walk-by visual inspection to identify any obvious hazard/defects (fungal brackets, splits/cracks in branches/stems etc.) that may require remedial works/further arboricultural assessment. Only trees identified with defects/hazards are to be recorded and further assessment is to be made by a qualified and competent person. A detailed condition survey/risk assessment is to be carried out by a qualified arboriculturist at least every 3-5 years (or as advised by the arboriculturist). Any necessary remedial works are to be carried out by a suitably competent and qualified contractor/arborist in accordance with BS 3998:2010.

5.1.4 Where the existing vegetation abuts footpath links and access roads, the portion of vegetation adjacent to the links shall be cut-back annually to maintain free access.

## 5.2 Trees

### Management Aim

- To successfully establish new tree planting;
- To maintain tree planting ensuring a treescape rich in seasonal interest and future longevity; and
- To present and maintain high quality visual appearance of new tree planting.

### Management Objectives

- To maintain newly planted trees to ensure good survival rate and development;
- To minimise competition from grass and weeds in the immediate vicinity of newly planted trees;
- To maintain the health and visual amenity of the new trees;
- To maintain appropriate forms of trees for future growth; and
- To ensure trees do not present a hazard to site users.

5.2.1 New trees will be staked (and tied using proprietary rubber /or hessian ties) and regularly checked during the establishment period, adjusted as necessary to ensure developing trees are not damaged. Trees will establish successful anchor roots, increase stem girth and form a better stem taper if allowed to move in the wind, whilst remaining secured at ground level.

5.2.2 There will be a minimal pruning policy for trees as pruning wounds can provide a source of infection. Formative pruning of new trees will only be carried out to remove dead and diseased wood and to create a well balanced tree with a single leader. Clear stems of 1.8 metres will be maintained by rubbing off any shoots and when the trees reach 5 to 6 metres high lower branches will be removed to give a canopy height of approximately 2.4 metres.

5.2.3 In the event of tree death, the reason for growth failure shall be investigated and addressed before replanting a replacement. If death is due to the planting conditions, these shall be ameliorated. If death is due to pests or disease and likely to be present in the future, a resistant species of an alternative similar tree shall be selected.

5.2.4 Once trees are established such that tree stakes, ties and spacers are no longer required, these shall be removed and disposed of off site.

## 5.3 Reinforcement & New Native Hedgerows

### Management Aim

- To successfully reinforce and establish areas of native hedgerow tree and shrub planting to the site boundaries;
- To present and maintain a high quality visual appearance of the native tree and shrubs within the buffer edge planting, that provides both opportunities for wildlife foraging and habitat, as well as seasonal interest and colour.

### Management Objectives

- To maintain newly planted native shrubs to ensure successful establishment and longevity;
- To minimise competition from grass and weeds;
- To keep planted areas tidy and free from litter and;
- To manage boundaries at appropriate times to avoid impacting nesting birds and to ensure provision of winter foraging resources.

5.3.1 New planting will be checked regularly throughout the growing season for pests and diseases and treated as necessary. Plant losses should be monitored and recorded. If a particular plant becomes subject to a fatal pest or disease it shall be replaced by an alternative resistant plant with a similar form and habit.

5.3.2 The native shrubs used to supplement the existing boundaries will be maintained to match the existing heights of the boundaries. This will be achieved by an appropriate cutting regime.

5.3.3 Within the native hedgerows to the boundaries, if new shrub specimens are identified as future standard trees they will be allowed to mature. In the long-term trees within the buffer, could potentially be managed as pollards adding structural diversity.

5.3.4 Newly planted stock within the hedgerow gaps will be protected from animal damage by the use of individual tree / shrub guards.

5.3.5 All new native planted areas will be maintained by weeding, pest & disease control and adjustment /removal of guards/stakes. Once established such that tree / shrub stakes, ties and spacers are no longer required, these shall be removed and disposed of off site.

## 5.4 Grassland Areas

### Management Aim

- To increase the biodiversity value of the grassland and prevent the sward from obscuring the panels.

### Management Objectives

- To ensure grassland areas successfully establish;
- To increase biodiversity and species diversity;
- To control weeds and opportunistic or invasive species;
- To manage the grassland sensitively to establish a rich sward and ensure that wildflowers can set seed;
- To manage grasslands outside arrays to establish rough tussocky sward

5.4.1 Grassland will be managed to provide a varied habitat structure providing nesting opportunities for birds and nectar, pollen and shelter for invertebrates, amphibians, reptiles and small mammals. Taller wildflower and tussock grassland vegetation will be encouraged to develop along the base of hedgerows to provide additional dispersal, foraging and shelter opportunities for wildlife.

5.4.2 Occasional small areas of bare patches, either naturally arising or created in the course of management, will be tolerated and allowed to remain. These increase micro-topographic diversity and variety of ground conditions which can be essential for the life-cycle of many invertebrate species and also may potentially be utilised by bird species for nesting and foraging purposes. These small areas also provide periodic disturbed ground conditions necessary to develop and maintain margin grasses and wildflower communities. In the unlikely event that the grassland / meadow planting fails and the area of bare ground is greater than 10%, these areas will be re-seeded.

5.4.3 Specific attention should be paid to the potential presence of injurious (harmful) weeds: common ragwort (Senecio jacobaea), spear thistle (Cirsium vulgare), creeping thistle (Cirsium arvense) curled dock (Rumex crispus) and broad-leaved dock (Rumex obtusifolius); which are all listed within the Weeds Act 1959. These species should be removed from the grassland areas prior to enhancement works commencing.

### Areas of Archaeological Sensitivity

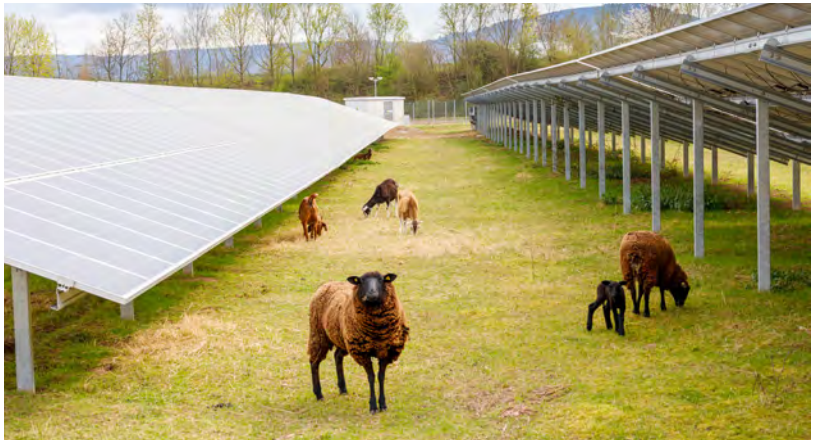
5.4.4 Soil preparation and maintenance is restricted in line with project archaeologist's recommendations - refer to Archaeological Mitigation and Management Plan for further details on methodology.

### Initial Management

5.4.5 Grassland management will be carried out in accordance with the seed suppliers technical advice during the establishment phase as set out below.

5.4.6 During the first year of establishment, both EM2 and EM10 (or similar) will require cutting at regular intervals. Initially, in the first year following sowing, checks will be made to assess and control annual weeds. Problem perennial weeds will be controlled by hand pulling or if necessary careful targeted application of a non-residual herbicide by way of spot spraying with a knapsack (low pressure to avoid spray drift) or weed wiping (no herbicide application within the vicinity of ditches and watercourses) herbicide application may be used in April, June and August. Alternatively, annual weeds can be managed by topping and mowing prior to setting seed which will encourage lateral development of the grasses. Any topping undertaken between April and July should be no lower than 200mm to prevent harm to any ground nesting birds.

5.4.7 EM2 (or similar) areas should not be grazed until grassland is sufficiently established.



*Indicative image of grassland within panel enclosure*

## Long-term Management - Grazing (around solar array)

5.4.8 The area will be managed through low intensity pulse growing using sheep, which could be supplemented by mowing via an optional hay cut in September with subsequent aftermath grazing to further reduce fertility.

**TABLE 2: Management of Grassland within Array via Grazing regime**

| | |
|---|---|
| January-February | Light grazing on any new growth |
| Early March | Remove grazing; this allows forbs to grow and allows a good habitat for ground nesting birds to develop. |
| September | An optional hay cut may be taken. Cut hay once the wildflowers have seeded from August onwards. The arisings can be collected as a hay crop, mechanically raked and piled up or removed. Arisings must be removed with one or more of these methods to avoid harmful effects of grass mulch on plant species diversity. |
| September to end of December | Main grazing period with light grazing down to a short sward height; mosaic plant heights encourage insects. |

5.4.9 The intended outcome of a conservation grazing scheme will be to have a sward of the following height structure at the beginning of March:

- 75% at a height of approximately 5cm
- 25% at a height of approximately 25cm

5.4.10 Grazing is only to be undertaken by sheep due to the damage cattle may cause to equipment A stocking density of between 0.5 – 1 Livestock units (LSUs) per hectare is recommended between late September and February. This is a typical stocking density for conservation grazing. However, the stocking density and timing of grazing will be at the discretion of the land manager, in order to achieve the desired sward structure given above. More animals could be used for shorter grazing periods.

5.4.11 Should sward height become a problem, with plants starting to shade lower levels of panels, a strip of no more than 1m wide can be cut at the base of panel to shorten sward height. This cutting can occur at any time and arisings will be either used to create habitat piles within the site or removed and disposed of at a registered facility. During breeding bird season, grass cutting must be to approximately 150-200mm height.

5.4.12 For more information on stocking levels, see guidance from the Lowland Grassland Management Handbook produced by Natural England.

## Long-term Management - Mechanical (Outside Solar Array)

5.4.13 A different seed mix, as well as mechanical cutting of the grassland established outside of the security fence, will create a different sward structure to the pasture, supporting different plants and invertebrates.

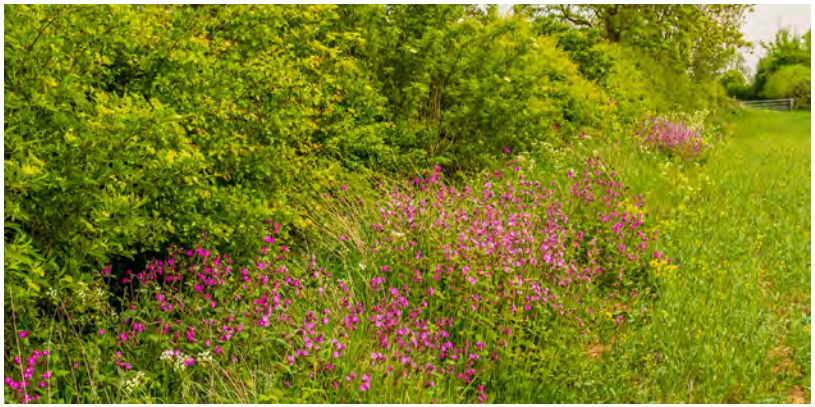
5.4.14 When mechanical cutting is used, one or possibly two cuts will be taken per year comprising an early cut in February (if necessary) to manage regrowth, and a second later in the season between August and September (each cut reducing sward to approximately 150mm). During breeding bird season, grass cutting must be to approximately 150-200mm height. No cutting will take place throughout the summer to allow the seeds of the later flowering species to fall prior to the cut.

5.4.15 Cutting should adopt a systematic method, i.e. working outwards to towards the boundary features, allowing fauna such as invertebrates, birds and small mammals to temporarily and safely vacate the area.

5.4.16 Exact dates will be dependent upon weather conditions. A phased (rotational) cutting regime is recommended, i.e. the entire area should not be cut at the same time, in order to allow for more structured grassland.

5.4.17 Cuttings should remain for 3-5 days allowing seeds to disperse. Arisings must then be removed to promote the development of a species-rich sward. These will be either used to create habitat piles within the site or removed from the site and disposed of at a registered facility.

5.4.18 Field margin grassland once established can be cut every few years to prevent scrub encroachments or excessive grass growth to create a tussocky species diverse edge habitat.



*Indicative image of grassland margins to site boundaries*

## 5.5 Ecology & Habitat

### Management Aim

- To extend and consolidate the hedgerow network for wildlife;
- To maintain and enhance potential commuting routes and foraging opportunities for badgers, bats, reptiles, otters, water voles and other small mammals;
- To maintain and enhance potential foraging habitats for badgers, bats, reptiles, birds, invertebrates and other small mammals;
- To maintain and increase potential shelter/hibernation/breeding provision for a range of species including bats, birds, hedgehogs, invertebrates and other small mammals.

### Management Objectives

- To safeguard, establish and maintain substantial ecological buffer zones to ecologically sensitive areas/features;
- To establish and maintain new species-rich hedgerows;
- To strengthen the hedgerow corridors via new hedgerow creation and in-fill planting;
- To establish and maintain species diverse grassland beneath the solar array and field boundaries;
- To ensure ecological corridors are protected and enhanced to increase foraging and commuting potential;
- To ensure that safeguarded existing and newly created habitats are managed appropriately to provide long-term biodiversity benefits for wildlife;
- To introduce new potential roost/ nest/ shelter sites for protected species; and
- To monitor the success of the management plan by undertaking monitoring of habitats and species.

### Monitoring

5.5.1 Monitoring arrangements will be put in place to ensure that the ecological aims and objectives of the landscape proposals are implemented fully and that they are successful. Where a change in the management of landscape / ecological features is required this will be discussed with the estate management company to agree revisions to the plan.

### Habitats

5.5.2 The landscape proposals entail the retention of the majority of existing hedgerows and valuable trees, alongside extensive new tree planting; new hedgerows and infill hedgerow planting; and botanically diverse grasslands. These proposals offer enhanced and additional habitats for a variety of wildlife including badgers, bats, reptiles, amphibians, birds, invertebrates and small mammals. As such, management and maintenance operations are required to ensure the longevity and diversity of these habitats, to further enhance and benefit this variety of wildlife. Management and maintenance is identified in Section 6 of this oLEMP.

### Habitat Piles

5.5.3 Any wood and grass removed during habitat management or other operations should be kept in habitat piles along the edge of hedgerows and near ponds to provide valuable invertebrate habitat and shelter for other species including small mammals/amphibians/reptiles. These should be placed in the same locations each year.

### Bird and Bat Boxes

5.5.4 All bird and bat boxes should have an external visual inspection to ensure they are intact, secure and clean, with signs of use also recorded. If damaged, boxes are to be replaced.

### Perimeter fence gaps/gates

5.5.5 Perimeter fence gaps/gates should be visually checked to ensure they are fully functional, maintaining unimpeded access/passing, with signs of use also recorded. If damaged, gaps/gates are to be replaced.

### Insect Hotels

5.5.6 Insect hotels should have an external visual inspection to ensure they are in good condition and serving their intended function, with signs of use also recorded. If damaged, insect hotels are to be replaced.

### Hedgehog Boxes

5.5.7 Hedgehog boxes should have an external visual inspection to ensure they are intact, secure and clean, with signs of use also recorded. If damaged, boxes are to be replaced. Note, boxes should not be opened November-February (temperature dependent) to avoid hibernating hedgehogs.

## 5.6 Swales

### Management Aim

- To maintain swales for successful on site water management; and
- To maintain swales as habitat features to provide foraging for wildlife.

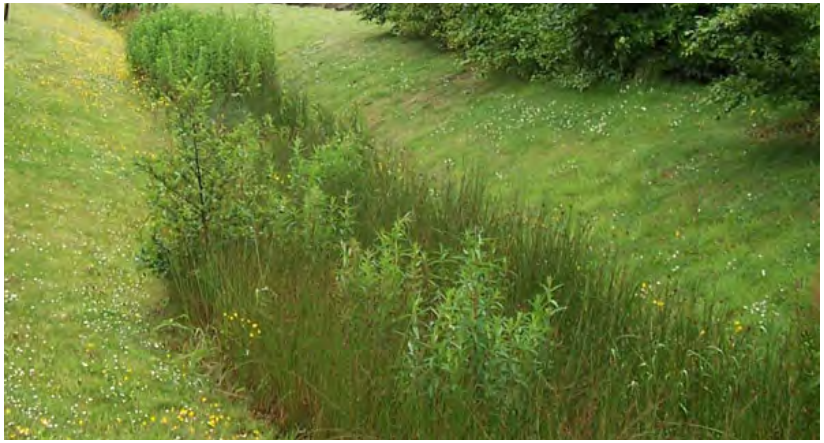
### Management Objectives

- To ensure swale water management capacities are achieved;
- To ensure grassland within the swales successfully establishes; and
- To control weeds / scrub invasion detrimental to usage.

5.6.1 Swales should be maintained according to best practice as set out in The SuDS Manual (C753). Grassland within swales shall be managed and maintained as per grassland elsewhere.

5.6.2 Due care will be taken when carrying out management and maintenance operations in and around swales. In line with CIRIA SuDS Manual C753 2015 (Section 32 Operation and Maintenance), slopes have been designed to comply with maximum gradient of 1:3. Maintenance of grass within swales is to be carried out using hand machinery such as push mowers. Appropriate training should be provided to encourage safe working practices on side slopes and should not take place during or immediately following periods of excessively wet weather.

5.6.3 Annual monitoring and evaluation of the risk assessment is to take place.



*Indicative image of swale*

## 5.7 Hard landscape – access tracks and boundary treatments

### Management Aim

- To present the visible indication of high quality, regular site maintenance.

### Management Objectives

- To keep hard landscaped areas free of debris, litter, graffiti & dog faeces;
- To keep weed colonisation at a minimum and acceptable level;
- To maintain hard landscaped areas in safe condition; and
- To maintain any seating, litter bins, signage and boundary treatments in good condition and replace if necessary.

5.7.1 Hard areas and boundary treatments will be regularly checked for subsidence, damage and vandalism and will be repaired at the earliest opportunity using the original specified material. Areas where damage poses a hazard to site users shall be cordoned off with bollards and high visibility tape until repair can be organised.

# 6 Schedule of Management, Maintenance and Monitoring

## 6.1 Establishment years 0-5

6.1.1 The schedule below sets out how the maintenance tasks for the management aims and objectives will be achieved for the establishment period of years 0-5 inclusive of the contract maintenance period that begins following practical completion.

6.1.2 Following final completion of the contractual works, the contractor will hand over the long term maintenance and ecological management to the clients appointed management company. The operations identified below will form the general requirements of the client appointed management company to ensure the continued successful establishment of the landscape scheme.

6.1.3 Attention should be paid to ensure that maintenance tasks are in line with any ecological restrictions on certain habitat types and areas, i.e. restricting disturbance of specific grassland habitats during bird nesting seasons, or restricting hedge cutting during bird nesting season.

TABLE 3: Establishment Years 0-5

| Ref | Planting type | Timing | Maintenance Task and Method |
|---|---|---|---|
| 6.1.4 | All planting areas | Every Visit | • Ensure continued healthy growth of all planted stock - water as required to ensure that the planting continues to establish successfully.<br>• Investigate any failed plant growth and take remedial action as necessary. |
| | | Monthly (or as required) | • Removal of rubbish and debris - clear litter and fly-tipped rubbish by hand and remove from site (avoid removing from swales/ditches/ponds during amphibian breeding season, March - June).<br>• Remove rubbish and debris from grass areas before mowing.<br>• Inspect for vandalism - visual inspection of all landscaping for vandalism, report to owner. On instruction, replace any landscaping damaged by vandalism. |
| | | Annually (or as required) | • Monitor, record and report any plant losses to owner - on instruction, remove dead plants and replace as per original approved specification (unless otherwise agreed to plant alternative species). Maintain to ensure survival. Re-planting to be undertaken in following planting season.<br>• Control vigorous plant species that are out competing less vigorous species.<br>• Control invasive species. Reduce/limit encroachment by hand and remove from site. |
| 6.1.5 | Trees - retained and newly planted | Monthly (or as required) | • Ensure trees are stable - visually inspect trees to check for signs of bark damage and general tree damage.<br>• Check that stakes, ties and guards are not too loose, too tight or broken: replace or upgrade as necessary. Remove and dispose of off site when no longer required.<br>• Monitor transplants to ensure healthy development - visual inspection of plants, if not stable/upright rectify by replanting in an upright position and re-firm, if plant remains unstable remove by hand and replace. Undertake for the first two years.<br>• Visual inspection for fungal activity (for trees this is to be performed by a qualified arboriculturist) - remove diseased wood or treat as appropriate. Keep use of pesticides to a minimum. Inspection to be undertaken March to October when trees are still in leaf. |

| TABLE 3: Establishment Years 0-5 | | | |
|---|---|---|---|
| Ref | Planting type | Timing | Maintenance Task and Method |
| 6.1.6 | Trees - retained and newly planted continued | Annually (or as required) | • Remove dead, damaged or dying branches as appropriate (avoid breeding bird season).<br>• Formative pruning of new trees to be in accordance with BS 3998 (2010). |
| | | Biennial (or as recommended) | • Check tree safety - identify hazards and carry out necessary maintenance works. A visual tree assessment is to be undertaken by a qualified arboriculturist of all new and existing tree planting, with instrumental back up where necessary. Any resulting tree works are to be carried out to BS 3998:2010 (avoid breeding bird season). Keep records up to date. |
| | | 3 to 5 years after planting (or as required) | • Confirm root growth is well established and remove shelters, stakes, guards and ties from trees and dispose of off site - to avoid damage cut shelters away then remove stakes<br>• Detailed condition survey for new trees - to be undertaken by a qualified arboriculturist at least once every 5 years, any recommendations to assist with establishment must be undertaken as soon as possible. |
| 6.1.7 | Hedgerow Planting - Retained and newly planted | Monthly (or as required) | • Check hedgerows for additional/new gaps, record and infill December - February. Plant replacement tall whips, of a species mix to match the hedgerow or to increase native diversity, in a suitably prepared soil bed. Ensure successful establishment and protect from trampling/use as a shortcut using temporary fence/guards.<br>• Keep hedgerow planting free from weeds - visually inspect bark mulch areas around planting and top up to 50mm depth, if required. Remove any weeds by hand, hoe or fork. Take care not to disturb shrub roots and excessive treading of bed surface. Do not use strimmers or herbicides in these areas - March to October. |
| | | Annually (or as required) | • Prune retained hedgerows to ensure a good shape and healthy growth and control future growth. Management to be undertaken September - February. Face up and top off no more than 1 year in 3 (leaving at least 2/3rds of hedges untrimmed each year), to ensure thick nesting cover is available annually for birds and also to boost the berry crop that often develops on second year growth. Established hedgerows will be cut between late September and February using a tractor mounted flail or by using tractor mounted circular saws to reshape and manage more mature overgrown hedges.<br>• Hedgerows shall be cut to max 3m high to ensure views into the site are filtered.<br>• Identify suitable growth in retained hedgerows to develop into frequent standard trees, maintain as per tree maintenance and management.<br>• Re-plant in an upright position and re-firm plants that suffer from wind-rock - January/February. |
| | | 3-5 Years after planting (or as required) | • Confirm root growth is well established and remove shelters, stakes, guards and ties from hedgerow transplants and dispose of off site - to avoid damage cut shelters away then remove stakes. |

| TABLE 3: Establishment Years 0-5 | | | |
|---|---|---|---|
| Ref | Planting type | Timing | Maintenance Task and Method |
| 6.1.8 | Grassland areas<br><br>Note: grassland within areas of archaeological sensitivity require a sensitive approach to management | Cutting Regime | • Always refer to the seed supplier's technical advice during the establishment phase and for long term management advice.<br>• During year 1/until sufficiently established, meadow grass and grazing seed mix areas shall be cut at regular intervals after seeding to promote a diverse species-rich sward.<br>• Year 2 onwards, meadow grass mix areas shall be managed to help develop a rich grassland with a varied structure. After flowering take a summer 'hay cut' (with a scythe, petrol strimmer, or tractor mower) to 150mm in September. This is to be repeated in Spring (late February) if needed.<br>• Once established, grazing seed mix areas around the solar panels will be managed by conservation grazing, in line with Lowland Grassland Management Handbook, Natural England.<br>• Grassland within swales is to be maintained as per regime applicable to grassland type (as above). For safety, hand machinery such as push mowers is to be used on side slopes and should not take place during or immediately following periods of excessively wet weather.<br>• Allow 'hay' to remain on-site for 3-5 days following the cut to allow seeds to disperse, and then to be removed to promote a species-rich sward. |
| | | Monthly (or as required) | • Keep grassland free from weeds - remove weeds and encroaching scrub by hand, hoe or fork, or mowing, as appropriate to prevent weeds from obstructing / damaging the solar panels. Undertake monthly from March to October, or as required.<br>• Scrub removal to be undertaken outside of the bird nesting season. |
| | | Annually (or as required) | • Keep grassland areas in good condition - check and report to client on damaged areas. On instruction repair damaged/failed areas and re-sow seed. Undertake aeration and thatch removal if required April or September.<br>• Maintain sward in optimum condition whilst enhancing biodiversity - allow low intensity grazing over a phased (rotational cutting regime, ensuring the entire area is not cut at the same time). Visual inspection to ensure stocking density is correct. Advise owner to reduce or increase if necessary. Only allow sheep to graze late September through to early March (subject to weather conditions). |
| 6.1.9 | Ecology and habitat features | Years 1, 3, 5 and 10 (in spring/ summer) | • Undertake an external visual inspection of each ecological feature to ensure they are intact, secured and in working order. Check for signs of use (external visual inspection) and record. Note if need to replace. |
| 6.1.10 | Hard landscaping | Monthly (or as required) | • Maintain all hard landscape elements (access tracks, footpaths, outdoor classrooms and boundary treatments) in a safe and clean condition - monitor and report to client on damaged areas/items and repair as instructed by the client. Repair using the original material/product to maintain the integrity of the design. Areas where damage poses a hazard to site users shall be cordoned off with bollards and high visibility tape until repair can be organised. |

## 6.2 Landscape Management Beyond Establishment - Years 6-40

6.2.1 The schedule below sets out how the maintenance tasks for the management aims and objectives will be achieved for the period beyond establishment from year 5 to 40. Attention should be paid to ensure that maintenance tasks are in line with any ecological restrictions on certain habitat types and areas, i.e. Restricting disturbance of specific grassland habitats during bird nesting seasons, or restricting hedge cutting during bird nesting season.

6.2.2 The maintenance tasks are indicative of the measures anticipated to be required, and should be reviewed as part of the review and monitoring measures to ensure the maintenance regime is still appropriate as the landscaping elements mature, thus this table should be seen as indicative and subject to review as the landscaping matures and evolves in line with best practice guidance and ecological trends.

6.2.3 As the planted stock grows, periodic reviews will continue to take place beyond the initial 5 year period up until 40 years. During this period, the operations highlighted within the adjacent table will continue to be necessary, however, their precise timing will become dependent on a programme of monitoring to ensure the appropriate maintenance operations are carried out at the appropriate time.

6.2.4 As per the monitoring section (section 6.3) periodic reviews should continue to take place beyond the establishment period for years 6-40 in order to check the structure and health of all trees to ensure they are maintained without posing a hazard. Annual reviews of trees, hedgerows and grassland areas should be carried out to identify any necessary remedial works and any works should be undertaken as necessary by a suitably qualified operative.

6.2.5 The cutting/grazing regime should continue as identified. If after year 5 species diversity has reduced with dominant weeds and/or invasive species, it may be necessary to over-seed.

**TABLE 4: Establishment Years 6-40**

| Ref | Planting type | Timing | Maintenance Task and Method |
|---|---|---|---|
| 6.2.6 | All landscaping areas | Monthly (or as required) | • Removal of rubbish and debris - clear litter and fly-tipped rubbish by hand and remove from site (avoid removing from swales/ditches/ponds during amphibian breeding season, March - June)<br>• Inspect for vandalism - visual inspection of all landscaping for vandalism, report to owner. On instruction, replace any landscaping damaged by vandalism. |
| | | Annually (or as required) | • Monitor and record any plant losses (or any new gaps within hedgerows) and report to developer - on instruction, remove dead plants and replace as per original approved specification, unless otherwise agreed to plant alternative species. Maintain to ensure survival. Re-planting to be undertaken in the next following planting season.<br>• Remove dead, damaged or dying branches as appropriate.<br>• Undertake weeding by hand, hoe or fork. Take care not to disturb shrub roots and excessive treading of bed surface. Do not use strimmers or herbicides in these areas - March to October.<br>• Control vigorous plant species that are out competing less vigorous species.<br>• Check all landscaped areas for invasive species e.g. self seeded sycamore, brambles, ground ivy and nettles. Reduce/clear by hand and remove from site. |
| 6.2.7 | Trees | Annually (or as required) | • Formative pruning of new trees to be in accordance with BS 3998 (2010).<br>• Visual inspection for fungal activity (for trees this is to be performed by a qualified arboriculturist) - remove diseased wood or treat as appropriate. Keep use of pesticides to a minimum. Inspection to be undertaken March to October when trees are still in leaf. |
| | | Biennial (or as recommended) | • Check tree safety - identify hazards and carry out necessary maintenance works. A visual tree assessment is to be undertaken by a qualified arboriculturist of all new and existing tree planting, with instrumental back up where necessary. Any resulting tree works are to be carried out to BS 3998:2010. Keep records up to date. |

| TABLE 4: Establishment Years 6-40 | | | |
|---|---|---|---|
| Ref | Planting type | Timing | Maintenance Task and Method |
| 6.2.8 | Hedgerows | Annually (or as required) | • Prune retained hedgerows to ensure a good shape and healthy growth and control future growth. Management to be undertaken September - February. Face up and top off no more than 1 year in 3 (leaving at least 2/3rd's of hedges untrimmed each year), to ensure thick nesting cover is available annually for birds and also to boost the berry crop that often develops on second year growth. Established hedgerows will be cut between late September and February using a tractor mounted flail or by using tractor mounted circular saws to reshape and manage more mature overgrown hedges.<br>• Internal field hedgerows shall be cut to a maximum of 3.0m high and site boundary hedgerows will be retained and maintained at a minimum height of 5.0m to ensure views into the site are filtered.<br>• Identify suitable growth in retained hedgerows to develop into frequent standard trees, maintain as per tree maintenance and management. |
| 6.2.9 | Grassland Areas<br><br>Note: grassland within areas of archaeological sensitivity require a sensitive approach to management | Cutting Regime | • Year 2 onwards, meadow grass mix areas shall be managed to help develop a rich grassland with a varied structure. After flowering take a summer 'hay cut' (with a scythe, petrol strimmer, or tractor mower) to 150mm in September. This is to be repeated in Spring (late February) if needed.<br>• Once established, grazing seed mix areas around the solar panels will be managed by conservation grazing, in line with Lowland Grassland Management Handbook, Natural England.<br>• Allow 'hay' to remain on-site for 3-5 days following the cut to allow seeds to disperse, and then to be removed to promote a species-rich sward. |
| | | Monthly (or as required) | • Keep grassland reasonably free from weeds - remove weeds and encroaching scrub by hand, hoe or fork, or mowing, as appropriate to prevent weeds from obstructing / damaging the solar panels. Undertake monthly from March to October, or as required.<br>• Scrub removal to be undertaken outside of the bird nesting season. |
| | | Annually (or as required) | • Keep grassland areas in good condition - check and report to client on damaged areas. On instruction repair damaged/failed areas and re-sow seed. Undertake aeration and thatch removal if required April or September.<br>• Maintain sward in optimum condition whilst enhancing biodiversity - allow low intensity grazing over a phased (rotational cutting regime, ensuring the entire area is not cut at the same time). Visual inspection to ensure stocking density is correct. Advise owner to reduce or increase if necessary. Only allow sheep to graze late September through to early March (subject to weather conditions). |
| 6.2.10 | Ecology and habitat features | Annually (or as required) | • Undertake an external visual inspection of each ecological feature to ensure they are intact, secured and in working order. Check for signs of use (external visual inspection) and record. Note if need to replace. |
| 6.2.11 | Hard landscaping | Monthly (or as required) | • Maintain all hard landscape elements (access tracks, footpaths, outdoor classrooms and boundary treatments) in a safe and clean condition - monitor and report to client on damaged areas/items and repair as instructed by the client. Repair using the original material/product to maintain the integrity of the design. Areas where damage poses a hazard to site users shall be cordoned off with bollards and high visibility tape until repair can be organised. |

## 6.3 Monitoring and Review

6.3.1 The below table sets out how the monitoring and review processes. The development of the biodiversity interest within the site will be monitored over time by a suitably experienced ecologist as set out in the below to ensure the biodiversity enhancements and ecological enhancement measures are upheld during the operational phase of the scheme

| TABLE 5: Monitoring and Review | | | |
|---|---|---|---|
| Ref | Task | Timing | Maintenance Task and Method |
| 6.3.2 | Landscape management | As necessary | • Monitor comments/suggestions from users - feedback comments to client and respond as instructed and incorporate into oLEMP as required. |
| 6.3.3 | oLEMP review | As necessary | • Suitably experienced ecologist to undertake a review of habitat / landscape establishment and quality, to inspect and sign-off the completion of the various enhancement measures. A report to be prepared for the client and LPA with recommendations for active management as required and incorporate into oLEMP as required. |
| 6.3.4 | Monitoring ecological Walkover | Year 1, 3, 5, and 10 | • Suitably experienced ecologist to undertake inspection of hedgerows, trees, grassland and any other ecological features to ensure that they are being managed in a manner suitable for the enhancement of wildlife interest. This will include checking the bird and bat boxes. The results of this monitoring survey will be used to inform future changes in management that will then be updated within this oLEMP as necessary. |

# 7 Restoration and Decommissioning

7.1 Compared to other power generation technologies, solar installations can be easily and economically decommissioned and removed from the site at the end of their economic life (or planning permitted period) with the site returned to its original condition (or proposed restoration status), with the aim being that there would be little or no trace that the solar installation had existed following decommissioning.

7.2 There are several aspects involved with the decommissioning phase. The main activities are set out below.

- Panel removal: panelling is unfixed from mounts and then removal to a authorised recycling facility (registered and licenced);
- Support and foundations: solar panels shall be removed via the unscrewing of the arrays from the mounting frames, with the removal of the mounting frame horizontal poles and the removal of the piles from the ground using a tracked pile driver. Where no supporting concrete foundations are used, these can be easily mechanically extracted from the ground and removed for recycling to a registered / licenced facility;
- Electrical equipment: cabling shall be dug up out of the ground and removed, along with all ancillary structures. The disconnection and removal (by opening and pulling from one end of a single trench) of all cabling buried less than 1200mm below ground level shall be the preferred option. Should cabling be required to be dug out, the appropriate machinery should be used to dig a trench along the cabling route to facilitate its removal. The inverter and transformer housing is removed using a crane. The prefabricated concrete slab upon which they are supported can be either lifted or broken up in situ and removed. Material arisings will be removed for recycling to an appropriate facility; and
- Fencing: this is very easily removed from the ground and transported off site; again, materials and concrete foundations will be removed for recycling.

## Protection of landscape elements and ecology

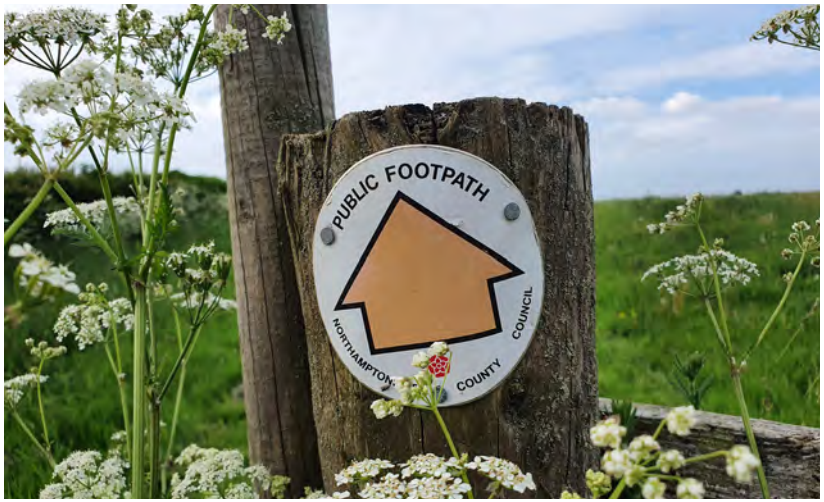
7.3 The solar array will be decommissioned at the end of lifespan of development panels and returned to agricultural land. It is not known what the ecological value of the site will be at this point, but if the oLEMP is followed it seems likely that the habitat within the area will be considerably more ecologically diverse than at present and protected species may be present within the area.

7.4 Areas of ecological value shall continue to be managed for this purpose during the decommissioning and restoration period.

7.5 Prior to the decommissioning works, any landscape elements such as hedgerows, trees, and areas of habitat should be reviewed (by suitably qualified professionals) to confirm whether any protection measures are required. This includes licences for protected species that may be required relevant environmental organisation, or relevant planning approvals.

7.6 Pre-decommissioning ecological surveys will be required in line with guidance, legislation and planning policy available at the point of decommissioning, to ascertain the nature of ecological impacts and what, if any, mitigation measures will be required. A full mitigation plan will be prepared and submitted to the LPA prior to decommissioning.

7.7 Commitment to decommissioning and restoration will also be made a planning condition as required by the LPA Ecologist.




*Indicative image of public right of way signage*

## Public Right of Way

7.8 PRoWs that runs through the site shall be respected during the decommissioning works, with appropriate health and safety signage warning users about the decommissioning works. Access tracks that dissect PRoWs shall be removed according to the original PRoW surface treatment.

## Timeframe

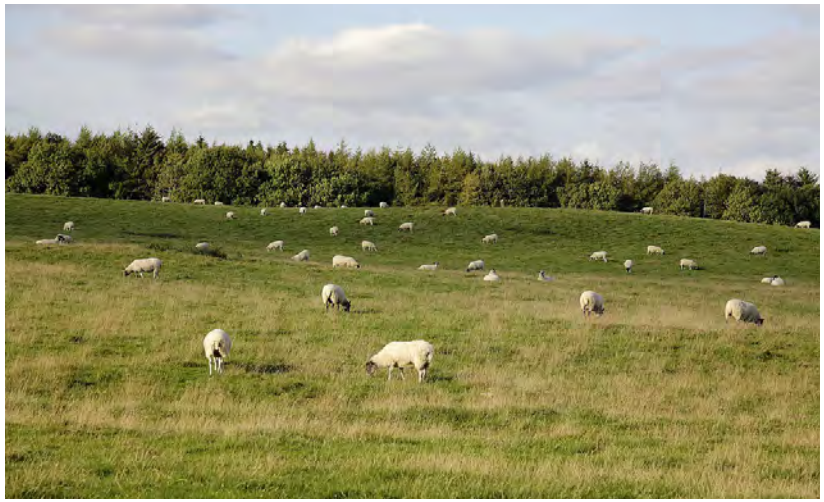
7.9 Site decommissioning will take place over a period of no more than six months following the cessation of electricity generation, subject to LPA consultation and requirements.

7.10 All works to decommission the site should be undertaken in optimum ground / weather conditions to help reduce the impact of the groundworks and limit the remedial works.

## Restoration of ground

7.11 The ground shall be made good to allow for re-seeding and / or agricultural use to help ensure the soil profile is retained as per the soil management plan/ecology specification. It should be considered that prior to decommissioning the seedbank from the grassland within the site could be harvested or collected via the green hay method so the seedbank can be used for restoration of the site.

7.12 A detailed specification shall be produced for the making good of the landscape elements prior to the decommissioning and shall be undertaken in association with the relevant British Standards and best practice guidance of the time.



*Indicative image of potential restored landscape*

# 8 Appendix 1 – Landscape Strategy

KEY

EXISTING SITE FEATURES & CONSTRAINTS

- Site boundary
- Land ownership boundary
- Existing access track
  - to be made good as required to serve access purposes
- Vegetation to be retained
  - hedgerows within leased land currently taller than 4m height shall be managed to maintain current height
  - hedgerows within leased land currently shorter than 4m height shall be managed grow up to and be maintained at 3-4m height
  - hedgerows outside of leased land are out of applicants control
  - root protection area indicated by pink dashed line
- Vegetation subject to tree preservation order (TPO)
- Ancient woodland
- Vegetation to be removed
  - short lengths of hedgerow removed to accommodate construction of fences and access tracks
  - where removed to accommodate fence construction, hedgerows shall be allowed to grow back up and be maintained around fence line
- Area containing invasive, non-native flora species
- Areas suitable for skylark breeding
- Overhead power lines
- Underground power lines
- Telecommunication routes
- Water mains
- Gas mains
- Watercourse
- Scheduled monument
- Area of built heritage setting sensitivity
- Area of below ground archaeological sensitivity
  - black dashed line indicates indicative heras fence perimeter (construction phase only)
- Flood zones
- 7m watercourse easement
- Public right of way - footpath

PROPOSALS

- Cable connection route
- Permissive bridleway (horse and pedestrian access)
- Permissive footpath
- Temporary construction compounds
- Substation & associated infrastructure
- Inverter & distribution board station
- Solar panel
- CCTV camera
- Fencing
  - to solar compounds and associated gates
- Access track
  - for operation and maintenance use only
- Swale
- Piped connection
- Native woodland
  - native transplant shrub and feathered, light standard and selected standard tree mix, to be managed to allow to grow up to and be maintained at min 6m height
- Native hedgerow tree
  - planted within proposed / alongside existing hedgerows
- Orchard tree
  - species selected for their local provenance/heritage
- Native hedgerow
  - to be managed to allow to grow up to and be maintained at 3-4m height
- Wildflower meadow suitable for grazing
  - ie. Emorsgate EM2 General Purpose Meadow Mixture, or similar
- Tussocky meadow
  - ie. Emorsgate EM10 Tussock Meadow Mixture, or similar
- Coastal and Floodplain Grazing Marsh
  - ie. Emorsgate EM8 Meadow Mixture for Wetlands, or similar
- Organic set-aside

NOTES:

-Panels offset from proposed and existing trees to avoid impacts upon them (including mature height overshadowing); trees within site will be monitored and if required pruned accordingly to prevent overshadowing



Sht 1

Sht 2

N

0 100 200 m

# CANDWR SOLAR FARM – INDICATIVE LANDSCAPE STRATEGY

| PEGASUSGROUP.CO.UK | TEAM/DRAWN BY: IBD | APPROVED BY: IBD | DATE: 18/06/2026 | SCALE: 1:2000@A0 | DRWG: P24-2075_EN_032-1C | CLIENT: CANDWR SOLAR FARM LIMITED |

PEGASUS GROUP

Sht 1

Sht 2

## KEY

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- Area containing invasive, non-native flora species
- Areas suitable for skylark breeding
- Overhead power lines
- Underground power lines
- Telecommunication routes
- Water mains
- Gas mains
- Watercourse
- Scheduled monument
- Area of built heritage setting sensitivity
- Area of below ground archaeological sensitivity
  - black dashed line indicates indicative heras fence perimeter (construction phase only)
- Flood zones
- 7m watercourse easement
- Public right of way - footpath

**PROPOSALS**

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- Permissive bridleway (horse and pedestrian access)
- Permissive footpath
- Temporary construction compounds
- Substation & associated infrastructure
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| PEGASUSGROUP.CO.UK | TEAM/DRAWN BY: IBD | APPROVED BY: IBD | DATE: 18/06/2026 | SCALE: 1:2000@A0 | DRWG: P24-2075_EN_032-2C | CLIENT: CANDWR SOLAR FARM LIMITED |

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