Steeple Project Renewables

Outline Landscape Ecology Management Plan

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Outline Landscape Ecology Management Plan

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Steeple Renewables Project

Outline Landscape Ecology Management Plan (OLEMP)

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Contents

1 Introduction

Background and purpose of OLEMP

1.1 BSG Ecology was appointed by Steeple Solar Farm Limited to provide an Outline Landscape Ecological Management Plan (OLEMP) for the Steeple Renewables Project. This document also includes information suitable for an Outline Habitat Management and Monitoring Plan (HMMP), but is referred to under the umbrella term 'OLEMP'.

1.2 The purpose of this document is to provide a framework that outlines the proposed habitat establishment, management and monitoring requirements for the Steeple Renewables Project, which can be used as a basis to develop the final LEMP prior to development. This OLEMP forms part of the development consent order (DCO) application. It is anticipated that the preparation of the final LEMP will be a requirement of the DCO. The management period considered in the OLEMP and in the final LEMP will be 40 years.

1.3 The site of the Steeple Renewables Project (the Site) is described in Section 2 of this document.

1.4 The OLEMP is relevant to the commitments to achieve biodiversity gain[1] and the provision of landscape and ecology mitigation for certain ecological impacts resulting from the Steeple Renewables Project.

1.5 This OLEMP should be read in conjunction with the following documents:

- ES Volume 3, Figure 6.9 Outline Landscape Mitigation Strategy [EN010163/APP/6.4.6].
- Appendix 4.1 - The Outline Construction Environmental Management Plan (OCEMP) [EN010163/APP/6.3.4].
- Appendix 4.2 - The Outline Decommissioning Plan (ODP) [EN010163/APP/6.3.4].
- ES Chapter 7 - Ecology and Biodiversity [EN010163/APP/6.2.7] and:
    - Appendix 7.12 Biodiversity Net Gain [EN010163/APP/6.3.7].
    - Appendix 7.13 Skylark Mitigation Strategy [EN010163/APP/6.3.7].

OLEMP structure

1.6 The following guidance has been used in the preparation of this OLEMP:

- A Guide to Management Planning (Alexander, 2005).
- The Proposed Development does not require a mandatory HMMP Checklist or template, as published by Natural England and Defra 2024[2], to be provided. However, the principles of this checklist have been considered in the preparation of this OLEMP.
- HMMP Companion Guide (Natural England and Defra, 2023).
- Statutory Biodiversity Metric User Guide (Natural England, 2024a) specifically relating to terminology used in this LEMP for assigning existing and projected habitat condition i.e. poor, moderate and/or good condition.

1.7 The content of the OLEMP is structured as follows:

- Section 1 provides the introduction and background to provide context for the OLEMP.
- Section 2 provides a general description of the Site's proposed habitat creation and enhancement areas with reference to Figures, as appropriate.
- Section 3 outlines the landscape design principles to be applied.

[1] Noting that Nationally Significant Infrastructure Projects are not currently required to deliver a 10% mandatory biodiversity gain under the provisions of the Environment Act (2021) .
[2] Habitat Management and Monitoring Plan Template - JP058 (naturalengland.org.uk)

- Section 4 describes features of ecological value which subsequently become Management Features.
- Sections 5 to 18 outline the main Management Features, which include indicative objectives, and creation and / or management projects and monitoring for each of these features.
- Section 19 provides an outline of the roles and responsibilities and includes information about funding and the legal mechanism for delivery, monitoring reporting and review of the OLEMP / final LEMP.
- Section 20 of the final LEMP will provide an Action Plan once all the actions necessary have been agreed. The Action Plan does not appear in this OLEMP. The Action Plan will summarise all management and monitoring projects and indicate the timing of actions and the years in which they are to be carried out.

1.8 Annex 1 provides summaries of policy, legislation and other instruments that are relevant to the ongoing monitoring and management of the landscape.

Habitat terminology

1.9 The habitat terminology used in this report reflects the habitat types identified in the ES Volume 3, Figure 6.9 Outline Landscape Mitigation Strategy [EN010163/APP/6.4.6]. However, the Biodiversity Gain assessment (Appendix 7.12 Biodiversity Net Gain [EN010163/APP/6.3.7]) makes use of the UK Habitat Classification for habitat terminology. This OLEMP has adopted use of the UK Habitats Classification terminology as a secondary descriptor of the habitat where appropriate, to enable comparison with the terminology used in Appendix 7.3 - Habitat Report [EN010163/APP/6.3.7] and Appendix 7.12 Biodiversity Net Gain [EN010163/APP/6.3.7].

1.10 Three key habitats that have the secondary descriptors are: 'species-rich grassland' which will be managed as 'other neutral grassland' as defined in the UK Habitat Classification, 'seasonally wet meadow', which will also be managed as 'other neutral grassland'[3], and 'grassland', which is classed as 'modified grassland' under the UK Habitat Classification.

Exclusions

1.11 The OLEMP does not include provisions for management or monitoring of what are classed as "urban habitats" in the Statutory Biodiversity Metric, and that have low or very low habitat distinctiveness (for example artificial or sealed surfaces, ruderal/ephemeral vegetation or bare ground). These "urban habitats" will not be subject to targets and do not contribute to the biodiversity value of the Site. However, modified grassland and arable cropland, which are also low distinctiveness habitat, make up a significant proportion of the proposed semi-natural landscaping, and are included because of their extent on the Site.

1.12 Some areas of the Site will not be under the long-term control of the solar farm operator so have been excluded from this OLEMP – refer to section 2: ownership and tenure for further details.

1.13 The OLEMP does not include detail of mitigation related to construction or decommissioning. Relevant measures are considered within the OCEMP and ODP.

About the authors

1.14 This OLEMP has been prepared by Emily McVean MCIEEM. Emily is a Senior Ecologist at BSG Ecology and has 14 years of experience in ecological and environmental consultancy. Emily has prepared and contributed ecological information to numerous consented development site management plans typically Construction and Environmental Management Plans (CEMP), Landscape and Ecological Management Plans (LEMP), Habitat Management and Monitoring Plans (HMMP) both prior to and following the biodiversity gain mandate coming into force; as well as

[3] The seasonally wet meadow term applies to the attenuation basins, which will be managed as grassland as the basins will be dry for most of the year. However, the basins have been assigned the habitat 'sustainable drainage system' in the Biodiversity Gain Assessment, to reflect their function in that assessment – but will nevertheless be seeded and managed as 'other neutral grassland' habitat.

Ecological Management and Monitoring Plans (EMMP). Emily prepared the biodiversity (net) gain assessment for the Steeple Renewables Project and has been involved in the ecological mitigation design for the Steeple Renewables Project throughout all phases of the design process.

1.15 This OLEMP has been reviewed by Daniel Foster MCIEEM (Principal Ecologist) and Jim Gillespie MCIEEM (Director). Daniel and Jim have a respective 19 and 35 years' professional ecological experience. Emily, Dan and Jim from part of the Steeple Renewable Project Consultant Team, providing the lead on ecological assessments and reporting.

2 Site Description

Location

2.1 The Site extends to approximately 888 hectares (ha) and comprises primarily large arable fields with boundary hedgerows and individual trees. The Site is located around Sturton le Steeple (as shown on Figure 1.1 Site Location Plan [EN010163/APP/6.4.1]) in a rural landscape characterised by agricultural land with occasional villages and individual properties. West Burton Power Station is adjacent and to the north of the Site, and the River Trent bounds the Site to the east. Agricultural land is located to all aspects of the Site.

Ownership/tenure

2.2 The organisation responsible for the majority of the habitat creation, enhancement, management and monitoring will be Steeple Solar Farm Limited or appointed solar farm operator. Within the Site boundary, there are areas of land under the management control of third parties which are excluded from this OLEMP, and these include:

- West Burton Power Station. The area the existing 400kV substation will continue to be managed by National Grid/EDF renewables or subsequent land operator.
- Sturton le Steeple Quarry Access Road.
- Railway Land.
- Local adopted highways. Sections of Wheatley Road; Station Road; Gainsborough Road, and Wood Lane in the northwestern potion of the Site; and Littleborough Road, and Common Lane, in the eastern portion of the Site. These will continue to be managed by the local highways authority (Nottinghamshire County Council).
- Existing ditches/drains/rivers will continue to be managed as they are by the current operators, as agreed by the various stakeholders (such as the Environment Agency, Lead Local Flood Authority, and Internal Drainage Board). No change to management is proposed as a result of the Sturton Renewables Project. Refer to section 12, which describes Feature 8: Ditches for further information.

Public rights of way

2.3 Numerous Public Rights of Way (PROW) and permissive paths intersect the Site and are shown on Figure 6.9 Outline Landscape Mitigation Strategy [EN010163/APP/6.4.6]. The maintenance of these has been considered in relation to their influence on habitat condition, for example greater hedgerow cutting frequencies may be needed adjacent to PROW, but management prescriptions for the PROW have not been specified, as they do not have their own ecological objectives.

Habitats

2.4 The predominant habitat is arable cropland on large open fields bound by native species hedgerows, with associated grassland field margins, or drainage ditches. A small number of fields are managed as permanent pasture (near the River Trent, in the north of the Site, and in the southwest of the Site) or were grassland ley at the time of the surveys. Several notable habitats are also present and will be retained within the Site:

- Traditional orchard - Habitat of Principal Importance (HPI).
- Deciduous woodland - HPI; Local Biodiversity Action Plan (LBAP) (for oak-birch woodland).
- Coastal and Floodplain Grazing Marsh (CFGM) – HPI.
- Hedgerows - HPI; LBAP (for species-rich or ancient hedgerows).
- Arable fields – LBAP.
- Arable field margins - HPI; LBAP.

- Improved grassland – LBAP.
- Eutrophic Standing water - HPI, LBAP.
- Rivers and streams – LBAP.

Protected and otherwise notable species

2.5 A summary of relevant protected and notable species is listed in Table 1.

Table 1: Protected and Otherwise Notable Species of Potential Relevance to the Site

Taxa	Legal / Policy Framework	Status at the Site
Bats	Bats are European Protected Species protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and under the Wildlife and Countryside Act 1981 (as amended).	Trees and structures with bat roost suitability will be retained. The Site is considered to support suitable habitat for foraging and commuting bats. Eight species of bats make use of the Site. The most prevalent species is common pipistrelle *Pipistrellus pipistrellus*. Woodlands, hedgerows, dense scrub, waterbodies and watercourses provide more suitable bat foraging and commuting habitat
Great crested newt	Great crested newt are European Protected Species protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and under the Wildlife and Countryside Act 1981 (as amended), and a Species of Principal Importance under Section 41 of the NERC Act 2006.	Great crested newt is known to be present in the landscape but have not been identified on Site. No populations of great crested newts were found to be present within the Site. There are off-site populations in the local area, including at West Burton Power Station to the north.
Reptiles	All British reptiles are protected from intentional killing, injuring and sale under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).	Observations of grass snake have been made on site. It is anticipated that reptiles are likely to be present in suitable habitat such as ditch banks and field margins.
Badger	Badger is protected under the Protection of Badgers Act 1992 The Wild Mammals (Protection) Act 1996 (as amended) includes provisions to protect wild mammals and avoid intentional suffering.	Badgers are present across the Site.
Birds	All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs.	The Site supports a range of breeding and wintering birds, typical of agricultural land in the region. Most breeding bird species were associated with field boundary hedgerows, trees, scrub and woodland. Ground nesting birds (skylark, lapwing and yellow wagtail) were also recorded.

Taxa	Legal / Policy Framework	Status at the Site
		Overwintering bird activity was observed close to the River Trent, particularly the wetland and adjacent farmland habitats. The wetland area supported a greater species diversity and higher numbers of birds than other areas of the Site, typically waders and waterbirds but also hunting birds of prey.
Barn owl / Schedule 1 birds	Barn owls have been recorded in mature trees and buildings. Barn owls have additional protection under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).	Buildings and trees that are suitable for barn owl exist on Site. Field margins provide foraging opportunities.
Otter and water vole (riparian mammals)	Otters are European Protected Species protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and under the Wildlife and Countryside Act 1981 (as amended). Water voles are protected under section 9 of the Wildlife and Countryside Act 1981 (as amended), and Schedule 5 of this Act makes it an offence to intentionally damage or obstruct access to their burrows.	The evidence suggests that otter occasionally pass through the Site along the drains, and potentially overland in some areas, most likely as part of a wider territory associated with the River Trent. It is considered possible that water vole may be present at very low densities within the watercourses.
Dormouse	Dormouse are European Protected Species protected under the Conservation of Habitats and Species Regulations 2017 (as amended) and under the Wildlife and Countryside Act 1981 (as amended).	Dormouse are currently considered to be absent from the Site, but there is some potential for dormouse to colonise in the long-term from off-site populations.
Other mammals	Hedgehogs *Erinaceus europaeus*, brown hare *Lepus europaeus*, and harvest mouse *Micromys minutus* are Species of Principal Importance under Section 41 of the NERC Act 2006.	Scrub, woodland and grassland offer suitable foraging and resting habitat for hedgehogs. No signs of hedgehog were recorded onsite. Other notable mammals include brown hare, which was recorded across the Site. Evidence of harvest mouse was also noted in low densities in field margins. These species are considered to be present across the Site in appropriate habitat.
Aquatic Invertebrates	Some invertebrate species are Invertebrate species listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), some are also listed under Section 41 of the NERC Act 2006.	The ditches on Site are considered to support moderate aquatic invertebrate diversity. The Mother Drain and Thornhill Drain in the Eastern Biodiversity Mitigation Area are considered to support nationally near threatened and scarce species of water beetle/bug.
Terrestrial Invertebrates	See terrestrial invertebrates above.	The terrestrial invertebrate assemblage on Site is considered to be typical of cropland sites.

Taxa	Legal / Policy Framework	Status at the Site
Invasive non-native species	It is an offence to allow species listed under Schedule 9 of the Wildlife & Countryside Act 1981 (as amended) to spread in the wild.	During the field surveys on the Site, Canadian waterweed *Elodea canadensis*, was observed within Mother Drain in the east of the Site.

Geology, topography and drainage

2.6 The Site mostly is on 'slightly acid loamy and clayey soils with impeded drainage', as shown on the LandIS web application[4]. The east of the Site includes a mix of 'naturally wet very acid sandy and loamy soils', and the Eastern Biodiversity Mitigation Area includes an area of 'loamy and clayey floodplain soils with naturally high groundwater' by the River Trent. The land generally slopes with an easterly aspect down to the River Trent, with the western areas of the Site having generally higher elevation and more local undulations and river valleys that result in southerly slopes. The highest ground is ca. 65m above sea level (ASL) in the Western Biodiversity Mitigation Area, lowering to ca. 4m ASL in the Eastern Biodiversity Mitigation Area.

2.7 Selected areas of the Site proposed for species-rich grassland creation will be subject to soil sampling prior to commencement of works. The samples will be analysed to understand their nutrient content and what ground / soil preparation interventions may be needed to enable wildflower diversity in the species-ich grasslands.

Landscape character

2.8 The Site is in the Trent and Belvoir Vales NCA: *"The Trent and Belvoir Vales National Character Area (NCA) is characterised by undulating, strongly rural and predominantly arable farmland, centred on the River Trent. A low-lying rural landscape with relatively little woodland cover, the NCA offers long, open views. Newark-on-Trent (generally referred to as Newark) lies at the centre with Grantham, Nottingham, Lincoln and Gainsborough on the peripheries. The southern and eastern edges of the Vales are defined by the adjoining escarpments of the Lincolnshire Edge and the Leicestershire and Nottinghamshire Wolds NCA. To the west, the escarpment of a broad ridge of rolling landscape defines the boundary with the neighbouring Sherwood and Humberhead Levels NCAs. The area's generally fertile soils and good quality agricultural land have supported a diversity of farming over a long period but, because of this, little semi-natural habitat remains. The powerful River Trent and its flood plain provide a strong feature running through the landscape. It is the greatest biodiversity resource, being a major corridor for wildlife moving through the area and supporting a variety of wetland habitats. It also provides flood storage as well as large amounts of cooling water for local power stations."* (Natural England, 2025).

Designations

2.9 The Site is not subject to any statutory wildlife designations. The following Local Wildlife Sites (LWSs), which are non-statutory designations, are present at the Site (refer to Appendix 7.2 - Designated sites [EN010163/APP/6.3.7] for further information):

- Blue Stocking Lane, Clarborough LWS – notified for its botanical interest.
- High House Road Verges, Sturton le Steeple LWS – notified for its grassland verges
- Mother Drain, Upper Ings LWS – notified for its aquatic invertebrate assemblage.
- Thornhill Lane Drain, Littleborough LWS – notified for its aquatic invertebrate assemblage.
- Littleborough Lagoons LWS – notified for its bird and botanical assemblage.

[4] LandIS - Land Information System - Soilscapes soil types viewer

3 Summary of Landscape and Ecology Strategy

3.1 Consideration of the landscape has been an important element in the development of the proposals at the Site. Landscape and visual input has been provided throughout the iterative design process and has had regard to relevant policy context, published landscape character assessments and on-site observations of the landscape by the project landscape architects (Pegasus).

3.2 The overall objective of the landscape design has been to integrate the Proposed Development into its landscape context in an appropriate manner and to avoid or minimise adverse landscape and visual effects as far as practicable, and to provide appropriate habitats for flora and fauna. This has been achieved by a combination of the retention of existing landscape features, such as woodland, trees and hedgerows, combined with the inclusion of appropriate offsets from visual receptors and the provision of new planting to both screen views from important visual receptors and also complement the existing landscape features and pattern.

Relationship with existing habitats

3.3 Existing habitats or features of value to biodiversity or the landscape have been identified and will be retained and enhanced where possible. The layout of the Proposed Development has been designed to minimise the loss of existing vegetation. The existing hedgerow network that defines the scale and pattern of fields would be retained, other than where necessary facilitate access, as would all existing blocks of woodland and individual trees. Other notable habitats to be retained include watercourses, orchard, woodlands, ponds and a lake. A schedule of proposed buffers to these habitats is provided in ES Chapter 7 - Ecology and Biodiversity [EN010163/APP/6.2.7]. This will retain habitat for protected / notable species, and ensure retention of habitat connectivity through the Proposed Development and the local landscape. Relationship with nearby residential properties and settlements

3.4 It was recognised at the outset that it would be important to provide appropriate offsets between the built elements of the Proposed Development and nearby residential properties and settlements. As such, a minimum of 100m offset between all properties and the built elements of the Proposed Development has been provided within the final proposals. For many properties, including within the nearby settlements, the offset would far exceed this distance, further serving to minimise potential effects. In addition to the offsets, planting has been provided which would further reduce the potential for visibility of the Proposed Development from many of the properties as it begins to mature.

Relationship with public rights of way network

3.5 It was recognised at the outset that it would be important to provide appropriate offsets between the built elements of the Proposed Development and the Public Rights of Way (PRoW) which run within and adjacent to the Site, including the Trent Valley Way long distance route. As such, a minimum of 7.5m offset between all PRoW and the built elements of the Proposed Development has been provided within the final proposals. This is the distance to the fence at the edge of the built development, with the panels or other built development generally at least a further 3m beyond the fence. For any routes which pass through the Site the offset would be applied in both directions, in order to ensure the route runs within a wider corridor. In many cases, existing hedgerows line the routes. These hedgerows will be allowed to grow out to a height of at least 3m to aid with screening of the Proposed Development. Where there are gaps in the hedgerows, or sections are missing, the planting strategy includes for the addition of these to bolster the existing network.

New planting and habitat creation

3.6 This strategy aims to deliver habitats that are locally appropriate to the area, with consideration to habitats listed in the Nottinghamshire LBAP, the Trent and Belvoir Vales NCA, or observed locally during habitat surveys. The habitats will be suitable for the soil conditions and topography and comprise native species that are typical of the area.

3.7 Habitats will be created to maximise biodiversity where appropriate, and managed and monitored to ensure they meet their intended function and ecological condition. Where the habitats are not

meeting their intended function or ecological condition, the management measures will be amended to respond to the monitoring findings

3.8 The Proposed Development includes some individual native hedgerow tree planting, orchards and small woodland copses. However, the visual mitigation elements largely comprise of a combination of new hedgerow planting and hedgerow management. This would involve growing the existing hedgerows out to 3m height and then their continued maintenance at 3m and planting new native hedgerows, (where boundaries are currently open, either fully or in part, including gapping up and repairing existing hedge lines).

3.9 Figure 6.9 Landscape and Ecological Mitigation Strategy [EN010163/APP/6.4.6] shows the existing hedgerow resource across the Site and sets out the intended locations of new planting. At detailed design stage the species profile of the existing hedgerows would be used to formulate a proposed native hedgerow mix that is responsive to the site character and conditions. Hedgerow vegetation is likely to be specified at 60-80cm height (bareroot transplants) to maximise establishment rates. Hawthorn and blackthorn is likely to form the bulk of the mix at up to 60% with the other key occurring species making up the remaining 40%.

4 Selection of Management Features

4.1 In line with the guidance provided in the Countryside Management System Guidelines (Alexander, 2005), the existing and relevant target / potential nature conservation interests at the Site are consolidated into a list of Management Features and associated objectives:

'Management planning for nature conservation requires a focus. In theory, it might be possible to write a single, all-encompassing objective for an entire site. In practice, this would be an unwieldy statement, so complex that it is unlikely we would be able to recognise, or deal with, the detail.'

'The approach adopted is to identify a range of the most important features and use these as a focus for the entire plan'.

4.2 The selection of Management Features is based on knowledge of the main nature conservation interests of the Site, and the projected vision for the long-term management of the Site. The location of the features for creation / enhancement and subsequent management will be identified in the Final LEMP (to be provided following grant of consent) but indicatively, the features are shown in Figure 6.9 Outline Landscape Mitigation Strategy [EN010163/APP/6.4.6]. The identified Management Features are listed below, and then the justification for their selection is set out in more detail in subsequent sections together with relevant management and monitoring requirements:

- Feature 1: species-rich grassland and seasonally wet meadow . i.e. other neutral grassland
- Feature 2: grassland i.e. modified grassland
- Feature 3: mixed scrub
- Feature 4: woodland
- Feature 5: hedgerows
- Feature 6: individual trees
- Feature 7: ponds
- Feature 8: ditches and rivers
- Feature 9: traditional/community orchard
- Feature 10: floodplain grazing marsh
- Feature 11: arable land
- Feature 12: hibernaculum/refuge for amphibians and reptiles
- Feature 13: artificial bat roosting/bird nesting features
- Feature 14: invasive weeds

Structure for management feature entries

4.3 Having identified fourteen Management Features, and the areas in which they are located, sections 5 to 18 of this document describe management objectives for each feature, together with a series of habitat creation, enhancement, management and monitoring projects that are recommended to enable the successful delivery of these objectives. The key terms used are defined in the following paragraphs.

Management objective

4.4 The management objectives will be defined through a group of descriptions relating to the state of each feature and how it will be attained. It includes the following:

- *Management Vision*: A description of a feature in favourable condition in the short to medium term.

- *Targets*: Targets will be linked to the management vision and the target habitat condition, with refence to the Biodiversity Gain Assessment condition criteria (Natural England, 2024b). The targets provide the evidence required to determine whether the target condition is being met, and allow progress to be monitored.
- *Current Status*: This will provide a summary of the current status of each feature.

Habitat creation, enhancement, management and monitoring projects

4.5 The following definitions of habitat creation, enhancement, management and monitoring are used:

- *Habitat creation* is the work required to create new habitat where it does not currently exist (such as creation of new woodland).
- *Habitat enhancement* relates to habitats retained in the Site and habitat enhancement to higher distinctiveness / condition (such as enhancement of existing hedgerow).
- *Management projects* are measures put forward to help achieve the desired / target management vision of created and enhanced habitats.
- *Monitoring projects* allow progress against the vision to be charted, and if appropriate, inform refinement of management projects to deliver desired / target biodiversity outcomes.

5 Feature 1: Species-Rich Grassland And Seasonally Wet Meadow . i.e. Other Neutral Grassland

Management objective

5.1 The subsections below provide the framework for the management objective.

Management vision

5.2 At the margins of the fields, between the existing hedgerows and the perimeter fences/hedgerows that surround the solar arrays, will be corridors of grassland that are manged as strip meadows. Large plots of species-rich grassland will also be created in the Biodiversity Mitigation Areas, particularly close to the Clarborough Tunnel SSSI, allowing this part of the Site to complement this national designation. Two species-rich grassland plots will also be created between array areas.

5.3 The grasslands will have a varied sward height with colourful wildflowers such as black knapweed *Centaurea nigra*, bird's foot-trefoil *Lotus corniculatus*, yellow rattle *Rhinanthus minor*. This would be delivered by using an appropriate wildflower seed mix such as Naturescape N5 Long Season Meadow Mixture[5], Emorsgate EM3 Special General Purpose Meadow Mixture[6], Emosrsgate Meadow Mixture for Wetlands[7], or similar. The seed mixes would be reviewed and adapted to suit the locality as part of preparation of the final LEMP. Refer to projects 1-1a and 1-1b for further detail.

5.4 The grasslands will be visited by bees, butterflies and hoverflies. Late-flowering species will be allowed to set seed and areas of the grassland will retain some seedheads over the winter period to provide beneficial habitat for a range of invertebrates and birds. These habitats will provide suitable habitat for a range of mammal species such as badgers, brown hare and also small mammals upon which birds of prey such as barn owl hunt.

5.5 The grassland will extend into the proposed drainage basins, which will have a mix of grassland plants that are more suited to seasonal inundation (the seasonally wet meadow).

Targets

5.6 The created or enhanced species-rich grassland and seasonally wet meadow . i.e. other neutral grassland, will meet **moderate condition** as defined in the Statutory Biodiversity Metric condition assessment sheets (Natural England, 2024b).

5.7 The grassland parcels must pass 3 of the 6 Condition Assessment Criteria set out for Grassland – Medium, High and Very High Distinctiveness, the first of which is mandatory (marked with an asterisk (*)). The 6 criteria are:

A. *The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to other neutral grassland.

B. Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.

C. Cover of bare ground is between 1% and 5%.

D. Cover of bracken is less than 20% and cover of scrub (including bramble *Rubus fruticosus* agg.) is less than 5%.

E. Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. Note that if any

[5] https://www.naturescape.co.uk/product/n5-long-season-meadow-mixture/
[6]https://wildseed.co.uk/product/mixtures/complete-mixtures/general-purpose-meadow-mixtures/special-general-purpose-meadow-mixture/
[7]https://wildseed.co.uk/product/mixtures/complete-mixtures/meadow-mixtures-for-specific-soils/meadow-mixture-for-wetlands/

invasive non-native plant species (as listed on Schedule 9 of WCA) are present, this criterion is automatically failed.

F. There are 10 or more vascular plant species per m^2 present, including forbs that are characteristic of the habitat type.

5.8 Further detail will be provided in the final LEMP, including which criteria will be met in specific areas; at this stage, it is anticipated that criteria A, B, D will be met as a minimum and therefore meet the requirements of moderate condition.

Current status

5.9 Other neutral grassland will be created on areas that are mostly a mix of cropland or modified grassland. The Site currently supports areas of other neutral grassland at some field margins, which will be retained; these areas already achieve moderate condition, demonstrating that the target is feasible.

Table 2: grassland habitat enhancement, management and monitoring projects

Project 1-1a	**Enhance modified grassland to other neutral grassland**
Purpose	To enhance existing modified grassland habitat to other neutral grassland in moderate condition.
Responsibility	The solar farm operator, their approved tenant and/or appointed landscape subcontractor
Equipment and Materials	The final LEMP will include further detail on the required machinery, seed mixes and seed sources. Suggested seed mixes will be provided that will be appropriate to the area and the soil conditions; and allow for local and / or native seed. This will be informed further by soils analysis work to be completed.

Methodology	The following key points of the habitat enhancement methodology will be elaborated in the final LEMP:
	• Results of the soil analysis will be summarised and appropriate ground preparation will be specified. It is likely that the soil nutrient levels within the modified grasslands are unsuitable for the immediate establishment of wildflower meadow species. Methods of ground preparation that may be required include:
	  ○ Soil inversion
	  ○ Topsoil scraping and storage
	  ○ Nutrient stripping via a nursery or cover crop
	• Ecologist will undertake a pre-commencement inspection for any ecological considerations before habitat enhancement works. Features may include active badger setts, hedgerow protection areas[8], areas of rhizomatous weeds together with a suitable buffer, and invertebrate or herpetofauna features such as scrapes, ant hills, potential hibernacula for reptiles.
	• Protected species avoidance zones will be defined. Indicatively, no machinery greater than 1 tonne will be permitted within the badger sett avoidance areas to be identified. Any use of tracked or wheeled machinery such as mowers (i.e. anything other than handheld tools, strimmers) within the agreed badger avoidance areas must be first discussed and agreed with the Ecologist to avoid harm to badgers or to the badger sett.

[8] Cultivation, pesticides and fertilisers must be avoided within 2 m from the centreline of hedgerow under The Management of Hedgerows (England) Regulations 2024 23rd May 2024.

	• Measures for weed control that may be required ahead of seeding will be specified. Indicatively, this will include measures to control injurious weeds[9]. • The specification and methods for oversowing, including detail of the sowing methods and sowing rates, and likely procedures required to enable successful establishment such as harrowing, rolling. The LEMP will specify the different seed mixes required for Seasonally Wet Meadow.
Timing of enhancement works	April / May or September / October for application of seed mixes
Frequency	One-off activity (subject to success, additional seeding to be undertaken if necessary)
Project 1-1b	**Create other neutral grassland**
Purpose	To create other neutral grassland of at least moderate ecological condition
Responsibility	The solar farm operator, their approved tenant and/or appointed landscape subcontractor
Equipment and Materials	The final LEMP will include further detail on the suggested machinery, seed mixes and seed sources. Suggested seed mixes will be provided that will be appropriate to the area, the soil conditions, and allow for local and/or native seed. This will be informed further by soils analysis work to be completed.
Methodology	The final LEMP will include specifications for creating other neutral grassland in areas that are non-grassland habitat pre-development. It is likely that the soil nutrient levels within the arable fields are unsuitable for the immediate establishment of wildflower meadow species. The methods will be similar to those for Project 1-1b above, but are likely to require additional ground preparation, which will be confirmed following analysis of the soil nutrient levels. It is assumed that the soils may require inversion and / or a nutrient-stripping nursery crop to be used prior to seeding with the final seed mix to achieve suitably low soil nutrient levels.
Timing	April / May or September / October for application of seed mixes.
Frequency	One-off activity (subject to success, additional seeding to be undertaken if necessary)
Project 1-2	**Manage other neutral grassland**
Purpose	To maintain Other neutral grassland habitat in moderate condition.
Responsibility	The solar farm operator, their approved tenant and/or appointed landscape subcontractor
Equipment	This will be confirmed within the final LEMP
Methodology, Timing and Frequency	The final LEMP will include specifications for management of all other neutral grassland areas. Indicatively this will include:

[9] Common ragwort *Jacobaea vulgaris*, Broad-leaved dock *Rumex obtusifolius*, Curled dock *Rumex crispus*, Creeping thistle *Cirsium arvense*, Spear thistle *Cirsium vulgare*

	• Provision to cut and remove dried hay at least once a year (timings and final frequency to be confirmed). • Measures of cutting that may benefit biodiversity (such as weather conditions, cutting styles, cutting heights). • That application of inorganic fertilisers should be avoided. • Treatment of non-desirable plant species/invasive weeds if present. The final LEMP may include additional grazing specifications to be applied where available after Year 3 (once the grass and wildflowers have developed a strong root structure and seed bank). This will include details of: • Grazing timing and livestock units/stocking density to be applied. • Triggers for removal of livestock (such as weather and ground conditions). • Alternative mowing methods to be employed should livestock tenants be unavailable. • Appropriate working methods to avoid adverse impacts to faunal species that could be present in the working areas such as ground nesting birds, amphibians, reptiles, and mammals.
Project 1-3	**Monitor and report on other neutral grassland**
Purpose	To identify quantity (area coverage) and condition of neutral grassland with reference to relevant Natural England habitat condition assessment criteria in the HMMP Companion Guide (Natural England and Defra, 2023).
Responsibility	The solar farm operator or appointed consultant ecologist
Methodology	Plan a walked transect route that covers the other neutral grassland. The Final LEMP will specify the number/location of evenly spaced survey points that will be assessed by use of a 1 m quadrat to estimate: • the composition of plants using a DAFOR scale; • % sward that is less than 7 cm and % that is more than 7 cm, • % cover of bare ground, • % cover of scrub, • % cover of bracken, • evidence of physical damage to the grassland (and % cover) such as from trampling, • the presence and % cover of any species indicative of suboptimal condition and invasive, non-native plant species. Additionally, note the location and species of any invasive, non-native plant species AND large stands of injurious weeds (up to 5 m^2) and their overall cover within any plot, anywhere within other neutral grassland.
Timing	Mid-June to mid-July (i.e., prior to cutting or commencement of grazing) reporting annually in December-January
Frequency	Monitor annually using the walked transect route for the first 5 years, then at Year 10, Year 15, Year 20, Year 25, Year 30 and Year 40.
Resulting Action	Review Management Project 1-2 if the Condition Assessment targets are not being met. The re-introduction of cutting to reduce nutrient levels may be required or further scarification and additional seed sowing, as recommended

	by the Ecologist. It may also be necessary to respond to the monitoring by changing the grazing intensity/duration. Implement control of injurious weeds (e.g., targeted cutting prior to setting seed) if Upper Limit for Target 2 is exceeded. Consult suitably experienced specialist subcontractor on the eradication of invasive, non-native weeds if presence is confirmed.

6 Feature 2: Grassland i.e. Modified Grassland

Management objective

6.1 The subsections below provide the framework for the management objective.

Management vision

6.2 The areas under and between the solar arrays will comprise grassland that has moderate species diversity; this is considered to be an appropriate aim given the effects of shading from the solar panels upon the grassland habitat. Some flowering species will be present, but these are likely to be those that are more tolerant of shading. This would be delivered by using an appropriate wildflower seed mix such as Emorsgate EL1 Flowering Lawn Mixture[10], Emorsgate EM1 Basic General Purpose Meadow Mixture[11], Naturescape N14 Flowering Lawn Mixture[12], Naturescape Animal Pasture Flowers and Grass Mixture[13], or similar .

6.3 A small proportion of enclosed fields that will not have arrays (such as along the West Burton Cable corridor, near the BESS infrastructure and under overhead lines) are anticipated to be suitable for more intensive sheep grazing or other agricultural use such as hay or silage production, these may have low plant diversity, with potentially fewer wildflowers.

6.4 There will be a mix of forb and grass species but no scrub will encroach into the grassland areas. The areas may be grazed by sheep for some of the year, but areas under and between arrays will not be grazed at a high intensity to allow a mixed vegetation height to develop. There may be some bare patches under the arrays. It is likely that the grassland under and around the arrays will provide habitat for a range of mammal species such as brown hare, and some flowering plant species that will be of benefit to invertebrates and birds.

Targets

6.5 The created or enhanced grassland. i.e. modified grassland, that is under or between arrays, within the perimeter fences, will meet **moderate condition** as defined in the Statutory Biodiversity Metric condition assessment sheets (Natural England, 2024b). Selected parcels (refer to ES Appendix 7.12 Biodiversity Net Gain [EN010163/APP/6.3.7]) may reach **poor condition** only, as they may function as intensive of winter pasture areas that could experience higher levels of damage from livestock.

6.6 The grassland parcels that have been identified to reach moderate condition must pass at least 4 of the 7 Condition Assessment Criteria set out for Grassland – Low Distinctiveness in the Statutory Biodiversity Metric condition assessment sheets (Natural England, 2024b), one of which is mandatory (marked with an asterisk '*'). These 7 criteria are:

A. *There are 6-8 vascular plant species per m^2 present, including at least 2 forbs (flowering species).
B. Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.
C. Cover of scrub (including bramble) is less than 20%.
D. Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.
E. Cover of bare ground is between 1% and 10%.
F. Cover of bracken is less than 20%.

[10] https://wildseed.co.uk/product/mixtures/complete-mixtures/special-habitat-mixtures/flowering-lawn-mixture/
[11] https://wildseed.co.uk/product/mixtures/complete-mixtures/general-purpose-meadow-mixtures/basic-general-purpose-meadow-mixture/
[12] https://www.naturescape.co.uk/product/n14-flowering-lawn-mixture/
[13] https://www.naturescape.co.uk/product/animal-herbal-tonic-mix/

G. There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA).

6.7 Further detail will be provided in the final LEMP, including which criteria will be met in specific areas; at this stage, it is anticipated that criteria A, C, F and G will be met as a and therefore meet the requirements of moderate condition.

Current status

6.8 Some fields of modified grassland exist on Site as grass leys in poor condition, which will be enhanced to moderate condition by increasing species diversity (via overseeding). Some fields on Site already achieve moderate condition, indicating that the habitat type is feasible. The majority of the plots will require creation once arable crops are removed and the solar arrays and infrastructure have been installed.

Table 3: grassland habitat enhancement, management and monitoring projects

Project 2-1a	**Enhance modified grassland**
Purpose	To enhance existing modified grassland or create new modified grassland to be of moderate condition.
Responsibility	The solar farm operator, their approved tenant and/or appointed landscape subcontractor
Equipment and Materials	The final LEMP will include further detail on the suggested machinery, seed mixes and seed sources.
Methodology	The method of enhancing existing grassland to achieve moderate condition will be provided in the final LEMP. Indicatively, the method is likely to include overseeding the existing grassland with a higher diversity species mix (such as a 100% wildflower seed mix), and including plants that are hemiparasitic on grasses such as yellow rattle *Rhinanthus minor*, to control the vigour of the highly productive grasses currently on Site.
Timing of enhancement works	April / May or September / October.
Frequency	One-off activity (subject to success, additional seeding to be undertaken if necessary)
Project 2-1b	**Create modified grassland**
Purpose	To create habitat of at least moderate condition.
Responsibility	The solar farm operator, their approved tenant and/or appointed landscape subcontractor
Equipment and Materials	The final LEMP will include further detail on the suggested machinery, seed mixes and seed sources.
Methodology	The following key points on the habitat enhancement methodology will be elaborated in the final LEMP: • Seedbed preparation: measures will be specified that may include repeated cultivation, ploughing or digging to bury the surface vegetation, then harrowing to produce a medium tilth that can be rolled and to produce a firm surface. Soil testing and pre-seeding interventions to reduce nutrient levels are not required for areas of modified grassland as it this habitat is deliverable on soils with higher nutrient levels. • If necessary, details of timings for applying a suitable herbicide to eliminate first flush of weeds prior to seeding.

	• The specification and methods for seeding, including detail of the sowing methods and rates, and likely procedures required to enable successful establishment such as harrowing, rolling.
Timing	April / May or September / October. To be undertaken once tracks, cable and solar array installation works are complete so as not to cause damage to the habitat .
Frequency	One-off activity (subject to success, additional seeding to be undertaken if necessary)
Project 2-2	**Manage modified grassland**
Purpose	To maintain modified grassland habitat in moderate condition.
Responsibility	The solar farm operator, their approved tenant and/or appointed landscape subcontractor
Equipment	Cut and collect mower and/or animal welfare facilities.
Methodology, Timing and Frequency	The final LEMP will include specifications for management of all modified grassland areas. Indicatively this will include: • Details of the cutting frequency and target vegetation height . • Measures of cutting that may benefit biodiversity (such as weather conditions, cutting styles, and timings of when cutting should be minimised). • That application of inorganic fertilisers should be avoided. • Treatment of non-desirable plant species/invasive weeds if present. • Appropriate working methods to avoid adverse impacts to faunal species that could be present in the working areas such as ground nesting birds, amphibians, reptiles, and mammals. The final LEMP may include additional grazing specifications to be applied where available after Year 3 (once the grass and wildflowers have developed a strong root structure that is less likely to be uprooted by grazing animals, and seed bank). This will include details of: • Grazing timing and livestock units/stocking density to be applied. • Triggers for removal of livestock (such as weather and ground conditions). • Alternative mowing methods to be employed should livestock tenants be unavailable.
Project 2-3	**Monitor and report on modified grassland**
Purpose	To identify quantity (area coverage) and condition of modified grassland with reference to relevant Natural England habitat condition assessment criteria in the HMMP Companion Guide (Natural England and Defra, 2023).
Responsibility	The solar farm operator or appointed consultant ecologist
Methodology	Plan a walked transect route that covers the other neutral grassland. The Final LEMP will specify the number/location of evenly spaced survey points that will be assessed by use of a 1 m quadrat to estimate: • the composition of plants using a DAFOR scale; • % sward that is less than 7 cm and % that is more than 7 cm,

	• % cover of bare ground, • % cover of scrub, • % cover of bracken, • evidence of physical damage to the grassland (and % cover) such as from trampling, • the presence and % cover of any species indicative of suboptimal condition and invasive, non-native plant species. Additionally, note the location and species of any invasive, non-native plant species AND large stands of injurious weeds (up to 5 m^2) and their overall cover within any plot..
Timing	Mid-June to mid-July (i.e., prior to cutting or commencement of grazing) reporting annually in December-January
Frequency	Monitor annually using the walked transect route for the first 5 years, then at Year 10, Year 15, Year 20, Year 25, Year 30 and Year 40.
Resulting Action	Review Management Project 2-2 if the Condition Assessment targets are not being met. It may also be necessary to respond to the monitoring by changing the grazing or mowing intensity/duration. Consult suitably experienced specialist subcontractor on the eradication of invasive, non-native weeds if presence is confirmed.

7 Feature 3: Scrub

Management objective

7.1 The subsections below provide the framework for the management objective.

Management vision

7.2 Pockets of native species scrub will provide vegetation structure to benefit biodiversity. Scrub in areas that may be subject to flooding will be tolerant of occasional inundation of water, including species such as willow *Salix* spp. and alder *Alnus glutinosa.* In areas that are unlikely to flood species such as hawthorn *Crataegus monogyna*, hazel *Corylus avellana*, elder *Sambucus nigra*, and blackthorn *Prunus spinosa* will be planting to create increased species diversity. The scrub provides places of refuge for animals and nesting for birds, with niches/glades especially beneficial for reptiles and invertebrates, and leaf litter that may fall into aquatic habitats to provide organic matter/shelter for invertebrates. The scrub will include a range of locally appropriate species that will produce berries, seeds and nuts that a range of faunal species will feed on. Some plots will provide windbreaks and visual screening from PROW for wetland birds in the east of the Site near to the River Trent and Littleborough Lagoons.

Targets

7.3 The created or enhanced scrub. i.e. willow scrub and mixed scrub, will meet **poor condition** as defined in the Statutory Biodiversity Metric condition assessment sheets (Natural England, 2024b). Poor condition has been precautionary selected as some of the scrub plots will be subject to floodwater, and therefore will comprise relatively fewer (flood-tolerant) species and be subject to influences that make the scrub suboptimal. The primary purpose of the scrub is to provide vegetation structure and a source of leaf litter and basking platforms for invertebrates.

7.4 The created scrub will meet at least one Condition Assessment Criteria in the Statutory Biodiversity Metric condition assessment sheets (Natural England, 2024b) for mixed scrub. This will include assessment of five criteria as follows:

A. The parcel closely matches the UKHab description. At least 80 % of scrub is native and there at least three native woody species. No single species comprises more than 75% of the cover.

B. There is a good age range – all of the following are present: seedlings, young shrubs and mature shrubs.

C. There is an absence of invasive non-native species (as listed on Schedule 9 of WCA) and undesirable species[14] make up less than 5% of ground cover.

D. The scrub has a well-developed edge with scattered scrub and tall grassland and/or forbs present between the scrub and adjacent habitat(s).

E. There are clearings, glades or rides present within the scrub, providing sheltered edges.

7.5 Further detail will be provided in the final LEMP will specify which criteria will be met. It is anticipated that criteria D or E will be met as a minimum through the planting design and management.

Current status

7.1 The areas identified for new mixed native scrub planting is currently modified grassland or cropland. Existing scrub present at the Site in field edges or corners, is typically bramble or blackthorn scrub, which has either a poor condition or a condition assessment is not applicable, and which will be retained.

[14] e.g. cherry laurel *Prunus laurocerasus*, snowberry *Symphoricarpos* spp., buddleia *Buddleja* spp., cotoneaster *Cotoneaster* spp., Spanish bluebell *Hyacinthoides hispanica* and hybrid bluebells *Hyacinthoides x massartiana*

Table 4: scrub habitat creation, management and monitoring projects

Project 3-1	**Create Scrub Habitat**
Purpose	To create mixed native scrub habitat in at least poor condition.
Responsibility	The solar farm operator, their approved tenant and/or appointed landscape subcontractor
Equipment and Materials	The final LEMP will provide details of the relevant planting plans and planting schedules, as well as equipment such as tools, and any guards/protection needed.
Methodology	The final LEMP will include specifications for creating scrub. The specification will be prepared with reference to detailed designs, and will include: • Tree stock details including species, and sizes. Species used will be locally appropriate to the area. • Planting methods including spacings/densities • Details of any guards, stakes, protection fencing, or shelters to be used – this will include details of any temporary stockproof fencing that may be needed in floodplain grazing marsh areas • Suitable weather conditions for planting
Timing	November to March (avoid frosty conditions).
Project 3-2	**Manage mixed scrub**
Purpose	To maintain the created and retained scrub habitat, including the provision of glades.
Responsibility	The solar farm operator, their approved tenant and/or appointed landscape subcontractor
Equipment and Materials	Chainsaws, strimmers, brushcutters.
Methodology	The final LEMP will include specifications for management of the new scrub planting areas. Indicatively this will include: • Maintaining 'weed free' circles around each transplant to reduce competition from grasses for the first 3-5 years until established • After this time, provision for an Ecologist to mark areas of mature scrub within scrub area to be cut and removed (c.a. one fith of each plot to create glades) every 5 years. Stumps will not be treated so may be allowed to re-grow. • Provision for an Ecologist will undertake a pre-commencement inspection for ecological considerations and identify features for avoidance or clearing. • Landscape subcontractor to undertake cutting and removal of scrub patches and strimming edges of the scrub at specified heights. • Details of how arisings will be removed. • Details of ongoing guards/protection fencing maintenance, including removal of any guards in year 5 (or once scrub has established). • Actions and thresholds for tree replacement as necessary. • Appropriate working methods to avoid adverse impacts to faunal species that could be present in the working areas such as nesting birds, amphibians, reptiles, and mammals.
Timing	Late August to October.
Frequency	Manage every 4 years.

Project 3-3	**Monitor and report on mixed scrub**
Purpose	To identify quantity (area coverage) and condition of mixed scrub.
Responsibility	The solar farm operator or appointed consultant ecologist
Methodology	Plan a walked transect route that covers all accessible areas of mixed scrub habitat. The final LEMP will confirm the number of sample points to be within the area of scrub, in which the following will be estimated: • the composition of woody plants using a DAFOR scale • age range of woody plants (i.e., sapling, young, semi-mature, mature) • the presence and % cover of any injurious weeds and invasive, non-native plant species. Additionally, note the presence of any invasive, non-native plant species AND large stands of injurious weeds (up to 5 m^2), anywhere within the mixed scrub With reference to recent aerial photography, where available, map the extent of the scrub.
Timing	May to mid-July (reporting annually in December-January).
Frequency	Monitor annually for the first 5 years, then at Year 10, Year 15, Year 20, Year 25, Year 30 and Year 40. If any plantings fail and are replaced in the first 5 years, then additional annual monitoring may be required. up to Year 10.
Resulting Action	Review Management Project 3-2 if the Condition Assessment targets are not being met across the board. Replacement of failed plantings, as necessary, in first 5 years. Consult suitably experienced specialist subcontractor on the eradication of invasive, non-native weeds if presence is confirmed.

8 Feature 4: Woodland

Management Objective

8.1 The subsections below provide the framework for the management objective.

Management vision

8.2 Broadleaf woodland will be composed of native and locally appropriate species of flowering/fruiting scrub and trees and will feature a scrub understorey and multi-layered canopy including oak *Quercus robur,* black poplar *Populus nigra*, rowan *Sorbus aucuparia*, hazel *Corylus avellana* and silver birch *Betula pendula* amongst other suitable native broadleaved species. The woodland planting will complement the existing and retained woodland at the Site and in the local area. The woodlands will provide shelter for birds and mammals and produce a source of food through nectar, buts and fruits. Many of the woodland plots will have a visual screening function, and therefore native species that quickly develop dense canopies will be selected for planting, along with more slow-growing larger species.

Targets

8.3 The majority of the created and retained woodlands will meet **moderate condition** as defined in the Statutory Biodiversity Metric condition assessment sheets (Natural England, 2024b). With the exception of that within the West Burton power station area, which is in poor condition and will be retained as such.

8.4 The created woodland will be managed to obtain a score of 26 to 32 in the Statutory Biodiversity Metric condition assessment sheets (Natural England, 2024b) for the woodland. This will include assessment of thirteen criteria, each of which can have a score of 1, 2 or 3 applied, as follows:

A. Age and distribution of trees (three age-classes present: two ages could be achievable within 40-year period of LEMP).
B. Damage by animals (no significant browsing damage).
C. Invasive plant species (no INNS species).
D. Number of native tree species (five or more native tree/shrub species).
E. Cover of native tree and shrub species (>80% canopy and shrub species are native).
F. Open space (10-20% open space).
G. Woodland regeneration (three regeneration classes are present).
H. Tree health (tree mortality <10%).
I. Vegetation and ground flora (NVC plant community).
J. Woodland vertical structure (three or more woodland storeys).
K. Veteran trees (two or more veteran trees per ha - unachievable within 30-year period of LEMP but trees that are potentially suitable to become future veterans could be identified).
L. Deadwood (50% of woodland has deadwood).
M. Woodland disturbance (no nutrient enrichment or damaged ground).

8.5 Indicatively, it is anticipated that the new woodlands will reach a condition score of 27 by achieving relevant scores[15].

Current status

8.6 Woodland plots currently exist as lowland mixed deciduous woodland, or other broadleaf woodland (shelterbelt-type plantation), mostly in moderate condition. These include species such as pedunculate oak, ash *Fraxinus excelsior*, hawthorn, elder, field maple *Acer campestre*, grey and goat willows *Salix* spp., hazel and lombardy poplar *Populus nigra 'italica'* (refer to Appendix 6.5 –

[15] The projected scores for each criterion are as follows: A 1, B 3, C 3, D 3, E 2, F 3, G 1, H 3, I 1, J 1, K 1, L 2, M 3.

Arboricultural Impact Assessment [N010163/APP/6.3.6]). Deciduous woodland (oak-birch woodland) is a LBAP habitat. The areas where the new woodland is to be created are largely arable cropland.

Table 5: woodland habitat creation, management and monitoring projects

Project 4-1	**Create Woodland Habitat**
Purpose	To create broadleaf woodland habitat in moderate condition.
Responsibility	The solar farm operator, their approved tenant and/or appointed landscape subcontractor
Equipment and Materials	The final LEMP will provide details of the relevant planting plans and planting schedules, as well as equipment such as tools, and any guards/protection needed.
Methodology	The final LEMP will include specifications for creating woodland. The specification will be prepared with reference to detailed designs, and will include: • Provision for an Ecologist undertake a pre-commencement inspection for any ecological considerations before habitat enhancement works. Features may include active badger setts, hedgerow protection areas[16], areas of rhizomatous weeds together with a suitable buffer, and invertebrate or herpetofauna features such as scrapes, an hills, hibernacula. • Tree stock details including species, and sizes. Species used will be locally appropriate to the area.. • Planting methods including spacings/densities. • Details of any guards, stakes, protection fencing, or shelters to be used – this will include details of any temporary fencing that may be needed. • Suitable weather conditions for planting.
Timing	November to March (avoid frosty conditions).
Frequency	One-off activity (subject to success, additional planting to be undertaken if necessary)
Project 4-2	**Manage woodland**
Purpose	To maintain the woodland habitat at moderate condition[17]
Responsibility	The solar farm operator, their approved tenant and/or appointed landscape subcontractor
Equipment and Materials	Chainsaws, strimmers, brushcutters, approved herbicide with appropriate method of application. Replacement tree stock, tree guards, stakes and ties.
Methodology	The final LEMP will include specifications for management of woodland areas created and under control of the solar farm operator. Indicatively this will include: • Maintaining 'weed free' circles around each transplant to reduce competition from grasses for the first 5 years until established. • Removal and replacement of damaged/diseased transplants with like for like species as required for the first 5 years. • Details of ongoing guards/protection fencing maintenance, including removal of any guards in year 5 (or once scrub has established). • Details of any woodland thinning or deadwood creation.

[16] Cultivation, pesticides and fertilisers must be avoided within 2 m from the centreline of hedgerow under The Management of Hedgerows (England) Regulations 2024 23rd May 2024.
[17] Except for existing woodland within the West Burton Power Station Area, which will retained as poor condition

	• Appropriate working methods to avoid adverse impacts to faunal species that could be present in the working areas such as nesting birds, amphibians, reptiles, and mammals.
Timing	Inspections for damaged/diseased plants to be in July or August and replacement plants to be planted November to March (avoiding frosty conditions). Maintenance of weed free circles twice a year in spring and late summer. Tree felling/thinning in late August to mid-February.
Frequency	Annually for the first 5 years (excluding tree felling which will be undertaken at a lower frequency after 10-15 years)
Project 4-3	**Monitor and report on woodland**
Purpose	To identify quantity (area coverage) and condition of woodland.
Responsibility	The solar farm operator or appointed consultant ecologist
Equipment	Equipment for recording field data (GPS, camera, forms)
Methodology	Plan a walked transect route that covers all accessible areas of woodland habitat. At a 10 m radius survey area from the centre-point of the woodland, or ca. 0.03 ha equivalent area in the centre[18] (mark these with GPS) estimate: • the composition of woody plants using a DAFOR scale; • the condition of the woodland habitat (Natural England, 2024b) • the location and extent of any invasive non-native species
Timing	Mid-June to mid-July (reporting annually in December-January)
Frequency	Monitor annually for the first 5 years, then at Year 10, Year 15, Year 20, Year 25, Year 30 and Year 40. If any plantings fail and are replaced in the first 5 years, then additional annual monitoring may be required up to Year 10.
Resulting Action	Review Management Project 4-2 if the Condition Assessment targets are not being met. Replacement of failed plantings, as necessary, in first 5 years. Consult suitably experienced specialist contractor on the eradication of invasive, non-native weeds if presence is confirmed.

[18] Sylva (2024) Woodland Condition Assessment for Biodiversity Metric (WCA6) [online] Available at: https://sylva.org.uk/wp-content/uploads/2024/05/WCA6.pdf Accessed 05 August 2024

9 Feature 5: Hedgerow

Management objective

9.1 The subsections below provide the framework for the management objective.

Management vision

9.2 A proportion of the existing native hedgerow (ca. 6.3 km) will be enhanced from 'native hedgerow' to provide 'native hedgerow with trees' (in the same respective condition as the baseline habitat), with new trees (native standard trees) to be planted at least every 50m along the existing hedgerows and protected from cutting to provide more structure to the hedgerows. Appropriate species may include rowan or field maple, will be allowed to grow tall (canopy more than 3m height). Existing gaps in hedgerows will be in-filled with native hedgerow species. The hedgerows will be allowed to grow taller and wider to act as natural screens around the solar arrays.

9.3 New hedgerow planting will be species-rich native hedgerow and will including various native species that are locally appropriate that bear a variety of fruits, berries

9.4 Upon maturing, the enhanced and created hedgerow through the Site will create strong green habitat corridors, improving connectivity at a landscape-scale for bats, small mammals, amphibians, and reptiles, and nesting habitat for birds. They will also provide visual screening of the solar arrays and other development infrastructure.

Targets

9.5 The created species-rich hedgerows will meet **moderate condition** as defined in the Statutory Biodiversity Metric condition assessment sheets (Natural England, 2024b). They have been precautionarily assumed to fail some condition criteria to allow flexibility in their management for their non-ecological function as visual screening habitat.

9.6 The enhanced and retained hedgerows will maintain their baseline condition, but the enhanced hedgerows must pass Criterion E2 below.

9.7 The hedgerow will be managed to fail no more than four of the condition assessment criteria. This will include assessment of criteria (5 x couplet based criteria), each of which can be passed or failed, and the new planting must not fail two or more couplets,' as follows:

A1. Hedgerow height >2.5 m.

A2. Hedgerow width >1.5 m.

B1. Gap between ground and base of canopy <0.5m for >90% of length.

B2. Gaps make up <10% of total length; and no canopy gaps >5m.

C1. Undisturbed ground and perennial vegetation: >1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length, measured from outer edge of hedgerow, and is present on one side of the hedge (at least and subject to grassland habitat management access requirements).

C2. Nutrient-enriched perennial vegetation: Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.

D1. Invasive and neophyte species: >90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of WCA) and recently introduced species.

D2. Damage: >90% of the hedgerow or undisturbed ground is free of damage caused by human activities.

E1. Tree class: There is more than one age-class (or morphology) of tree present (for example: young, mature, veteran and or ancient), and there is on average at least one mature, ancient or veteran tree present per 20 – 50m of hedgerow.

E2. Tree health: At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.

Current status

9.8 The majority of hedgerows (90%) are assessed as species-poor, particularly those in the centre and east of the Site. Many of the hedgerows are currently cut frequently which reduces their biodiversity value and limits the potential to grow fruit and nuts. Higher distinctiveness hedgerows are present as species-rich hedgerows (with trees and/or associated with a ditch/bank). The hedgerows are typically formed of hawthorn, blackthorn with other native species such as ash, elder and/or field maple.

9.9 Although trees are present in many of the hedgerows, few are present at intervals of less than 50 m, so are not classed as 'hedgerow with tree' habitat.

Table 6: hedgerow habitat enhancement, management and monitoring projects

Project 5-1	**Enhance Hedgerows (adding individual trees to hedgerows)**
Purpose	To enhance selected 'native hedgerow' to 'native hedgerow with trees'
Responsibility	The solar farm operator, their approved tenant and/or appointed landscape subcontractor
Equipment and Materials	The final LEMP will provide details of the relevant planting plans and planting schedules, as well as equipment such as tools, and any guards/protection needed.
Methodology	The final LEMP will include specifications for enhancing hedgerows by planting trees. The specification will be prepared with reference to detailed designs, and will include: • Provision for the Ecologist undertake a pre-commencement inspection for any new badger setts or other ecological considerations that may affect where tree pits are dug. • Tree stock details including species, and sizes. Species used will be locally appropriate to the area. • Planting methods including spacings (to be within 1m of the edge of the hedgerow and spaced at least every 50m) • Details of ground preparation. • Details of any guards, stakes, protection fencing, or shelters to be used. • Suitable weather conditions for planting. •
Timing of hedgerow enhancement	November to March (avoid frosty conditions). To be completed after all tracks and arrays are installed and no long pose a risk to damaging new planting.
Frequency	One-off activity (subject to success, additional seeding to be undertaken if necessary)

Project 5-2	**Create Hedgerows (including infill planting of gaps in existing hedgerows)**
Purpose	Create new native species-rich hedgerows that will achieve moderate condition
Responsibility	The solar farm operator, their approved tenant and/or appointed landscape subcontractor
Equipment and materials	The final LEMP will provide details of the relevant planting plans and planting schedules, as well as equipment such as tools, and any guards/protection needed.
Methodology	The final LEMP will include specifications for enhancing hedgerows by planting trees. The specification will be prepared with reference to detailed designs, and will include: • Plant stock details including species, and sizes. Species used will be locally appropriate to the area. • Details of ground preparation. • Planting methods including spacings/densities. • Details of any guards, stakes, protection fencing, or shelters to be used – this will include details of any temporary stockproof fencing that may be needed in floodplain grazing marsh areas. • Suitable weather conditions for planting.
Timing	November to March (avoid frosty conditions). To be completed after all tracks and arrays are installed and no long pose a risk to damaging new planting.
Frequency	One-off activity (subject to success, additional seeding to be undertaken if necessary).
Project 5-3	**Manage hedgerows**
Purpose	To maintain hedgerow in the desired condition (at least the baseline condition of the existing hedgerows, and moderate condition for new hedgerows).
Responsibility	The solar farm operator, their approved tenant and/or appointed landscape subcontractor
Equipment and Materials	The final LEMP will provide details of the relevant equipment needed, which will be suited to tenant availability and the long-term management methods available.
Methodology	<u>New hedgerows:</u> The final LEMP will include specifications for management of the new hedgerow planting. Indicatively this will include: • Maintaining 'weed free' circles around each transplant to reduce competition from grasses for the first 3-5 years until established • Details of ongoing guards/protection fencing maintenance, including removal of any guards in year 5 (or once scrub has established). • Actions and thresholds for tree replacement as necessary. • Measures for management for Year 6 onwards. <u>Existing and established hedgerows</u>: The final LEMP will include specifications for management of established hedgerows

	• This may include provisions for installing tree protection measures as necessary, such as temporary livestock fencing, for periods when livestock are grazing in the fields, or measures to mark/protect newly planted individual trees from cutting. • Cut hedgerows in late winter on rotation. Cut no lower than 3 m in height and no narrower than 2 m – 'trees' within hedgerows will not be cut. • Measures for long-term layering of hedgerows, after Year 10 or as a result of monitoring, may be provided in the final LEMP. • Specifications for undertaking higher frequency cuts of hedgerows next to areas of public access may be included in the Final LEMP. • Appropriate working methods to avoid adverse impacts to faunal species that could be present in the working areas such as nesting birds and mammals.
Timing	Inspections for damaged/diseased plants to be in July or August and replacement plants to be planted November to March. Maintenance of weed free circles in Years 1 -5 twice a year in spring and late summer. Cutting to be undertaken in September to February [19].
Frequency	Manage annually (i.e. cutting a third of the hedge each year to achieve a three-year rotation)
Project 5-4	**Monitor and report on hedgerows and trees**
Purpose	To identify condition of hedgerows and assess the need for changing management measures.
Responsibility	The solar farm operator or appointed consultant ecologist.
Methodology	The final LEMP will confirm the number of sample points for monitoring. Indicatively, and due to the scale of the project, it is anticipated that representative sample points are taken to represent various hedgerow types to make the monitoring regime feasible each season. The sample points will vary in each monitoring cycle to enable all new hedgerows to be monitored in the first 5 years. A 30m section for each hedgerow that is monitored in a given year will be sampled to: Estimate: • the composition of woody plants using a DAFOR scale; • the composition of ground flora using a DAFOR scale; • the gaps and damage (in accordance with Natural England, 2024b); and • The stem diameter of hedgerow plants and trees. Additionally, note the location and extent of any invasive, non-native plant species. Monitor the health of the individual trees' crowns and record any damage to trees.
Timing	Mid-June to mid-July (reporting annually in December-January).
Frequency	Monitor annually or the first 5 years, then at Year 10, Year 15, Year 20, Year 25, Year 30 and Year 40. If plantings fail and replacement planting is required, then additional monitoring may also be required between Years 5 and 10.
Resulting Action	Review Management Project 5-3 if criteria are not being met.

[19] Cutting hedgerows from March to August is banned under The Management of Hedgerows (England) Regulations 2024 23rd May 2024.

	Consult suitably experienced subcontractor on the eradication of invasive, non-native weeds if presence is confirmed.

10 Feature 6: Individual Trees

10.1 Individual trees will be planted as part of the hedgerows only. Existing individual trees were identified in the West Burton Power Station Land only, and will not be subject to management by the solar farm operator. Existing trees in hedgerows, and new individual trees planting within Hedgerow is discussed as part of Feature 5.

11 Feature 7: Ponds

Management objective

11.1 The final LEMP will confirm the overall management objective through the subheadings and framework text outlined below.

Management Vision

11.2 Retention and establishment of high-quality ponds of varying depths that will support a range of native and aquatic plants which will provide conditions suitable for amphibians, including great crested newt and a diverse assemblage of aquatic invertebrates. These ponds will have a key role in supporting other wild animals such as providing a source of water for birds and mammals, source of insect prey for bats and hunting territory for grass snake.

Targets

11.3 The created and existing ponds on Site will achieve/maintain **moderate condition** as defined in the Statutory Biodiversity Metric condition assessment sheets (Natural England, 2024b).

11.4 The ponds within the Site must pass 6 of the 9 Condition Assessment Criteria set out for Ponds (non-woodland ponds). These include:

A. The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.

B. There is semi-natural habitat (i.e. moderate distinctiveness or above) for at least 10 m from the pond edge.

C. Less than 10% of the pond is covered with duckweed or filamentous algae.

D. The pond is not artificially connected to other waterbodies, either via streams, ditches or artificial pipework.

E. Pond water levels should be able to fluctuate naturally throughout the year. No obvious dams, pumps or pipework.

F. There is an absence of non-native plant and animal species[20].

G. The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.

H. Emergent, submerged or floating plants (excluding duckweed)4 cover at least 50% of the pond area which is less than 3 m deep.

I. The pond surface is no more than 50% shaded by adjacent trees and scrub.

11.5 The final LEMP will specify which criteria will be met. It is anticipated that criteria A, B, F, G,H and I will be met.

Current Status

11.6 Two existing ponds are present in field corners of the areas where solar development will occur which currently achieve moderate condition. These ponds are to be retained.

11.7 Proposed SuDS basins are not anticipated to qualify as pond habitat and will be dry throughout most of the year (refer to Feature 1: seasonally wet meadow grassland). Twelve biodiversity ponds are currently proposed, within the Biodiversity Mitigation Areas, to be created in areas that appear to be naturally wet and are currently modified grassland or cropland.

[20] Any species included on the Water Framework Directive UKTAG GB High Impact Species List should be absent.

Table 7: pond habitat creation, management and monitoring projects

Project 7-1	**Create ponds**
Purpose	Provide new ponds that will achieve moderate condition
Responsibility	The solar farm operator, their approved tenant and/or appointed subcontractor
Equipment and Materials	The final LEMP will provide details of the relevant machinery, planting plans and planting schedules.
Methodology	The final LEMP will include specifications creating ponds. The specification will be prepared with reference to detailed designs, and will include: • Details of excavation and whether pond liners may be required to retain water. • Details of soil management/disposal methods. • Target depths and topology of ponds, with reference to the Pond Creation Toolkit (http://www.freshwaterhabitats.org.uk/projects/million-ponds/pond-creation-toolkit/). • Specification for plug planting, seeding, or aquatic planting. Species used will be locally appropriate to the area. • Details of any protection fencing, and if appropriate, buoyancy aids to be provided.
Timing	Ponds can be dug at any time. Planting during growing season and only once pond(s) have sufficient water to enable survival.
Frequency	One off activity (subject to success, additional interventions to be undertaken if necessary)
Project 7-2	**Monitor Pond Habitat**
Purpose	To understand the measures needed to maintain ponds in moderate condition
Responsibility	The solar farm operator or appointed consultant ecologist.
Equipment and Materials	Equipment for recording field data (GPS, camera, forms)
Methodology	Assess the condition of all ponds in accordance with the Statutory Biodiversity Metric condition assessment sheets (Natural England, 2024b). These include: • a visual assessment of water quality • assessment of suitable surrounding semi-natural habitat within 10m • cover of duckweed or filamentous algae <10% • count of artificial inflows of water • assessment of naturally fluctuating water levels • non-native invasive plant and animal species presence/absence • presence/absence of fish • Cover of emergence, submerged or floating plants • Additionally, monitor ponds to ensure that shading from overhanging vegetation does not exceed 50%.
Timing	June to August
Frequency	Monitor every year for first three years, then in Year 5. Monitoring will then be undertaken every 5 years until year 30.
Resulting Action	Project 7-3 and 7-4 (below) to be undertaken if macrophytes cover more than 90% of the pond, or if scrub has encroached more than 50% of the banks respectively.

	Seek specialist advice if non-native invasive plants or animals, or fish are recorded.
Project 7-3	**Control emergent and submerged vegetation**
Purpose	To improve quality of ponds that are becoming choked with vegetation.
Responsibility	The solar farm operator, their approved tenant and/or appointed subcontractor
Equipment	It is anticipated that hand-tools will be used for working in the pond unless otherwise agreed with the Ecologist.
Methodology	The final LEMP will outline specific measures to manage emergent and submerged vegetation, these will build on the points below: • All vegetation removal work to undertaken with an Ecologist in attendance to provide advice and mark suitable areas for removal. • Biosecurity checks and procedures to be completed before entering and after leaving the pond. • Methods and details of vegetation removal. • Procedure for removal/disposal of the arisings. • Appropriate working methods to avoid adverse impacts to faunal species that could be present in the working areas such as amphibians, reptiles, and mammals.
Timing	November to mid-February
Frequency	As directed by the Ecologist (see project 7-2)
Project 7-8	**Scrub and tree clearance**
Purpose	To manage woody vegetation cover around ponds (once these have become established)
Responsibility	The solar farm operator, their approved tenant and/or appointed subcontractor
Equipment and Materials	It is anticipated that hand-tools will be used for working in the pond unless otherwise agreed with the Ecologist.
Methodology	The final LEMP will outline specific measures to manage encroaching scrub, these will build on the points below: • All vegetation removal work to undertaken with an Ecologist in attendance to provide advice and mark suitable areas for removal. • Biosecurity checks and procedures to be completed before entering and after leaving the pond. • Methods and details of scrub cutting. • Procedure for reusing the risings as habitat piles. • Appropriate working methods to avoid adverse impacts to faunal species that could be present in the working areas such as amphibians, reptiles, and mammals.
Timing	November to mid-February
Frequency	As directed by the Ecologist (see project 7-2)

12 Feature 8: Ditches

Management objective

12.1 The subsections below provide the framework for the management objective.

12.2 This OLEMP does not include provision for managing the existing ditches or watercourses, which will continue to be managed as they are, by the Lead Local Flood Authority (Nottinghamshire County Council) and the Internal Drainage Board (Lindsey Marsh Drainage Board). These ditches/watercourses will not have new biodiversity targets related to the Steeple Renewables Project. This is because consultation with the Internal Drainage Board concluded that changes to the management regime of existing ditches in their jurisdiction would not be feasible from a flood defence perspective[21].For simplicity, no existing ditches/watercourses will be subject to altered management.

Management Vision

12.3 New ditches will provide variance in topography that will support the wider floodplain marsh habitat/wetland mosaic. The new ditches will be set within a periodically flooded grassland near to the River Trent which will deliver positive change for biodiversity, providing plant diversity and opportunities for aquatic invertebrates and subsequent food sources for mammals and birds. They will provide suitable habitats for riparian mammals such as water vole and fish species that would likely colonise following flood inundation. The ditches will be of varying widths and depths, and side channels will be created that will develop marginal vegetation at different rates to the main channels, providing a range of vegetation structure.

Targets

12.4 The created ditches on Site will achieve **moderate condition** as defined in the Statutory Biodiversity Metric condition assessment sheets (Natural England, 2024b).

12.5 New ditches must meet six out of eight condition criteria. Criteria include:

A. The ditch is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution.

B. A range of emergent, submerged and floating leaved plants are present. As a guide >10 species of emergent, floating or submerged plants in a 20 m ditch length.

C. There is less than 10% cover of filamentous algae and/or duckweed (these are signs of eutrophication).

D. A fringe of marginal vegetation is present along more than 75% of the ditch.

E. Physical damage evident along less than 5% of the ditch, such as excessive poaching, damage from machinery use or storage, or any other damaging management activities.

F. Sufficient water levels are maintained; as a guide a minimum summer depth of approximately 50 cm in minor ditches and 1 m in main drains.

G. Less than 10% of the ditch is heavily shaded.

H. There is an absence of non-native plant and animal species.

12.6 Further detail will be provided in the final LEMP, including which criteria will be met. Currently, it is anticipated that criteria A, C, D, E, G, and H will be met. Therefore, meet the requirements of moderate condition.

[21] Pers. comms Turner, I (2025) Email regarding proposal to adopt biodiversity-focussed management regimes for selected ‘offline’ drains, email to McVean, E., 17 March 2025.

Current status

12.7 The area where the new ditches are to be created currently modified grassland that forms part of wetland mosaic, which also qualifies as a poor example of Floodplain grazing marsh (an HPI). Feature 10 below outlines the provisions for the Floodplain grazing marsh areas. The grassland regularly floods in winter from the adjacent River Trent.

Table 8: New Ditch Habitat Creation, Management and Monitoring

Project 8-1	**Create ditches**
Purpose	Create networks of ditches that will achieve moderate condition
Responsibility	The solar farm operator, their approved tenant and/or appointed subcontractor
Equipment and materials	The final LEMP will provide details of the relevant machinery, planting plans and planting schedules.
Methodology	The final LEMP will include specifications creating ditches. The specification will be prepared with reference to detailed designs, and will include: • Details of excavation - indicatively these will be ca. 1.5m width and 1m depth V-shaped channels • Details of soil management/disposal methods, which will involve the arisings being spread evenly in the surrounding area. • Target depths and topology of ponds, with reference to the Pond Creation Toolkit (http://www.freshwaterhabitats.org.uk/projects/million-ponds/pond-creation-toolkit/). • Specification for any plug planting, seeding, or aquatic planting • Details of any protection fencing, and if appropriate, buoyancy aids to be provided.
Timing	Excavations – should be programmed for summer / early autumn, when ground is less likely to be flooded. Planting / seeding – Late March to May or September to October, once normal water levels have been established within the new watercourse.
Frequency	One off activity (subject to success, additional interventions to be undertaken if necessary).
Project 8-2	**Manage ditch margins (created ditches only)**
Purpose	To maintain diversity of riparian plant species by maintaining high levels of light and remove dominant species if needed
Responsibility	The solar farm operator, their approved tenant and/or appointed subcontractor
Equipment and Materials	The final LEMP will provide details of the relevant tools and machinery
Methodology	The final LEMP will outline specific measures to manage riparian habitat in the new ditches, these will build on the points below: • Manage the ditch by cutting vegetation in 10-20 m sections on a 5-year cutting rotation, and/or on one bank only (allowing some sections to become well-structured vegetation that is allowed to seed/fruit while other sections are cut to 10cm sward height in winter to control long-term scrub growth).

	• Remove any undesirable species as idemtified in the monitoring and reporting by the Ecologist.
Timing	September to October preferable (avoiding nesting bird season, but avoiding flooded conditions)
Frequency	Annually (manage a fifth of each ditch annually to achieve a five-year rotation)
Project 8-3	**Monitor new ditches**
Purpose	To understand the measures needed to maintain new ditches in moderate condition
Responsibility	The solar farm operator or appointed consultant ecologist.
Equipment	Equipment for recording field data (GPS, camera, forms)
Methodology	The final LEMP will confirm the number of sample sections for monitoring. Indicatively, and due to the scale of the project, it is anticipated that representative samples are taken to represent the habitat type to make the monitoring regime as feasible as possible. • Conduct a walkover of the ditch network. • Record data to inform assessment as Statutory Biodiversity Metric condition assessment sheets (Natural England, 2024b).; requiring measurement of: water quality; range and extent of emergent, submerged and floating leaved plants; cover (or absence) of filamentous algae and/or duckweed; evidence of physical damage to the ditch; water depth; % cover of heavy shade; and presence / absence of non-native plant and animal species.
Timing	June - July
Frequency	Monitor every year for first three years, then in Year 5. Monitoring will then be undertaken every 5 years until year 30.
Resulting action	Amend project 8-2 if moderate condition is not consistently met. Seek specialist advice if non-native invasive plants or animals, or fish are recorded.

13 Feature 9: Traditional Orchard

Management objective

13.1 The subsections below provide the framework for the management objective.

Management Vision

13.2 A new traditional orchard will be created in the centre of the Site on a site that appeared to be mapped as an orchard ca. 100 years ago (according to historical OS mapping 1885-1915), but it will be extended to the public footpaths to enable public access and enjoyment. The orchard will combine species-rich grassland with flowering and fruiting trees which will provide important foraging resources for invertebrates, birds, hedgehog and small mammals through the nectar-rich blossoms int eh spring, and fruit in the summer and autumn. The habitat will be created and managed to create a habitat akin to traditional orchard, such as the one that exists on Site off Wood Lane.

13.3 The existing orchard off Wood Lane will continue to be managed as it currently is, with occasional sheep grazing of the underlying grassland, and will remain closed to the public. The fruit trees will receive minimal intervention so that they can continue to develop deadwood and cavity features that provide shelter for birds and animals. Orchard trees will provide bright coloured blossoms in spring and be heavy with fruit in late summer.

Targets

13.4 The new orchard will achieve/maintain **moderate condition** as defined in the Statutory Biodiversity Metric condition assessment sheets (Natural England, 2024b). This is to acknowledge that it will be open to public access and therefore may not have flexibility to be managed primarily for biodiversity. The existing Orchard off Wood Lane will be manged to maintain its **good condition**.

13.5 To be in moderate condition, the new orchard must pass at least four of eight Condition Assessment Criteria set out for Traditional Orchards. These include:

A. Presence of ancient and or veteran trees.

B. Presence of deadwood in or on trees, or on the ground: at least 20% of mature trees have deadwood associated with them.

C. Less than 5% of fruit trees are smothered by scrub. Small patches of dense scrub and or scattered scrub growing between trees can be beneficial to biodiversity, however these occupy less than 10% of ground cover.

D. There is evidence of formative and or restorative pruning to maintain longevity of trees.

E. At least 95% of the trees are free from damage caused by humans or animals, for example browsing, bark stripping or rubbing on non-adjusted ties.

F. Grassland is not overgrazed, poaching is not evident around the trees, with no more than 10% of trees poached under the canopy.

G. Species richness of the grassland is equivalent to a medium, high, or very high distinctiveness grassland.

H. There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA) and species indicative of suboptimal condition make up less than 10% of ground cover.

13.6 The final LEMP will specify which criteria will be met for the new orchard; it is anticipated that criteria C, D, G, and H will be met.

Current status

13.7 The orchard has not yet been created and will be planted on land that is currently cropland. Traditional Orchards are HPI and LBAP habitats. An existing traditional orchard in good condition exists on Site (by Wood Lane).

Table 9: traditional orchard habitat creation, management and monitoring

Project 9-1	**Create orchard**
Purpose	Create an Orchard that will achieve moderate condition
Responsibility	The solar farm operator, their approved tenant and/or appointed landscape subcontractor
Equipment and materials	The final LEMP will provide details of the relevant machinery, planting plans and planting schedules.
Methodology	Grassland element: The grassland element of the orchard will be created in line with Project 1-1b above (refer to Section 5). The seeding shall be undertaken after the trees are planted in line to the specification below, but trees will only be planted after the ground preparation outlined in Project 1-1b is finished. Orchard tree planting element: The final LEMP will include specifications for planting orchard trees. The specification will be prepared with reference to detailed designs, and will include: • Tree stock details including species, and sizes. Species used will be locally appropriate to the area.. • Planting methods including spacings/densities, tree pit specifications. • Details of any mulching or watering. • Details of any guards, stakes, protection fencing, or shelters to be used – this will include details of any temporary fencing that may be needed. • Suitable weather conditions for planting.
Timing	Ground preparation and tree planting following seeding: November to March (avoid frosty conditions). Grassland sowing: April / May to achieve best results as soon as possible after tree planting. This activity will be completed following completions of any construction activities that could damage this habitat.
Frequency	One-off activity (subject to success, additional planting, or seeding to be undertaken if necessary)
Project 9-2	**Manage orchard**
Purpose	Ensure establishment of trees and desirable ground flora in the form of a diverse grassland, and continue to provide fruiting trees.
Responsibility	The solar farm operator, their approved tenant and/or appointed landscape subcontractor
Equipment and materials	The final LEMP will provide details of the equipment such as tools, and any materials needed.
Methodology, Timing and Frequency	Grassland: The grassland will be managed in line with the measures outlined in Project 1-1b above (refer to Section 5).

	Fruit Trees: The final LEMP will provide further details on the following management measures: • Regular mulching and watering of new trees in the first year. • Formative pruning from the first year onwards. Pip fruits (apples and pears) will require winter pruning, and stone fruits (plums and cherries) will require summer pruning. This will be done to encourage fruiting, but dead limbs will be retained if possible. • The existing, mature orchard trees will have minimal intervention and development of decay features will be passively encouraged.
Project 9-3	**Monitor orchard**
Purpose	To identify the condition of the orchards
Responsibility	The solar farm operator or appointed consultant ecologist
Equipment	Equipment for recording field data (GPS, camera, forms)
Methodology	Conduct a walkover survey of the orchards. Within the grassland, at randomly selected 1 m^2 quadrat survey points (number to be confirmed in the final LEMP), record: • the composition of plants using a DAFOR scale[22]; • average sward height, • % cover of bare ground, • % cover of scrub, • % cover of bracken, • evidence of physical damage to the grassland (and % cover) such as from fire damage or compaction, • the presence and % cover of any injurious weeds and invasive, non-native plant species. Additionally, record data to inform assessment as Statutory Biodiversity Metric condition assessment sheets (Natural England, 2024b) for traditional Orchard.
Timing	Mid-June to mid-July (prior to grassland being cut)
Frequency	Monitor annually for the first 5 years, then at Year 10, Year 15, Year 20, Year 25, Year 30 and Year 40. If any plantings fail and are replaced in the first 5 years, then additional annual monitoring may be required up to Year 10.
Resulting action	Review management methods (Project 6-2) if Condition Assessment targets are not being met for the grassland. Should any Schedule 9 plants be recorded, consult specialist for advice on the control and eradication of the species; and implement the recommended actions in liaison with SE. If health of newly planted trees is poor, consider: ~ Removing and replacing damaged/diseased saplings as required. ~ Removing competitive grasses and weeds from within guards

[22] D - Dominant 50-100%; A - Abundant 30-49%; F - Frequent 15-29%; O - Occasional 5-14%; R - Rare < 5%

14 Feature 10: Floodplain Grazing Marsh And Lake

Management objective

14.1 The subsections below provide the framework for the management objective.

Management Vision

14.1 The floodplain grazing marsh (wetland mosaic) will comprise various habitats including:

- Modified **grassland**, which exists on Site and will be retained and managed as per the grazing method outlined in project 2-2 above.
- Created and existing **scrub** that will be planted and managed as outlined for Feature 3 above.
- An existing **hedgerow**, that will be enhanced and managed as outlined For Feature 4 above.
- Created **ponds** in line with Feature 7 above
- Created **ditches** in line with Feature 8 above.
- **Wet scrapes**, which are discussed further in this Feature.

14.2 The floodplain grazing marsh currently exists on Site but is considered a poor example of the HPI as it lacks the variation in topography that allows pools and wet areas to persist. It is currently used for sheep grazing and the grassland element has a poor species diversity. Enhancement of this habitat will provide variations in topography and wetness that will benefit wetland and farmland birds, grass snake and amphibians. The habitat will develop into a good example or easily recognised floodplain grazing marsh.

Target

14.3 No change to the conditions of the existing wetland mosaic or lake is proposed (i.e. to remain in respective poor and moderate condition as assessed Statutory Biodiversity Metric condition assessment sheets for wetland and lakes (Natural England, 2024b)). In lieu of targeting a condition, it is anticipated that the objective will be to provide enhancements that make the habitat accord more to the HPI definition (BRIG, 2011). At present, the habitat lacks the following:

- *"ditches are especially rich in plants and invertebrates"*
- *"Sites may contain seasonal water-filled hollows and permanent ponds"*

14.4 Targets already exist for Feature 7 ponds and Feature 8 ditches. Therefore, the target will be to provide wet scrapes that provide shallow water habitats for part of the year, including growth of at least four marginal/wetland plants, and suitability for wading birds.

Current status

14.5 An area in the east of the Site, is within the floodplain of the adjacent to the River Trent, and was noted to be inundated with floodwater in February 2024, but floodwater had receded by March 2024. An artificial levee is within this part of the Site and it is anticipated that floodwater may occasionally extend to this during times of spate. The area is subject to sheep grazing (likely of high intensity) and there plant diversity of grassland is low (2-5 species per square metre). Localised patches of wetland plant species are present (such as tufted hair-grass *Deschampsia cespitosa* and rushes *Juncus* spp.). The majority of grassland areas are characteristic of modified grassland. A single ditch is present in this area, and a large lake (Littleborough Lagoon) with a slipway and pipework has been created within the last 60 years[23].

[23] The feature is shown on aerial imagery from 1985 (Google and Image Landsat / Copernicus, 1985), but not shown on OS maps from 1955-1959 (OS, 1969).

14.6 The area can be considered to meet the definition of Coastal Floodplain Grazing Marsh (BRIG, 2011), but it is a poor example of this priority habitat owing to the lack of topological diversity that would result in wet depressions or extensive ditch systems.

Table 10: wetland scrape habitat creation, management and monitoring

Project 10-1	**Wetland scrape creation**
Purpose	Create wetland scrapes suitable to support marginal plants and wintering birds
Responsibility	The solar farm operator, and/or appointed landscape subcontractor
Equipment and Materials	The final LEMP will provide details of the relevant machinery, planting plans and planting schedules required.
Methodology	The final LEMP will include specifications for creating wet scrapes (number and location to be confirmed, but these will be located more than 10m from watercourses). The specification will be prepared with reference to the Wildlife Trust guidance for wader scrapes[24], which is included as Annex 2 and has the following specifications: • Scrapes should be excavated to less than 1m deep and ideally 20m^2 in size. • The scrape should be an uneven shape. • Spoil should be spread thinly across the surrounding floodplain • Additional plug planting may be undertaken to introduce key species such as great burnet, pepper saxifrage and ragged robin.
Timing	September-October (dependant on flood levels). If plug planting is undertaken this should be in spring, and when grazing livestock are not present.
Frequency	One-off activity (subject to success, additional interventions to be undertaken if necessary)
Project 10-2	**Manage wet scrapes**
Purpose	Ensure establishment
Responsibility	The solar farm operator, their approved tenant and/or appointed landscape subcontractor
Equipment and Materials	The final LEMP will provide details of the relevant equipment needed, which will be suited to tenant availability and the long-term management methods available.
Methodology, Timing/Frequency	Wet scrapes will be managed as per the provisions for the adjoining grassland (refer to grazing measures in project 2-2 above.
Project 10-3	**Monitor wet scrapes**
Purpose	Ensure wet scrapes are functioning as intended and not causing a hazard to other habitat management projects
Responsibility	The solar farm operator or appointed consultant ecologist
Methodology	Record the composition of plants using a DAFOR scale[25]; Additionally, note the presence of any invasive, non-native plant species AND large stands of injurious weeds (up to 5 m^2).
Timing	To align with grassland monitoring: Mid-June to mid-July (i.e., prior to cutting or commencement of grazing)

[24] Sussex Wildlife Trust (2013) *Wader Scrapes: What are They and How do I Make One?* March 2013.
[25] D - Dominant 50-100%; A - Abundant 30-49%; F - Frequent 15-29%; O - Occasional 5-14%; R - Rare < 5%

Frequency	Monitor annually using the walked transect route for the first 5 years, then at Year 10, Year 15, Year 20, Year 25, Year 30 and Year 40.
Resulting Action	Review management methods if Condition Assessment targets are not being met. Consult suitably experienced specialist contractor on the eradication of invasive, non-native weeds if presence is confirmed.

15 Feature 11: Arable Land

Management objective

15.1 The final LEMP will confirm the overall management objective through the subheadings and framework text outlined below.

Management Vision

15.2 Twelve cropland fields have been identified within the Site that are considered to be suitable for prioritising the delivery of skylark mitigation measures. These fields will support multiple skylark territories during the breeding season with a vision to see birds hovering above the fields and hear males singing throughout the spring and summer. There will be beetle banks through the larger fields and all field margins will provide wide, flower-rich grassland margins that will support a range of butterflies, worms, spiders and larvae. Further detail on the vision for enhancing arable land is provided in Appendix 7.13 - Skylark mitigation report [EN010163/APP/6.3.7].

Targets

15.3 Arable cropland is not subject to condition assessment in the in the Statutory Biodiversity Metric (Natural England, 2024b).

15.4 Success will be measured by achieving the number of skylark territories (+/-10%) assessed based on the evidence-lead projections made within Appendix 7.13 - Skylark mitigation report [EN010163/APP/6.3.7]. This projected that the land may support up to 87 skylark territories. The judgement of success will be made by taking account of the monitoring results from the survey area across several seasons (rather than relying on a snapshot of a single year). It will also take into account external factors that could affect skylark numbers such as potential effects of prevailing weather conditions, local and national population trends, or the effect of disease breakouts.

Current status

15.5 The arable fields currently have a peak count of 29 skylark territories (based on 2024 and 2025 breeding bird characterisation surveys). The margins and verges of the arable land vary in plant diversity, ranging from 3 to 16 species per square metre, with a median average of 8 species per square metre.

Table 11: arable land management and monitoring

Project 9-1	**Manage arable land for farmland birds**
Purpose	To increase the carrying capacity of the arable land for farmland birds such as skylarks
Responsibility	The solar farm operator, their approved tenant
Equipment and materials	The final LEMP will provide details of the equipment such as tools, and any materials needed.
Methodology, Timing and Frequency	The Final LEMP will elaborate on the measures for cropland to be managed for farmland birds such as skylark. To include: • inclusion of 'skylark plots' in cereal crops at approximately 2 plots/ha: ○ These plots will be created following the RSPB promoted guidance to farmers[26] and in a manner that has been delivered by farmers across lowland England as Countryside Stewardship AB4 Skylark Plots[27]. Each plot will be located at least 50 m from a field

[26] https://farmwildlife.info/how-to-do-it/farmed-area/skylark-plots/
[27] https://www.gov.uk/countryside-stewardship-grants/skylark-plots-ab4

	boundary with a hedge or tree (open farm tracks acting as boundaries are discounted as there will be no deterrent effect from these) and at least 50 m from any adjacent woodland. Each plot will be at least 3 m wide, will have a minimum area of 16 square metres, will not be connected to the tramlines and will be created by turning off the drill during sowing. • increasing widths and plant diversity of grassy field margins, through undertaking overseeding/seeding as outlined in Project 1-1a and 1-1b, including measures to promote arable plants by undertaking occasional cultivation of field margins at an appropriate time of year. • creating 'beetle banks' across fields. • managing fields with a crop rotation that includes fallow fields or bird mixes.
Project 9-2	**Monitor arable land**
Purpose	To identify whether mitigation commitments have been met
Responsibility	The solar farm operator or appointed consultant ecologist
Equipment	Equipment for recording field data (GPS, camera, forms)
Methodology	Breeding bird characterisation surveys will be undertaken of the arable cropland, in line with the methodology adopted to inform the baseline surveys (refer to Appendix 7.4 - Breeding bird report [EN010163/APP/6.3.7]).
Timing	March-July
Frequency	Monitor in Year 2 and Year 5. If the mitigation is found to be failing, further monitoring may be needed up to Year 10.
Resulting action	Review management methods (Project 9-1) if targets are not being met.

16 Feature 12: Hibernacula For Amphibians And Reptiles

Management objective

16.1 The subsections below provide the framework for the management objective.

Management Vision

16.2 Hibernacula will be located within the grassland and scrub, in close proximity to the new ponds but on land that will not flood or become waterlogged. They will be created out of woody and stoney material overlaid with turf. These will provide dry, frost free cavities and crevices for hibernating and sheltering amphibians, reptiles and other small animals.

Target

16.3 Maintain the favourable form and function of hibernacula: access and egress points remain unobstructed and hibernacula are intact and structurally sound. The number of features will be confirmed on the final LEMP .

Current Status

16.4 Small, localised densities of newts and reptiles are present at the Site. Terrestrial habitat varies across the Site, but primarily comprises cropland of poor suitability for hibernation

Table 12: Habitat Creation, Management and Monitoring Projects (Figure 2)

Project 11-1	**Construction of hibernacula and refuges**
Purpose	To provide enhanced hibernation and sheltering opportunities for amphibians, reptiles and invertebrates.
Responsibility	The solar farm operator, their approved tenant and/or appointed landscape subcontractor and Ecologist
Equipment and Materials	Excavator, inert material recycled from construction activities at the Site (e.g., brick discards, logs and other inert, coarse material).
Methodology	• Create hibernacula around the ponds: Hibernaculum design will accord with that described in the Great Crested Newt Mitigation Guidelines (English Nature, 2001; page 42). • Remove turf and topsoil (to depth of 150 mm) to create a shallow depression in which the material will be placed. • Tip material within depression to form a mound 2 m (wide) x 2 m (long) x 1 m (tall). • Cap hibernacula with a little soil and turf, ensuring access and egress points to the interior remain largely unobstructed. • Additional refuges are smaller than hibernacula and can be created from log, brash, and rubble piles. Refuges can be constructed at ground level and therefore do not need to be located in a depression.
Timing	During other earthworks / habitat maintenance in proximity to relevant ponds.
Frequency	One-off activity (subject to success, additional interventions to be undertaken if necessary)
Project 11-2	**Monitor condition of hibernacula**
Purpose	To assess hibernacula condition.
Responsibility	The solar farm operator or appointed consultant ecologist

Equipment	Map of hibernacula locations, recording form.
Methodology	• Check that access and egress points are unobstructed. • Check that hibernacula and habitat piles are free from waterlogging. • Check for signs of damage such as burning or other interference, and that the hibernacula still has from and function for sheltering animals. .
Timing	June to August (reporting annually in December-January)
Frequency	Once every two years.
Resulting Action	Repair hibernacula or reposition if condition is not satisfactory.

17 Feature 13: Artificial Bat Roosting/Bird Nesting Features

Management objective

17.1 The subsections below provide the framework for the management objective.

Management Vision

17.2 Roosting and nesting installation will provide new opportunities for nesting birds and roosting bats which will provide an enhanced resource at the Site for a variety of species. Barn owl boxes will be installed on trees to maintain and enhance local populations. The number and types of features will be confirmed in the final LEMP.

Targets

17.3 Maintain the function of artificial roosting/nesting features: access points unobstructed and roosting/nesting features structurally sound.

Current Status

17.4 Habitat suitable for nesting birds and roosting bats is present within woodland, trees, and scrub, which will be retained. Existing owl boxes are located across the Site (refer to Appendix 7.5 - Barn owl report (confidential) [EN010163/APP/6.3.7]). Bat and bird boxes will be installed at the end of the construction phase of development within areas of construction, but would be installed earlier in the biodiversity mitigation areas.

Table 12: Habitat Creation, Management and Monitoring Projects

Project 11-1	**Installation of artificial roosting/nesting features**
Purpose	To provide new opportunities for roosting / nesting for birds and bats
Responsibility	The solar farm operator, their appointed landscape subcontractor
Equipment and Materials	Artificial roosting/nesting features, appropriate means of access for working at height, aluminium nails (for attachment of features to trees).
Methodology	The number and locations of the nesting/roosting features will be confirmed in the final LEMP. The bat boxes should be positioned such that there is a clear flight path from the entrance unobstructed by vegetation, away from artificial light sources, and should be located approximately 4m from the ground. Bird boxes will also be placed 3-4m above ground level, allow for a range of nesting types (i.e. open fronted boxes, hole-fronted boxes, etc.) and may be placed in more sheltered areas.
Timing	Winter
Frequency	One off activity
Project 11-2	**Monitor artificial roosting/nesting features**
Purpose	To assess condition of the features and their use by the target species.
Responsibility	The solar farm operator or appointed consultant ecologist
Equipment and materials	Map of roosting/nesting feature locations, recording form, ladder.
Methodology	Check that access points are unobstructed. Check for evidence of use. Where the monitoring would potential cause disturbance (i.e., close inspections inside

	the boxes), bat and barn owl boxes should be inspected by an appropriately licensed ecologist. Check for signs of damage or other interference.
Timing	Between March and September
Frequency	Years 2 and 3 post-installation.
Resulting Action	Replace or reposition if condition of box is not satisfactory.

18 Feature 14: Invasive Weeds

Management objective

18.1 The subsections below provide the framework for the management objective.

Management vision

18.2 Invasive weeds will be absent or controlled to cover as minimal area as feasible (noting that watercourses or flooding may bring in sources of invasive weeds that cannot be reasonably curtailed).

Targets

18.3 Prevent spread: Upper limit – Invasive weed cover will not grow in extent.

Current status

18.4 Canadian waterweed *Elodea canadensis* was observed within Mother Drain in the east of the Site. No other INNS have been noted within the Site to date.

Table 14: habitat management and monitoring projects

Project 14-1	**Monitor and report on the extent of invasive weeds**
Purpose	To identify quantity (area coverage) and location of invasive weeds.
Responsibility	The solar farm operator or appointed consultant ecologist
Methodology	Note the location and species of any invasive, non-native plant species, provide GPS locations and measurements of area, height and notes on any signs of reproduction/new shoots.
Timing	March to August.
Frequency	Monitor each season in Years 1, 2, 5, 10, 15, 20, 25,30 and 40.
Resulting Action	Consult suitably experienced subcontractor on treatment if there is evidence that weeds have spread by more than 10% their initial extent.

19 LEMP Delivery – Timing, Funding, Legal Mechanism, Roles, Responsibilities, Monitoring Reports and LEMP Review

Funding, legal delivery mechanism for management and timing

19.1 It is anticipated that the preparation and approval of the final LEMP will be secured by a requirement in the development consent order. It is also expected that the requirement will secure the delivery habitat creation, enhancement and management that will be specified in the final LEMP.

19.2 The timing of the habitat works will be subject to seasonal requirements and suitable weather conditions to aid successful habitat establishment, hence flexibility on the precise timing is required. The final LEMP will confirm an Action Plan that will include 'Year 0' for the habitat creation and planting works. This means that the habitat management clock will start after the creation and enhancement planting has been undertaken.

19.3 Confirmation that habitat creation and enhancement works have been satisfactorily completed will involve liaison between multiple technical disciplines to confirm that they are in agreement

19.4 During the 40-year period covered by the HMMP, the solar farm operator will be responsible for implementing the prescriptions stated in the plan and providing the funding for doing so.

Roles and responsibilities

19.5 The final LEMP will set out the roles and responsibilities of those involved in delivering the final LEMP and the prescriptions in the final LEMP. An outline of the key roles is provided below.

The solar farm operator and their tenants

19.6 The solar farm operator will provide a Principal Contractor who will be responsible for the delivery of the Proposed Development.

19.7 The solar farm operator will appoint a member of staff who will be responsible for overseeing the delivery of the LEMP on behalf of the solar farm operator. This person will be responsible for arranging and overseeing the habitat creation and enhancement works and ongoing habitat management and monitoring. The solar farm operator will instruct suitably experienced relevant professionals to aid the LEMP delivery and may undertake tasks including monitoring identified in the LEMP. Tenant land managers may be involved in the habitat management.

Ecologist

19.8 A suitably qualified and experienced professional ecologist will be appointed to work with the solar farm operator to provide support in relation to monitoring, reporting, and species protection as required. The ecologist should be a member of the Chartered Institute of Ecology & Environmental Management or such other accreditation.

Appointed contractors – landscape, specialist invasive non-native species

19.9 Suitably experienced professional landscape contractor/s will be appointed by the solar farm operator according to the relevant technical discipline required to support the final LEMP delivery onsite.

Reporting, liaison and LEMP review

19.10 There will be requirements for monitoring by the Ecologist so that management can be appropriately reviewed and suggestions for improvements made as required. In order to provide documentary evidence of relevant ecological monitoring and responsive management, reporting will be appropriate. The monitoring to inform reporting may comprise several walkover visits undertaken throughout a given year (for example pond monitoring may be in spring and grassland monitoring may be in summer). The findings will be combined into a single annual report for that given year. The contents of this report will vary from year-to-year, depending upon the monitoring programme

and management regime for the Management Features. The reporting programme will be agreed in the final LEMP, but will indicate cover several years within the first five years, then a lower frequency (such as every five or ten years) thereafter until Year 40.

19.11 The LEMP will be reviewed periodically. The purpose of the reviews will be to respond to the site and habitat conditions recorded during monitoring, make any reasonable adjustments/adaptations to the existing management projects, add new management requirements and adjust/adapt associated monitoring requirements, as appropriate. The LEMP is capable of being used and reviewed on a rolling basis for the 40 year management period.

20 Action Plan Including Habitat Monitoring Plan

20.1 The Final LEMP will include a tabulated Action Plan that will provide a summary of the actions required and in which year for the first 5 years (Years 1-5) following habitat creation and enhancement (i.e. Year 0).

21 References

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Biodiversity Reporting and Information Group [BRIG] (2011) *UK Biodiversity Action Plan; Priority Habitat Descriptions*. Peterborough: JNCC.

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Natural England and Defra (2023) *Companion Document Templates for use with Habitat Management and Monitoring Plan and Monitoring Report*. Version 1.0 published 28 November 2023

Natural England (2025) *National Character Area 48 Trent and Belvoir Vales* [online] Available at: https://nationalcharacterareas.co.uk/Trent-and-Belvoir-Vales/Accessed 26 March 2025.

Nottinghamshire Biodiversity Action Group (2020) *Nottinghamshire's LBAP*. Available at: https://nottsbag.org.uk/lbap/ (Accessed: 09 July 2024).

Annex 1: Summaries Of Relevant Policy, Legislation and Other Instruments

Legislation

21.1 The Site has potential to support legally protected species. Habitat creation and the ecological management of the Site should ensure that actions taken are not to the detriment of legally protected species and where possible should encourage the conservation of these species within the Site.

Breeding birds

21.2 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs.

The Management of Hedgerows (England) Regulations 2024

21.3 The following constraints to working on or near existing hedgerows must be considered during the management of the habitats:

- A 2m buffer strip, measured from the centre of a hedgerow, where a green cover must be established and maintained. Also, no cultivation or the application of pesticides or fertilisers should take place within this buffer strip.
- Hedgerow cutting is not permitted from 1 March to 31 August (inclusive).

21.4 The Regulations allow for hedgerow management activities including hedge laying, coppicing, preventing obstruction sot public rights of way, and injurious weed control (chemical spot treatment is allowed); these are exemptions to the above rules.

Species and habitats of principal importance

21.5 Planning authorities have a duty under Section 40 of the NERC Act 2006 to have regard to biodiversity in the exercise of their functions which includes their planning and development management function. Section 41 of the NERC Act 2006 requires a list to be prepared of relevant biodiversity to which the duty applies; they are referred to as habitats and species of principal importance. These are the habitats and species shown on the England Biodiversity List published by the Secretary of State under Section 41 of the NERC Act 2006. In the National Planning Policy Framework (NPPF), local planning authorities are required to apply the principles of the mitigation hierarchy in relation to the potential harmful effects of development on biodiversity; the NPPF refers to priority habitats and species and these are synonymous with habitats and species of principal importance. The mitigation hierarchy requires the use of sequential approach by development to first seek to avoid the biodiversity impact, then, if avoidance is not possible, mitigation should be undertaken to reduce the harmful effects and, as a last resort, compensation should be provided to protect biodiversity from the adverse effects of development..

21.6 Paragraph 192b of the NPPF indicates that in Local Plans local authorities should take measures to "*promote the conservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species…"* linking to national and local targets through local planning policies. In planning decisions paragraph 193d advises that '*Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged…*'

21.7 The OLEMP therefore makes provision for the management and associated improvements/enhancement of relevant existing/retained habitats and newly created habitats under the provisions of Sections 40 and 41 of the NERC Act. The habitat enhancements and creation will also be available for use by the Section 41-listed species that are known to use the wider landholding such as breeding birds and bat species.

European protected species (bats, otter, dormouse and great crested newt)

21.8 The Conservation of Habitats and Species Regulations 2017 (as amended) consolidates various amendments that have been made to the original (1994) Regulations which transposed the EC Habitats Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (Council Directive 92/43/EEC) into national law.

21.9 "European protected species" (EPS) of animal are those which are shown on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended). They are subject to the provisions of Regulation 43 of those Regulations. All EPS are also protected under the Wildlife and Countryside Act 1981 (as amended). These protections have been considered during the preparation of this OLEMP, further prescriptions regarding licensing during the construction phase of the Proposed Development are outlined in Appendix 4.1: OCEMP [EN010163/APP/6.3.4].

Badger

21.10 Badger and their setts are protected from harm under the Protection of Badgers Act 1992. A badger sett is defined in the legislation as "a *structure or place, which displays signs indicating current use by a badger"*. This legislation, along with the ODPM Circular 06/2005[28], which provides further guidance on statutory obligations towards badger within the planning system, and Natural England provides Standing Advice[29], which provides recommendations for avoiding and mitigating impacts on badgers, must be considered in relation to habitat creation and management works. This OLEMP provides a framework for avoiding impacts to badgers during habitat works.

Reptiles

21.11 All native reptile species receive legal protection in Great Britain under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Viviparous lizard, slow-worm, grass snake and adder are protected against killing, injuring and unlicensed trade.

21.12 All six native species of reptile are included as 'species of principal importance' for the purpose of conserving biodiversity under Section 41 (England) of the NERC Act 2006 (as amended) and Section 7 of the Environment (Wales) Act 2016.

Water vole

21.13 Water vole is protected under the Wildlife and Countryside Act 1981 (as amended). This makes it an offence to kill, injure or take any water vole, damage, destroy or obstruct access to any place of shelter or protection that the animals are using, or disturb voles while they are using such a place. Water vole is listed as a Species of Principal Importance under the provisions of the NERC Act 2006 (as amended) in England and under the provisions of the Environment (Wales) Act 2016.

Wild mammals in general

21.14 The Wild Mammals (Protection) Act 1996 (as amended) makes provision for the protection of wild mammals from certain cruel acts, making it an offence for any person to intentionally cause suffering to any wild mammal. In the context of development sites, for example, this may apply to rabbits in their burrows.

Invasive non-native species

21.15 It is an offence to plant or otherwise cause to grow in the wild invasive non-native plants listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). This effectively means that it is an offence to cause the spread of such plants as a result of development operations. A framework of monitoring prescriptions and appropriate actions with regard to non-native invasive species is specified within this OLEMP for the 40-year period.

[28] *ODPM Circular 06/2005. Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impacts within the Planning System* (2005). HMSO Norwich.
[29] http://www.naturalengland.org.uk/ourwork/planningdevelopment/spatialplanning/standingadvice/specieslinks.aspx

Annex 2: Wader Scrape Guidance

(overleaf)

Wader Scrapes What Are They & How Do I Make One?

Sussex Wildlife Trust

What is a wader scrape?

Scrapes are shallow ponds of less than 1m depth which hold rain or flood water seasonally and which remain damp for much of the year. They are shallow depressions with gently sloping edges which create obvious water features in fields. They can make a significant difference to wildlife and can be created in areas of damp or floodplain grassland, arable reversion or set aside land. **A wader scrape on your land can provide invaluable food and refuges for a wide range of wetland wildlife.**

A wader scrape – a shallow depression providing refuge for wetland wildlife © F Southgate

Why do I need a wader scrape?

Many riverside fields have been ploughed and drained so that natural hollows are levelled and pools are filled in or dried out. These natural variations in ground level would have provided important seasonal habitats for wildlife. They support high densities of insects and earthworms which are important food for birds and amphibians, and a diverse range of plants which benefit water voles and dragonflies etc. A simple way that riverside and low lying fields can be improved (particularly for winter wading birds) is by creating wader scrapes. Once created, wader scrapes mimic natural hollows where water would have naturally accumulated in the past.

Where should I put a wader scrape?

If you have low lying fields of 3 ha or over, near to rivers that flood in winter, or on wet floodplains, and soils which hold water such as clays and silts. If your land is on permeable soils such as peats where water tables are high, scrapes can provide access to the top layer of water held in the soil. Putting a scrape near where a spring rises can help keep your scrape stay wet. Try not to dig up existing areas of marsh or old river creeks to create your scrape, but create a new wetland feature in otherwise dry land to compliment existing areas of wetland. A good location for scrapes is the line of an old infilled ditch, or in part of a field which you know would stay damp if the land level was lowered.

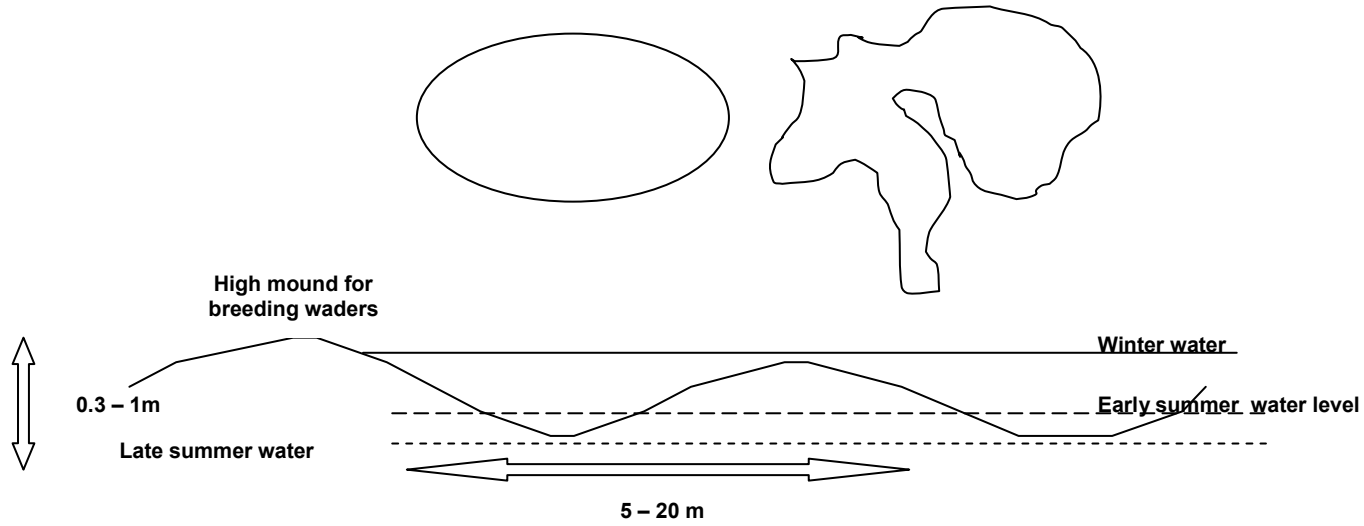
Wader Scrapes – What Are They & How Do I Make One?

Where should I avoid putting my wader scrape?

- Areas of free draining soil, unless the water table is close to the surface
- Existing land drain locations (unless you wish to break the land drain to keep the scrape wet).
- Areas where you can see there is already good wildlife habitat such as floodplain meadow
- Near overhead wires which could be dangerous to flying birds
- Anywhere where you would need to create a structure to hold back water
- On top of or near historical features such as Scheduled Ancient Monuments
- In areas such as Sites of Special Scientific Interest (SSSI's) you may need permission from Natural England before you proceed
- Within 50m -100m of a field boundary such as a hedgerow, woodland or fence
- Anywhere which is polluted, or which might receive run off from roads or farm surfaces

How do I create a scrape?

- You will need a digger capable of re profiling and landforming soil, or a rotary ditcher
- The best time of year to create a scrape is October
- **If you are working within 8m of a main river, you will need land drainage consent from your local Environment Agency Development Control team (08708 506506)**
- Your scrape should be shallow (less than 1m deep) but not a uniform depth all over
- If possible your scrape should be at least 20m²
- Create a varied shoreline of spits and bays, with some shallower sides and some deeper sides
- Broad, marshy areas around edges attract more wildlife
- A scrape with uneven edges is better than a round or oval scrape as it provides more edge habitats (see below). If you mow your fields, a simple shape for your wader scrape may be best



Is grazing and poaching bad for my scrape?

Grazing and poaching is good management for your scrape as long as it is not too intensive. Extensive grazing, particularly by cattle is ideal. This helps create a varied vegetation structure with scattered tussocks and patches of bare, open ground. Occasional mowing of rushes and tussocks may be necessary, to keep some of the sward open and grazeable. During the bird breeding season (usually February to July), keep stock numbers to a minimum to limit disturbance to birds and trampling of bird nests.

Where do I put the spoil created by digging my scrape?

If possible, spoil should be disposed of outside of the floodplain or spread very thinly across the surrounding field surface. Floodplain soil is often fertile and may be good for spreading on arable fields. Disposing of spoil away from the floodplain increases flood water storage by creating areas which hold extra water, and avoids the creation of unnatural bunds within the floodplain. If you can't remove the spoil completely from the floodplain then disposing of it on slopes around the edges is best. Make sure you are not damaging any existing areas of wildlife interest by spreading soil.

NOTE: You may need Environment Agency consent to remove soil from your land.

Wetland birds such as Snipe and Lapwing benefit hugely from wader scrapes © Dave Kilby

Can I use other machinery to create a scrape?

Yes. A fantastic machine called a rotary ditcher now exists. The machine digs up spoil and chutes it out in fragments across the land, saving the need to 'bank up' or remove spoil. The machine is more expensive but works faster and more efficiently than a traditional digger, and causes less compaction of soils. See contacts for details.

Do I need to keep my wader scrape wet all year round?

No. It benefits wildlife if the scrape is seasonally wet and dry, and weather is often too unpredictable to be too prescriptive. As a rule of thumb, for wading birds such as Lapwing and Snipe, the ideal is for your scrape to hold water from March to late June, allowing water levels to naturally recede as the weather becomes drier. If your scrape dries out after this there is no problem. Consider putting more than one scrape in a field. This way, when one is dry, another may stay wet. In winter, your wader scrapes may occasionally be completely submerged, and this is fine.

Can I get funding to create a wader scrape?

Often, yes. Funding can be available through Countryside Stewardship Schemes — See Natural England for more details. Local projects run by Wildlife Trusts, the RSPB and other organisations may also be able to provide grant or charitable funding, or help with machinery and labour costs. Some local Councils also run local wildlife grant schemes. Wader scrapes can help to create additional flood storage in floodplains, and so may be eligible for natural flood management grants.

Wader Scrapes – What Are They & How Do I Make One?

Wader scrapes don't have to be in the middle of fields. They can create very good marginal habitats for wildlife if they are on the edge of an existing ditch. Fluctuating water levels in the ditch help to keep your scrape wet .

Contacts

Sussex Wildlife Trust (Wetlands Project)
www.sussexwildlifetrust.org.uk
01273 497555

Natural England
0845 600 3078
enquiries.southeast@naturalengland.org.uk

Wildcall Advice Line
01273 494777

RSPB Rotary Ditcher
www.rspb.org.uk/Images/technicalguidance_tcm9-258711.pdf

Environment Agency
Ask for Fisheries & Biodiversity or Land Drainage consent teams
03708 506506
www.environment-agency.gov.uk

References & Further Reading

- **RSPB Farming for Wildlife:** Scrape creation for waders
- **Wildlife Trusts:** Wetland restoration manual
- **River Restoration Centre:** Manual of River Restoration Techniques
- **RSPB:** www.rspb.org.uk/Images/**Wader_scrapes**_tcm9-255078.pdf
- **Open Space:** www.openspace.gb.com/conservation-contracting/.../**wader-scrapes**

Sussex wetlands project promotes the sustainable management of rivers and the restoration of wetland habitats for people and wildlife