FENWICK SOLAR FARM

Fenwick Solar Farm

EN010152

Framework Landscape and Ecological Management Plan

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Prepared for:
Fenwick Solar Project Limited

Prepared by:
AECOM Limited

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1. Introduction

1.1 Overview

1.1.1 This Framework Landscape and Ecological Management Plan (LEMP) has been prepared to support the Development Consent Order (DCO) application for Fenwick Solar Farm (hereafter referred to as 'the Scheme') and has been prepared on behalf of Fenwick Solar Project Limited (hereafter referred to as 'the Applicant'). It sets out management prescriptions for the successful establishment and future maintenance of biodiversity and landscaping works associated with the development and operation and maintenance of the Scheme.

1.1.2 The document outlines both short-term and long-term actions and procedures that the Applicant will implement to establish, monitor, and manage landscape and ecological mitigation and enhancement measures, including biodiversity net gain (BNG), integrated into the Scheme design. This will involve creating habitats beyond those needed for habitat mitigation.

1.1.3 The Scheme involves the construction, operation and maintenance, and decommissioning of a solar photovoltaic (PV) electricity generation facility with a capacity exceeding 50 megawatts (MW). It will connect to the National Grid either at the Existing National Grid Thorpe Marsh Substation or via the Grid Connection Line Drop with both options including necessary associated infrastructure. Since the proposed generating capacity surpasses 50 MW, the Scheme is classified as a Nationally Significant Infrastructure Project (NSIP), requiring consent through a Development Consent Order (DCO) under the Planning Act 2008. Further details on the Scheme can be found in **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]**.

The Scheme will be situated within the 'Order limits', referring to all land within these boundaries. The Order limits, a collective term for all land required for the Scheme, encompasses the Solar PV Site and Grid Connection Corridor, totalling approximately 509 hectares (ha), as depicted in **ES Volume II Figure 1-3: Elements of the Site [EN010152/APP/6.2].** The Solar PV Site is approximately 407 ha comprised predominantly of agricultural fields.

1.1.4 Key components include:

a. Solar PV Site: The portion of the Scheme where Solar PV Panels, BESS Area, On-Site Substation and other associated infrastructure would be located.

b. Habitat Management Areas: Areas of habitat management comprising landscape and biodiversity enhancement measures; habitat creation and management, including earthworks, landscaping, means of enclosure, and laying and construction of drainage infrastructure.

c. Grid Connection Corridor: The area in which the 400 kV Grid Connection Cables would be installed between the On-Site Substation and the Existing National Grid Thorpe Marsh Substation.

1.1.5 The Scheme is located within the administrative area of City of Doncaster Council and is located to the south of the administrative areas of North Yorkshire Council and East Riding of Yorkshire Council.

1.1.6 The Indicative Landscape Masterplan, provided in Appendix A, demonstrates how the Scheme will be integrated within the wider landscape and mitigate any related effects associated.

1.1.7 As set out in the **Draft DCO [EN010152/APP/3.1]**, a requirement will necessitate the submission and approval of a detailed LEMP to deliver the provisions set out in this Framework LEMP.

1.1.8 This Framework LEMP is a live document, the context of which will continue to be updated, refined and (where necessary) added to, based on ongoing discussions between the Applicant and statutory bodies and relevant Local Planning Authorities. It will be updated by the Applicant into a final detailed LEMP prior to the commencement of works in accordance with the Requirements contained in Schedule 2 of the **Draft DCO [EN010152/APP/3.1]**.

1.2 Purpose of this Document

1.2.1 The purpose of this Framework LEMP is to provide and set out measures to mitigate the effects of the Scheme on landscape and biodiversity features. The Framework LEMP also sets out the measures proposed to enhance the biodiversity, landscape, and green infrastructure value of the Scheme, to secure compliance with relevant national and local planning policies. Where areas of the Order Limits are temporarily impacted by the construction phase, replanting measures will be proposed, for example along the Grid Connection Corridor and at temporary site accesses.

1.2.2 The Scheme has been through an iterative design process in order to avoid or reduce effects on landscape and biodiversity features, through the careful siting of infrastructure, access tracks and proposed planting. For further information see **ES Volume I Chapter 8: Ecology [EN010152/APP/6.1]** and **ES Volume I Chapter 10: Landscape and Visual Amenity [EN010152/APP/6.1]**.

This document outlines the landscape and biodiversity avoidance measures to be implemented before and during the construction of the Scheme, along with the habitat and landscape restoration, enhancement, management, and monitoring measures to be carried out once the Scheme is operational. These measures are proposed to be secured through a DCO requirement for a detailed LEMP, which will be developed in accordance with this Framework LEMP.

1.2.3 To ensure a consistent approach to impact avoidance and enhancement, this document combines the necessary measures for both landscape and biodiversity, presenting a unified strategy.

1.2.4 This Framework LEMP is structured as follows:

a. Section 1 sets out the context, objectives responsibilities and arrangements for delivery of the Framework LEMP;

b. Section 2 sets out the legislation, policy and guidance;

c. Section 3 describes the existing baseline for landscape and biodiversity features;

d. Section 4 describes the landscape and ecology strategy for the Scheme, which incorporates proposals for landscape and biodiversity impact mitigation;

e. Section 5 describes how existing and proposed habitats will be protected or implemented, managed through establishment and maintained in the long-term;

f. Section 6 discusses the pre-construction survey and post-construction monitoring that will be undertaken;

g. Section 7 describes the measures to be undertaken in the Grid Connection Corridor; and

h. Section 8 provides details of references used within this Framework LEMP.

Objectives

1.2.5 The primary objectives of the Framework LEMP are to:

a. Integrate the Scheme into its landscape setting, aiming to avoid or minimise adverse effects on the landscape, biodiversity, heritage, and visual effects as much as possible;

b. Promote the conservation, protection, and enhancement of the physical, natural, and historic environment within the Scheme and its surroundings, ensuring the landscape measures described in this document are implemented in order to ensure that the Scheme sits as an integral part of the wider landscape;

c. Diversify the ecological value of existing habitats through initiatives such as hedgerow restoration, riparian corridor management and the creation of diverse habitats; and

d. Guide the design and management of landscape and biodiversity elements that respond to and enhance the character of the landscape, reinforce local distinctiveness, and strengthen the sense of place.

Responsibilities

1.2.6 The Applicant will define the appropriate roles and responsibilities for site staff, as outlined in the **Framework Construction Environmental Management Plan (CEMP) [EN010152/APP/7.7]**. An Ecological Clerk of Works (ECoW) will be tasked with ensuring that construction-related environmental mitigation measures are properly implemented, monitored, and maintained. These measures will include, but are not limited to, vegetation clearance, species identification, and exclusion of protected or non-protected species.

1.2.7 The ECoW's responsibilities will encompass activities that could impact biodiversity, such as providing advice on methods to prevent or minimise light spill, as well as delivering Toolbox Talks before starting any work that might affect habitats and species.

1.2.8 The Contractor, appointed by the Applicant to construct the Scheme, will be responsible for establishing, managing, and monitoring the implementation of landscape and ecological mitigation during the five-year establishment

aftercare period. The Applicant will inspect and report on the success of this establishment during that time. For more details, please refer to Section 4.

1.2.9 Any long-term biodiversity monitoring and management requirements specified in this document will be carried out by the Applicant and/or a Contractor appointed by the Applicant.

2. National Legislation, Policy and Guidance

2.1.1 Legislation, planning policy and supporting guidance relevant to the Framework LEMP and pertinent to the Scheme comprises:

Legislation

a. Directive 2009/147/EC on the conservation of wild birds (the codified version of Council Directive 79/409/EEC as amended) (Birds Directive) (Ref. 1);

b. Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) (Ref. 2);

c. Regulation (EU) 1143/2014 on the introduction and spread of invasive alien species (Ref. 3);

d. Convention on Biological Diversity (Ref. 4);

e. COP15: Global biodiversity framework (2023) (Ref. 5);

f. Ramsar Convention (Ref. 6);

g. The Conservation of Habitats and Species Regulations 2017 (as amended) (Ref. 7);

h. The Wildlife and Countryside Act 1981 (as amended) (WCA) (Ref. 8);

i. The Countryside and Rights of Way Act 2000 (Ref. 9);

j. The Natural Environment and Rural Communities Act 2006 (NERC) (Ref. 10);

k. The Protection of Badgers Act 1992 (Ref. 11);

l. The Hedgerows Regulations 1997 (Ref. 12);

m. The Invasive Alien Species (Enforcement and Permitting) Order 2019 (as amended) (Ref. 13);

n. Animal Welfare Act 2006 (Ref. 14);

o. Salmon and Freshwater Fisheries Act 1975 (Ref. 15);

p. Eels (England and Wales) Regulations 2009 (Ref. 16);

q. The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (Ref. 17); and

r. The European Landscape Convention (2000) (Ref. 18).

National Policy

a. Overarching National Policy Statement (NPS) for Energy (EN-1) (November 2023) (Ref. 19);

b. NPS for Renewable Energy Infrastructure (EN-3) (November 2023) (Ref. 20);

c. NPS for Electricity Networks Infrastructure (EN-5) (November 2023) (Ref. 21);

d. National Planning Policy Framework (NPPF) (December 2023) (Ref. 22);

e. Consultation Draft NPPF (2024) (Ref. 23); and

f. Environmental Improvement Plan 2023 (Ref. 24)

Local Policy

a. Doncaster Local Plan 2015-2035 (2021) (Ref. 25); and

b. Doncaster Green Infrastructure Strategy 2014 – 2028, April 2014 (Ref. 26).

Other Guidance

a. National Planning Practice Guidance (PPG), Natural Environment (Landscape) (2019) (Ref. 27);

b. Biodiversity 2020: A strategy for England's Wildlife and Ecosystem Services with regards to marine habitats, ecosystems, and fisheries (Ref. 28);

c. 25-year Environment Plan (Ref. 29);

d. UK Post 2010 Biodiversity Framework (including priority habitats and species listed which succeeds the UK Biodiversity Action Plan (UK BAP) (Joint Nature Conservation Committee (JNCC) and Defra, 2018) (Ref. 30);

e. UK Biodiversity Framework, produced in response to the Kunming-Montreal Global Biodiversity Framework (JNCC, 2024) (Ref. 31);

f. Landscape Institute, Infrastructure Technical Guidance Note 04/20 (2020) (Ref. 32);

g. Local Biodiversity Action Plans (LBAPs) for Doncaster (Ref. 33) and Selby (now North Yorkshire) (Ref. 34);

h. British Standard (BS) 5837: 2012 Trees in relation to design, demolition and construction – Recommendations (Ref. 35);

i. BS 3998: 2010 Treework – Recommendations (Ref. 36); and

j. National Joint Utilities Group (NJUG) Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Ref. 37).

Biodiversity Net Gain

2.1.2 Government policy within NPS EN-1 (November 2023) states that development proposals should provide opportunities for building-in beneficial biodiversity or geological features as part of good design and that such opportunities in and around developments should be maximised where appropriate. The NPPF (December 2023) (Ref. 22) states that planning decisions should maximise impacts on and provide net gain for biodiversity.

2.1.3 The Applicant will provide at least 10% BNG as part of the Scheme.

2.1.4 Further information on BNG and potential BNG for the Scheme can be found in the **Biodiversity Net Gain (BNG) Assessment [EN010152/APP/7.11]**.

3. Existing Landscape and Biodiversity Features

3.1 Existing Landscape Features

3.1.1 The northwest part of the Solar PV Site (covering fields NW1 to NW11) extends northwards from the eastern edge of Fenwick and Lawn Lane to the River Went. This part of the Solar PV Site is situated across low lying landform, which falls very gradually from Fenwick, at around 6m Above Ordnance Datum (AOD) to the River Went at 5m AOD. The land use is agricultural, consisting of medium to large scale geometric fields divided by hedgerows, trees and drainage ditches.

3.1.2 The northeast part of the Solar PV Site (covering field boundaries NE1 to NE12) extends northwards from Fleet Drain to the River Went. This part of the Solar PV Site is similarly situated across low lying and generally flat landform at around 5m AOD. The land use is agricultural, consisting of medium and large-scale fields which vary in form. The fields are divided by drainage ditches and hedgerows with trees. However, the extent of this boundary vegetation is varied due to former hedgerow removal.

3.1.3 The southeast part of the Solar PV Site (covering field boundaries SE1 to SE7) extends southwards from Fleet Drain to border West Lane and West Cottage End. The landform is low lying and generally flat, being situated at around 5m AOD. The land use is agricultural, consisting of medium and large-scale fields that are irregular in form and contiguous with each other due to very limited field boundary vegetation. There is a National Grid pylon tower in the southern field (SE2), with its overhead wires extending southwards and eastwards. There are also two other pylon towers in the eastern fields (SE3 and SE4).

3.1.4 The southwest part of the Solar PV Site (covering field boundaries SW1 to SW6) extends to the south of Lawn Lane and consists of small to medium-scale rectangular agricultural fields. These fields are situated across low lying land between 6m AOD and 5m AOD and divided by hedgerows and trees. Fenwick Common Drain divides field boundaries SW1, SW2 and SW5 from SW3, SW4 and SW6.

3.1.5 The Order limits also include a section of highway at the junction of the A19 and Station Road in the town of Askern to allow for abnormal indivisible load (AIL) vehicle access and escort. As the works would be limited to temporary traffic signal and banksman control for the period of AIL delivery, there would be no landscape or ecological interventions here, and therefore this area is not considered further within this Framework LEMP.

3.2 Existing Biodiversity Features

3.2.1 The following section summarises the baseline detail for biodiversity, as presented in **ES Volume I Chapter 8: Ecology [EN010152/APP/6.1]**.

Statutory and Non-Statutory Sites

3.2.2 There are three sites statutorily designated for their biodiversity value at an International level and within the 10 km Study Area of the Order limits. These are:

a. Thorne Moor SAC;

b. Thorne and Hatfield Moors SPA; and

c. Hatfield Moor SAC.

3.2.3 Beyond the 10 km Study Area, the River Went and minor watercourses connected to it are linked to the Humber Estuary SAC/Ramsar site approximately 16 km downstream of the Solar PV Site via the River Don and Dutch River. The Humber Estuary SAC/Ramsar site is in part designated for two migratory fish species (River Lamprey and Sea Lamprey), which have the potential to be present in the River Went and connected watercourses. These impacts are considered within the **No Significant Effects Report [EN010152/APP/7.12]** and within **ES Volume I Chapter 8: Ecology [EN010152/APP/6.1]**.

3.2.4 There is one site statutorily designated for its biodiversity value at a national level within the 2 km Study Area, this being Shirley Pool SSSI which is located approximately 900 m to the south of the Order Limits - (this being the section of highway at the junction of the A19 and Station Road in the town of Askern). The site is approximately 3.2 km west of the Grid Connection Corridor and 3.3 km southwest of the Solar PV site.

3.2.5 There are 46 non-statutory sites designated for their biodiversity value identified within 2 km of the Solar PV Site boundary, including those within the Order limits. These sites have all been designated as LWS or Candidate Local Wildlife Sites (cLWS) for their biodiversity value at a county level and are known to have supporting value to a wide variety of protected or notable species and/or habitats. Whilst cLWS have not yet been designated, they are included within this Framework LEMP as they are being considered for designation and may become so within the lifetime of the Scheme.

Habitats

3.2.6 The habitats present within the order limits include other neutral grassland, coastal and floodplain grazing marsh, ruderal/ephemeral habitat, modified grassland, ancient lowland mixed deciduous woodland, plantation broadleaved woodland, plantation mixed woodland, scattered trees, ancient/veteran trees, lines of trees, native hedgerows (including species-rich hedgerows and hedgerows associated with trees and ditches, bramble scrub, hawthorn scrub, mixed scrub, cereal crops, developed land, buildings, bare ground, Open Mosaic Habitat on Previously Developed Land (OMH), introduced shrub, ponds, rivers and ditches.

3.2.7 The habitats that offer the highest value are the coastal floodplain grazing marsh, ancient woodland, ancient/veteran trees, native hedgerows, OMH and rivers as these are all priority habitats, Habitats of Principal Importance or irreplaceable habitats. The most extensive habitat is cereal crops as this makes up the majority of the Solar PV site.

Species

3.2.8 The Solar PV Site supports a range of protected and priority species including common aquatic macro-invertebrates, common aquatic macrophytes, fish (including potential European bullhead, brown/sea trout, lamprey and European eel due to connectivity to historical records), common terrestrial invertebrates, GCN, grass snake, common nesting bird species and an assemblage of notable breeding birds, barn owl, an assemblage of

non-breeding waterbirds, widespread bat species, otter, badger and brown hare. There is also assumed presence of European hedgehog and harvest mouse.

4. Landscape and Ecology Strategy

4.1 Landscape Strategy

4.1.1 Good design has been a key consideration from the outset. The iterative design process has been shaped by the Environmental Impact Assessment (EIA), which was guided by design principles specifically developed to address the unique opportunities and constraints of the Scheme. These principles were developed in response to policy requirements, published landscape character assessment guidance, and fieldwork analysis.

4.1.2 As illustrated on the Indicative Landscape Masterplan in Appendix A, the following design mitigation measures have been integrated into the Scheme to minimise environmental impacts, including effects on landscape character, visual amenity, biodiversity, and heritage assets.

4.1.3 In developing the landscape design strategy, special attention was given to:

a. Recommendations within relevant landscape guidelines, such as Natural England's Statements of Environmental Opportunity (SEO) outlined in the profile for NCA 39 (Ref. 38); and

b. Guidance from the Landscape Institute's Infrastructure Technical Guidance Note (TGN) 04/20 (Ref. 32).

4.1.4 The overall goal of the landscape strategy is to integrate the Scheme into its surrounding landscape and to avoid or minimise adverse landscape and visual effects as much as possible. This design approach also seeks to maximise opportunities for delivering net biodiversity gains. Accordingly, the landscape design aims to:

a. Integrate the Scheme into the existing landscape pattern by utilising and aligning with existing features, including vegetation where feasible;

b. Replace habitats lost during construction and enhance habitats within the Solar PV Site through the creation and enhancement of hedgerows, scrub, grasslands and riparian habitats; and

c. To filter and screen more prominent components of the Scheme in views from sensitive receptors.

4.1.5 Details of the landscape measures that are embedded into the Scheme's design are presented in **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]** and **ES Volume I Chapter 3: Alternatives and Design Evolution [EN010152/APP/6.1]**.

Overview of Landscape Design Principles

4.1.6 This section provides a description of the landscape design principles employed on the Scheme.

Careful Siting in the Landscape

4.1.7 Careful consideration of the existing visual amenity of receptors has helped to define the offsets from residential properties in proximity to the Solar PV Site, as well as PRoW. The form and extent of these offsets has been refined through the design process, taking into account feedback from the community in regard to the existing character of views.

4.1.8 With reference to the Indicative Landscape Masterplan shown in Appendix A and **ES Volume II Figure 2-3: Indicative Site Layout [EN0101520/APP/6.2]**, the design of the Scheme has been carefully developed through an iterative design process to minimise, or avoid, adverse effects on views experienced by residents.

4.1.9 Some areas where the effects on visual receptors have been reduced through the landscape design principles are outlined, but not limited to, the areas below.

Residential Receptors

4.1.10 Visual effects for residential receptors have been reduced by:

a. Hedgerow enhancement in the form of gapping up of existing hedgerows with similar species as those found on Site, where open or filtered views are available of Solar PV Panels;

b. New native hedgerows with trees on boundaries where there are no physical boundary features, including on the boundary to the north of West Lane and Ell Wood and Fenwick Grange Drain;

c. Solar PV Panels have been set back from PRoW by a minimum of 20 m (fence line to be at least 15 m from the centreline of the PRoW and Solar PV Panels to be at least 5 m from the fence line);

d. Solar PV Panels have been set back from the northeast corner of Fenwick village with an area of structural planting and scrub to provide screening;

e. New planting, including scrub and a new hedgerow, running parallel to Fenwick Common Drain, screening views of the Solar PV Panels for residents along Shaw Lane and Fenwick Common Lane;

f. New structural planting and the gapping up of existing vegetation along the northern edge of the Solar PV Site to filter longer views from properties along Lowgate and Highgate; and

g. Siting of On-Site Substation and BESS Area away from residential properties, over 500 m away from the nearest residential property, and screened from view by further structural planting.

Recreational Receptors

4.1.11 Visual effects for recreational receptors using PRoW within and nearby to the Solar PV Site have been reduced by:

a. Introduction of areas of open space adjacent to footpaths will be managed for biodiversity, while new hedgerow planting with trees will help screen and filter views when Solar PV Panels are located on both sides of PRoW;

b. The River Went corridor will remain open and managed for the benefit of biodiversity with new wet-loving vegetation planted along the northern edge of the Solar PV Panels to provide screening from the PRoW in this area;

c. Gapping up of existing vegetation along the northern boundary of the Solar PV Site to further filter and screen views from the Trans Pennine Trail; and

d. New native hedgerows along footpaths in close proximity to Solar PV Site, including the BESS Area and On-Site Substation.

Conserving Existing Vegetation Patterns

4.1.12 The layout of the Scheme has been designed to minimise or avoid the loss of existing landscape features where practicable, and to avoid significant impacts on those existing features.

4.1.13 The Scheme is set within the existing field pattern. The layout utilises existing farm tracks and field openings as the preferred method of construction and operational access in order to minimise the loss of existing landscape features, where practicable.

4.1.14 Proposed planting responds to the existing character of landscape and looks to perpetuate the current conditions found there, allowing key views to stay open and key habitats to remain in place, with enhancement measures proposed in areas that are deemed suitable.

Creating New Green Infrastructure

4.1.15 New green infrastructure (GI) elements will be established, and habitat corridors enhanced through the Solar PV Site. These will improve wildlife connectivity, elevate landscape quality, and enhance visual amenity.

4.1.16 Large areas of modified and neutral grassland will be provided beneath the solar panels and across the broader Solar PV Site in order to boost biodiversity and create new habitats. This will also help to ameliorate soil conditions after long-term agricultural practices. This includes a new green corridor that follows the existing Fleet Drain through the northeast of the Solar PV Site.

4.1.17 The proposed mitigation will also increase and enhance the existing hedgerow network, with gapping up and planting of native hedgerows with hedgerow trees, providing better connectivity and creating new valuable habitats.

4.1.18 Land adjacent to the River Went will be conserved and enhanced in order to maintain the existing open riparian mosaic and provide further benefits to biodiversity.

4.2 Ecology Strategy

Impact Avoidance

4.2.1 From the outset, the Scheme has been designed to avoid key nature conservation and ecological features present within or adjacent to the Order limits. Accordingly, the following buffers from key habitat features have been applied to developable areas where practicable:

a. All woodland – at least 15 m;

b. All trees within hedgerows, lines of trees and individual trees – protected by clearly defined root protection areas, concordant with the requirements for each individual tree, in line with British Standard BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations (Ref. 8-71);

c. Watercourses (where practicable and open trenching is not required during construction) – at least 10 m from the bank-top of the watercourse to protect riparian habitats and to mitigate for potential hazards such as chemical and soils spills into watercourses and avoid potential direct impacts to watercourses and any protected species that may use them;

d. Standing water - at least 20 m; and

e. Hedgerows (without trees) – where practicable, at least 5 m. In addition, there are embedded mitigation measures which will minimise impacts upon protected species. This includes security perimeter fencing to protect retained habitats while allowing badger, brown hare and hedgehogs to pass beneath. Equally, in some locations, gaps will be avoided to allow the security fencing to act as an anti-predator fence, particularly in areas targeted at providing habitat for ground-nesting birds.

4.2.2 Construction lighting will also be designed to avoid impacts, including restriction of works to daylight hours where practicable.

Updated Surveys

4.2.3 To comply with relevant wildlife legislation, pre-construction surveys, such as updated UKHab and badger walkovers, and updated Ground Level Tree Assessments (GLTA) of trees to be lost, will be undertaken to support the baseline survey findings. The purpose of these pre-construction surveys is to ensure mitigation during the construction phase is based on the latest protected species information. These surveys will also provide an update on the presence and location of any invasive species, the findings of which will inform the implementation of measures to prevent their spread into the wild. These measures will be incorporated within the Detailed CEMP which will be secured by DCO requirement. In the event that any future infestations of INNS are identified prior to and or during the development process, exclusion zones will be established around them, and an Ecological Clerk of Works (ECoW) contacted for advice.

4.2.4 Any protected species licenses required from Natural England will be applied for and obtained in preparation of construction. A District Level License (DLL) is being obtained with regard to GCN to facilitate the works.

Ecological Clerk of Works (ECoW)

4.2.5 ECoW will be present during works that may impact protected species or habitats during construction. This will include:

a. Supervision of works within the disturbance distance of badger setts;

b. Fingertip search of vegetation suitable for reptiles and amphibians prior to clearance;

c. ECoW for aquatic species for works within or adjacent to ditches, streams and riparian habitats;

d. Nesting bird check’s where vegetation clearance or pruning works cannot be avoided during bird nesting season (from March to August inclusive).

e. These measures (and others) are detailed within the **Framework CEMP [EN010152/APP/7.7]** and their implementation is secured through a

Requirement in the **Draft DCO [EN010152/APP/3.1]** that the detailed CEMP be prepared in substantial accordance with the Framework CEMP and then the measures contained therein implemented

Tree Works

4.2.6 The scheme has been designed to ensure that all veteran and ancient trees will be retained and protected. The majority of trees which are not classed as veteran or ancient will be retained and protected, and measures taken to avoid direct and/or indirect impacts. As detailed in **ES Volume III Appendix 10-7: Arboricultural Impact Assessment (AIA) [EN010152/APP/6.3]**, six individual trees, five groups of trees and 42 hedgerows are to be removed or part removed (in the case of hedgerows) to facilitate the Scheme (as shown on Figure 10-5-1 in Annex C of **ES Volume III Appendix 10-7: AIA [EN010152/APP/6.3]**).

4.2.7 As detailed in **ES Volume III Appendix 10-7: AIA [EN010152/APP/6.3]**, 19 tree features are subject to an incursion into their Root Protection Area (RPA) or canopy spread. This is generally limited to facilitate temporary construction facilitation access and the implementation of BESS Fire Service Access Tracks. This includes two veteran trees. In all cases RPA incursions will be managed so that there will be no detrimental impacts on the health or amenity of retained trees, which will generally be achieved by the use of a no dig installation, proprietary three-dimensional cellular raft system (or equivalent) installed utilising ‘no dig’ techniques where existing hard surfacing is not present.

4.2.8 Where part of a group of trees is to be removed, the final extent of tree loss is to be determined on-site by the project arboriculturist who will assess the suitability and stability of retained trees. This operation must take place as specified in an Arboricultural Method Statement as part of and secured by the **Framework CEMP [EN010152/APP/7.7]**.

4.2.9 No trees have been identified for pruning at this stage. The final requirement for pruning will be reviewed and identified at the detailed design stage and will be confirmed in an Arboricultural Method Statement secured by the **Framework CEMP [EN010152/APP/7.7]**.

4.2.10 Tree loss will be mitigated with a robust and high quality scheme of new tree planting as detailed in this Framework LEMP which represents an opportunity to increase the quality, impact, diversity, and resilience of the local tree stock.

4.2.11 Where practicable, the detailed design will be developed to avoid or minimise impacts to trees. The final level of arboricultural impacts is confirmed as part of an Arboricultural Method Statement and secured by the **Framework CEMP [EN010152/APP/7.7]**.

4.2.12 Measures to protect retained trees and their associated root protection zones will be put in place (e.g. tree protection fencing and ground protection), which will be implemented at an early stage to protect these features from impacts during construction, to be confirmed as part of an Arboricultural Method Statement and secured by the **Framework CEMP [EN010152/APP/7.7]**.

4.2.13 The **Framework CEMP [EN010152/APP/7.7]** includes suitable pollution prevention measures.

Hedgerow Works

4.2.14 The Scheme has been designed to ensure hedgerows are outside of the developable areas of the Scheme, with minimum 5 m undeveloped stand-off buffers, increased to 15 m (or greater if required by root protection area) where hedgerow trees are present.

4.2.15 Where practicable, the layout of the Scheme uses existing farm tracks and field openings as the preferred routes for construction access, minimising loss of hedgerows (sections of), where practicable. Therefore, the majority of this habitat will be retained, however, some sections of hedgerow will need to be removed to facilitate access and will be temporarily removed to facilitate construction of cable routes.

4.2.16 Measures to ensure incursions into this habitat do not occur will be put in place, e.g. security fencing, which will be implemented at an early stage to protect retained habitats from incursion during construction.

4.2.17 The **Framework CEMP [EN010152/APP/7.7]** includes suitable pollution prevention measures.

4.2.18 Precautionary working methods are to be adhered to during construction and are detailed within the **Framework CEMP [EN010152/APP/7.7]** and their implementation is secured through a Requirement in the **Draft DCO [EN010152/APP/3.1]** that the detailed CEMP be prepared in substantial accordance with the Framework CEMP and then the measures contained therein implemented.

4.2.19 Precautionary Working Methods include:

a. Vegetation clearance will be undertaken in advance of construction and at an appropriate time of year (dependant on habitat) so as to avoid the nesting bird period and incidental injuring or killing of animals, such as Brown Hare , hedgehogs or reptiles;

b. Excavations will be covered, any pipe openings capped and fencing installed with gaps to prevent entrapment of any fauna;

c. No allowance of night works where practicable;

d. Where vegetation clearance cannot avoid the inactive season and is proposed within the nesting bird period, these will be checked for the presence of any nests by a suitably experienced ornithologist, prior to vegetation removal, and if active nests are found, then appropriate buffer zones would be put in place and the area monitored until the young birds have fledged.

e. Vegetation with the potential to support reptiles will be cut in a phased approach, firstly cutting to 30cm (centimetres), then, following a period of no less than 24 hours, to 15cm and then to ground level, after another 24 hours. Any habitat features within such areas which may conceal sheltering reptiles and amphibians (e.g. log piles rubble mound bunds, any other debris) will not be dismantled during their inactive season (i.e. November to February inclusive).

f. Pollution prevention measures including those associated with dust deposition, air pollution, pollution incidents, water quality, light, noise and vibration.

Works in Proximity to Watercourses

4.2.20 Vegetation removed to facilitate the laying of cables and at open cut watercourse crossings will be reinstated as soon as practicable following completion of construction activities.

4.2.21 Drill pits for horizontal directional drilling will be located on existing hardstanding, bare ground or arable land, where practicable.

4.2.22 Length-for-length equivalent watercourse enhancements will be required for each new culvert extension to ensure compliance with WFD objectives. These requirements will be outlined in a WFD Mitigation and Enhancement Strategy, which will be developed after DCO consent is granted. To improve the condition of the targeted watercourses within the Solar PV Site, as discussed in the **BNG Assessment [EN010152/APP/7.11]**, proposed enhancements may include the following, where appropriate:

a. Fencing off the riparian zone to reduce managed ground cover at the bank top and allow the riparian zone to re-naturalise;

b. Removing bank face reinforcement to enable the establishment of natural bank habitats and allow natural bank erosion processes; and

c. Removing vegetation that shades the ditch and clearing filamentous algae and/or duckweed.

Animal Welfare Requirements

4.2.23 Implementation of measures to avoid animals being injured or killed within construction working areas, such as through the inclusion of perimeter fencing and covering excavations or providing a means of escape, will exclude them from such areas and prevent them from becoming trapped in excavations.

5. Management Prescriptions

5.1 Introduction

5.1.1 This section describes how existing and new habitats illustrated on the Indicative Landscape Masterplan in Appendix A will be protected or implemented during construction, maintained during the first five years to ensure successful establishment, and managed in the long-term until the decommissioning of the Scheme.

5.1.2 As a framework management plan, further details will be added as the design progresses in order to refine species and seed mixes of local provenance, management prescriptions and timescales, and site-specific mitigation and enhancement measures.

5.1.3 Accesses to the Solar PV Site that are established during the construction phase (whether new or modified/extended existing accesses) will remain in place throughout the operation and maintenance phase.

5.1.4 All implementation and monitoring works will be supervised by the ECoW.

5.2 Existing Habitats

5.2.1 Existing habitats to be retained include:

a. Individual trees (including hedgerow trees);

b. Hedgerows;

c. Neutral grassland; and

d. Riparian mosaic.

Individual trees (including hedgerow trees)

5.2.2 Existing trees will be managed to promote longevity, enhance habitat value and improve resilience to climate change. This will include the gapping up of existing hedgerows with hedgerow trees, where appropriate, to boost species and age diversity, providing better connectivity and increasing the number of climate and disease resilient species.

5.2.3 During construction, the retained structural vegetation across the Order Limits will be protected in accordance the Tree Protection Plan included as part of **ES Volume III Appendix 10-7: AIA [EN010152/APP/6.3]**.

5.2.4 Implementation of safety measures will include, but not limited to:

a. Clearly defined stand-offs using temporary protective fencing;

b. Managing the structure of and integrity of the retained structural vegetation and of the soil in which the vegetation is planted;

c. Measures to prune or manage the canopies/growth of existing hedgerows and trees will be undertaken outside of bird nesting seasons; and

d. Where root protection zones fall within heavily trafficked areas, ground protection will be used to ensure any soil compaction is limited and root growth is not impeded.

5.2.5 During the construction phase, retained trees will be routinely inspected by a qualified arboriculturist with any findings reported to the ECoW. Any excavation works required within the Root Protection Area of retained trees will be undertaken under the guidance of an arboriculturist to ensure that agreed upon methodologies are implemented and to record any root pruning, and if necessary to advise on further arboricultural remedial works, as required.

5.2.6 Veteran and ancient trees on the Solar PV Site are to be managed as per principles of minimum intervention. This includes affording the veteran and ancient trees sufficient space to facilitate the continuation of decay and regeneration lifecycle processes. The principal issue identified during the tree survey is encroaching scrub and tree growth competing with the ancient and veteran trees, which may cause their premature loss or deterioration (e.g. due to shade suppression). Where identified, work to prevent this competition will be carefully undertaken to avoid sudden changes in exposure (e.g. through a multi-year staged work programme). The potential to take cuttings from existing veteran and ancient willow to propagate and allow for succession planning will be explored.

Hedgerows

5.2.7 Existing hedgerows will be managed to enhance biodiversity and improve ecosystem services, whilst also increasing screening for visual receptors. This will involve filling gaps and thickening hedgerows with a broader range of native species, where needed, and planting additional native hedgerow trees with locally appropriate species. Management practices will include adjusting cutting regimes to benefit cover, shelter, food sources, and breeding birds. More detail on the implementation, management and maintenance of hedgerow enhancements is described below in ‘native hedgerows with trees and hedgerow enhancement’.

Neutral Grassland

5.2.8 Areas of neutral grassland exist within some fields within the northeast of the Solar PV Site. These will be maintained beneath the proposed Solar PV Panels and managed accordingly with appropriate grazing regimes or mowing. If grazing is used, this would include low stocks of sheep allowed to graze the areas between August and March.

Riparian Mosaic

5.2.9 Along the northern boundary of the Solar PV Site, a riparian corridor sits adjacent to the River Went. A mosaic of wet, semi-improved and grazed neutral grassland exists along the corridor, including some areas identified as Coastal Floodplain Grazing Marsh, a Priority Habitat.

5.2.10 The open character of the River Went corridor will be retained by siting mitigation vegetation as close to the northern boundary of the Solar PV Site as possible. This will also allow for local widening of the riparian corridor through the creation of new areas of grassland on former agricultural land. Proposed structural vegetation along the northern boundary of the Solar PV Site would not be located within areas of Coastal Floodplain Grazing Marsh.

5.2.11 No management activity associated with all types of grassland shall be undertaken within 5m from the top of banks associated with ditches and within 10m from the bank tops associated with other rivers and streams.

Local Wildlife Sites

5.2.12 With reference to **ES Volume II Figure 8-2: Sites Non-Statutorily Designated for their Biodiversity Value [EN010152/APP/6.2]**, part of the Went Valley Local Wildlife Site (LWS) is within the Solar PV Site. However, with reference to **ES Volume II Figure 2-3: Indicative Site Layout [EN010152/APP/6.2]**, it is located outside of any developable areas of the Scheme.

5.2.13 Wrancarr Drain and Braithwaite Delves LWS, Trumfleet Pit LWS and Trumfleet Pond LWS will be crossed by the Grid Connection Cables. In line with the **Works Plans [EN010152/APP/2.2]**, the Scheme has been designed to ensure that these LWS will be retained, and measures taken to avoid direct or indirect impacts. A security perimeter fence will be implemented early in the construction phase to secure the Order limits and prevent construction activity from intruded into the LWS'.

5.2.14 Setbacks of at least 10m from watercourses (taken from the bank-top of the watercourse), with the exception of where open cut trenching is required, are included within the Scheme design to protect riparian habitats and to mitigate for potential hazards such as chemical and soils spills into watercourses. This will protect the watercourse and avoid potential direct impacts to watercourses and any protected species using them. Construction methods across all watercourses within LWS' will utilise trenchless methods. There is no potential for any direct impacts on these LWS along the Cable Route Corridor (see **ES Volume I Chapter 2: The Scheme [EN010152/APP/6.1]**). Methods such as HDD, boring, micro-tunnelling or impact moling are all trenchless methods that would not directly impact upon running water habitats of these LWS.

5.2.15 The implementation of standard environmental protection measures during construction, such as dust suppression and pollution prevention, will be adopted to ensure no indirect impacts occur and these measures have been set out in the **Framework CEMP [EN010152/APP/7.7]**, and their implementation is secured through a Requirement in the **Draft DCO [EN010152/APP/3.1]** that the detailed CEMP be prepared in substantial accordance with the Framework CEMP and then the measures contained therein implemented. Accordingly, the **Framework CEMP [EN010152/APP/7.7]** details the measures required to mitigate any construction related effects on this habitat (and species using them), including those associated with dust deposition, air pollution, pollution incidents, water quality, light, noise and vibration. Furthermore, the **Framework CEMP [EN010152/APP/7.7]** specifies requirements for the safe storage of chemicals/other hazardous materials (e.g. fuel), to prevent them reaching standing and running waters through flood events during construction (see also **ES Volume I Chapter 10: Water Environment [EN010152/APP/6.1]**). It will ensure that those involved with the construction phase are committed to agreed good practice and meet all relevant environmental legislation including the Hazardous Waste (England and Wales) Regulations 2005. Boundary vegetation will be retained and

protected, as much as is practicable, which will maintain connectivity for any species using LWS's.

5.2.16 Where lighting is required, it will conform to good practice guidelines with respect to minimising light spill into retained habitats to prevent or reduce the impact on running water habitats and will be minimised to that required for safe site operations and security and directed towards the middle of the Order limits rather than towards the boundaries.

5.2.17 During operation and maintenance of the Scheme, there are no pathways (e.g. habitat loss or disturbance to designated site features (such as through noise, water quality, air quality, lighting or visual) which could affect LWS within the Order Limits. The management of surface water, including for Solar PV Panel runoff, BESS Area runoff and foul water drainage (see also **ES Volume I Chapter 9: Water Environment [EN010152/APP/6.1]**) will ensure no hydrological impacts occur and that there are consequently no impacts upon any non-statutory sites during operation and maintenance of the Scheme.

5.3 Proposed Habitats

5.3.1 Proposed habitats, as shown on the Indicative Landscape Masterplan in Appendix A, include:

a. Native hedgerows with trees and hedgerow enhancement
b. Native scrub;
c. Riparian edge trees and scrub;
d. Neutral grassland (moderate and good condition);
e. Modified grassland;
f. Wet grassland; and
g. Wetland scrapes.

General Implementation of Native Planting

5.3.2 Opportunities for planting mature stock, for example ready hedges and larger specimen trees, will be focussed in the most sensitive areas to mitigate impacts at the earliest possible stage, including during the construction phase. These will be explored at the following locations, where practicable:

a. Along the southern edge of Fields NW3 and NW4;
b. Along the southern edge of Field SE3;
c. Along the southern and western edge of Field SW12.

5.3.3 Planting will be carried out in the first available planting season following consent, ideally in November and December for bare root stock, as it is felt with current climate trends.

5.3.4 Plants will be inspected at the nursery and upon delivery, prior to planting. Protection from strimming damage and animals will be provided using guards, preferably biodegradable, though care will be taken to avoid excessive use. Trees will be staked according to industry standard specifications.

Native Hedgerow Planting with Trees and Hedgerow Enhancement

Function

5.3.5 New hedgerows with trees will be planted across the Solar PV Site to help supplement the existing hedgerow network and to filter views of the Scheme. New hedgerows with trees will provide valuable habitats for a range of species, allowing for better connectivity across the Scheme. Hedgerows will be maintained at a height of at least 3.5 m in order to adequately screen the Solar PV Site.

5.3.6 Species will be chosen to build in resilience and will consider the particular requirements of the local area, taking into account climate change and potential pest and pathogen threats.

5.3.7 Existing hedgerows across the Solar PV Site will be ‘gapped up’, in order to enhance existing landscape features, reinforce field patterns and to provide continuous habitat corridors.

5.3.8 Consideration will be given to the planting of vegetation along existing utility corridors and consultation sought from the relevant utility company on their requirements. Beneath and in proximity to the overhead line, low and slow growing species will be used to ensure the intended landscape structure is maintained, but that recommended offsets are adhered to.

Implementation

5.3.9 The locations of the new hedgerows with trees and gapping up of existing hedgerows are shown on the Indicative Landscape Masterplan in Appendix A.

5.3.10 Hedge trenches will be dug to dimensions of 450 mm wide by 450 mm deep, with the base loosened before returning the backfill mixture. All stock will be supplied as bare root if in season (unless otherwise stated) and container-grown if planted out of season. A detailed specification for hedgerows will be developed based on the indicative species, sizes, and percentages outlined in Table 1.

5.3.11 Individual trees will be planted in pits measuring 900 mm in diameter and 900 mm in depth. The base of the tree pit will be broken up to a depth of 200 mm, and the pit will be backfilled with topsoil, consolidated in layers to ensure the tree is positioned at the correct depth. Each tree will be planted to the nursery line and secured with stakes, ties, and an irrigation pipe. A specification for hedgerow trees will be developed, detailing the indicative species, sizes, and percentages, as presented in Table 2.

5.3.12 Planting should take place from November to March, ideally November or December for bare root stock. Planting should be into soil that is not frozen or waterlogged. New planting shall be protected using adequate strimmer and pest guards and will vary depending on the size of the plant.

5.3.13 All new hedgerows will be species-rich, meaning they will comprise of five or more species. Where there is gapping up of hedgerows, species will be chosen to diversify the mix of existing species present.

Table 1: Indicative Mix for Native Hedgerows

Botanical Name	Common Name	% Mix	Density	Specification
Corylus avellana	Hazel	20%	5 per linear metre	Bare root (BR) whips, selected to 900mm, except Ilex 9cm pot(30-40cm). Planted in a double staggered row at 5No. plants per linear metre
Crataegus monogyna	Hawthorn	30%		
Ilex aquifolium	Holly	10%		
Prunus spinosa	Blackthorn	30%		
Rosa canina	Dog Rose	5%		
Viburnum opulus	Guelder Rose	5%		

Table 2: Indicative Species for Hedgerow Trees

Botanical Name	Common Name	Girth (cm)	Specification
Acer campestre	Field Maple	12-14cm	Heavy Standard
Populus nigra subsp. betulifolia	Black Poplar		
Prunus padus	Bird Cherry		
Quercus robur	English Oak		
Salix alba	White Willow		

Establishment Maintenance

5.3.14 A detailed plan for the establishment and maintenance of the new hedgerows with trees will be submitted as part of the detailed LEMP. This will cover a period of five years from the construction phase of the Scheme.

5.3.15 The aim of establishment maintenance will be to support the early stages of growth to encourage thick, bushy growth and good form. This is based on the following principles and outline prescriptions:

a. Maintain a 0.5 metre weed free strip either side of hedgerow through chemical and mechanical control;

b. First cut in spring to 45–60 cm above ground level taking care to exclude hedgerow trees;

c. Irrigation may be required during periods of drought or extended dry weather;

d. Remove litter, rubbish, and debris from planted areas throughout the year;

e. Re-firm soil around roots to ensure plants are supported and upright in spring each year;

f. Inspect and adjust stakes, guards, and ties in spring and autumn and after periods of particularly inclement weather;

g. Check and record failed or defective plants in September annually;

h. Replace failed or defective plants with matching species of the same size during the next planting season after failure; and

i. ECoW to undertake a quarterly check of plants to record their growth and condition.

Long-Term Management

5.3.16 The long-term management of new hedgerows with trees will focus on the following interventions:

a. Hedgerows will be managed and maintained at a height of at least 3.5 m, whilst individual tree species planted within hedgerows will be allowed to establish and left to reach maturity;

b. Cutting of hedgerows will take place outside of the bird nesting season and at the end of the winter in February. This will allow berries to stay in place for the maximum period of time throughout the winter;

c. Any branches/growth that overhangs or obstructs PRoW or access tracks will be cut back to keep routes clear to use;

d. Dead or dying hedgerow trees will be removed if considered a hazard on health and safety grounds and in accordance with any protected species constraints; and

e. Monitoring of new hedgerows will be undertaken periodically in order to check any significant changes in health and viability of the hedgerow. Maintenance and condition checks will take place every three years.

Native Scrub

Function

5.3.17 Native scrub has been proposed to add a further level of screening around visually sensitive areas. In addition to its screening benefits, native scrub planting will help to create a habitat mosaic and introduce structure, providing shelter and food resources for birds and other wildlife.

5.3.18 The scrub areas have been designed to have no single dominant species; however, the composition will favour dense, shrubby growth which is typical of bushes and small tree species. This will create a scrub-like environment which better caters for local wildlife.

Implementation

5.3.19 The locations of proposed native scrub are indicated on the Indicative Landscape Masterplan in Appendix A.

5.3.20 Native scrub areas will be pit planted in cultivated ground to accommodate the full depth of roots, level and firm soil. Woodland and shrub plants will be planted in single species groups of 5no. minimum and protected against

mammalian pests. Indicative species, sizes and percentages for scrub areas are presented in Table 3.

Table 3: Indicative Mix for Native Scrub Areas

Botanical Name	Common Name	% Mix	Density	Specification
Acer campestre	Field Maple	5%	2 Ctr	BR Whips selected to 900mm
Corylus avellana	Hazel	10%	2 Ctr	BR Whips selected to 900mm
Crataegus monogyna	Hawthorn	30%	2 Ctr	BR Whips selected to 900mm
Prunus spinosa	Blackthorn	30%	2 Ctr	BR Whips selected to 900mm
Ilex aquifolium	Holly	10%	2 Ctr	2lt pot 40-60cm
Rosa canina	Dog Rose	10%	2 Ctr	BR Whips selected to 900mm
Salix alba	White Willow	5%	2 Ctr	BR Whips selected to 900mm

Establishment Maintenance

5.3.21 A detailed plan for the establishment and management of the native scrub area will be developed within the detailed LEMP.

5.3.22 The aim of establishment maintenance will be to support the early stages of growth to encourage thick, bushy growth and good form, reducing the future need for maintenance by supressing weed growth. The species listed above will be maintained in line with the recommendations of a ECoW.

5.3.23 The maintenance of the native scrub area will be based on the following principles and outline prescriptions:

a. Irrigation may be required during periods of drought or extended dry weather;

b. Remove litter, rubbish, and debris from planted areas throughout the year;

c. Re-firm soil around roots to ensure plants are supported and upright in spring each year;

d. Inspect and adjust stakes, guards, and ties in spring and autumn and after periods of particularly inclement weather;

e. Check and record failed or defective plants in September annually;

f. Replace failed or defective plants with matching species of the same size during the next planting season after failure; and

g. ECoW to undertake a quarterly check of plants to record their growth and condition.

Long-Term Management

5.3.24 The long-term management of new native scrub will focus on the following interventions:

a. Cutting of native scrub areas will take place outside of the bird nesting season and at the end of the winter in February. This will allow berries to stay in place for the maximum period of time throughout the winter;

b. Any branches/growth that overhangs or obstructs PRoW or access tracks will be cut back to keep routes clear to use;

c. Between years seven and ten, scrub areas will be reviewed and thinned as necessary to remove any poor or weak specimens, allowing neighbouring specimens to flourish and provide better establishment across the area;

d. From year five onwards, all guards, ties and stakes will be removed unless attached to replacement scrub species; and

e. Monitoring of new native scrub will be undertaken periodically in order to check any significant changes in health and viability of the hedgerow. Maintenance and condition checks should take place every three years.

Riparian Edge Hedgerow and Trees

Function

5.3.25 A new hedgerow with trees will be planted along the northern boundary of the Solar PV Site. This will be located close to the proposed fenceline to ensure vegetation is not planted within the open riparian mosaic, including areas of Coastal and Floodplain Grazing Marsh.

5.3.26 The vegetation will comprise a variety of trees and hedgerow species to provide a variety of structure and will make use of wet-loving species to reflect the edge of floodplain location. Additional gapping up of the existing line of vegetation along the northeast edge of the Solar PV Site would provide a continuous linear corridor of vegetation along the Solar PV Site’s northern boundary.

5.3.27 As well as providing additional habitat and wildlife connections, this new row of vegetation will screen and filter views of the Scheme from the PRoW to the north of the River Went, as well as in longer views south from properties along Lowgate and Highgate.

Implementation

5.3.28 The location of the proposed riparian edge hedgerow and trees is indicated on the Indicative Landscape Masterplan in Appendix A.

5.3.29 Hedgerow trenches will be dug to dimensions of 450 mm wide by 450 mm deep, with the base loosened before returning the backfill mixture. All stock will be supplied as bare root if in season (unless otherwise stated) and container-grown if planted out of season. A detailed specification for hedgerows will be developed based on the indicative species, sizes, and percentages outlined in Table 4.

5.3.30 Individual trees will be planted in pits measuring 900 mm in diameter and 900 mm in depth. The base of the tree pit will be broken up to a depth of 200 mm, and the pit will be backfilled with topsoil, consolidated in layers to ensure the tree is positioned at the correct depth. Each tree will be secured with stakes and ties. A specification for hedgerow trees will be developed, detailing the indicative species, sizes, and percentages outlined in Table 5.

5.3.31 Planting will take place from November to March, in soil that is not frozen or waterlogged. Consideration will be given to periods of excess flooding. New planting will be protected using adequate strimmer and pest guards and will vary depending on the size of the plant.

Table 4: Indicative Mix for Riparian Edge Hedgerows

Botanical Name	Common Name	% Mix	Density	Specification
Crataegus monogyna	Hawthorn	30%	5 per linear metre	Bare root (BR) whips, selected to 900mm, except Ilex 9cm pot(30-40cm). Planted in a double staggered row at 5No. plants per linear metre
Salix caprea	Goat willow	20%		
Prunus spinosa	Blackthorn	30%		
Cornus alba	Dogwood	15%		
Viburnum opulus	Guelder Rose	5%		

Table 5: Indicative Species for Riparian Edge Trees

Botanical Name	Common Name	Girth (cm)	Specification
Salix fragilis	Crack Willow	12-14cm	Heavy Standard
Populus nigra subsp. betulifolia	Black Poplar		
Quercus robur	Pedunculate Oak		
Alnus glutinosa	Alder		
Salix alba	White Willow		

Establishment Maintenance

5.3.32 A detailed plan for the establishment and maintenance of the new riparian edge hedgerow with trees will be submitted as part of the detailed LEMP.

This will cover a period of five years from the construction phase of the Scheme.

5.3.33 The aim of establishment maintenance will be to support the early stages of growth to encourage thick, bushy growth and good form. This is based on the following principles and outline prescriptions:

a. Maintain a 0.5 m weed free strip either side of hedgerow through mechanical control;

b. First cut in spring to 45–60 cm above ground level taking care to exclude hedgerow trees;

c. Irrigation may be required during periods of drought or extended dry weather;

d. Remove litter, rubbish, and debris from planted areas throughout the year;

e. Re-firm soil around roots to ensure plants are supported and upright in spring each year;

f. Inspect and adjust stakes, guards, and ties in spring and autumn and after periods of particularly inclement weather, including flooding;

g. Check and record failed or defective plants in September annually;

h. Replace failed or defective plants with matching species of the same size during the next planting season after failure; and

i. ECoW to undertake a quarterly check of plants to record their growth and condition.

Long-Term Management

5.3.34 The long-term management of the new riparian edge hedgerow with trees will focus on the following interventions:

a. Hedgerows will be managed and maintained at a height of at least 3.5 m, whilst individual tree species planted within hedgerows will be allowed to establish and left to reach maturity;

b. Cutting of hedgerows will take place outside of the bird nesting season and at the end of the winter in February. This will allow berries to stay in place for the maximum period of time throughout the winter;

c. Dead or dying hedgerow trees will be removed if considered a hazard on health and safety grounds and in accordance with any protected species constraints; and

d. Monitoring of new hedgerows will be undertaken periodically in order to check any significant changes in health and viability of the hedgerow. Maintenance and condition checks will take place every three years.

General Grassland Management Prescriptions

Function

5.3.35 New grassland will be seeded beneath the Solar PV Panels, providing an extensive grassland habitat. These areas would be categorised as 'modified' or 'neutral' grassland, reflecting existing areas of neutral grassland, necessary management practices, and the shading provided by the solar

panels. Whilst this type of grassland is not considered a priority habitat, it includes hybrid white clover to fix free nitrogen for companion grasses, making it suitable for grazing. It would also support greater species diversity compared to the existing arable crops.

5.3.36 New neutral grassland will be seeded outside of the fenceline of the Solar PV Site, along hedgerows and field margins, under power lines and along PRoW buffers across the Scheme. These will provide areas of neutral grassland in moderate condition.

5.3.37 A large green corridor of neutral grassland in good condition will run through the centre of the Solar PV Site, providing a continuous seam of grassland. This will connect habitats in the north and the south of the Scheme, as well as providing valuable nesting opportunities for ground nesting birds.

5.3.38 Neutral grassland features a diverse mix of grasses, herbs and wildflowers and is a valuable habitat for a wide range of wildlife, including birds, small mammals and insects. The mix of grass species found in each location will be dependent on soil composition, proximity to wetland areas, light levels and management techniques.

5.3.39 Where practicable, seed mixes will be obtained from local sources to ensure continuity and to create a species mix that is best suited to the local environment.

5.3.40 Receiving soils will be prepared to reduce the nutrient levels. Techniques for reducing nutrient levels should follow good practice and take into consideration soil surveys, where available.

5.3.41 Once nutrient levels have been reduced, all clods should be broken up and alien material (such as plastics and metals) above 50mm in size will be removed. The top 50mm will be raked to allow for a fine tilth before seeding. This will be done directly before seeding, which will preferably take place in the autumn to avoid sowing during dry periods. If unable to sow during the autumn, then the spring sowing window will be used.

5.3.42 In areas where existing neutral grassland exists, which includes a number of fields within the northeast of the Solar PV Site, there will be minimal disruption to the existing grassland.

Establishment Maintenance of Grassland Areas

5.3.43 A detailed plan for the establishment and management of grassland areas will be developed as part of the detailed LEMP.

5.3.44 The aim of establishment maintenance will be to encourage development of a diverse sward of grasses and herbs. Establishment maintenance will be based on the following principles and outline prescriptions:

a. Immediately after sowing, the ground will be left undisturbed and unwatered to allow the grassland to establish naturally;

b. In the first year, mowing will occur in August or September, with subsequent cuts in March and September;

c. Regular visual inspections will be conducted throughout the growing season;

d. Control measures for undesirable species, such as arable and injurious weeds, will be implemented to prevent their dominance. This may

involve additional mowing or, if necessary, the use of selective herbicides;

e. Botanical surveys will be conducted in late spring to assess the success of the grassland in meeting its objectives. Spot checks by a qualified ecologist will take place in years 1, 3, and 5 to document plant species, their distribution, and the overall condition of the grassland. Any issues requiring remedial action will be noted; and

f. Should remedial measures be necessary, the ECoW will consult with a qualified ecologist to determine the appropriate actions, including re-seeding of identified areas.

Long-Term Management of Grassland

5.3.45 The long-term management of grassland within the Solar PV Site aims to sustain a stable grassland community with a diverse sward height, and to prevent areas from evolving into tall, dense, grass-dominated habitats.

5.3.46 Measures for the grassland mosaic will focus on a regime of:

a. Grazing or mowing of modified grassland (beneath Solar PV Panels) to maintain vegetation under the panels;

b. Low intensity grazing of neutral grassland where present beneath Solar PV Panels and along field boundaries between September and February. If grazing is not used, areas of neutral grassland will receive one mechanical cut a year in later Summer/early Autumn;

c. Visual inspections during the growing season. Where any areas not already subjected to removal of cuttings, are identified as having a decline in habitat condition or species diversity, a targeted cut and collect management regime will be implemented on a temporary basis;

d. Control of undesirable species (e.g. arable weeds) and injurious weeds to prevent colonisation and domination of the grassland using a selective herbicide (where appropriate and managed in accordance with locality e.g. applying appropriate buffers to watercourses or grasslands managed for invertebrates);

e. Conditions Assessments following BNG methodologies will be undertaken in years 2, 5, 10, 15, 20, 25 and 30. The results of these monitoring surveys will be used to adjust the management regime to maximise biodiversity.

Neutral Grassland

Function

5.3.47 Neutral grassland of moderate condition will be retained and enhanced beneath Solar PV Panels where existing neutral grassland is present.

5.3.48 Neutral grassland of moderate condition will be created outside the fenceline of the Solar PV Site, including along hedge and field margins, under power lines and along PRoW buffers.

5.3.49 Neutral grassland within the Ecology Mitigation Area that extends along Fleet Drain through the northeast of the Solar PV Site will be enhanced to good condition, as shown on the Indicative Landscape Masterplan in Appendix A.

Implementation

5.3.50 The locations of the proposed neutral grassland areas are shown on the Indicative Landscape Masterplan shown in Appendix A.

5.3.51 An indicative mix as outlined in Table 6 will provide a low-maintenance, self-sustaining mix that brings environmental benefits and is suitable for grazing. This is subject to the needs of the Scheme's biodiversity requirements and the prevailing soil types found on Solar PV Site.

Table 6: Indicative Mix for Neutral Grassland

Botanical Name	Common Name	% Mix
Trifolium repens	White Clover	5%
Festuca ovina	Sheep's Fescue	20%
Festuca rubra litoralis	Slender Creeping Red Fescue	20%
Agrostis capillaris	Browntop Bentgrass	10%
Lolium perenne	Perennial Ryegrass	20%
Holcus lanatus	Yorkshire Hog	5%
Dactylis glomerata	Cock's-foot	5%
Phalaris arundinacea	Reed Canary Grass	10%
Agrostit sp.	Bentgrass	5%

Establishment Maintenance

5.3.52 Within the first 12 months after sowing, the grass will be cut regularly to help the sown species to establish.

5.3.53 Once the areas are fully established, typically the second Spring after sowing, the area will need to be cut in the Spring (before April) to reduce the vigour of the grass.

Long-Term Management

5.3.54 Following the establishment period, and within subsequent years, areas will be managed through sheep grazing or mowing, with areas of good condition seeing less disturbance. Grazing would take place between September and December. Any areas ungrazed will receive one mechanical cut in late summer/early autumn. Any management activities will be restricted for the full extent of the breeding season (typically March to August inclusive).

Modified Grassland

Function

5.3.55 Modified grassland will be established beneath most of the Solar PV Panels and will differentiate from areas of 'neutral grassland' via the grazing/mowing regime. Modified grassland is not regarded as a priority habitat, however, it includes hybrid white clover to free fix nitrogen for companion grasses and would be suitable for grazing, whilst offering a greater species diversity than existing arable crops.

Implementation

5.3.56 The locations of the proposed modified grassland areas are shown on the Indicative Landscape Masterplan shown in Appendix A.

5.3.57 An indicative mix as outlined in Table 7 will provide a low-maintenance, self-sustaining mix that brings environmental benefits and is suitable for grazing. This is subject to the needs of the Scheme's biodiversity requirements and the prevailing soil types found on Solar PV Site.

Table 7: Indicative Mix for Modified Grassland

Botanical Name	Common Name	% Mix
Trifolium repens	White Clover	5%
Festuca ovina	Sheep's Fescue	45%
Festuca rubra litoralis	Slender Creeping Red Fescue	20%
Agrostis capillaris	Browntop Bentgrass	10%
Lolium perenne	Perennial Ryegrass	20%

Establishment Maintenance

5.3.58 Within the first 12 months after sowing, the grass will be cut regularly to help the sown species to establish.

5.3.59 Once the areas are fully established, typically the second Spring after sowing, the area will need to be cut in the Spring (before April) to reduce the vigour of the grass.

Long-term Management

5.3.60 Following the establishment period, and within subsequent years, areas will be managed through sheep grazing or mowing. If grazing is used, it will take place between September and February. If mowing is used, a single cut will take place in September. If grass is particularly vigorous, a second cut may be required in February. Any management activities will be restricted for the full extent of the breeding season (typically March to August inclusive).

Wet Grassland

Function

5.3.61 Habitat enhancement to the north of the Solar PV Site, adjacent to the River Went, will be delivered through the creation of wet grassland on areas of former arable land. Elsewhere the existing riparian mosaic will be maintained, including areas of Coastal and Floodplain Grazing Marsh.

Implementation

5.3.62 The indicative wet grassland seed mix outlined in Table 8 will provide a diverse selection of native wildflowers and grasses with the ability to withstand seasonal flooding, providing environmental benefits to pollinator, ground nesting birds and other wildlife. Species mix may be subject to change based on the needs of the Scheme's biodiversity and prevailing soil types.

Table 8: Indicative Species for Wet Grassland Areas

Botanical Name	Common Name
Achillea millefolium	Yarrow
Centaurea nigra	Black knapweed
Filipendula ulmaria	Meadowsweet
Galium palustre	Marsh bedstraw
Hypericum tetrapterum	Square stemmed St John's-wort
Hypochaeris radicata	Common cat's-ear
Lathyrus pratensis	Meadow vetchling
Leontodon autumnalis	Autumn hawkbit
Leucanthemum vulgare	Ox-eye daisy
Lotus corniculatus	Common bird's-foot trefoil
Lotus pendunculatus	Greater bird's-foot trefoil
Lychnis flos-cuculi	Ragged robin
Plantago lanceolata	Ribwort plantain
Primula veris	Cowslip
Prunella vulgaris	Selfheal

Botanical Name	Common Name
Ranunculus acris	Meadow buttercup
Rhinanthus minor	Yellow rattle
Rumex acetosa	Common sorrel
Sanguisorba officianlis	Great burnet
Silaum silaus	Pepper saxifrage
Stachys officianlis	Betony
Succisa pratensis	Devil's-bit scabious
Trifolium pratense	Red clover
Vicia cracca	Tufted vetch
Agrostis stolonifera	Creeping bent
Poa pratensis	Smooth-stalked meadow grass
Alopecurus geniculatus	Marsh foxtail
Alopecurus pratensis	Meadow foxtail
Anthoxanthum odoratum	Sweet vernal grass
Cynosurus cristatus	Crested dog's-tail
Deschampsia cespitosa	Tufted hair grass
Festuca rubra ssp. rubra	Red fescue
Holcus lanatus	Yorkshire fog
Phalaris arundinacea	Reed canary-grass
Glyceria maxima	Reed sweet-grass
Carex flacca	Glaucous sedge

Establishment Maintenance

5.3.63 Within the first 12 months, the grassland will be cut regularly to help species to establish.

5.3.64 Once the wet grassland has established, typically the second Spring after sowing, the area will be cut in the Spring (before April) to reduce the vigour of grass species.

Long-Term Management

5.3.65 Wet grassland will receive one mechanical cut annually, in the later Summer/early Autumn. Any management activities will be restricted for the full extent of the breeding season (March to August inclusive). Low intensity sheep grazing (with fenced areas and where practicable) from September to December will provide optimum conditions, however, where this is not possible, a further late cut in the season will be carried out.

Wetland Scrapes

Function

5.3.66 A series of linear wetland scrapes will be delivered within the River Went riparian corridor. The exact location of these will be determined through additional site survey work. Where practicable, a network of scrapes of different sizes and depths will be provided. These will create suitable habitat for waders and wildfowl and will enhance biodiversity generally.

Implementation

5.3.67 Wetland scrapes will be created through the mechanical removal of topsoil to create an area of bare earth that can hold water in wet habitats. The scrapes will be at least 100m from hedgerows or tall trees and will be irregular in shape to maximise edge habitat. The scrapes will be created with a gentle slope from shallow margins (3cm to 5cm deep) to a maximum depth of 40cm to 50cm at the centre.

Establishment Maintenance

5.3.68 The scrapes should hold water for most of the year, with the aim of retaining water until July-August. This can be kept wet using gravity feed or pumping if rainfall is low.

Long-Term Management

5.3.69 Scrapes will be monitored long-term to ensure that the water levels are maintained. If scrapes silt up or dry up, new scrapes may be required.

Provision of Habitat Boxes

5.3.70 Bat boxes are to be incorporated upon retained trees, close to foraging habitats such as tree lines, hedgerows, waterbodies and woodlands. These are to be located within the Ecology Mitigation Area. Boxes will be mounted on trees facing south and southwest, with some additional boxes facing northwards to allow a range of conditions during warmer periods.

5.3.71 Boxes will be installed at a minimum of three metres with a clear flight path.

5.3.72 Bat boxes will be inspected in years 1, 3, 5,10 and 15 postconstruction and thereafter every ten years from years 20 to 40 by bat licensed ecologists and cleaned during the winter while not inhabited.

Bird boxes are also to be incorporated on retained trees, where practicable 1.5m beneath the bat boxes with a clear flight path. A range of bird boxes are to be used to support a range of species. This also includes species-specific bird boxes. A minimum of five tree mounted or tower mounted barn owl boxes will be provided within the Solar PV Site. The bird boxes are to be cleaned during the winter when not occupied.

Creation of Habitat Piles

5.3.73 Any vegetation that is cleared or pruned during construction can be used to create refugia for reptiles/amphibians. These can be made from tree roots, leaf litter, log piles and rocks. The refugia piles will be filled loosely with topsoil and covered in topsoil, turf or moss covering. Refugia piles will be created within retained woodlands as well as open grassland habitat within the Ecology Mitigation Area.

Protected Species

5.3.74 Additional enhancement for protected species that is not covered in the habitat creation sections above is described below.

Badger

5.3.75 To enhance the Solar PV Site for badgers, habitat connectivity from known setts to foraging areas will be maintained and enhanced through the maintenance of hedgerows. In addition, planting of fruit trees within tree planting areas will provide a food source for badgers, and the creation of grassland will provide foraging habitat.

Bats

5.3.76 The planting of tree lines and hedgerows will increase foraging value and connectivity within the Solar PV Site for bats.

Riparian Mammals

5.3.77 The management of the riparian corridor and creation of wetland scrub habitat such as planting of willow species will create suitable habitat for riparian mammals, with scrub providing suitable cover for otter holt creation.

5.3.78 Where temporary works to ditches are required, these should be replanted following works with grassland habitat that provides a suitable food source for water vole.

6. Pre and Post Construction Monitoring

6.1.1 Monitoring is required in order to determine that the functions documented within this Framework LEMP are being achieved and whether any remedial management action may be required. The baseline against which the monitoring can be compared against comprises the pre-construction baseline data. This baseline data collected in 2023/2024 will require updating prior to construction, as by the operation and maintenance phase (from 2030 at the earliest), this data will be over six years old and out of date. Updates would include a similar set of surveys undertaken at the baseline where relevant ecological receptors have been identified, including surveys of breeding and non-breeding birds, bats, riparian mammals and badgers.

6.1.2 A post-construction monitoring programme will be formalised, agreed and included within the detailed LEMP. Walkover surveys of the Solar PV Site will be undertaken between April and June in years 2, 4, 6, 10 and then every 5 years post-construction until year 40. The surveys will involve inspection of the hedgerows, grassland, riparian and scrub habitats to ensure they are being managed accordingly.

6.1.3 Post-construction monitoring for flora, birds (breeding and non-breeding), riparian mammals, badgers and bats (bat box roosting and activity survey), will be undertaken in the respective seasons, in years 1, 3, 5,10 and 15 postconstruction and thereafter every ten years from years 20 to 40. For the purposes of BNG Condition Assessments, post-construction surveys will also be undertaken in years 2, 5, 10, 15, 20, 25 and 30. These surveys are likely to involve similar methods to those used to determine the ecological baseline of the Scheme.

6.1.4 Maintenance checks of wildlife boxes (bats and birds) will be made as per the prescription in Paragraphs 5.3.6 and 5.3.7 to ensure that all boxes are still in position and secure. Some refitting of boxes, repairs and replacements are likely to be required over the lifetime of the Scheme.

6.1.5 Results from the post-construction monitoring will feed into the management plan and, if required, management may be amended accordingly based on this monitoring.

7. Grid Connection Corridor

7.1 Introduction

7.1.1 This section summarises the landscape elements of the Framework LEMP that are relevant to the Grid Connection Corridor and to provide additional information in relation to replacement planting.

The Grid Connection Corridor extends over 5 km between the On-Site Substation and the Existing National Grid Thorpe Marsh Substation. The width of the construction area required for the Grid Connection Corridor varies depending on the land needed for specific construction operations, access, storage and constraints. The land within the Grid Connection Corridor totals approximately 95 ha.

7.1.2 The Scheme allows for spatial flexibility in the routeing of the Grid Connection Cables. The typical working area for installation of the Grid Connection Cables is anticipated to be a 30 m wide corridor. This may be widened to accommodate construction works at complex interfaces and narrowed in others, for example to minimise the removal of vegetation or to avoid habitats such as hedgerows, woodland, grassland, scrub and open mosaic. The minimum width is anticipated to be 5 m where the route passes through hedgerows, where practicable. The Grid Connection Working Width includes the trench, soil and spoil storage, working area and haul road, with passing places where required.

7.2 Landscape Strategy

7.2.1 Good design as been a key consideration from the outset. The EIA has informed the iterative design process, guided by design principles developed specifically to address the opportunities and constraints presented by the Scheme. These principles have been developed in response to policy requirements, published landscape character assessment guidance and fieldwork analysis.

Conserving Existing Vegetation Patterns

7.2.2 The Grid Connection Corridor has been designed to minimise disturbance of existing vegetation. Where selective vegetation removal is required, replacement planting will be reinstated, where practicable. Anticipated vegetation removal is illustrated on the Tree Protection Plan included as part of **ES Volume III Appendix 10-7: AIA [EN010152/APP/6.3]**.

Impact Avoidance

7.2.3 The impact avoidance measures outlined below will be implemented, as relevant and appropriate, prior to and during the construction phase of the Scheme. The purpose of these is to minimise the impact of works on landscape and biodiversity features, and to achieve legislative compliance.

7.2.4 Standard environmental good practice and mitigation will be implemented to ensure construction and operation and maintenance of the Scheme complies with legislation relating to protected species. It will also ensure the Scheme does not compromise the local conservation status of ecological receptors present within or in the vicinity of the Order Limits.

7.2.5 The impact avoidance approach allows for the majority of trees and hedgerows to remain unchanged to ensure that the connectivity of the existing green infrastructure network is maintained.

Tree Works

7.2.6 The Scheme design minimises the need for the removal of trees across the Order Limits. The Scheme will not impact upon any TPOs. Some removal and pruning of trees will be required to facilitate vehicle access during construction (and operation), and for cabling works.

Works within the Grid Connection Corridor will be undertaken outside of the identified Root Protection Areas, as shown in **ES Volume III Appendix 10-7: AIA [EN010152/APP/6.3]**. Where this cannot be accommodated, the works will be undertaken in accordance with current good practice at the time of the works, as defined in:

a. British Standard (BS) 5837: 2012 Trees in relation to design, demolition and construction – Recommendations (Ref. 35);

b. National Joint Utilities Group (NJUG) Guidelines for the Planning Installation and Maintenance of Utility Apparatus in Proximity to Trees (Ref. 37); and

c. British Standard (BS) 3998: 2010 Treeworks – Recommendations (Ref. 36).

7.2.7 All necessary protective fencing will be installed prior to the commencement of any site clearance or construction works. This will be set out in an Arboricultural Method Statement, the CEMP and a final Tree Protection Plan prepared pre-construction, pursuant to the DCO.

7.2.8 Where part of a group of trees is to be removed, the final extent of tree loss will be determined on site by an arboriculturist, who will assess the stability and suitability of retained trees.

7.2.9 Trees that will be removed to facilitate the construction of the Grid Connection Corridor will be replanted, where practicable, or planted within 50m of the original location. The location of replacement tree planting will be determined at the detailed design stage and brought forward as part of a detailed LEMP in accordance with requirement 6 of the **Draft DCO [EN010152/APP/3.1]**.

Hedgerow Works

7.2.10 The Grid Connection Cables routing will be designed to minimise the loss or, and avoid significant effects on, existing landscape features. Where hedgerow removal is anticipated, hedgerows will be replanted upon completion of construction, where practicable.

7.3 Management Prescriptions

7.3.1 Vegetation removed to facilitate the construction of the Grid Connection Cables and any associated temporary accesses, construction compounds (where they occur outside of the Solar PV Site), and at open cut watercourse crossings will be reinstated as soon as practicable following completion of construction activities, with the land being returned to its previous use and condition.

7.3.2 Reinstated tree and hedgerow planting will be maintained during the first five years following implementation of each planting phase and monitored in the long-term until decommissioning of the Scheme.

7.3.3 As the design progresses, further details will be provided, particularly in relation to plant species selection, specification of seed mixes, management prescriptions and timescales; and site-specific mitigation and enhancement elements.

7.3.4 Drill pits for horizontal directional drilling will be located on existing hardstanding, bare ground or arable land, where practicable.

7.3.5 Following the installation of the Grid Connection Cables, the ground above the cable will be returned to its previous use and condition.

7.3.6 Implementation and monitoring works will be supervised by the ECoW.

Existing Habitats

Retained Hedgerows and Trees

7.3.7 During construction the retained hedgerows, woodland and trees will be protected in accordance with a detailed Tree Protection Plan and Arboricultural Method Statement, as required by the **Framework CEMP [EN010152/APP/7.7]**. The measures will include the use of clearly defined stand-offs (secured with temporary protective fencing), managing the structure and integrity of the retained vegetation and the soil upon which it relies, and undertaking any pruning outside of the bird nesting season.

7.3.8 Retained trees will be periodically inspected by an arboriculturist during construction. Where excavation works are within the Root Protection Area (RPA) of retained trees, works will be undertaken under a watching brief by an arboriculturist to ensure agreed methodologies are fully implemented, to record any root pruning, and to recommend further arboricultural remedial works where required.

Aquatic and Riparian Habitats

7.3.9 A pre-works condition survey will be conducted to guide the reinstatement of the channel at open cut watercourse crossings. Reinstatement will involve returning instream vegetation from its temporary locations and replanting and reseeding the banks of the watercourse. To support plant establishment and minimize soil erosion, the reinstated bank areas will be covered with hessian, which will naturally degrade in place as vegetation regrows.

7.3.10 Length-for-length equivalent watercourse enhancements will be required for each new culvert extension to ensure compliance with WFD objectives. These requirements will be outlined in a WFD Mitigation and Enhancement Strategy, which will be developed after DCO consent is granted. To improve the condition of the targeted watercourses within the Grid Connection Corridor, as discussed in the **BNG Assessment [EN010152/APP/7.11]**, proposed enhancements may include the following, where appropriate:

a. Fencing off the riparian zone to reduce managed ground cover at the bank top and allow the riparian zone to re-naturalise;

b. Removing bank face reinforcement to enable the establishment of natural bank habitats and allow natural bank erosion processes; and

c. Removing vegetation that shades the ditch and clearing filamentous algae and/or duckweed.

Proposed Habitats

Hedgerow and Tree planting

Function

7.3.11 Replacement planting will be undertaken where hedgerow or tree removal is required as part of laying the Grid Connection Cables.

Implementation

7.3.12 Planting will take place in the first available planting season following consent being granted, ideally during November and December for bare root stock.

7.3.13 Plants will be inspected at the nursery and on delivery, prior to planting. Plants will be protected from strimming damage and animals through guards, preferably biodegradable, although consideration will be given to avoiding excessive use of guards. Trees will be staked in line with industry standard specifications.

Establishment Maintenance

7.3.14 Establishment maintenance will be as per set out within Section 6 of this Framework LEMP.

7.3.15 A detailed plan for the establishment and management of new hedgerows with trees will be developed for the five year establishment maintenance period.

7.3.16 The aim of establishment maintenance will be to support the early stages of growth to encourage thick, bushy growth and good form. This is based on the following principles and outline prescriptions:

a. Maintain a 0.5 metre weed free strip either side of hedgerow through chemical and mechanical control.

b. First cut in spring to 45–60 cm above ground level taking care to exclude hedgerow trees.

c. Water new plants to minimise failures in periods of drought.

d. Remove litter, rubbish, and debris from planted areas throughout the year.

e. Re-firm soil around roots to ensure plants are supported and upright in spring each year.

f. Inspect and adjust stakes, guards, and ties in spring and autumn.

g. Check and record failed or defective plants in September annually.

h. Replace failed or defective plants with matching species of the same size during the next planting season after failure.

i. ECoW to undertake a quarterly check of plants to record their growth and condition.

Long-term Management and Maintenance

7.3.17 Once established, replacement tree and hedgerow planting will be managed as part of the annual maintenance of adjacent vegetation.

Open Mosaic Habitat on Previously Developed Land

Function

7.3.18 An area of habitat that has been assessed as Open Mosaic Habitat (OMH) on Previously Developed Land (PDL) is to be temporarily lost in order to construct the Grid Connection Corridor. As this is a priority habitat and the Grid Connection Corridor comprises temporary works, this is to be re-instated following construction of the cable. OMH is listed on the UK Biodiversity Action Plan (UK BAP) as a Priority Habitat listed in Section 41 of the Natural Environment and Rural Communities Act 2006 (NERC Act).

Implementation

7.3.19 The substrate that is removed to facilitate the construction of the Grid Connection Cables is to be retained during the works period and infilled once the Grid Connection Cables is in place. Much of the value in OMH habitats is within the topsoil and, as such, the same substrate should be used to reinstate the habitat. This substrate must be stored appropriately to prevent it from mixing with any nutrient-rich substrates.

7.3.20 OMH is a habitat that forms on disturbed ground and comprises early successional species. As such, it is proposed that infilling the cable trench will disturb the seed bank and create new opportunities for local flora to establish. This will happen naturally. Precautions must be taken during the works period to not flush the habitat with any nutrient-rich run-off from nearby habitats.

7.3.21 The natural succession can be accelerated through translocation of species from the adjacent habitat, as well as supplementary plug planting and scarification and seeding with grasses.

Establishment Maintenance

7.3.22 Within the first 12 months, management will be minimal, however, the habitat should be monitored to manage dominant species to prevent encroachment. Dominant grasses, ruderal species and shrub should be managed to ensure they do not outcompete the successional species.

Long-term Management and Maintenance

7.3.23 The habitat should not require any long-term management due to the nature of the habitat type. However, monitoring will be carried out with remedial measures taken to prevent encroachment of scrub where required.

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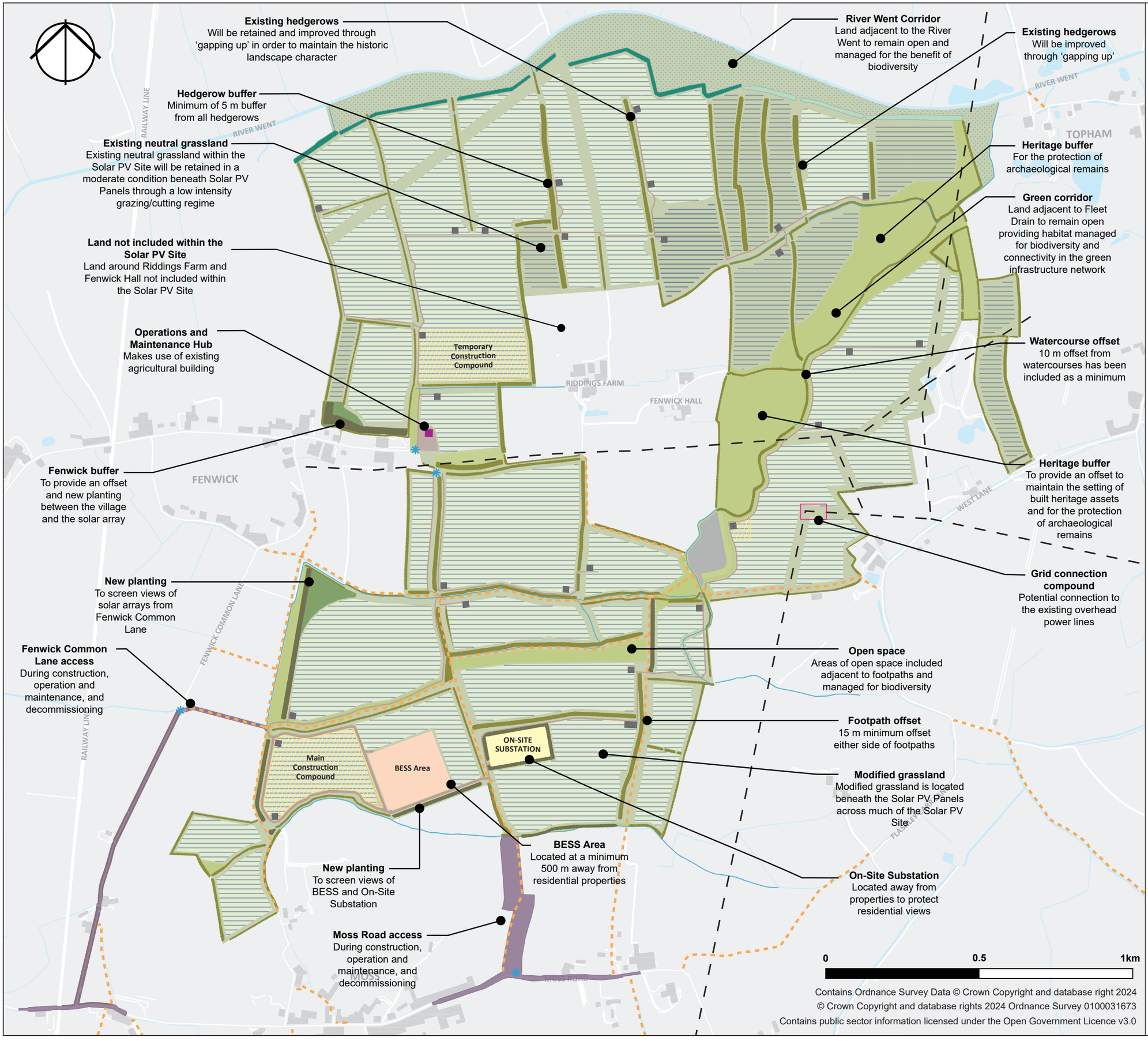
Abbreviations

Abbreviation/Term	Meaning
AIL	Abnormal Indivisible Load
AOD	Above Ordnance Datum
BAP	Biodiversity Action Plan
BESS	Battery Energy Storage System
BNG	Biodiversity Net Gain
BR	Bare Root
CEMP	Construction Environmental Management Plan
DLL	District Level License
DCO	Development Consent Order
ECoW	Ecological Clerk of Works
EIA	Environmental Impact Assessment
ES	Environmental Statement
GI	Green Infrastructure
GLTA	Ground Level Tree Assessments
GCN	Great Crested Newt
ha	Hectares
HDD	Horizontal Directional Drilling
INNS	Invasive Non-Native Species
LEMP	Landscape and Ecological Management Plan
LWS	Local Wildlife Site
MW	Megawatts
NCA	National Character Area
NJUG	National Joint Utilities Group
NPPF	National Planning Policy Framework
NSIP	Nationally Significant Infrastructure Project
OMH	Open Mosaic Habitat
PDL	Previously Developed Land
PRoW	Public Rights of Way
PV	Photovoltaic

Abbreviation/Term	Meaning
RPA	Root Protection Area
SAC	Special Area of Conservation
SPA	Special Protection Area
SSSI	Site of Special Scientific Interest
TPO	Tree Preservation Order
WCA	Wildlife and Countryside Act
WFD	Water Framework Directive

Indicative Landscape Masterplan



Legend

- Proposed field stations
- Proposed operations and maintenance hub
- Proposed internal access track
- Public Right of Way (PRoW)
- Drains
- Overhead power lines
- Proposed native hedgerow / vegetated boundary
- Proposed gapping up of existing hedgerows / hedgerow trees (avoiding underplanting of ancient or veteran trees)
- Proposed riparian edge hedgerow and trees
- Proposed gapping up of existing hedgerows / hedgerow trees with wet-loving species (avoiding underplanting of ancient or veteran trees)
- Proposed neutral grassland (good condition)
- Proposed neutral grassland (moderate condition)
- Proposed modified grassland
- Proposed Solar PV Panels
- Conserve and enhance the existing open riparian mosaic, including the creation of some wet grassland
- Existing woodland (outside Solar PV Site)
- Proposed native scrub
- Proposed temporary construction compounds
- Proposed BESS Area
- Proposed On-Site Substation
- Potential grid connection line drop compound
- Access

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CLIENT
Fenwick Solar Project Limited

PROJECT
Fenwick Solar Farm

TITLE
Indicative Landscape Masterplan

DRAWN BY	CHECKED BY	
JG	RH	
SCALE @ A3	DATE	
NTS	21/10/2024	
PROJECT NO.	DRAWING NO.	REV.
23_123	DL01	

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